Audit Committee Attributes and Financial Statement Fraud

Godwin Ailenbaluagbon OKOH

PG/MGS1714743

Being a Thesis Presented to the Department of Accounting, Faculty of Management Sciences, University of Benin, Benin City, in Partial Fulfilment of the Requirements for the Award of Masters of Science (M. Sc.) Degree in Forensic Accounting.

May, 2021

DECLARATION

I, Godwin Ailenbaluagbon OKOH Declare that:

1. The Thesis is a study carried by me in the Department of Accounting, Faculty of Management Sciences, University of Benin, Benin City under the supervision of Professor C. O. Mgbame of the Department of Accounting, Faculty of Management Sciences, University of Benin, Benin City, Nigeria.
2. The work has not been submitted for award of any degree elsewhere.
3. All the ideas and views are the products of my research. All the references made to the works of others have been duly acknowledged.
4. I shall be solely and completely responsible for any liability that may flow from this study if any.

_____ _____

Godwin Ailenbaluagbon OKOH Date

PG/MGS1714743

CERTIFICATION OF THESIS ON PLAGIARISM

We the undersigned attest and declare that the thesis of Godwin Ailenbaluagbon OKOH**,** titled Audit Committee Attributes and Financial Statement Fraud has successfully passed the anti-plagiarism test and does not violate any copyright regulations.

_____ _____

Professor C. O. Mgbame Date

Supervisor

_____ _____

Professor A. S. Omoye Date

Head of Department

CERTIFICATION

We certify that the thesis was carried out by Godwin Ailenbaluagbon OKOH in the Department of Accounting, Faculty of Management Sciences, University of Benin, Benin City, Nigeria, and it is considered adequate in scope and quality in partial fulfillment of the requirements for the award of M.Sc. Degree in Forensic Accounting.

_____ _____

Professor C. O. Mgbame Date

Supervisor

_____ _____

Professor A. S. Omoye Date

Head of Department

DEDICATION

This thesis is dedicated to HIS GRACE, THE MOST HIGH GOD who gives life and ability to do all things; and to my Mother, EKEOMOIKHOBHEN of Blessed memory.

ACKNOWLEDGEMENTS

The work of such nature is difficult to be successful without divine and human supports which need appreciation.

First and foremost, my greatest appreciation goes to the ALMIGHTY GOD for His Grace and infinite Mercies on me to complete this Master of Science programme.

I want to sincerely thank my thesis supervisor, Professor C. O. Mgbame, for his unassuming disposition towards the supervision of this thesis. In fact, my motivation to complete the study was drawn from his constructive criticism, corrections, advice, and corrections during this work. I am very grateful sir.

I give special thanks to the Head of Department of Accounting, Professor A. S. Omoye; Coordinator, Master of Science Programme, Professor J. O. Odia; and other forensic accounting lecturers of the department for their support during this programme.

My appreciation also goes to Mr. Nosahkare F. Uwaifo, a dependable lecturer of Accounting Department, for his mentoring role in this my study. He shall always meet support at the point of your needs.

To my co-students, for the humorous, excitements, and sharing of ideas and experiences for the period the programme lasted, I say thank you all.

The last, but not the least, I also thank all other persons who have in one way or the other contributed to the success of this work, May the ALMIGHTY GOD bless the work of your hands.

TABLE OF CONTENTS

CHAPTER FOUR: DATA PRESENTATION AND ANALYSES OF RESULTS

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

LIST OF FIGURES

LIST OF TABLES

ABBREVIATIONS

ACA	Audit committee attributes
ACFEXP	Audit committee financial expertise
ACFMEET	Audit committee frequency of meetings
ACGEND	Audit committee gender diversity
ACIND	Audit committee independence
ACSIZE	Audit committee size
AQI	Asset quality index
BPPLM	Brierley Price Prior Learning Media
BRCR	Blue ribbon committee recommendation
CAMA	Companies and allied matters act
CBN	Central bank of Nigeria
CEO	Chief executive officer
CFO	Chief financial officer
COSO	Committee of sponsoring organisations
DEPI	Depreciation index
DSRI	Day's sales in receivable index

FMAGE	Firm age
FMSIZE	Firm size
FRCN	Financial reporting council of Nigeria
FSF	Financial statement fraud
GAAP	Generally accepted accounting practices
GMI	Gross margin index
IFRS	International financial reporting standards
LVGI	Leverage index
MEFFECT	Marginal effect
NCCG	Nigerian code of corporate governance
NDIC	Nigerian deposit Insurance Corporation
NSE	Nigerian stock exchange
SEC	Security and exchange commission
SGAI	Sales, general, and administration expenses index
SGI	Sales growth index
TATA	Total accrual to total assets index

ABSTRACT

This study investigated the relationship between audit committee attributes (audit committee size (ACSIZE), audit committee independence (ACIND), audit committee frequency of meetings (ACFMEET), audit committee financial expertise (ACFEXP) and audit committee gender diversity (ACGEND) and financial statement fraud in companies listed on the Nigerian Stock Exchange.

This study employed the longitudinal research design. The design was chosen because the observation of variables was over the period of six (6) years (2014 through 2019). The data of the study were generated from secondary sources obtained from the annual reports of the selected companies and the NSE fact book. The data were analysed using binary probit regression model, because of the dichotomous nature of the dependent variable.

The findings from the study revealed that audit committee attributes plays relatively different and important roles in the prevention and reduction of the likelihood of financial statement fraud in the selected listed companies in Nigeria. ACSIZE was found to positively and significantly affect the likelihood of financial statement fraud, while ACIND and ACGEND were found to have positive and insignificant relationship with the likelihood of financial statement fraud. ACFMEET and ACFEXP were found to have negative and significant effects on the likelihood of financial statement fraud, suggesting unit increase in these variables leads to a reduction in the likelihood of financial statement fraud which is consistent with the expectation. The control variables of firm size (FMSIZE) and firm age (FMAGE) respectively have negative/insignificant relationship and positive/insignificant relationship with the likelihood of financial statement fraud. In line with these findings the study recommendes among others that relevant regulators such as Financial Reporting Council of Nigeria, Central Bank of Nigeria, Nigerian Deposit Insurance Corporation, and Security and Exchange Commission should ensure all companies listed in Nigeria strictly comply with the provisions of Companies and Allied Matters Act (2020), Nigerian Code of Corporate Governance (2018) and any other relevant corporate operational guidelines to ensure healthy corporate organisations in Nigeria. This study concluded that, corporate audit committees are effective and efficient in corporate fraud prevention, reduction and control, when they are properly strengthened by their companies.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Fraud generally poses a monumental threat to the future and survival of corporate organisations irrespective of types and sizes all over the world including Nigeria (Aremu, 2012). Fraud in a broad concept that is generally referred to as an intentional deception that seeks unlawful benefits and it encompasses all forms of financial malpractices including, but not limited to: corruption; asset misappropriation; and fraudulent statements (Wells, 2011). Financial statement fraud is a subset of fraudulent statements, it involve intentional or deliberate misrepresentation or omission of material financial information in the organisation's financial statement in order to deceive or mislead the users of the financial statement reports (Jamieson, Awolowo, Garrow, Winfield & Bhaiyat, 2019).

Financial statement fraud (FSF) is extremely costly and has led to the collapsed of some **'too big to fail'** highly recognised corporations like Enron, WorldCom, Cadbury Nigeria Limited, Oceanic Bank Nigeria Plc. The collapse of these companies have affected several stakeholders, mostly creditors and investors, who are innocent parties in the fraudulent activities but suffer long term financial consequences (Jamieson *et al*. 2019; Madumere & Onumah, 2013). Aside the long term financial losses suffered by various stakeholders of the company, financial statement fraud have also brought integrity and credibility questions to the accounting and auditing profession. One of the ways of preventing or controlling the menace of financial statement fraud is through effective corporate governance achieved through the use of corporate governance

mechanisms such as board of directors and audit committees. However, there is a general belief that a strong corporate governance system through audit committee can prevent, detect, and reduce the menace of corporate frauds. Razali and Arshad (2014) posit that effective audit committee can prevent earnings management in organisations. There have been several attempts by regulators around the world to bring about effective corporate governance mechanisms. According to Awolowo, Garrow, Clark and Chan (2018), in the United Kingdom is the UK Code of Corporate Governance 2012 which was revised in 2014 and in South Africa is the Kings Report of 2009.

Similarly, in Nigeria, is the Nigerian Code of Corporate Governance (NCCG) 2016 revised in 2018 and released by the Nigeria Financial Reporting Council (FRCN) in 2019. It is mandatory for public companies in Nigeria to establish audit committee in their boards to ensure efficiency and effectiveness in the organisations. This work has examined the relationship between audit committee attributes (audit committee size, audit committee independence, audit committee frequency of meetings, audit committee financial expertise, and audit committee gender diversity) and the likelihood of financial statement fraud in Nigeria.

1.2 Statement of the Research Problem

Financial statement fraud has become a major challenge and worrisome in the modern business environment. The underlying assumption in preparing financial statements is **'going concern.'** Going concern is the assumption that an entity has neither the intention nor the necessity of liquidation or of curtailing materially the scale of its operation in the foreseeable future (Brierley, Price and Prior [BPP] Learning Media, 2012; Enofe, Mgbame, Otuya & Ovie, 2013), but the threat poses by FSF to the future and survival of corporate organisations for the past two decades

has brought integrity and credibility questions to the accounting and auditing profession including the failure of corporate governance mechanisms to direct and control the affairs of the organisations. The number of collapsed companies due to fraudulent financial statement seemed to be significantly increasing. For example, Enron in 2001; WorldCom in 2002; Parmalat in 2003; Royal Bank of Scotland in 2008; Olympus in 2011; Tesco in 2014; Toshiba in 2015; Palmer and Harvey in 2017; Carillion in 2018; and Patisserie Valeriein 2019 with attendance lose of investors' financial fortunes and lots of jobs. The external auditors were not spared from the fraudulent financial behaviour either (Awolowo, 2019; Awolowo *et al.,* 2018; Jamieson *et al.,* 2019; Luo & Jeyaraj, 2019).

The Nigerian environment has also witnessed cases of financial statement scandals with many collapsed companies such as Oceanic Bank Nigeria Plc, Intercontinental Bank Nigeria Plc, Savannah Bank Nigeria Plc, Cadbury Nigeria Plc, African Petroleum Plc, Liver Brothers Nigeria Plc, Afribank Nigeria Plc (Ilaboya & Lodikero, 2017; Sule, Yusof & Bahador, 2019). Investors lost billions of naira and many workers rendered jobless including external auditors and other stakeholders suffer losses to the financial scandals.

According to the Nigerian Deposit Insurance Company (NDIC), 2018 annual reports, a total of 37,817 fraud cases were reported in 2018 by deposit money banks (DMB) and 26,182 fraud cases in 2017. The amount involved was ₦38.93 billion in 2018 and ₦12.01 billion in 2017 respectively. The actual amount lost to fraud incidences in 2018 stood at ₦15.15 billion. Also, as at December 2019, NDIC successfully liquidated a total of 425 financial institutions in Nigeria which was attributed to weak board of directors; weak corporate governance; poor management process; amongst others causes for the bank failures (Obiechina, 2020).

This disturbing trend of financial fraud in Nigeria calls for the need to put in place measures to mitigate the negative effects. The prevalence of FSF is attributable to weak corporate governance system (Ozili, 2015); weak penalty system (Ibadin & Ekpulu, 2016). However, several studies (Hopwood, Leiner & Young, 2012; Rezaee & Kedia, 2012) acknowledged that a strong corporate governance system through the actions of corporate governance participants (board of directors, audit committees, management, internal auditors, external auditors) is necessary to prevent and detect financial statement fraud which is usually as a result of agency problem in firms.

Previous studies have explored board of directors characteristics, simply referred to as the "Board" characteristics in resolving financial reporting issues in various contexts. Nigerian Code of Corporate Governance (NCCG) 2018 stipulates that "to ensure efficiency and effectiveness, the Board delegates some functions, duties and responsibilities to well-structured committees, without neglecting its responsibilities. Moreover, Section 359 (3) of Companies and Allied Matters, Act (CAMA), 2020 as amended, prescribes that all public companies should have an audit committee that will serve as a mechanism to promote quality report.

Despite numerous empirical studies on corporate governance, it seems a little attention is on the relationship between audit committee attributes and financial statement fraud in Nigeria. However, similar empirical evidence exists in relations to nexus between the elements of corporate governance and fraudulent financial statement in outside jurisdictions (Zainal, Rahmadana & Zain, 2013 in Indonesia; D'Onza & Lamboglia, 2012 in Italy; Atieno, 2017 in Kenya; Abri, Arumugam & Balasingam, 2019 in Tanzania; Martins & Ventura, 2019 in Brazil; Kamarudin, Ismail & Alwi, 2014 in Malaysia; Luo & Jeyaraj, 2019 in UK; Mahesarani & Chariri, 2016 in Idonesia; Madah-Marzuki, Haji-Abdullah, Othman, Abdul-Wahab & Harymawan, 2019

in Malaysia; Toh, 2013 in New Zealand). The fact that these studies were done in other jurisdictions constitute a research gap this study has addressed.

Another gap observed is that a few studies done in Nigeria (Ilaboya & Lodikero, 2017; Eneh, 2018; Uwuigbe *et al.,* 2019) focused on a limited number of board characteristics to explain the relationship with financial statement fraud; but this work expands on this by focussing on audit committee attributes to explain the relationship with financial statement fraud this, the study considered as an improvement on previous studies. Hence, this work examined the relationship between audit committees attributes (audit committee size, audit committee independence, audit committee frequency of meetings, audit committee financial expertise, and audit committee gender diversity) and the likelihood of financial statement fraud in Nigeria. Against this backdrop the following research questions were raised:

1. What is the relationship between audit committee size and the likelihood of financial statement fraud in Nigeria?

2. To what extent is the relationship between audit committee independence and the likelihood of financial statement fraud in Nigeria?

3. To what extent is the relationship between audit committee frequency of meetings and the likelihood of financial statement fraud in Nigeria?

4. What is the relationship between audit committee financial expertise and the likelihood of financial statement fraud in Nigeria?

5. What is the extent of the relationship between audit committee gender diversity and the likelihood of financial statement fraud in Nigeria?

1.3 Objective of the Study

The main objective of this research was to examine the relationship between audit committee attributes and financial statement fraud in companies listed on the Nigerian Stock Exchange (NSE). The specific objectives were to:

1. ascertain the relationship between audit committee size and the likelihood of financial statement fraud in Nigeria;

2. determine the extent of relationship between audit committee independence and the likelihood of financial statement fraud in Nigeria;

3. investigate the extent of relationship between audit committee frequency of meetings and the likelihood of financial statement fraud in Nigeria;

4. evaluate the relationship between audit committee financial expertise and the likelihood of financial statement fraud in Nigeria; and

5. determine the extent of relationship between audit committee gender diversity and the likelihood of financial statement fraud in Nigeria;

1.4 Research Hypotheses

The following research hypotheses for this study were stated in the null form:

Ho1. Audit committee size has no significant relationship with the likelihood of financial statement fraud.

Ho2. Audit committee independence does not have a significant relationship with the likelihood of financial statement fraud.

Ho3. Audit committee frequency of meetings has no significant relationship with the likelihood of financial statement fraud.

Ho4. Audit committee financial expertise does not significantly relate to the likelihood of financial statement fraud.

Ho5. Audit committee gender diversity has no significant relationship with the likelihood of financial statement fraud.

1.5 Scope of the Study

This study examined the relationship between audit committee attributes and financial statement fraud in Nigeria. This study is restricted to all listed companies on the Nigeria Stock Exchange as at 31st December, 2019. The study covered a period of six (6) years ranging from 2014 to 2019. The justification is that, this period witnessed the birth of Nigerian Code of Corporate Governance (NCCG) that seeks to institutionalise corporate governance best practices in Nigerian companies that will rebuild public trust and confidence in the Nigerian economy. The period is also selected because it is large enough for us to make inference and as well as based on the availability of data.

1.6 Significance of the Study

The experience from corporate organisations' collapsed for the past two decades attributed to fraudulent financial irregularities sent fears into the business communities and this necessitated the call for solutions to mitigate the menace. There is a belief in the business discourse that good

corporate governance through an effective audit committee could reduce the opportunistic behaviour and earnings manipulations often associated with managers and thereby enhance corporate performance.

Most empirical studies on corporate governance focus on board characteristics with little attention to audit committee attributes, but to fill the gap this study focuses on the audit committee attributes on the likelihood of financial statement fraud in Nigeria, motivated by the fact that there is paucity of empirical studies in this area. A study of this nature is apt and it is hoped that it will be of significant values to many stakeholders.

This study will enhance the corporate and public awareness on the effectiveness of audit committee in corporate fraud management.

This study will be of assistance to the policy makers in formulating policies that have significant influence on effectiveness of audit committee in preventing and detecting fraudulent activities.

The study can serve as a benchmark for corporate governance and regulation setting in both private and public sectors in developing countries with similar institutional and legal environment like Nigeria.

Internal and external auditors will also find the study useful as the knowledge gained will strengthen their understanding in their roles in preventing, detecting and mitigating financial statement fraud; and avoid misleading interpretation of financial statements.

This study will further heighten the managerial consciousness of the corporate directors who are charged with the responsibilities of directing and controlling the affairs of the organisations to do things right.

Researchers and academicians will benefit from the findings of this study as it will provide more knowledge on the role of audit committees, their attributes and effectiveness in fraud prevention and detection.

This study will contribute to extant literature as it will provide additional and useful information into the relationship between audit committee attributes and the likelihood of financial statement fraud.

Finally, interested researchers from this field of study may also use this study as a basis for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presented the conceptual review of financial statement fraud, measurement of likelihood of financial statement fraud, audit committee attributes, empirical review of audit committee attributes (audit committee size, audit committee independence, audit committee frequency of meetings, audit committee financial expertise, and audit committee gender diversity); control variables (firm size and firm age); review of theories (agency theory and fraud triangle theory); model development, and gap in literature.

2.2 Conceptual Review

2.2.1 Financial Statement Fraud

The term financial statement fraud contains two concepts: financial statement and fraud. Financial statements, on the one hand, are the end product of accounting cycle. According to BPP Learning Media (2012) financial statements are designed to contain financial information about the financial position, performance and cash flows of an entity that is useful to a wide range of users like the existing and potential investors, lenders or other creditors. Financial statements are expected to give a true and fair view of the financial position of an entity as at the end of a financial year. Unfortunately, financial statements are often times prepared in a manner that intentionally misstate the financial position and performance of the organisation to deceive the users of financial information.

On the other hand, fraud is a broad concept that generally refers to an intentional deception to seek unlawful benefit. It encompasses all forms of financial malpractices which include, but not limited to; corruption, assets misappropriation and fraudulent financial statements (Wells, 2011). Fraud has been described also as "a generic term", that embrace all the multifarious means which human being's ingenuity can devise to get advantage over another by false representation and it includes surprise, trick, cunning and unfair ways by which another is cheated; and the only boundaries defining it are those that limit human knavery" (Riahi-Belkaoui, 2014; Zimbelman, Albrecht, Albrecht & Albrecht, 2012).This goes to show that fraud is a deliberate and intentional act or omission to deceive or mislead other people.

The act of deliberately and intentionally misstating of financial statement by the management of a firm to deceive the users of the financial statement is called financial statement fraud. Taylor (2011) define financial statement fraud as the deliberate and intentional misstatement of financial information in the financial statement by the management of a firm, to deceive the users of financial information; it entails the manipulation or falsification or alteration of financial records, deliberate omission of information from the financial statement, intentional misappropriation of accounting principles, which are done with the intent to either influence share price or save tax, conceal transactions of cases of money laundering or conceal bribery and corruption. Similarly, Hopwood, *et al.,* (2012) defines financial statement fraud as any undisclosed intentional violation of Generally Accepted Accounting Principles (GAAP) that materially affects the information in any financial statement. Also, Zimbelman, *et al.,* (2012) sees financial statement fraud like any other fraud that involves intentional deceit and attempted concealment through falsified document, or through collusion among management, employees, or third parties.

From the foregoing, financial statement fraud is a deliberate and intentional dishonest act that involves the manipulation of accounting records to achieve illegal benefits or gains to the detriment of the investors and other various stakeholders of the business community.

FSF are invisible, but their symptoms, indicators, or red flags are usually observed. This type of fraud though occurs infrequently but its consequences are extremely costly. It can lead to outright closure of the organization; tax losses to the government; negative effects on nation's growth and development; credibility question to accounting and auditing professions; employees are often thrown out of the labour market; amongst many other negative consequences (Ajekwe & Ibiamke, 2017; Tsegba & Upaa, 2015).

Motivation to commit financial statement fraud are built around those three factors that are subsumed in the theory of 'Fraud Triangle' developed by a notable criminologist, Cressey (1953), which include the concepts of perceived pressure, opportunity, and rationalization.

Financial statement fraud manipulations exist in different schemes. These various mechanics are followed in order for the fraudster to meet the drive for fraud either by using the accounting system as a tool to generate the result the fraudster wants or feed false and fictitious information into the accounting system to manipulate results (Zack, 2013). Financial statement frauds are usually perpetrated and concealed by higher-level individuals, such as senior managers (chief executive officers-CEOs), senior finance personnel (chief financial officers-CFOs) who are in position to cover-up their theft in the accounting records and override controls (Beasly, Carcello & Hermanson, 1999; 2010).

The Committee of Sponsoring Organisation (COSO) (2013), identifies financial statement fraud schemes to include "improper revenue recognition; overstatement of assets, other than accounts

receivable related to revenue fraud; understatement of expenses and liabilities; misappropriation of assets; inappropriate disclosure; and some miscellaneous techniques. “Those above are not much different from those by Wells (2011) who recognized financial statement fraud schemes to include: “asset/revenue overstatements; asset/revenue understatements; timing differences; fictitious revenues; concealed liabilities and expenses; improper disclosures; and improper asset valuations as the major FSF classifications.” A combination of these mechanics/methods can be used by organisations to commit financial statement fraud and all these negatively affect the actual earning of the organisation.

Considering the monumental negative consequences of financial statement fraud, it is important that the concern of business communities which is perceived to be prevention and detection of these financial shenanigans are addressed in order to pave way for corporate organisations to strive.

Fraud prevention requires that management put up proactive measures which will ensure that organisations inquisitively and promptly identification of fraudulent behaviour instead of waiting for the act of fraud to occur before attending to them. Prior studies have documented various ways to solve fraudulent financial statements: the employees’ perception of detection of fraud in an organisation has been described by several researchers as a significant tool in fraud prevention within organisation through the use of employee education; surveillance system; adequate reporting system; proactive fraud auditing and surprise audit; whistle-blowing system; and creating an expectation of punishment amongst others (Pamungkas, Ghozali & Achmad, 2017; Wells, 2011; Zimbelman *et al.,* 2012). Application of forensic accounting techniques (Okoye & Ndah, 2019); and strong and effective corporate governance (Rezaee & Kedia, 2012) are also

necessary to prevent financial statement fraud. However, where fraud prevention failed detection of fraud becomes imminent.

Fraud detection usually begins by identifying symptoms, indicators or red flags that tend to be associated with fraud. Financial statement fraud red flags are signs investors and other financial statement stakeholders should take note of, although they do not necessarily indicate occurrence of fraud, but signal to review more on the validity of the company's documents. Some common red flags according to Zimbelman *et al.,* (2012) are "accounting anomalies, internal control weaknesses, analytical anomalies, extravagant lifestyle, unusual behaviour, and tips/complaints; noting that frauds are detected by chance, by providing ways for people to report suspicions of fraud and by examining transaction records and documents to determine if there are anomalies that could represent fraud."

Aremu (2010) asserts that detection is monitoring tools put in place by the management to ensure that in the event of prevention failure, frauds are detected within a reasonable time before much damage is done to the organization, and mentioned the tools to include: "internal audit monitoring activities, information technology-based report generation, continuous transaction monitoring, whistle-blower hotlines, amongst others."

Sunardi and Amin (2018) argue that technology has made fraud complex and detecting it becomes difficult, hence, strong technique be employed to overcome fraud incidence and therefore suggest that "ethical training, inventory observation, fraud hotline, password protection, continuous auditing, increased role of the audit committee, and data mining would help to overcome the difficulties in detecting financial statement frauds."

Some ratios and models exist for fraud predication and fraud detection for use by financial analysts, forensic accountants, fraud examiners, auditors, and risk managers. They include quality of earnings, quality of revenues, Sloan accrual, Altman Z-score, Beneish M-score, Dechow fraud F-score models (Grove & Clouse, 2014); and percentage analysis or analytical techniques (vertical, horizontal and budget variance analyses), financial statement ratio analysis, data mining, Bendford's law, amongst others (Zimbelman *et al.,* 2012). This assertion is consistent with Schilit (2010) cited in Grove and Clouse (2014) who also argue that the history of fraud must be studied in order to find fraud, noting that their warning signs were not hard to find, pointing that six well known red flag ratios and models of fraud prediction exist for use by financial analysts, forensic accountants, auditors, and risk managers and naming the ratios and models to include: quality of earnings, quality of revenues, sloan accrual, Altman Z-Score model, data mining, Dechow and Beneish fraud models.

The quality of earnings or earnings quality has been advocated over the years. Earnings quality relates to the ability of a company's reported earnings to best symbolise true earnings. Indices have been developed to evaluate earnings quality and to identify if companies' financial statements may have potential reflection of manipulating earnings (Warshavsky, 2012). Beneish (1999) defined earnings management as an instance in which companies managers violate generally accepted accounting principles (GAAP) to favourably represent the company's financial performance. Beneish M-score model was used in this study to measure the dependent variable (likelihood of financial statement fraud) because of the dichotomous (probabilistic) nature of the dependent variable.

2.2.2 Measurement of Likelihood of Financial Statement Fraud

Beneish M-score model, an indexing quantitative method was developed by Professor Messod Daniel Beneish, to assist in evaluating the probability of earnings manipulation in a company, as well as identifying areas that may require greater scrutiny. Companies with higher Beneish scores are more likely to be manipulators (assigned **1** where the Beneish M index is greater than -2.22) and non-manipulators (assigned **0** where the Beneish M index is below the -2.22 benchmark) (Beneish, 1999). Beneish model uses eight financial variables that are seen as indicators of companies exposed to financial statement manipulator. Roxas (2011) asserts that the variables in the model relate to financial information that would indicate whether earnings manipulation exists. Roxas posit that Beneish model is a "probit model that captures financial statement distortions or preconditions that might prompt companies to engage in such activity."

The eight financial variables of Beneish model according to Beneish (1999) include:

Days' sales in Receivable Index (DSRI): measures the ratio of the days' sales in receivable in the first year that the earnings manipulation was discovered in year t (that is current year) to the corresponding measure in year t-1 (that is prior year). It measures whether receivables and revenues are in order in two successive years. Although a large increase in days' sales in receivables could be the result of a change in credit policy to encourage or stimulate sales in the face of increased competition, but disproportionate increases in receivables relative to sales could also suggest revenue inflation. Therefore, Beneish model expected that a large increase in receivables is associated with a higher likelihood that revenues and earnings are overstated or manipulated.

Gross margin index (GMI): measures the ratio of a gross margin in prior year to the current year gross margin. Gross margins are deteriorated when GMI is greater than 1. The model expects a positive relationship between the GMI and the probability of earnings manipulation if companies with poorer prospects are more likely to engage in earnings manipulation since the general belief is that deterioration of gross margin is a negative sign of companies' prospect.

Asset quality index (AQI): measures the quality of a company's assets by calculating the ratio of a non-current asset, other than plant, property and equipment (PPE), to total assets. The AQI is the ratio of asset in current year to asset quality in prior year. AQI greater than 1.0 indicates that the company has potentially increased its cost deferral or increased it intangible assets, and created earnings manipulation (Warshavsky, 2012). The model expected a positive relationship between the AQI and the probability of earnings manipulation.

Sales growth index (SGI): The SGI is the ratio of sales in current year to sales in prior year. An index of greater than 1.0 represents a positive growth while less than 1.0 represent a negative growth in the year under review (Aghghaleh, Mohamed & Rahmat, 2016). Sales growth itself is not indicative of earnings manipulation; however, growth companies are more likely to commit earnings manipulation (Warshavsky, 2012). Beneish model foresaw a positive relationship between the SGI and the probability of earnings manipulation.

Depreciation index (DEPI): The depreciation index is the ratio of the rate of depreciation in prior year to the corresponding rate in current year. DEPI greater than 1 may suggest an upward revision of expected useful life of company plant, property and equipment that would increase its income. The model expected a positive relationship between the DEPI and the probability of manipulation.

Sales, general, and administrative expenses index (SGAI): SGAI is the ratio of sales, general, and administrative expenses to sales in current year relative to the corresponding measure in prior year. A disproportionate increase in sales, as compared to SGAI, would serve as a negative indication in relation to companies' future prospect. The model expected to find a positive relationship between the SGAI and the probability of manipulation.

Leverage index (LVGI): The LVGI is the ratio of total debt to total assets in current year relative to the corresponding ratio in prior year. An index greater than 1.0 indicates an increased leverage and therefore, means that a company is more prone to financial statement manipulation.

Total accrual to total assets index (TATA): TATA is used to measure the extent to which sales are made on cash basis. It indicates the quality of cash flows of the company. Accruals calculated in this formula as working capital other than cash, are estimates of the short term forecasted inflow and outflow activities of a company. Accruals have been an interested opportunity to perpetrate fraud (Warshavsky, 2012). Beneish model expected higher positive accruals, less cash, to be associated with higher likelihood of earnings manipulation.

Beneish (1999) calculated the M-Score by using some parameters or coefficients against the eight variables of the Beneish model:

$$M = -4.84 + 0.92*DSRI + 0.528*GMI + 0.404*AQI + 0.892*SGI + 0.115*DEPI – 0.172*SGAI + 4.679*TATA – 0.327*LVGI$$

The M-score is the derived figure from the model. M-score less than -2.22 indicates no manipulation in the financial statement by the company in the accounting period. M-score greater than -2.22 indicates that the company financial statement may have been manipulated.

There is five variables version of Beneish M-scoreafter excluding SGAI, DEPI, and LVGI which were said to be insignificant in the original Beneish model, possibly these variables are associated with earnings management, not manipulation (Beneish, 1999; Ilaboya & Lodikero, 2017). The linear combination of the five variables model is:

$$M = -4.84 + 0.92*DSRI + 0.528*GMI + 0.404*AQI - 0.172*SGAI + 4.679*TATA$$

Ratio analysis used as Beneish M-score

$$DSRI = \frac{\text{Receivablest /Sales t}}{\text{Receivables}_{t-1}/\text{Sales}_{t-1}}$$

$$GMI = \frac{\text{(Sales t-1- Cost of goods sold t-1)/Sales t-1}}{(\text{Sales}_{t} - \text{Cost of goods sold}_{t})/\text{Sales t}}$$

$$AQI = \frac{\text{(1- Current assets t + PP \& E) / Total assets t}}{(1 - \text{Current assets}_{t-1} + \text{PP \& E}_{t-1}) / \text{Total assets}_{t-1}}$$

$$SGI = \frac{\text{Salest}}{\text{Sales}_{t-1}}$$

$$DEPI = \frac{\text{Depreciation t-1 /(Depreciation t-1 +PP \& E t-1)}}{\text{Depreciation}_{t} / (\text{Depreciation}_{t} + \text{PP\&E})}$$

$$SGAI = \frac{\text{Sales, general, and administrative expense t /Sales t-1}}{\text{Sales, general, and administrative expense}_{t-1}/\text{Sales}_{t-1}}$$

$$LVGI = \frac{\text{(LTD 1 + Current liabilities t / Total assets t}}{(\text{LTD}_{t-1} + \text{Current liabilities}_{t-1})/ \text{Total assets}_{t-1}}$$

$$TATA = \frac{\begin{array}{l}\Delta \text{ Current assets t } - \Delta \text{ Cash t} - \Delta \text{ Current liabilities t} \\ -\Delta \text{ Current maturities of LTD t} - \Delta \text{ Income tax payable t} \\ \text{- Depreciation and amortization t}\end{array}}{\text{Total assets}}$$

Source: Adapted from (Beneish, 1999)

2.2.3 Audit Committee Attributes

Audit committee is a delegated body of board of directors which is charged with the responsibilities of defending and protecting the interest of shareholders. They are to ensure boards, external auditors and internal auditors comply with regulations and guidelines of the company (Adigwe & Ogoun, 2018). Section 359 (3) of the Companies and Allied Matters Act (CAMA), 2020 as amended, requires public companies to establish audit committee in their organisations. NCCG (2018) stipulates that "to ensure efficiency and effectiveness, the board should delegate some functions, duties and responsibilities to well-structured committees, without neglecting its responsibilities." Audit committee is one of the committee made statutory for every public company with the responsibilities and functions, amongst others, to "keep under review the effectiveness of the company's system of accounting and internal control and also to exercise oversight over management process to ascertain the integrity of the company's financial statement, compliance with all applicable legal and other regulatory requirements; and assess the qualifications and independence of the external auditors, and the performance of the company's internal audit function as well as that of the external auditors."

The Nigeria code of corporate governance (NCCG) allows the audit committee to hold discussion on the company's affairs at least once in a year without the presence of the management, with the head of internal audit function and the external auditors with a view to have cross-ideal about the company's affairs. All members of the audit committee are expected to be financially literate, that is, they should be able to read and understand financial statements and above all, one member of the committee, at least, should be a financial expert with current knowledge in accounting and financial management and be able to interpret financial statements.

In spite of these laudable requirements, there is increase in the incidences of financial statement fraud which heightened the fear of integrity and competence of the corporate governance participants (board of directors, audit committees, management, internal auditors, external auditors, and other employees) to prevent detect, and mitigate frauds in financial statements. However, there is a general belief that a strong corporate governance system can prevent, detect, and reduce the menace of corporate frauds.

Razali and Arshad (2014) in their study posit that effective audit committee can prevent earnings management in organisations. Mgbame, Izedonmi and Enofe (2012) asserts that information credibility of financial reports is utmost importance to stakeholders and so, audit functions is important in maintaining confidence in the integrity of financial reporting just the same way audit promote credibility to corporate financial reports and the higher the perceived audit quality, the more credible the financial statements (Mgbame, Eragbhe & Osazuwa, 2012). In the foregoing, effective audit committee through its oversight functions on external auditors can enhance audit quality and by extension credible financial statement.

Audit committee possess or exhibits some attributes which are critical in ensuring its effectiveness and are necessary in examining the relationship with financial statement fraud likelihood in this study. They include: audit committee size; audit committee independence; audit committee frequency of meetings; audit committee financial expertise; and audit committee gender diversity.

2.3 Empirical Review of Audit Committee Attributes and the Likelihood of Financial Statement Fraud

2.3.1 Audit Committee Size and the Likelihood of Financial Statement Fraud

The size of audit committee is an important attribute that can enhance the duties, functions and responsibilities of the committee which members are likely to rely on for wider knowledge to ensure effective prevention and reduction of financial statement fraud. Section 359 (4) of CAMA, 2020 as amended, provide for a maximum of six (6) members of equal number from the directors and the representatives of the shareholders of the company for effective performance. Considering if six (6) members will enable the audit committee to function properly, Ilaboya (2012) argue otherwise and advocated for a-seven member audit committee based on the findings of his study that investigated the relevance and effectiveness of audit committee in corporate financial reporting in Nigeria and found out that the user think current membership composition is defective and agreed to seven membership of the committee to enhance effectiveness.

Nevertheless, the question of what is enough audit committee size differs from country to country. For example, in United States of America (USA) specified a minimum of four (4) members, in the United Kingdom (UK) specified a minimum of three (3) members (Asiriuwa, Aronmwan, Uwuigbe & Uwuigbe, 2018). A study conducted by Atieno (2017) to determine the effect of audit committee characteristics on fraud reduction in state ministry in Kenya found positive but insignificant effect on incidences of fraud in the state ministry in Kenya. Similarly, Majiyebo, Okpanachi, Nyor, Yahaya and Mohamend (2018) found that audit committee size has positive, but insignificant effect on financial reporting quality in listed deposit money banks in

Nigeria. On the contrary, Akpan and Nsentip (2020) found significant positive effect on the quality of financial report among listed Nigerian banks. However, Toh (2013) believe that a large audit committee will encourage shared knowledge among the members that will enhance a robust questioning of management and external auditors for effective monitoring in the preparation of financial statements.

2.3.2 Audit Committee Independence and the Likelihood of Financial Statement Fraud

Independence is an indispensable and unique attribute of audit committee. According to Ilaboya and Lodikero (2017), independence is used to describe the ability to function or accomplish a given task without the interference, influence, or dictates of others; an independent audit committee is internal governance mechanisms designed to reduce the agency cost arising from the conflict of interest between resource owners and resource managers.

Prior studies have examined the relationship between audit committee independence and the likelihood of financial statement fraud with mixed findings, but a handful of them conclude that independent audit committee provides effective monitoring which ensure credibility of financial reporting from the financial statements provided by the management. Abbott, Parker and Peters (2000) investigated the effectiveness of Blue Ribbon Committee Recommendation in mitigating financial misstatements; the study found that firms with audit committees that are composed of independent directors are less likely to be sanctioned for fraudulent or misleading financial reporting. Bala (2014) examined the relationship between audit committee characteristics and earnings management of listed food and beverages firms in Nigeria. The finding from the study revealed that audit committee independence is positively and significantly associated with earnings management of listed food beverages firms in Nigeria which implies that audit

committee independence may not serve as a means of reducing earnings manipulation by managers. The finding is inconsistent with Atieno (2017) who established that independence of audit committees has insignificant effect on fraud incidences in the ministries in Kenya. Similarly, from a study carried out that examined the influence of audit committee characteristics on quality of financial reporting in listed Nigerian banks, Moses, Ofurum and Egbe (2016) found that audit committee independence has no significant effect on earnings management in quoted Nigerian banks

2.3.3 Audit Committee Frequency of Meetings and the Likelihood of Financial Statement Fraud

Audit committee frequency meetings suggest the number of times audit committee members meet. Frequent audit committee meetings allow for better interaction between audit committee members and auditors; audit committees meetings are considered to be an important attribute for monitoring effectiveness; and audit committee that meets more frequently with internal auditors is better informed with issues relating to accounting and auditing (Aderemi, Osarumwense, Kehinde & Egbide, 2016).

In New Zealand, the listing rules requires audit committee to meet regularly in order to effectively discharge its responsibilities, but did not specify the numbers of time committee should meet in a year appropriate to perform the committee's duties and functions (Toh, 2013). Sarbanes-Oxley, Act, 2002, also emphasizes on the need for corporate audit committees to meet regularly for efficient and effective performance. Abbott *et al.,* (2002) in Asiriuwa *et al.,* (2018) assert that among the Blue Ribbon Committee's recommendations is that audit committees are expected to meet regularly in order to be effective in the discharge of its oversight functions. In

Nigeria, the NCCG (2018) requires that the committee for audit in public companies should meet at least once every quarter. This implies the importance of meeting of audit committee to deliberate on the issues to enable it perform its oversight functions.

Audit committee meetings are viewed as an important element by the creditors in their relationship with the firms; hence the frequency of audit committee meetings is a measure of the demand for monitoring a firm's financial reporting process (Madah-Marzuki *et al.,* 2019). Bala (2014) posits that audit committee meetings are essential in order to effectively perform its oversight functions and monitoring performance. Eyenubo, Mohammed and Ali (2017) argue that "the frequency of audit committee indicates whether the entity is active or not, in effect, audit committee diligence, generally refers to the eagerness of audit committee members to pursue their terms of reference and goals."

Toh (2013) documents that the frequency of audit committee meeting is positively associated with financial reporting quality. The finding is consistent with Asiriuwa *et al.,* (2018) who found that audit committee have a positive relationship with audit quality. Similarly, Bala (2014) also found that audit committee meetings have significant positive relationship with earnings management of listed food and beverages firms in Nigeria at 10% level of significance. In contrast, Atieno (2017) found that number of audit committee meeting significantly and negatively affected fraud incidences in the ministries in Kenya. But, Mahesarani and Chariri (2016) study that investigated the effect of corporate governance on financial statement frauds used logistic regression method to analyse data, found that audit committee meeting significantly influenced financial statement frauds.

2.3.4 Audit Committee Financial Expertise and the Likelihood of Financial Statement Fraud

The core function of audit committee is to review the financial reporting process of an entity to ensure quality output. It is therefore crucial that the people to carry out this very important duty possess appreciable level of financial expertise to be more effective in performance; hence the availability of accounting and auditing experts in the audit committee increases the efficiency of the committee's performance (Aderemi *et al.,* 2016). The law insider dictionary defines financial expertise as a demonstration of experience, knowledge, skills or certification in accounting or finance with the ability to analyse and interpret a set of financial statements including the attached notes in according with generally accepted accounting practices (GAAP) and international financial reporting standards (IFRS). According to Aderemi *et al.,* (2016), the experience and knowledge in accounting and auditing related issues are considered important for an audit committee and argue that "financially knowledgeable audit committee members who possess accounting qualifications are more likely to prevent and detect financial statement frauds." The general prospect of a company can be enhanced by an audit committee that has financial and accounting knowledge and competence to reduce manipulation of earnings by emphasising on the monitoring system of the organisation (Kamarudin *et al.,* 2014).

Regulators have appreciated the importance of financial expertise in the functions of audit committees. For example, the Sarbanes-Oxley Act (2002) in United States of America (USA), made it mandatory for companies to have at least, one member of its audit committee to be a financial expert. In Nigeria, NCCG (2018) requires that "all members of the audit committee should be financially literate, that is, the financial expert should be able to read and understand financial statement; and at least one member of the committee should be a financial expert,

having current knowledge in accounting and financial management and be able to interpret financial statements."

A number of studies (Bala, 2014; Dabor & Dabor, 2015; Oji & Ofoegbu, 2017; Siahian & Siregar, 2018) have recorded mixed findings in the association or relationship between financial expertise in the audit committee and earnings management or fraudulent financial reporting. Carcello, Hollingsworth, Klein and Neal (2006) examine the association between audit committee financial expertise and earnings management documents that both accounting and certain types of non-accounting financial expertise reduce earnings management for firms with weak alternative corporate governance mechanisms; and that independent audit committee members with financial expertise are most effective in mitigating earnings management or financial statement frauds.

Bala (2014) investigated the relationship between audit committee characteristics and earnings management of listed food and beverages firms in Nigeria revealed a significant and negative relationship between audit committee financial expertise and earnings management which means that audit committee financial expertise reduces the negative effect of earnings management of listed food and beverages firms in Nigeria. Dabor and Dabor (2015) examined the relationship between audit committee characteristics, board characteristics and financial reporting quality in the Nigerian banking sector the result of the study show that there is no significant relationship between board size, board expertise and financial reporting quality; and audit committee expertise on financial appears to be insignificant.

A study conducted by Oji and Ofoegbu (2017) finds that the qualification of members of audit committee significantly affects financial reporting; and advocate that any qualified person to be

in the audit committee should possess an in-depth knowledge about the entity environment and financial reporting information and disclosure processes, including knowledge of critical accounting principles and policies adopted by the management. Ojeka, Iyoha and Asaolu (2015) empirically investigated the impact of audit committee financial expertise on the quality of financial reporting and found that financial expertise has a positive and significant impact on financial reporting quality in Nigeria. This finding agreed with Baatwah, Ahmad and Salleh (2016) who also found that both accounting and non-accounting financial expertise on the audit committee have a positive and significant influence on the timeliness on financial reporting. In contrasts, Kamarudin *et al.,* (2014) and Siahian and Siregar (2018) in their various studies find that expertise of members of the audit committee is negatively associated with corporate fraud; and audit committee financial expertise has no significant effect on earnings management respectively.

2.3.5 Audit Committee Gender Diversity and the Likelihood of Financial Statement Fraud

The issue of gender is another area of interest in corporate governance research (Huang & Thiruvadi, 2010). The gender diversity in an audit committee is also an important attribute, bearing in mind that different genders have different attitudes and ethical conduct in performing their duties (Kamarudin *et al.,* 2014). Audit committee gender diversity implies the proportion of both male and female gender in the audit committee, but female gender representation has been an issue because male gender has been seen to be dominating. Ismail and Abdullah (2013) examine whether the representation of women on the boards and the audit committees is associated with a reduction in earnings management, they find that boards of directors and audit committees with female representation are less likely to engage in earnings management; and in addition asserts that companies with women on top management would perform better in

mitigating earnings management than those without and tend to support the assumption that women are more ethical and stricter than men when it comes to financial matters.

In a recent study, Chijoke-Mgbame, Boateng and Mgbame (2020) examine the effect of female representation and the proportion of female representation on corporate boards and audit committees on financial performance in an African setting employing a panel of 77 firms' document that female board representation put forth a positive and significant influence on firm financial performance. The study also finds that the performance effect of gender diversity is stronger for firms with two or more female directors, suggesting that building a critical mass of female representation enhances firm financial performance. Yet the study also finds that inclusion of females on the audit committee appears to have a positive impact on firm financial performance.

Similarly, Izadi and Oradi (2019) investigated the association between gender diversity on audit committees and the incidence of financial restatements using a sample of 683 firm-year observations from Iranian listed companies for the period from 2013 through 2017 finds that the presence of at least one female director on audit committees reduces the likelihood of the incidence of financial restatements. The study also found that the likelihood of hiring higher quality auditors increases in firms with gender diversity in audit committees and the presence of independent and financial expert female directors.

In a study that examined the relationship between audit committee characteristics using final samples of 218 firms, Huang and Thiruvadi (2010) document that audit committee that have at least one female director function differently from all male audit committee. Zaitul and Ilona (2018) carried out a research to identify whether or not the gender of audit committee members

affects the timeliness of financial reporting. The study employs panel data analysis for 370 observations of 185 Idonesian listed companies in the 2014-2015 periods and finds that there is an insignificant effect of gender in the audit committee on the timeliness of financial reporting. Ilaboya and Izevbekhai (2016) document a non-significant positive relationship at 5% level between female directorship and firm performance in a study to investigate gender diversity in boardroom and firm performance. In the same fashion, Sun, Liu and Lan (2011) coined their research topic as: Does female directorship independent audit committees constrain earning management? The study examines whether the gender of the directors on fully independent audit committees affects the ability of the committees in constraining earnings management and thus their effectiveness in overseeing the financial reporting process. The study used a sample of 525 firm-year observations over the period of 2003 through 2005 and the result was that they were unable to identify an association between the proportion of female directors on audit committee and the extent of earnings management.

2.3.6 Control Variables

Control variables can enhance the relationship between the independent and dependent variables, hence, in order to capture the company's specific factors on fraudulent activities, some control variables (firm size and firm age) were built into the regression model to control for the likelihood or possible influence of their variation on the dependent variable of financial statement fraud.

2.3.6.1 Firm Size and the Likelihood of Financial Statement Fraud

There are perceptions that larger firms have stronger corporate governance practices which can reduce information asymmetry and the firms are expected to be less likely to manipulate earnings

(Ilaboya & Lodikero, 2017). In contrast, a study carried out by Martins and Ventura (2019), firm size shows a positive and significant relationship with the likelihood of earnings manipulation, suggesting that companies with greatest total assets are those most likely to manipulation their earnings. Ilaboya and Lodikero (2017) document that the control variables of firm size and firm age do not substantially increase or decrease the likelihood of financial statement fraud in their selected companies studied.

Ozcan (2016) investigates accounting variables using probit regression analysis and covers 144 firms between the time periods of 2005 through 2015. The result of the probit regression analysis indicates that the control variable proxies by logarithm of total assets and other explanatory variables regressed are statistically significant, and in addition that smaller firms are more likely to issue fraudulent financial statements.

Ali, Noor, Khurshid and Mahmood (2015) argue that large firms have more effective internal control system with a team of qualified and competent auditors that can detect or reduce earnings manipulations than firms that are smaller in size. In addition, large firms are believed to have more funds to engage best technology and expertise that reduces financial statement frauds and produce credible financial information to the public. In their study, Ali *et al.,* (2015) evaluates the impact of firm size on earnings management for the textile sector of Pakistan. Data was obtained from fifty (50) selected firms from the textile sector for a period of ten years from 2004 through 2013, using descriptive statistics, correlation and panel data analysis to capture the impact of firm size on earnings management. The results revealed that there is positive and significant impact of firm size on earnings management because large firms face more pressure from investors and financial analysts to show positive earnings, and also, the study suggest that the firms that have larger assets perform more earnings management practices.

Kamarudin *et al.,* (2014) examined the relationship between audit committee attributes and the propensity for fraudulent financial reporting with sample of 116 fraudulent and non-fraudulent firms listed on Bursa Malaysia from 2005 through 2010. The study built firm size into the regression model as control variable to capture the firm specific characteristics. Using logistic regression analysis techniques, the result shows that firm size proxies by the natural logarithm of total assets has no significant relationship with fraudulent financial reporting. But Anchebe, Agbomah and Agbagbara (2019) who examined the nexus between financial statement fraud and corporate governance elements using panel data obtained from firms in the agricultural sector of the Nigeria Stock Exchange between 2013 and 2017 financial year, employed longitudinal design and binary logit regression techniques to analyse data, document that the control variable of firm size built into the regression model is statistically significant, indicating that firm size have significant impact on financial statement fraud likelihood.

2.3.6.2 Firm Age and the Likelihood of Financial Statement Fraud

Firm age suggest the number of years from the time in which a company is quoted on the stock exchange market. It is perceived that companies that built reputation and enjoy public confidence would not do anything that will impair it and bring the company to disrepute; hence, Alsaeed (2006) cited in Ilaboya and Lodikero (2017) document a negative relationship between age of the firm and the likelihood of financial statement fraud.

Ilaboya and Lodikero (2017) argue that older firms that are known to have the resources to engage experts with track records of transparency and professional pedigree will tend to reduce financial statement fraud, but they however notes that companies tend to manipulate earnings to reduce their company income tax liability in environment that associate with high tax, hence

there may be positive relationship between firm age and the likelihood of financial statement fraud.

Chalaki, Didar and Riahinezhad (2012) investigate the effect of corporate governance attributes on financial reporting quality in firms listed on Tehran Stock Exchange for the period of 2003 through 2011. The study built three control variables (audit size, firm size and firm age) into the regression model and the result revealed that no evidence was found to support significant relationship between firm age among other control variables and financial reporting quality. In a similar circumstance, Umobong and Ibanichuka (2017) examine the relationship between audit committee characteristics and financial reporting quality of food and beverage firms using secondary data obtained from the Nigeria Stock Exchange. The result of control variable of firm age was found to increase financial reporting quality, hence less likelihood of financial statement frauds.

2.4 Review of Theories and Model Development

There are several theories that explain the concept of crime and there is the need to link the study to an existing theory. However, the theories underpinning this study are the agency theory and fraud triangle theory.

2.4.1 Agency Theory

Agency theory is considered as one of the oldest theory in the literature of management and economic. Jensen and Mackling (1976) in their seminal paper, theory of the firm, developed the agency theory to explain the relationship between the owners and the managers of an organization. Jensen and Mackling (1976) define the agency relationship as “a contract under which one party (the principal) engages another party (the agent) to perform some services on

their behalf. As part of this, the principal will delegate some decision-making authority to the agent." Jensen and Mackling (1976) assert that the company owner that delegates authority is known as the principal, while the person to whom authority is delegated is known as the agent and the principal designs ways of monitoring the agent activities is the best way of alignment or having goal congruence between the two of them. The theory discusses the problem that may arise in the company because of the separation of the owners – principal and managers – agent. Problem can arise when the agent decides to use the property of the firm for their own use. This creates the conflict between the principals and the agents. The agents are concern with maximising their private benefits. The principal and the agent have opposite risk preferences and this problem of risk-sharing creates the agency conflict. Agency relationship can also be seen as a kind of contract between the principal and the agent, where both party is concern with self-interest that lead to the agency conflict (Panda & Leepsa, 2017).

Bendickson, Muldoon, Liguori and Davis (2016) posit that "agency theory denotes that when the agents have equity in the firm, they are more likely to embrace the actions desired by the principal as those of their own, however, if a perceived inequity exists, agents are likely to engage in self-interested behaviour, this creates information asymmetries and of course the principal is unable to properly monitor the agent behaviour."

Agency theory is therefore relevant to this study in that the financial statement fraud is informed by conflict of interest between shareholders and management on matters concerning how returns on investment are applied, hence management are often involved in financial irregularities in the course of reporting.

2.4.2 Fraud Triangle Theory

Fraud triangle theory was developed by a renowned criminologist, Donald R. Cressey. He was concerned about what drive people to violate trust and why people commit fraud, and undertook a research work "Other People's Money: A Study in the Social Psychology of Embezzlement" Cressey (1953). He then came up with final hypothesis thus:

> Trusted persons become trust violators when they conceive of themselves as having a financial problem which is non-sharable, are aware this problem can be secretly resolved by violation of the position of financial trust, and are able to apply to their own conduct in that situation verbalizations which enable them to adjust their conceptions of themselves as trusted persons with their conceptions of themselves as users of the entrusted funds or property.

This theory commonly referred to as 'Fraud Triangle' is built on three factors: the concepts of perceived pressure, opportunity, and rationalisation. Cressey (1953) argue that these three factors are usually present in order for a person to commit fraud. Financial statement fraud like any other fraud is motivated by these fraud factors. For instance, pressure to meet analysts' forecasts, rapid growth, compensation incentives, stock options, the need for external financing, and performance can lead to fraudulent financial reporting (Hogan, Rezaee, Riley & Velury, 2008). Opportunity to commit fraud is more likely when there are weak corporate governance structure, ineffective monitoring and control systems (Ozili, 2015). Rationalisation is when manager is trying to justify his fraudulent action/behaviour says, just we are in competition with other organizations or to meet the company goals or is for the good of the company to save it (Zimbelman *et al.,* 2012). Abdullahi, Mansor and Nuhu (2015) believed that generally, employee

who commits fraud are able to do so because of the interaction between perceived pressures, perceived opportunity and rationalisation. The fraud triangle theory is relevant to the study in that it help in understanding, explaining and analysing the exposures to fraud, unethical behaviour and ways to avoid victimisation.

2.4.3 Model Development

The conceptual framework of this study is presented below to show the relationship between Audit Committee Attributes and likelihood of financial statement fraud. The dependent variable is likelihood of financial statement fraud, while the independent variables are audit committee size, audit committee independence, audit committee frequency of meetings, audit committee financial expertise, and audit committee gender diversity; as well as control variables of firm size and firm age. Our model was built on this schematic framework below:

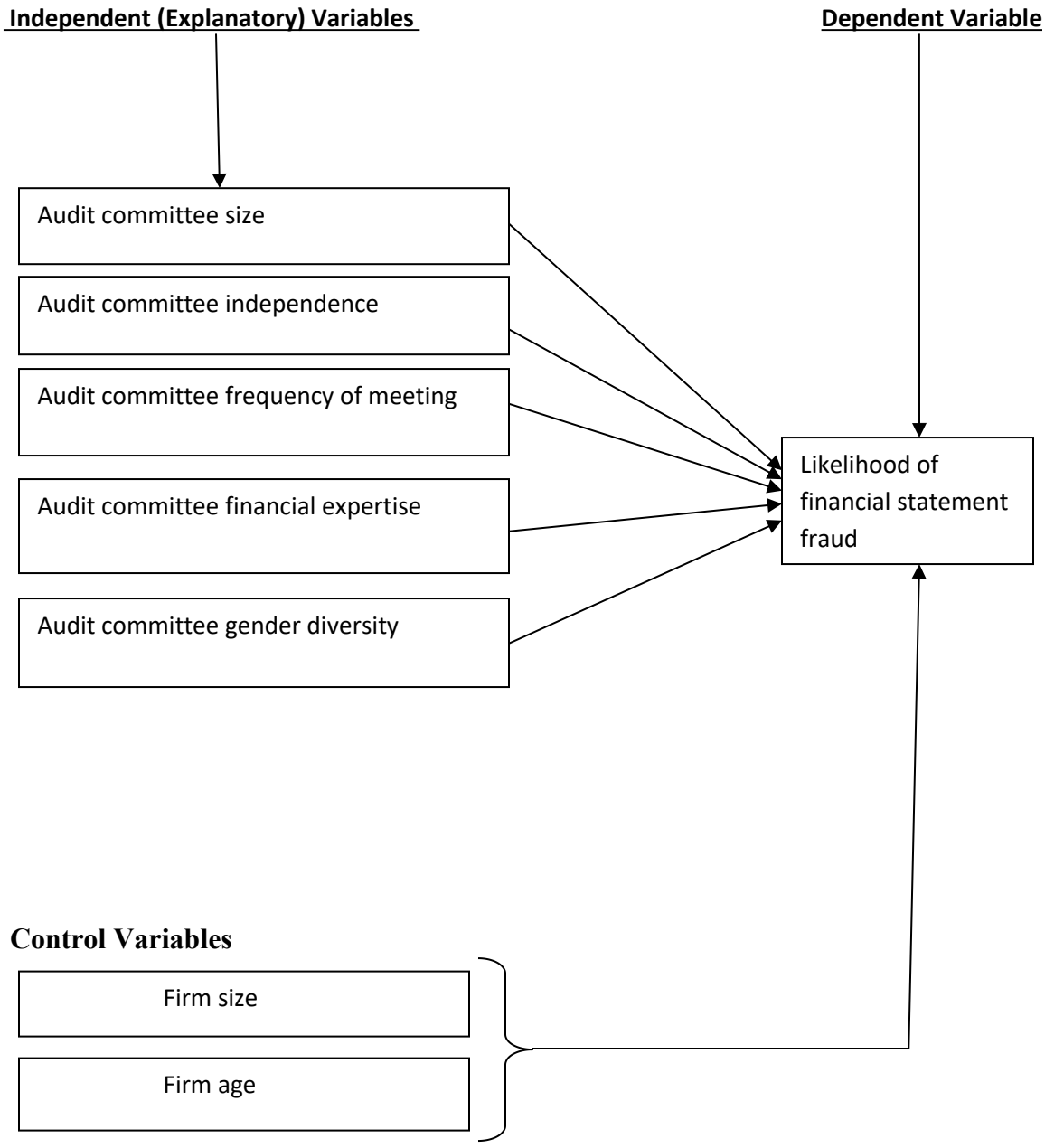


Figure 2.1: Schematic Framework of Audit Committee Attributes and the Likelihood of Financial Statement Fraud

Source: Researcher's Model Development (2020)

2.5 Gap in Literature

From the review of literature, this study finds that researchers in the previous studies have increasing interest in investigating the relationship between corporate governance mechanisms and fraudulent financial statement from outside jurisdictions (Abri, & Balasingam, 2019 in Tanzania; Atieno, 2017 in Kenya; D'Onza & Lamboglia, 2012 in Italy; Luo & Jeyaraj, 2019 in UK; Mahesarani & Chariri, 2016 in Idonesia; Martins & Ventura, 2019 in Brazil; Toh, 2013 in New Zealand). Despite the numerous empirical studies on corporate governance, there is paucity of empirical evidence on the relationship between audit committee attributes and financial statement fraud in Nigeria. The fact that these studies were done in other jurisdictions constitute a research gap in literature which this study has addressed.

Another gap observed in literature is that a few studies done in Nigeria (Ilaboya & Lodikero, 2017; Eneh, 2018; Uwuigbe *et al.,* 2019) in relations to corporate governance variables and financial statement fraud used a few board characteristics to explain relationship with financial statement fraud; but this work uses audit committee attributes to explain relationship with financial statement fraud this, the study considered as an improvement on previous studies.

This study contributes to the existing literature by taking into account of these identified gaps and closed the gaps by investigating the relationship between audit committee attributes and financial statement fraud in Nigeria. This study, obviously, provided additional and useful information on the effectiveness of company's audit committee in preventing, detecting and reducing the likelihood of financial statement fraud.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

The aim of this chapter was to give an overview of the methods, procedures, and modalities that was adopted in order to achieve the objectives of the study. This chapter covered the research design, population and sampling technique, sources of data, data analysis method or technique, model specification, and operationalisation of variables.

3.2 Research Design

This research employed the longitudinal research design within a panel data research framework. This design is suitable for the study because it considers data on variables for a period of six (6) years ranging from 2014 to 2019. The justification is that, this period witnessed the birth of Nigerian Code of Corporate Governance (NCCG) that seeks to institutionalise corporate governance best practices in Nigerian companies that will rebuild public trust and confidence in the Nigerian economy. The period is also selected because it is large enough for us to make inference and as well as based on the availability of data. The design also provides insight into the cause and effect relationship that may exist between the dependent and independent variables.

3.3 Population and Sampling Technique

The population of the study is all the one hundred and sixty-five (165) companies listed on the Nigerian Stock Exchange as at 31st December, 2019. The sample size is 62 companies, the sample size was determined with the use of Yamane (1967) formula.

Sample size; $n = N/ [1 + N(e)^2]$

Where:

n = sample size

N = the population of the study

E = the error limit (0.1 on the basis of 90% confidence interval)

Thus:

$n = 165/ 1 + [165(0.1)^2]$

$n = 165/ [1 + 165(0.01)]$

$n = 165/ [1 + 1.65]$

$n = 165/ 2.65$

$n = 62.264150943$

n = 62 (approximately)

n = 62 companies

In order to have a fair representation of the selected sixty-two (62) sample companies from the population, since all the companies have equal chance of being selected, the study further used simple random sampling technique. That is, the 165 companies were written on equal sized papers, folded in a basket and shuffled, then rotated. Companies were selected without replacement. An independent blind-folded assistant was called upon to pick a paper from the basket, one at a time. The process was repeated until the desired 62 sample companies were obtained.

3.4 Sources of Data Collection

Secondary data were used in this study. The secondary data were obtained from the annual reports of the respective companies and the Nigeria Stock Exchange fact book for a period of six (6) years from 2014 to 2019. The period is selected because it is large enough for us to make inference and also base on the availability of data.

3.5 Model Specification

This study adapted the model of Asiriuwa *et al.,* (2018). Their model as specified in functional form is as stated below:

AQUAL = *f*(ACSIZE, ACMT, ACEXP, ACEFT)

Where:

AQUAL= Audit quality

ACSIZE = Audit committee size

ACMT = Audit committee meetings

ACEXP = Audit committee financial expertise

ACEFT = Audit committee effectiveness

The above model was modified by substituting the dependent variable, audit quality (AQUAL) with the likelihood of financial statement fraud (LFSF) and their independent variable, audit committee effectiveness (ACEFT) substituted with audit committee independence (ACIND) and audit committee gender diversity (ACGEND).

Therefore, the model used in this study is stated in the functional form as follows:

LFSF = *f*(ACSIZE, ACIND, ACFMEET, ACFEXP, ACGEND) ----------*eqn (1)*

Integrating the control variables of firm size and firm age that may cause variation in the dependent variable of financial statement fraud, equation one is modified as:

LFSF = *f*(ACSIZE, ACIND, ACFMEET, ACFEXP, ACGEND, FMSIZE, FMAGE------*eqn (2)*

Expressing equation two in econometric form the model is stated as:

$LFSF_{it} = \beta o + \beta_1 ACSIZE_{it} + \beta_2 ACIND_{it} + \beta_3 ACFMEET_{it} + \beta_4 ACFEXP_{it} + \beta_5 ACGEND_{it} + \beta_6 FMSIZE_{it} + \beta_7 FMAGE_{it} + \mu_{it}$ ----------*eqn(3)*

Where:

LFSF = Likelihood of financial statement fraud

ACSIZE = Audit committee size

ACIND = Audit committee independence

ACFMEET = Audit committee frequency of meetings

ACFEXP = Audit committee financial expertise

ACGEND = Audit committee gender diversity

FMSIZE = Firm size

FMAGE = Firm age

βo = constant term

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7$ = regression coefficients/parameter to be estimated

i = the company (1-62)

t = time factor (from 2014-2019)

μ = error term

A-priori expectation

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7 < 0$.

3.6 Operationalisation of Variables.

Table 3.1: Operationalisation of Variables

S/N	Variables	Type	Measurement	Source
1	Likelihood of financial statement fraud	Dependent	Manipulators (assigned 1, where the Beneish M-score is greater than -2.22) and Non-manipulators (assigned 0 where the Beneish M-score is less than -2.22 benchmark)	Ilaboya and Lodikero (2017); Warshavsky (2012)
2	Audit committee size	Independent	Assign one (1) if size is six (6) and zero (0) if otherwise	Asiriuwa et al. (2018)
3	Audit committee independent	Independent	Percentage of independent non-executive directors in the audit committee	Uwuigbe et al. (2019)
4	Audit committee frequency of meetings	Independent	Number of audit committee meetings held	Asiriuwa et al. (2018); Madah-Marzuki et al. (2019)
5	Audit committee financial expertise	Independent	The number of audit committee members having accounting or finance experience or expertise	Asiriuwa et al. (2018)
6	Audit committee gender diversity	Independent	Percentage of the number of female gender in the committee	Madah-Marzuki et al. (2019)
7	Firm size	Control	Logarithm of total assets	Ilaboya and Lodikero (2017); Ozcan (2016)
8	Firm age	Control	Number of years from the time the company was quoted on the floor of the Nigeria Stock Exchange to date under review	Ilaboya and Lodikero (2017)

Source: Researcher's compilation (2020)

3.7 Method of Data Analysis

Due to the dichotomous (probabilistic) nature of the dependent variable, the specified model of this study was analysed using probit regression, because our dependent variable is in dichotomous form. In order to avoid spurious regression the following diagnostic tests were carried out: first we tested normality using the histogram normality test, the essence of this test was to see if our data were normally distributed, after which we tested for the presence of multicollinearity in our data using correlation matrix and Variance Inflation Factor (VIF). After which the Andrews and Hosmer-Lemeshow test for goodness of fit was performed to see if the model have a good fit.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSES OF RESULTS

4.1 Introduction

This study was carried out to investigate the relationship between audit committee attributes and the likelihood of financial statement fraud. This section focuses on the various steps and procedures that were employed to arrive at the conclusion and recommendations of the study**.**

4.2 Preliminary Analyses

Table 4.1 ***Descriptive Statistics for the dependent probit variable (M score)***

Dependent Variable Frequencies
Equation: UNTITLED
Date: 11/10/20 Time: 13:25

Dep. Value	Count	Percent	Cumulative Count	Cumulative Percent
0	148	39.78	148	39.78
1	224	60.22	372	100.00

Source: Eviews 9 output (2020)

The descriptive statistic of our binary dependent variable (M score) was presented in the frequency table because of the unique characteristics of the binary variable. From table 4.1 the value 0 denotes companies that are non-manipulator while 1 denote companies that are a manipulator. From table 4.1 the total number of companies that are non-manipulator is 148, these companies make up 39.78% of the companies under investigation. On the other hand, the number of manipulating companies is 224; these companies make up 60.22% of the companies under observation.

Table 4.2 ***Descriptive Statistics for the independent variables***

	ACSIZE	ACIND	ACFMEET	ACFEXP	ACGEND	FMSIZE	FMAGE
Mean	5.639785	0.498372	3.846774	0.218178	0.190635	17.05222	41.32258
Maximum	9.000000	0.750000	9.000000	0.833333	0.833333	22.87758	88.00000
Minimum	4.000000	0.250000	1.000000	0.000000	0.000000	11.69454	6.000000
Std. Dev.	0.973685	0.045272	0.890601	0.139782	0.188156	2.584683	18.19743
Observations	372	372	372	372	372	372	372

Source: Researcher's Compilation from Eviews 9, 2020

The descriptive statistics in Table 4.2 shows the characteristics of the independent variables used in the study. As observed, the mean values of ACSIZE (i.e. audit committee size stood at 5.639785. This implies that the average audit committee member of the listed firms under investigation is approximately 6 members. The maximum and minimum values of 9 and 4 respectively represent the highest and lowest size of the audit committee of the listed companies under scrutiny. Similarly, the mean values 0.50 of audit committee independence (ACIND) suggest that on average half of the audit committee members are independent. The maximum values of 0.75 portray that the highest percentage composition of the independent member in the audit committee of the studied firm is 75% of the total size of the audit committee while the minimum value of 0.25 depicts that the lowest percentage composition of the independent members in the audit committee of the studied firm is 25% of the total size of the audit committee.

Further, the mean value 3.846774 of ACFMEET (audit frequency of committee meeting) suggests that on average the audit committee of the studied companies holds meetings four times a year. The maximum value of 9 portrays that the highest meetings held by the audit committee of the company under investigation between 2014 to 2019 are nine (9) times in a year while the

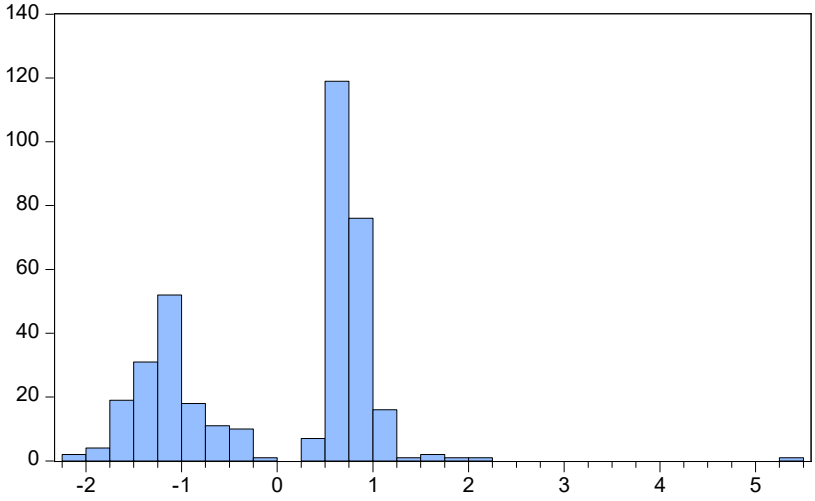
minimum meetings held is once in a year. Also, the mean value of ACFEXP stood at 0.22; this indicates that on average 22% of the audit committee member have financial skills. The maximum value of 0.833333 indicates that in some of the years studied, 83% of the audit committee member of some companies have financial skills. The minimum value of 0% indicates that some companies have a board of audit committees with no financial skill.

Similarly, from table 4.2 the mean value 0.190635 of ACGEN indicates that the average female representations on the board of audit committee amongst the firms' study are 19%. The maximum value of 0.833333 indicates that in some of the years studied, some companies had 83% of female representation in their board of audit committee. The minimum value of 0% indicates that in some of the years studied, some companies had no female representation in their board of audit committee.

On the variable of FMAGE the mean values of 41.32258, suggest that the average age of the firms under review is 41year, going by the minimum and maximum values, the oldest sampled firm is 88yrs as at 2019, while the youngest sampled firm as at 2019 is 6yrs.

On firm size (FMSIZE), represented by the actual value of total assets, the mean stood at ₦17.05222. The maximum and minimum of ₦88.00000 and ₦6.000000 respectively represent the highest and the lowest total asset of the companies under investigation.

4.3 Regression Diagnostic Tests



***F igure 4.1* Histogram Normality Test**

Source: Eviews 9 output (2020)

The histogram is fairly symmetrical which indicates that the data largely fitted into a normal bell-curve. The skewness coefficient value of -0.097 is an indication that the distributions are moderately skewed. The kurtosis coefficient is not too far from the required value of 3, implying that the distribution is mesokurtic and normal. Also, the probability value of the Jargue-Bera statistic stood high at 35.43% meaning that we cannot reject the null hypothesis.

Apart from the normality test that has already been conducted using the JargueBera statistic (as presented in Figure 4.1), other diagnostic tests were also conducted to ensure that the basic assumptions underlying the binary probit regression modeling are not violated. This sub-section presents the outcomes of the correlation test, Variance Inflation Factor (VIF) for multicollinearity, and Andrews and Hosmer-Lemeshow Tests of Goodness of Fit.

Table 4.3 Correlation Analysis

	M_SCORE	ACSIZE	ACIND	ACFMEET	ACFEXP	ACGEND	FMSIZE	FMAGE
M_SCORE	1.000000							
ACSIZE	0.071666	1.000000						
ACIND	-0.030712	-0.029061	1.000000					
ACFMEET	-0.090635	0.175519	0.024756	1.000000				
ACFEXP	-0.273871	0.064153	0.192762	-0.064201	1.000000			
ACGEND	0.039729	0.121763	0.035842	0.121301	-0.047006	1.000000		
FMSIZE	-0.141588	0.156448	0.083548	-0.009679	0.469298	0.173878	1.000000	
FMAGE	0.105396	-0.001335	0.000765	-0.118020	-0.046055	0.018086	-0.097242	1.000000

Source: Researcher's Compilation from Eviews 9 Output, 2020

Table 4.3 presents the correlation results for all the variables used in the study to clearly understand the associations among the variables. As observed from Table 4.3 the variables audit committee independent (ACIND), audit committee frequency of meeting (ACFMEET) audit committee financial expertise (ACFEXP), and firm size (FMSIZE), were all negatively and weakly correlated with the likelihood of financial statement fraud measured by M_SCORE. However, audit committee size (ACSIZE), audit committee gender (ACGEND), and firm age (FMAGE) showed positive associations with the likelihood of financial statement fraud (M_SCORE). Also, as seen in the correlation matrix, the strength of the relationship between the variables measured by Pearson product-moment correlation showed that the association between the variables are relatively small and were below the threshold of 0.80, suggesting the absence of the problem of multicollinearity in the predictor variables (Studenmund, 2014).

Table 4.4 ***Variance Inflation Factor (VIF) Tests***

Variance Inflation Factors
Date: 11/11/20 Time: 08:25
Sample: 2014 2019
Included observations: 372

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
ACSIZE	0.143514	90.81297	1.079959
ACIND	2.438571	130.5663	1.018119
ACFMEET	0.081242	31.72552	1.088008
ACFEXP	0.450961	5.657465	1.217068
ACGEND	0.143793	2.177164	1.076740
FMSIZE	0.272852	466.9428	1.283884
FMAGE	0.016854	47.59036	1.021180
C	2.948377	632.2340	NA

Source: Eviews 9 output (2020)

The decision rule of the Variance Inflation Factor (VIF) test presented in Table 4.4 is that if each of the explanatory variables has a VIF of less than ten (10), it will be suggestive that it does not correlate with the other independent variables. However, if a variable exhibits VIF of up to, or more than ten (10), then it correlates with another independent variable(s), and as such, it should be dropped. Going by the above, it can be observed that all the centered VIF values are not up to the value of 2, thus they are below the benchmark value of 10. This indicates that there is no issue of multicollinearity among the variables. Thus, there is no issue of unstable parameter estimates in the regression lines of both models.

Table 4.5 ***Andrews and Hosmer-Lemeshow Tests of Goodness of Fit***

Goodness-of-Fit Evaluation for Binary Specification
Andrews and Hosmer-Lemeshow
Tests
Equation: UNTITLED
Date: 11/11/20 Time: 08:23
Grouping based upon predicted risk (randomize ties)

	Quantile of Risk		Dep=0		Dep=1		Total	H-L
	Low	High	Actual	Expect	Actual	Expect	Obs	Value
1	0.0474	0.4135	27	28.3954	10	8.60465	37	0.29484
2	0.4150	0.5139	23	20.0089	14	16.9911	37	0.97368
3	0.5142	0.5489	18	17.3614	19	19.6386	37	0.04426
4	0.5497	0.6006	16	15.5775	21	21.4225	37	0.01979
5	0.6015	0.6395	14	14.4032	24	23.5968	38	0.01818
6	0.6396	0.6685	9	12.8540	28	24.1460	37	1.77068
7	0.6686	0.6920	15	11.9232	22	25.0768	37	1.17145
8	0.6925	0.7218	9	10.9516	28	26.0484	37	0.49402
9	0.7228	0.7607	10	9.50734	27	27.4927	37	0.03436
10	0.7634	0.9095	7	6.88384	31	31.1162	38	0.00239
		Total	148	147.866	224	224.134	372	4.82364

H-L Statistic	4.8236	Prob. Chi-Sq(8)	0.7762
Andrews Statistic	5.1586	Prob. Chi-Sq(10)	0.8803

Source: Eviews 9 output (2020)

Table 4.5 presents the result of the Hosmer-Lemeshow test and Andrews's statistics of goodness of fit. As observed from Table 4.5, the differences between the tables' count of the actual and expected value is not large enough to suggest a theoretical unfit model. Buttressing this fact, the P value of 0.7762 and 0.8803 for both Hosmer-Lemeshow and Andrews statistic respectively represent is greater than 0.05(5%), this provide strong evidence that there is a minimal difference between the actual and the expected values for the decile. Hence, we conclude that the model have a good fit

4.4 Multivariate Results

This subsection presents the analysis and interpretation of the binary probit regression model built for the purpose of this study, as specified in the previous chapter.

Table 4.6

Probit Regression Results

Dependent Variable: Financial Statement Fraud **Sample (2014 - 2019); Periods: 6** **Total observations: 372 (62 cross-sections)**					
Variables	**Coefficient**	MEFFECT	**Std. Error**	**Z-Statistic**	**Prob.**
C	0.950657	0.379257	1.717084	0.553646	0.5798
ACSIZE	0.764916	0.305157	0.378833	2.019136	0.0435
ACIND	0.192473	0.076786	1.561593	0.123254	0.9019
ACFMEET	-0.693869	-0.276814	0.285030	-2.434371	0.0149
ACFEXP	-3.283988	-1.310122	0.671537	-4.890259	0.0000
ACGEND	0.271043	0.108130	0.379201	0.714774	0.4747
FMSIZE	-0.277546	-0.110725	0.522352	-0.531340	0.5952
FMAGE	0.075559	0.030144	0.129822	0.582021	0.5606
McFadden R-squared					0.086248
LR statistic					43.12949
Prob(LR statistic)					0.000000

Source: Researcher's Compilation (2020)

On the joint statistical significance of the models, as observed from Table 4.6, the overall *p* – values of 0.000 means that the explanatory variables taken together jointly have an impact on the likelihood of financial statement fraud at 5% levels of significance.

On the performance of the individual variables in terms of their levels of significance, it could be observed from table 4.6 that three out of the five independent variables (ACSIZE, ACFMEET, and ACFEXP) were statistically significant at 5% level of confidence. This suggests that the likelihood of financial statement fraud (M-Score) within the period covered by the study were significantly associated with the changes in audit committee size (ACSIZE), audit committee frequency of meeting (ACFMEET), and the proportion of audit committee members that have financial expertise (ACFEXP). However, the independent variable of audit committee independence (ACIND) and audit committee gender diversity (ACGEND) were not statistically significant. Similarly, the two control variables (FMSIZE and FMAGE) were not also statistically significant.

On the performance of the individual variables in terms of their coefficients, it could be observed from table 4.6 that the variables (ACSIZE, ACIND, ACGEND, and FMAGE) produce a positive coefficient value. This indicates that these variables (ACSIZE, ACIND, ACGEND, and FMAGE) are more likely to have an impact on the likelihood of financial statement fraud. On the contrary, the variables (ACFMEET, ACFEXP, and FMSIZE) report a negative value this indicates that these variables (ACFMEET, ACFEXP, and FMSIZE) are less likely to have an impact on the likelihood of financial statement fraud. In binary probit regression we do not interpret the magnitude of the coefficient rather we interpret the signs of the coefficients. To interpret the magnitude of the changes in the independent variable on the dependent variable we computed for the marginal effect.

The performance of the individual variables in terms of their marginal effect as observed from table 4.6 the marginal effect of ACSIZE is 0.305157. This implies that a unit change in ACSIZE will increase the likelihood of financial statement fraud by 30.52%. In the same way, a percentage change in both ACIND and ACGEND will increase the likelihood of financial statement fraud by 7.68% and 10.81% respectively. Similarly, a unit change in FMAGE will increase the likelihood of financial statement fraud by 3.01%. On the contrary, a unit increase in both ACFMEET and FSIZE will reduce the chances of financial statement fraud by 27.68% and 11.07% respectively, while a percentage change in ACFEXP will reduce the chances of financial statement fraud by 131%

4.5 Hypotheses Testing

The five null hypotheses earlier formulated in the course of this study were tested in this sub-section. The decision rule is to accept the H_O (null hypotheses) when the probability value exceeds 0.05, but if the probability value is less than 0.05, we reject the H_O.

Table 4.7 Summary of Hypotheses Testing

s/n	Hypotheses	Predicted sign	Actual Result	Remarks
H_{o1}	Audit committee size has no significant relationship with the likelihood of financial statement fraud.	-	Positive, Significant.	Reject Ho
H_{o2}	Audit committee independence does not have a significant relationship with the likelihood of financial statement fraud.	-	Positive, Insignificant.	Accept Ho
H_{o3}	Audit committee frequency of meeting has no significant relationship with the likelihood of financial statement fraud.	-	Negative, Significant.	Reject Ho
H_{o4}	Audit committee financial expertise does not significantly relate to the likelihood of financial statement fraud.	-	Negative, Significant.	Reject Ho
H_{o5}	Audit committee gender diversity has no significant relationship with the likelihood of financial statement fraud.	-	Positive, Insignificant	Accept Ho

Source: Researcher's Compilation (2020)

Going by this decision rule and by the result in Table 4.6, it can be observed that $\beta_1, \beta_3,$ and β_4 passed the significance test at 5% level of significance, while β_2 and $\beta_5$did not scale through the significance test owing to their high probability values. Hence, the null hypotheses were accepted. The next sub-section discusses the specific findings.

4.6 Discussion of Findings

As shown in the summary of the probit regression outputs in Table 4.6, audit committee size (ACSIZE) as an independent variable to the likelihood of financial statement fraud showed a positive and significant influence on M_SCORE at 5% levels of significance. This means that the first null hypothesis (Ho_1) should be rejected. Therefore, audit committee size (ACSIZE) significantly affects the likelihood of financial statement fraud. A clearer interpretation of this result implies that since audit committee size has a significant and positive impact on the likelihood of financial statement fraud, it then means that firms with large audit committee size are more likely to be involved in financial statement fraud. This finding is in tandem with the findings of Akpan and Nsentip (2020) and in contrast with Majiyebo *et al.,* (2018).

In the second hypothesis, the independent variable of audit committee independent (ACIND) showed a positive and non-significant influence on likelihood of financial statement fraud measured by M_SCORE. This means that the second null hypothesis (Ho_2) can be accepted. This implies that audit committee independence has no significant effect on the likelihood of financial statement fraud. The insignificance nature of the variable was not expected. However, the insignificance of audit committee independent variable is in tandem with Atieno (2017) and Moses *et al.,* (2016) and in contrast with Ilaboya and Lodikero (2017) who found negative and significant association.

The result also showed that the independent variable of audit committee frequency of meeting (ACFMEET) has a negative and significant impact on the likelihood of financial statement fraud 5% confidence level. What this means is that the third null hypothesis (Ho_3) should be rejected – implying that audit committee frequency of meeting (ACFMEET) significantly and negatively impact on the likelihood of financial statement fraud. This finding is in agreement with our

apriori expectation of a negative relationship between audit committee frequency of meeting and the likelihood of financial statement fraud. This finding is consistent with Atieno (2017). However, the result is at variance with some prior empirical results which show that audit committee frequency of meeting is not a major factor that affects the likelihood of financial statement fraud (Asiriuwa *et al.,* 2018; Bala, 2014; Toh, 2013).

As regards the fourth hypothesis, it can be observed from Table 4.6 that the independent variable of audit committee financial expertise (ACFEXP) has a negative and significant impact on the likelihood of financial statement fraud. Thus, the fourth null hypothesis (Ho_4) that audit committee financial expertise (ACFEXP) has no significant impact on the likelihood of financial statement fraud is rejected. The negative coefficient sign is inconsonant with our *apriori* expectation of a negative relationship between audit committee financial expertise and the likelihood of financial statement fraud. The finding is in tandem with Bala (2014).

In the fifth hypothesis, the independent variable of audit committee gender diversity (ACGEND) showed a positive but insignificant influence on the likelihood of financial statement fraud (M_SCORE). This means that the null hypothesis five (Ho_5) can be accepted. This implies that audit committee gender diversity (ACGEND) has no significant effect on the likelihood of financial statement fraud. This insignificance relationship is in agreement with the finding of Ilaboya and Izevbekhai (2016), but contrast with the findings of Ilaboya and Lodikero (2017) who document negative and significant effect on financial statement fraud.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presented the summary of findings in the study and draw conclusions from the findings. This chapter also presented recommendations and the implications of the findings for both policy makers and future researchers as well as the contributions of the study to existing knowledge.

5.2 Summary of Findings

The following were the major findings of the study:

i. The relationship of audit committee size with the likelihood of financial statement fraud is positive and statistically significant.
ii. The relationship of audit committee independence with the likelihood of financial statement fraud is positive and statistically insignificant.
iii. The relationship of audit committee frequency of meeting with the likelihood of financial statement fraud is negative and statistically significant.
iv. The relationship of audit committee financial expertise with the likelihood of financial statement fraud is negative and statistically significant.
v. The relationship of audit committee gender diversity with the likelihood of financial statement fraud is positive and statistically insignificant
vi. firm size has a negative and a non-statistical significant relationship with the likelihood of financial statement fraud

vii. The relationship of firm age with the likelihood of financial statement fraud is positive and statistically insignificant

5.3 Conclusion

Financial statement fraud has been an impediment to the future and survival of corporate organisations irrespective of types, size all over the world and has been reiterated in the business discourse. This becomes evidence in the demised of some highly recognised corporations over the years due to incidences of financial/accounting frauds. But several attempts have been made by regulators around the world for solutions to the problem so far have not yielded the desire result. However, it is a general belief that audit committee, an internal mechanism of corporate governance is effective in preventing, detecting and controlling the effect of frauds in financial statement. The agency theory infers that the interest between the principal (shareholders) and agent (directors) can be aligned when the audit committee effectively monitors the agent and can also reduce information asymmetry between insiders and outsiders, thereby mitigating agency problems; while the pressures and opportunities that encourage fraud occurrence can also be eliminated. The major responsibility of audit committee is to oversee the overall quality of financial reporting and audit process in the organisation. Therefore, this study investigated the relationship between the Audit Committee Attributes (audit committee size, audit committee independence, audit committee frequency of meetings, audit committee financial expertise, audit committee gender diversity) and the likelihood of Financial Statement Fraud. The study concludes with variation of expectations from the hypotheses tested.

Audit committee size result concludes that the positive relationship and statistically significant found with the likelihood of financial statement fraud suggests that companies with a large audit committee is most likely to be involved in financial statement fraud. This is against the

expectation and the notion that a larger audit committee is essential for financial statement fraud prevention and control.

Audit committee independence that shows a positive and insignificant influence on the probability of financial statement fraud is indicative of the inability of audit committee devoid of interference to accomplish a task that will apparently ensure credibility of financial reporting free of fraud. The possibility of management influence on the audit committee and override control in these selected sample companies analysed cannot be overruled as this result is not expected.

Audit committee frequency of meetings with result of negative association and statistically significant with the likelihood of financial statement fraud is consistent with the expectation that the more audit committee meet frequently the more likelihood financial statement fraud reduces. This result reflects the fact that an audit committee that frequently meets and interact with the internal auditors and external auditors can effectively accomplish its responsibility of as spelt out in Part A. Principle 11.4.6 and 7 of the NCCG, 2018.

Audit committee financial expertise result of negative and significant relationship with the likelihood of financial statement fraud also meets the expectation that audit committee that have at least one financial expert as member in accordance with NCCG, 2018, can be effective in prevention and reduction of the likelihood of financial statement fraud. This finding suggests that audit committee of a member with financial and audit experience, knowledge, skills and ability to analyse and interpret a set of financial statements will engender financial statement free of material misstatement.

Audit committee gender diversity result concludes positive and insignificant relationship with the probability of financial statement fraud, which suggest, although positive association exist

between audit committee gender diversity and the likelihood of financial statement, the effect is not significant. This is also against the expectation that a mixture of male and female representation in an audit committee will reduce the likelihood of financial statement fraud. The result is most disappointing from the selected sample companies analysed when the debate has been that male gender have long dominated the business space and there is the need for fair female representations.

From these findings it is evident that audit committee attributes of selected companies in Nigeria plays different role in relation to financial statement fraud. While audit committee frequency of meetings and audit committee financial expertise displayed effectiveness in the preventing and reducing the likelihood of financial statement fraud; audit committee size, audit committee independence and audit committee gender diversity are more likely to increase the likelihood of financial statement fraud, although their effects are significant and insignificant respectively.

For the firm specific characteristics of firm size and firm age (control variables), the results of negative/insignificant relationship and positive/insignificant association respectively concludes that the control variables do not substantially increase or decrease the likelihood of financial statement fraud in the selected companies.

5.4 Recommendations

In view of the findings and conclusions drawn from the results of the study, the following policy recommendations are hereby proffered:

i. The Financial Reporting Council of Nigeria (FRCN) saddled with the power to ensure good corporate governance practices in both public and private sectors of the Nigerian economy should ensure proper monitoring of companies as this will shape or drive

corporate accountability and business prosperity in order to allay the risk of corporate survival occasioned by the incidences of corporate frauds.

ii. The Nigerian Security and Exchange Commission (SEC), Central Bank of Nigeria (CBN) and Nigeria Deposit Insurance Corporation (NDIC) should ensure proper monitoring of all the listed companies for compliance with the extant rules and financial guidelines; and seriously punish erring companies. These regulatory bodies should regularly organise trainings and seminars for audit committee members as obtainable in other jurisdictions to enable members keep tune with up to date information relevant to their role and responsibility more efficiently and effectively.

iii. The shareholders of the listed companies should closely monitor the companies' affairs to ensure the sanctity of the independence of the board, audit committee and external auditors against interference or dictates of top management who have the tendency to override controls in order to effectively function well in their assigned responsibilities.

iv. The board and audit committee should rise above complacency and go for a robust performance as it was clearly found in this study where the mean value of the audit committee size is approximately six (6) members, suggesting that the selected companies complied substantially with the provisions of the Companies and Allied Matters Act (CAMA), 2020, as amended, but the findings was not encouraging, as this may have been caused by unnecessary debates, delayed decisions and administrative bottlenecks.

v. Finally, corporate organisations should in addition to strong corporate governance practices explore other areas of interest such as the application of forensic accounting practices for the prevention, detection, deterrence, and mitigation of corporate frauds that threatens the future and survival of corporate organisations.

5.5 Contribution to Knowledge

The study contributed to knowledge in the following ways:

This study expanded the frontiers of knowledge as it contributes to the limited indigenous researches on the relationship between audit committee attributes and the likelihood of financial statement fraud in Nigeria, more so such study, to the best of the researcher's knowledge, has only been carried out in other jurisdictions order than Nigeria.

This study also proves that some attributes of audit committee (audit committee frequency of meetings and audit committee financial expertise) plays a relatively important role in preventing and reducing financial statement fraud, thereby adding support to the provision of Nigerian Code of Corporate Governance (NCCG) about the importance of audit committee for effective corporate governance and credible financial reporting.

This study contributed to knowledge through model specification by adapting the model of Asiriuwa et al., (2018) which was modified to address the objectives of this research work.

The findings of this study, if appreciated, will increase the understandings and benefit the policy makers, corporate practitioners, and academics on the effectiveness of companies audit committees in monitoring companies' business affairs to ensuring the integrity of financial reporting in developing country like Nigeria.

The findings of the study will further heighten the managerial consciousness of the corporate directors if taking seriously, and provide more knowledge on the role of the audit committees, its attributes and effectiveness in fraud prevention, detection and reduction in both private and public sector in developing countries with a similar institutional and legal environment like Nigeria.

Finally, this study provided additional and useful information to the role play by corporate audit committees in the prevention, reduction and control of fraudulent financial statements.

5.6 Limitation of the Study

i. This study investigated the relationship between audit committee attributes and the likelihood of financial statement fraud of companies listed on the Nigerian Stock Exchange for a period of six (6) years from 2014 to 2019, studied a sample size from the population due to the paucity of resources and time horizon from which conclusion was drawn; and this may have reduced the power of the regression model and the precision of the findings, suggesting caution should be taken in making generalisation. However, such limitation does not invalidate the study.

ii. Since this study focused primarily on Nigerian listed companies, obviously there will be a distortion in generalising the findings to domestic non-listed companies.

5.7 Suggestions for Further Studies

This study examined the relationship between audit committee attributes (audit committee size, audit committee independence, audit committee frequency of meetings, audit committee financial expertise and audit committee gender diversity) and financial statement fraud in Nigerian listed firms. Future researches can replicate this study by looking at longer period more than six (6) years, beyond 2014 and 2019 for data analysis and also enlarge the sample size for possible more precise findings. Since this study focuses primarily on Nigerian listed companies, future researches should replicate this study in non-listed companies in Nigeria.

REFERENCES

Abbott, L. J., Parker, S., & Peters, G. F. (2000). The effectiveness of Blue Ribbon Committee Recommendations in mitigating financial misstatements: An empirical study. Retrieved on 13th August, 2020, from https://www.researchgate.net/publication/228742552

Abdullahi, R., Mansor, N., & Nuhu, M. S. (2015). Fraud triangle theory and fraud diamond theory: Understanding the convergent and divergent for future research. *European Journal of Business Management, 7*(28), 30-37.

Abri, A. F., Arumugam, D., & Balasingam, S. (2019). Impact of the corporate governance on the financial statement fraud: A study focused on companies in Tanzania. *International Journal of Recent Technology and Engineering, 7*(5s), 336-341.

Adagye, D. I. (2019). Impact of audit committee membership gender diversity on quality of financial reporting of deposit money banks in Nigeria. *Global Scientific Journal, 7*(7), 815-828.

Aderemi, A. K., Osarumwense, E. S., Kehide, A. & Egbide, B. (2016). Audit committee attributes and financial reporting quality in Nigerian quoted companies. *International Business Management, 10*(22), 5326-5335.

Adigwe, P. D., & Ogoun, S. (2018). The effects of corporate governance codes in curbing fraudulent activities in private organisation in Nigeria. *Journal of Accounting and Taxation, 10*(7), 85-95. doi:10.5897/JAT2018.0307

Aghghaleh, S. F., Mohamed, Z. M., & Rahmat, M. M. (2016). Detecting financial statement frauds in Malaysia: Comparing the abilities of Beneish and Dechow models. *Asian Journal of Accounting and Governace, 7*, 57-65.

Ajekwe, C. C. M., & Ibiamke, A. (2017). Accounting frauds: A review of literature. *IOSR Journal of Humanities and Social Sciences, 22*(4), 38-47. doi:10.9790/0837-2204083847.

Akpan, D. C., & Nsentip, E. B. (2020). Audit committee attributes and quantitative financial reporting: Implication for Nigerian banking sector. *INOSR Arts and Management, 6*(1), 26-37.

Ali, U., Noor, M. A., Khurshid, M. K., & Mahmood, A. (2015). Impact of firm size on earnings management: A study of textile sector of Pakistan. *European Journal of Business and Management, 7*(28), 49-56.

Anichebe, A. S., Agbomah, D. J., & Agbagbara,. E. O. (2019). Determinants of financial statement fraud likelihood in listed firms. *Journal of Accounting and Finance Management, 5*(2), 1-9.

Aremu, W. (2012).*Fraud prevention guide.* Nigeria: Waheed Aremu.

Asiriuwa, O., Aronmwan, E. J., Uwuigbe, U., & Uwuigbe, O. R. (2018). Audit committee attributes and audit quality: A benchmark analysis. *Verslas: TeorijairPrakTika/Business: Theory Practice, 19,* 37-48. https:doi.org/10.3846/btp.2018.05

Atieno, L. V. (2017). Effect of audit committee characteristics on fraud detection in state ministries in Kenya.M.Sc. Dissertation in the School of Business, KCA University, Kenya.

Awolowo, I. F. (2019). Financial statement fraud: The need for a paradigm shift to forensic accounting. PhD Thesis, Sheffield Hallam University, United Kingdom. Accessed on 6th May, 2020, from http://shura.shu.ac.uk/information.html

Awolowo, I. F., Garrow, N., Cark, M., & Chan, D. (2018). Accounting scandals: Beyond corporate governance. *Journal of Modern Accounting and Auditing, 14*(8), 399-407.

Baatwah, S. R., Ahmad, N., & Salleh, Z. (2016). Audit committee financial expertise and financial reporting timeliness in emerging market: Does audit committee chair matter? *Issues in Social and Environmental Accounting, 10*(4), 63-85.

Bala, H. (2014). Audit committee characteristics and earnings management of listed food and beverages firms in Nigeria. M.Sc. Thesis in the Department of Accounting, Faculty of Administration, Ahmadu Bello University, Zaria, Nigeria.

Beasley, M. S, Carcello, J. V., Hermanson, D. R., & Neal, T. L. (2010). Fraudulent financial reporting: 1998-2007: An analysis of United State (US) public companies. Committee of Sponsoring Organization of the Treadway Commission (COSO). Retrieved on 25th October, 2019, from https://www.coso.org>documents

Bendickson, J., Muldoon, J., Liguori, E. W., & Davis, P. E. (2016). Agency theory: Background and epistemology. *Journal Management History, 22*(4), 437-449.

Beneish, M. D. (1999). The detection of earnings management. *Financial Analysts Journal, 55*(5), 24-36.

BPP Learning Media (2012). *IFRS explained: A guide to international financial reporting standards*. London: BPP Learning Media Ltd.

Carcello, J. V., Hollingsworth, C. W., Klein, A., & Neal, T. L. (2006).Audit committee financial expertise, competing corporate governance mechanisms, and earnings management. Accessed on 13th August, 2020, from www.w4.stern.nyu.edu/accounting/docs/speaker_papers/spring2006/Financial_Expertise.pdf

Chalaki, P., Didar, H., & Riahinezhad, M. A. (2012). Corporate governance attributes and financial reporting quality: Empirical evidence from Iran. *International Journal of Business and Social Science, 3*(15), 223-229.

Chijoke-Mgbame, M.., Boateng, A., & Mgbame, C. O. (2020). Board gender diversity, audit committee and financial performance: Evidence from Nigeria. Retrieved on 14th July, 2020, from https://www.researchgate.net/publication/341642385_Board_Gender_Diversity_Audit_Committee_and_Financial_Performance_Evidence_from_Nigeria. doi:10.1080/01559982.2020.1766280

Committee of Sponsoring Organisations of the Treadway Commission (COSO)(2013).Internal control- Integrated framework. United States. Available at https://www.coso.org/pages/ic/aspx.

Companies and Allied Matters Act (CAMA) (2004). Laws of Federal Republic of Nigeria.

Cressey, D. R. (1953). *Other people's money: A study in the social psychology of embezzlement.* New York: Free Press.

D'Onza, G., & Lamboglia, R. (2012). The relation between the corporate governance characteristics and financial statement frauds: An empirical analysis of Italian listed companies. PhD Thesis in the Department of Business Administration, University of Pisa.

Dabor, A. O., & Dabor, E. L. (2015).Audit committee characteristics, Board characteristics and financial reporting quality in Nigeria. *International Journal of Economics, Commerce and Mangement, 111*(11), 1292-1304.

Eneh, O. (2018). Board attributes and financial fraud likelihood in Nigeria. *IDOSR Journal of Humanities and Social Sciences, 3*(2), 89-99.

Enofe, A. O., Mgbame, C., Otuya, S., & Ovie, C. (2013). Audit report and going concern assumption in the face of corporate scandals in Nigeria. *Research Journal of Finance and Accounting, 4* (13), 1-6.

Eyenubo, S. A., Mohammed, M., & Ali, M. (2017). Audit committee effectiveness of financial reporting quality in listed companies in Nigeria Stock Exchange. *International Journal of Academic Research in Business and Social Sciences, 7*(6), 487-505.

Grove, H., & Clouse, M. (2014). Using fraud fraud models and ratios to improve cross-border forensic analysis: Examples with Chinese IPO and RTO companies. *Journal of Forensic Investigative Accounting, 6*(3), 189-235.

Hogan, C. E., Rezaee, Z., Riley, R. A., & Velury, U. R. (2008). Financial statement fraud: Insights from the academic literature. *A Journal of Practice and Theory, 27*(2), 231-252.

Hopwood, W. S., Leiner, J. J., & Young, G. R. (2012). *Forensic accounting and fraud examination*. United States: The McGraw-Hill Companies.

Huang, H., & Thiruvadi, S. (2010). Audit committee characteristics and corporate fraud. *International Journal of Public Information Systems,* 71-82. Retrieved on 9th July, 2020, from www.ijpis.net

Ibadin, P. O., & Ekpulu, G. A. (2016). Corruption and delivery of public goods in Nigeria: A conceptual review. *Uniben Journal of Accounting, 2*(1), 52-61.

Ilaboya, O. J. (2012). The relevance of audit committee's report in corporate financial reporting in Nigeria. *ICAN Journal of Acounting in Finance, 1*(4),141-154.

Ilaboya, O. J., & Lodikero, O. (2017). Board independence and financial statement fraud: The moderating effect of female gender diversity. *Accounting and Taxation Review, 1*, 196-221.

Ilaboya, O.J., & Izevbekhai, M. O. (2016). Gender diversity in boardroom and firm performance. *Uniben Journal of Accounting, 2*(1), 1-15.

Ismail, K. N. I. K., & Abdullah, S. N. (2013). Does woman representation on boards and audit committees restrict earnings management? The impact of family ownership in Malaysian firms. Proceeding of the First AARESOC International Conference on Business and Management, 2013. Retrieved on 13th August, 2020, from www.file:///c.:/users/user/APPData/Legal/Temp/paper_2_ku_Nor_Izah.pdf

Izadi, Z. D. J., & Oradi, J. (2019).Audit committee gender diversity and financial reporting: Evidence from restatements. *Managerial Auditing Journal, 35*(1), 67-92. https://doi.org/10.1108/MAJ-10-2018-2048

Jamieson, D., Awolowo, I. F. Garrow, N., Winfield, J., & Bhaiyat, F. (2019). Financial shenanigans: The importance of anti-fraud education. *Journal of Governance and Regulation, 8*(3), 58-63.

Jensen, M. C., & Mackling, W. H. (1976). Theory of the firm: Managerial behaviour, agency costs, and ownership structure. *Journal of Financial Economics, 3*(4), 305-360.

Kamarudin, K. A., Ismail, W. A. W., Alwi, M. (2014). The effects of audit committee attributes on fraudulent financial reporting. *Journal of Modern Accounting and Auditing, 10*(5), 507-514.

Law Insider Dictionary (n.d.). Accounting or related financial expertise. Retrieved from https://www.lawinsider.com/dictionary/accounting-or-related-financial-expertise

Luo, J., & Jeyaraj, S. S. (2019). Board characteristics and earnings management: Emperical analysis of UK listed companies. *European Journal of Accounting, Auditing and Finance Research, 7*(5), 27-54.

Madah-Marzuki, M., Haj-Abdullah, N. M., Othman, R., Abdul-Wahab, E. A., & Harymawan, I. (2019). Audit committee characteristics, Board diversity, and fraudulent financial reporting in Malaysia. *Asian Academy of Management Journal, 24*(2), 143-167. https://doi.org/10.21315/aamj2019.24.2.7

Madumere, I., & Onumah, J. M. (2013). Forensic accounting: A relief to corporate fraud. *Research Journal of Finance and Accounting, 4*(14), 43-50.

Magnanelli, B. S., Pirolo, L., & Nasta, L. (2017).Preventing financial statement frauds through better corporate governance. *Corporate Ownership and Control, 14*(3), 271-285.

Mahesarani, D. S., & Chariri, A. (2016). Corporate governance and financial statement frauds: Evidence from Indonesia. The 1st International Conference on Economics, Education, Business, and Accounting. Retrieved on 25th October, 2020, from https://www.researchgate.net/publication/318429255

Mahesarani, D.S., & Chariri, A. (2016). Corporate governance and financial statement frauds: Evidence from Indonesia. Conference Paper, https://www.researchgate.net/publication/ 318429255. doi:10.15294/iceeba.v1i1.41.

Majiyebo, O. J., Okpanachi, J., Nyor, T. Yahaya, O. A., & Mohammed, A. (2018). Audit committee independence, size and financial reporting quality of listed deposit money banks in Nigeria. *IOSR Journal of Business and Management, 20*(2), 40-47.

Martins, O. S., & Ventura, R. (2019).The influence of corporate governance on the mitigation of fraudulent financial reporting. Retrieved on 9th July, 2020, from https://www.scielo.br/scielo.php?script=sci_arttext&pid=s1806-48922020000100065

Mgbame, C. O., Eragbhe, E. & Osazuwa, N. P. (2012). Audit partner tenure and audit quality: An empirical analysis. *European Journal of Business and Management, 4*(7), 154-162.

Mgbame, C. O., Izedonmi, F. I. O., & Enofe, A. (2012). Gender factor in audit quality: Evidence from Nigeria. Research *Journal of Finance and Accounting, 3*(4), 81-87.

Moses, T., Ofurum, C.O., & Egbe, S. (2016). Audit committee characteristics and quality of financial reporting in quoted Nigerian banks. *International Journal of Advanced Academic Research, Social and Management Sciences, 2*(5), 1-10.

Muhsin, K., & Ahmad, N. (2018). What determinants of academic fraud behaviour? From fraud triangle to fraud pentagon perspective. International Conference on Economics, Business and Economic Education 2018, 154-167. doi 10.18502/kss.v3i10.3126

Obiechina, T. (2020). 425 financial institutions liquidated so far-NDIC. Retrieved on 1st April, 2020, from https://promptnewsonline.com/425-financial-institutions-liquidated-so-far-ndic/

Ojeka, S. A., Iyoha, F. O., & Asaolu, T. (2015). Audit committee expertise: Antidote for financial reporting quality in Nigeria. *Mediterranean Journal of Social Sciences*, 136-146.

Oji, O., & Ofoegbu, G. N. (2017). Effect of audit committee qualities of financial reporting of listed companies in Nigeria: A perspective study. *International Journal of Scientific and Research Publication, 7*(10), 278-290.

Okoye, E., & Ndah, E. N. (2019). Forensic accounting and fraud prevention in manufacturing companies in Nigeria. *International Journal of Innovative Finance and Economics Research, 7*(1), 107-116.

Ozcan, A. (2016). Firm characteristics and accounting fraud: A multivariate approach. *Journal of Accounting, Finance and Auditing Studies, 2*(2), 128-144.

Ozili, P. K. (2015). Forensic accounting and fraud: A review of literature and policy implications. *International Journal of Accounting and Economies Studies, 3*(1), 63-68.

Pamungkas, D. I., Ghozali, I., & Achmad, T. (2017). The effects of the whistle-blowing system on financial statements fraud: Ethical behaviour as the mediators. *International Journal of Civil Engineering and Technology, 8*(10), 1592-1598.

Panda, B., & Leepsa, N. M. (2017). Agency theory: Review of theory and evidence on problems and perspective. *Indian Journal of Corporate Governance, 10*(1), 74-95.

Razali, W. A. A. W. M., & Arshad, R. (2014).Disclosure of corporate governance structure and the likelihood of fraudulent financial reporting. *Procedia-Social and Behavioural Sciences, 145* (2018), 243-253.

Rezaee, Z., & Kedia, B. L. (2012). Role of corporate governance participants in preventing and detecting financial statement fraud. *Journal of Forensic and Investigative Accounting, 4*(2), 176-205.

Riahi-Belkaoni, A. (2014). *Accounting theory*. United Kingdom: Centage Learning EMEA.

Roxas, M. L. (2011). Financial statement fraud detection using ratio and digital analysis. *Journal of Leadership, Accountability and Ethics, 8*(4), 56-66.

Sarbanes-Oxley Act (2002). Public Law 107-204. United States Federal Laws.

Siagian, D., & Siregar, V. (2018). The effect of audit committee financial expertise and relative status on earnings management: *Case of Indonesia. Jurnal Akuntansi, XX11*(03), 321-336

Sule, S., Yusof, N. Z. M., & Bahador, K. M. K. (2019). Users' perceptions on auditors' responsibilities for fraud prevention, detection and audit expectation GAP in Nigeria. *Asian Journal of Economics, Business and Accounting, 10*(1), 1-10.

Studenmund, A. H. (2014). *Using econometrics: A practical guide* (6th ed.). Harlow England: Pearson Education Limited.

Sun, J., Liu, G., & Lan, G. (2011). Does female directorship on independent audit committees constrain earnings management? *Journal of Business Ethics, 99*(3), 369-382.

Sunardi, S., & Amin, M. N. (2018). Fraud detection of financial statement by using fraud diamond perspective. *International Journal of Development and Sustainability, 7*(3), 878-891.

Taylor, J. (2011). *Forensic accounting*. England: Pearson Education Limited.

The Nigerian Code of Corporate Governance (NCCG), 2018.

Thomsen, S., & Conyon, M. (2012). *Corporate governance: mechanisms and systems*. United Kingdom: McGraw-Hill Higher Education Publisher.

Toh, M. Y. (2013). Measuring the relation between audit committee characteristics and earnings management: Evidence from New Zealand listed companies. Bachelor of Commerce Degree at the Lincoln University, London, United Kingdom.

Tsegba, I. N., & Upaa, J. U. (2015). Consequences of financial statement fraud: A developing country perspective. *International Journal of Business and Management, 10*(8), 115-126.

Umobong, A. A., & Ibanichuka, E. A. L. (2017). Audit committee attributes and financial reporting quality of food and beverage firms in Nigeria. *International Journal of Innovative Social Sciences and Humanities Research, 5(*2), 1-13.

Uwuigbe, O. R., Olorunshe, O., Uwuigbe, U., Ozordi, E., Asiriuwa, O., Asaolu, T., & Erin, O. (2019). Corporate governance and financial statement fraud among listed firms in Nigeria. IOP Conference Series: Earth and Environmental Science, 331 (2019) 012055. doi:10.1088/1755-1315/331/./012055

Warshavsky, M. (2012). Analysing earnings quality as a financial forensic tool. *Financial Valuation and Litigation Expert Journal, 39*, 16-20.

Wells, J. T. (2011). *Corporate fraud handbook: Prevention and detection*. New Jersey: John Wiley and Sons.

Yamane, T. (1967). *Statistics: An introductory analysis, (2nd ed).* New York: Harper and Row.

Zack, G.M. (2013). *Fraud in financial statements*. United States of America: John Wiley & Son, Inc.

Zainal, A., Rahmadana, M. F., & Zain, K. N. B. M. (2013). Power and likelihood of financial statement fraud: Evidence from Indonesia. *Journal Advanced Management Science, 1*(4), 410-415.

Zaitual, Z., & Ilona, D. (2018). Gender in audit committee and financial reporting timeliness: The case of unique continental European model. *International Journal of Engineering and Technology, 7*(2.29), 436-442.

Zimbelman, M. F., Albrecht, C. C., Albrecht, W. S., & Abbrecht, C. O. (2012). *Forensic accounting.* United States: Cengage Learning.

APPENDIX A

DATA ANALYSIS RESULTS

Dependent Variable: M_SCORE
Method: ML - Binary Probit (Quadratic hill climbing / EViews legacy)
Date: 11/11/20 Time: 14:00
Sample: 2014 2019
Included observations: 372
Convergence achieved after 5 iterations
Coefficient covariance matrix computed using second derivatives

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.950657	1.717084	0.553646	0.5798
ACSIZE	0.764916	0.378833	2.019136	0.0435
ACIND	0.192473	1.561593	0.123254	0.9019
ACFMEET	-0.693869	0.285030	-2.434371	0.0149
ACFEXP	-3.283988	0.671537	-4.890259	0.0000
ACGEND	0.271043	0.379201	0.714774	0.4747
FMSIZE	-0.277546	0.522352	-0.531340	0.5952
FMAGE	0.075559	0.129822	0.582021	0.5606

McFadden R-squared	0.086248	Mean dependent var	0.602151
S.D. dependent var	0.490113	S.E. of regression	0.466789
Akaike info criterion	1.271331	Sum squared resid	79.31277
Schwarz criterion	1.355609	Log likelihood	-228.4676
Hannan-Quinn criter.	1.304800	Deviance	456.9353
Restr. deviance	500.0648	Restr. log likelihood	-250.0324
LR statistic	43.12949	Avg. log likelihood	-0.614160
Prob(LR statistic)	0.000000		

Obs with Dep=0	148	Total obs	372
Obs with Dep=1	224		

Dependent Variable Frequencies
Equation: UNTITLED
Date: 11/10/20 Time: 13:25

Dep. Value	Count	Percent	Cumulative Count	Cumulative Percent
0	148	39.78	148	39.78
1	224	60.22	372	100.00

Goodness-of-Fit Evaluation for Binary Specification
Andrews and Hosmer-Lemeshow
Tests
Equation: UNTITLED
Date: 11/11/20 Time: 08:23
Grouping based upon predicted risk (randomize ties)

	Quantile of Risk		Dep=0		Dep=1		Total	H-L
	Low	High	Actual	Expect	Actual	Expect	Obs	Value
1	0.0474	0.4135	27	28.3954	10	8.60465	37	0.29484
2	0.4150	0.5139	23	20.0089	14	16.9911	37	0.97368
3	0.5142	0.5489	18	17.3614	19	19.6386	37	0.04426
4	0.5497	0.6006	16	15.5775	21	21.4225	37	0.01979
5	0.6015	0.6395	14	14.4032	24	23.5968	38	0.01818
6	0.6396	0.6685	9	12.8540	28	24.1460	37	1.77068
7	0.6686	0.6920	15	11.9232	22	25.0768	37	1.17145
8	0.6925	0.7218	9	10.9516	28	26.0484	37	0.49402
9	0.7228	0.7607	10	9.50734	27	27.4927	37	0.03436
10	0.7634	0.9095	7	6.88384	31	31.1162	38	0.00239
		Total	148	147.866	224	224.134	372	4.82364

H-L Statistic	4.8236	Prob. Chi-Sq(8)	0.7762
Andrews Statistic	5.1586	Prob. Chi-Sq(10)	0.8803

Goodness-of-Fit Evaluation for Binary Specification
Andrews and Hosmer-Lemeshow
Tests
Equation: UNTITLED
Date: 11/10/20 Time: 13:21
Grouping based upon predicted risk (randomize ties)

	Quantile of Risk		Dep=0		Dep=1		Total	H-L
	Low	High	Actual	Expect	Actual	Expect	Obs	Value
1	0.0409	0.4116	26	27.9512	11	9.04880	37	0.55695
2	0.4263	0.5052	24	19.5100	13	17.4900	37	2.18594
3	0.5055	0.5430	18	17.7818	19	19.2182	37	0.00515
4	0.5431	0.5897	17	15.9920	20	21.0080	37	0.11191
5	0.5899	0.6291	11	14.8035	27	23.1965	38	1.60088
6	0.6294	0.6703	13	12.9002	24	24.0998	37	0.00119
7	0.6709	0.7007	12	11.5997	25	25.4003	37	0.02012
8	0.7008	0.7309	12	10.6208	25	26.3792	37	0.25122
9	0.7326	0.7680	10	9.28259	27	27.7174	37	0.07401
10	0.7704	0.9078	5	7.23793	33	30.7621	38	0.85476
		Total	148	147.680	224	224.320	372	5.66214

H-L Statistic	5.6621	Prob. Chi-Sq(8)	0.6850
Andrews Statistic	7.0763	Prob. Chi-Sq(10)	0.7182

	ACSIZE	ACIND	ACFMEET	ACFEXP	ACGEND	FMSIZE	FMAGE
Mean	5.639785	0.498372	3.846774	0.222771	0.190635	17.05222	41.32258
Median	6.000000	0.500000	4.000000	0.166667	0.166667	16.40141	40.00000
Maximum	9.000000	0.750000	9.000000	1.000000	0.833333	22.87758	88.00000
Minimum	4.000000	0.250000	1.000000	0.000000	0.000000	11.69454	6.000000
Std. Dev.	0.973685	0.045272	0.890601	0.139782	0.188156	2.584683	18.19743
Skewness	-0.317285	-0.520492	0.281237	2.282492	0.917542	0.492570	0.166268
Kurtosis	3.210024	13.01039	7.141877	10.64025	3.778530	2.550552	2.234889
Jarque-Bera	6.925241	1570.021	270.8085	1227.794	61.59144	18.17379	10.78762
Probability	0.031348	0.000000	0.000000	0.000000	0.000000	0.000113	0.004545
Sum	2098.000	185.3944	1431.000	82.87063	70.91627	6343.425	15372.00
Sum Sq. Dev.	351.7312	0.760400	294.2661	7.248943	13.13436	2478.497	122855.3
Observations	372	372	372	372	372	372	372

	M_SCORE	ACSIZE	ACIND	ACFMEET	ACFEXP	ACGEND	FMSIZE	FMAGE
M_SCORE	1.000000	0.071666	-0.030712	-0.090635	-0.273871	0.039729	-0.141588	0.105396
ACSIZE	0.071666	1.000000	-0.029061	0.175519	0.064153	0.121763	0.156448	-0.001335
ACIND	-0.030712	-0.029061	1.000000	0.024756	0.192762	0.035842	0.083548	0.000765
ACFMEET	-0.090635	0.175519	0.024756	1.000000	-0.064201	0.121301	-0.009679	-0.118020
ACFEXP	-0.273871	0.064153	0.192762	-0.064201	1.000000	-0.047006	0.469298	-0.046055
ACGEND	0.039729	0.121763	0.035842	0.121301	-0.047006	1.000000	0.173878	0.018086
FMSIZE	-0.141588	0.156448	0.083548	-0.009679	0.469298	0.173878	1.000000	-0.097242
FMAGE	0.105396	-0.001335	0.000765	-0.118020	-0.046055	0.018086	-0.097242	1.000000

	C1
	Last updated: 11/11/20 - 14:44
R1	0.379257
R2	0.305157
R3	0.076786
R4	-0.276814
R5	-1.310122
R6	0.108130
R7	-0.110725
R8	0.030144

Figure 4.1 **Histogram Normality Test**

Variance Inflation Factors
Date: 11/11/20 Time: 08:25
Sample: 2014 2019

Included observations: 372

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
ACSIZE	0.143514	90.81297	1.079959
ACIND	2.438571	130.5663	1.018119
ACFMEET	0.081242	31.72552	1.088008
ACFEXP	0.450961	5.657465	1.217068
ACGEND	0.143793	2.177164	1.076740
FMSIZE	0.272852	466.9428	1.283884
FMAGE	0.016854	47.59036	1.021180
C	2.948377	632.2340	NA

APPENDIX B

DATA FOR ANALYSIS

Companies	Yr	Sector	M Score	AC Size	AUDIND	ACGEN	ACFEXP	ACFMeet	FSize	Firm Age
Academy Press	2014	SERVICES	0	6	0.5	0.166667	0.166667	3	15.1484	50
Academy Press	2015	SERVICES	0	6	0.5	0.166667	0.166667	4	15.1328	51
Academy Press	2016	SERVICES	1	6	0.5	0.166667	0.166667	4	14.9289	52
Academy Press	2017	SERVICES	1	6	0.5	0.166667	0.166667	3	14.9059	53
Academy Press	2018	SERVICES	1	6	0.5	0.166667	0.166667	3	14.8208	54
Academy Press	2019	SERVICES	1	8	0.375	0	0.25	5	14.793	55
Access Bank	2014	Financial Services	0	6	0.5	0.166667	0.333333	5	21.4673	25
Access Bank	2015	Financial Services	0	6	0.5	0.166667	0.333333	2	21.6754	26
Access Bank	2016	Financial Services	0	6	0.5	0.166667	0.5	2	21.9714	27
Access Bank	2017	Financial Services	0	6	0.5	0.166667	0.5	6	22.1348	28
Access Bank	2018	Financial Services	0	6	0.5	0.166667	0.333333	6	22.3235	29
Access Bank	2019	Financial Services	0	6	0.5	0.166667	0.333333	2	22.6899	30
AFROMEDIA PLC	2014	SERVICES	1	4	0.5	0.5	0.25	5	15.0989	55
AFROMEDIA PLC	2015	SERVICES	1	6	0.5	0.333333	0.166667	4	14.6483	56
AFROMEDIA PLC	2016	SERVICES	1	6	0.5	0.333333	0.166667	4	14.5837	57
AFROMEDIA PLC	2017	SERVICES	1	6	0.5	0.5	0.166667	4	14.4231	58
AFROMEDIA PLC	2018	SERVICES	1	6	0.5	0.166667	0.166667	4	14.582	59
AFROMEDIA PLC	2019	SERVICES	1	6	0.5	0.166667	0.166667	3	14.561	60
ALUMINIUM EXTRUSION IND PLC	2014	NATURAL RESOURCES	1	6	0.5	0	0.166667	3	14.3769	32
ALUMINIUM EXTRUSION IND PLC	2015	NATURAL RESOURCES	1	4	0.5	0	0.25	3	14.4255	33
ALUMINIUM EXTRUSION IND PLC	2016	NATURAL RESOURCES	1	4	0.5	0	0.25	3	14.6218	34

ALUMINIUM EXTRUSION IND PLC	2017	NATURAL RESOURCES	0	4	0.5	0	0.25	3	14.63	35
ALUMINIUM EXTRUSION IND PLC	2018	NATURAL RESOURCES	1	4	0.5	0	0.25	3	14.7316	36
ALUMINIUM EXTRUSION IND PLC	2019	NATURAL RESOURCES	0	4	0.5	0	0.25	3	14.7222	37
ARBICO PLC	2014	CONSTRUCTION /REAL ESTATE	0	4	0.5	0	0.25	4	15.3101	56
ARBICO PLC	2015	CONSTRUCTION /REAL ESTATE	0	4	0.5	0	0.25	4	15.3267	57
ARBICO PLC	2016	CONSTRUCTION /REAL ESTATE	1	5	0.6	0	0.2	4	15.1836	58
ARBICO PLC	2017	CONSTRUCTION /REAL ESTATE	0	5	0.4	0	0.2	4	15.493	59
ARBICO PLC	2018	CONSTRUCTION /REAL ESTATE	0	6	0.5	0	0.166667	4	15.7437	60
ARBICO PLC	2019	CONSTRUCTION /REAL ESTATE	0	6	0.5	0	0.166667	4	15.8664	61
Associated Bus Company (ABC Transport)	2014	SERVICES	0	5	0.4	0.2	0.2	4	15.6785	21
Associated Bus Company (ABC Transport)	2015	SERVICES	0	5	0.4	0.2	0.2	4	15.6036	22
Associated Bus Company (ABC Transport)	2016	SERVICES	0	5	0.4	0	0.2	4	15.2801	23
Associated Bus Company (ABC Transport)	2017	SERVICES	0	5	0.4	0	0.2	4	15.313	24
Associated Bus Company (ABC Transport)	2018	SERVICES	0	5	0.4	0	0.2	3	15.3342	25
Associated Bus Company (ABC Transport)	2019	SERVICES	0	6	0.5	0.166667	0.166667	4	15.4515	26
Austin Laz& Co	2014	INDUSTRIAL GOODS	1	5	0.6	0.2	0.2	3	14.5291	32
Austin	2015	INDUSTRIAL	1	5	0.6	0.2	0.2	3	14.44	33

Laz& Co		GOODS							04	
Austin Laz& Co	2016	INDUSTRIAL GOODS	1	5	0.6	0.2	0.2	3	14.38 13	34
Austin Laz& Co	2017	INDUSTRIAL GOODS	1	5	0.6	0.2	0.2	3	14.34 56	35
Austin Laz& Co	2018	INDUSTRIAL GOODS	1	5	0.6	0.2	0.2	3	14.32 15	36
Austin Laz& Co	2019	INDUSTRIAL GOODS	1	6	0.5	0.166 667	0.166 667	3	14.24 33	37
B.O.C. GASES PLC	2014	NATURAL RESOURCES	0	4	0.5	0	0.25	4	15.04 47	55
B.O.C. GASES PLC	2015	NATURAL RESOURCES	1	4	0.5	0	0.25	4	14.98 32	56
B.O.C. GASES PLC	2016	NATURAL RESOURCES	0	4	0.5	0	0.25	4	15.10 5	57
B.O.C. GASES PLC	2017	NATURAL RESOURCES	1	4	0.5	0	0.25	4	15.26 21	58
B.O.C. GASES PLC	2018	NATURAL RESOURCES	1	4	0.5	0	0	4	15.31 76	59
B.O.C. GASES PLC	2019	NATURAL RESOURCES	0	4	0.5	0	0	4	15.43 18	60
BERGER PAINTS PLC	2014	INDUSTRIAL GOODS	1	7	0.57 14	0	0.142 857	4	15.10 75	55
BERGER PAINTS PLC	2015	INDUSTRIAL GOODS	1	6	0.5	0	0.166 667	4	15.17 54	56
BERGER PAINTS PLC	2016	INDUSTRIAL GOODS	0	7	0.57 14	0	0.142 857	4	15.22 7	57
BERGER PAINTS PLC	2017	INDUSTRIAL GOODS	1	6	0.5	0	0.166 667	5	15.27 68	58
BERGER PAINTS PLC	2018	INDUSTRIAL GOODS	0	6	0.5	0	0.166 667	5	15.32 74	59
BERGER PAINTS PLC	2019	INDUSTRIAL GOODS	0	7	0.42 86	0.142 857	0.285 714	5	15.43 82	60
C & I Leasing	2014	SERVICES	1	6	0.5	0.166 667	0.166 667	4	16.96 54	24
C & I Leasing	2015	SERVICES	1	6	0.5	0.166 667	0.166 667	4	17.19 23	25
C & I Leasing	2016	SERVICES	1	6	0.5	0.166 667	0.166 667	4	17.46 28	26
C & I Leasing	2017	SERVICES	1	7	0.5	0.166 667	0.166 667	4	17.62 18	27
C & I Leasing	2018	SERVICES	1	8	0.5	0	0.166 667	4	17.77 85	28
C & I Leasing	2019	SERVICES	1	6	0.5	0	0.166 667	4	17.99 36	29
CADBURY NIGERIA PLC	2014	CONSUMER GOODS	0	6	0.5	0.333 333	0.166 667	4	17.17 63	49
CADBURY NIGERIA PLC	2015	CONSUMER GOODS	1	6	0.5	0.333 333	0.166 667	5	17.16 25	50
CADBURY NIGERIA	2016	CONSUMER GOODS	1	6	0.57 14	0.285 714	0.142 857	6	17.16 22	51

PLC										
CADBURY NIGERIA PLC	2017	CONSUMER GOODS	1	6	0.5	0.333333	0.166667	4	17.1627	52
CADBURY NIGERIA PLC	2018	CONSUMER GOODS	0	6	0.5	0.333333	0.166667	6	17.1307	53
CADBURY NIGERIA PLC	2019	CONSUMER GOODS	0	6	0.5	0.5	0.333333	5	17.176	54
CAP Plc	2014	INDUSTRIAL GOODS	0	6	0.5	0.333333	0	4	14.9407	49
CAP Plc	2015	INDUSTRIAL GOODS	1	6	0.4286	0.285714	0	4	15.042	50
CAP Plc	2016	INDUSTRIAL GOODS	1	7	0.5	0.333333	0	4	15.408	51
CAP Plc	2017	INDUSTRIAL GOODS	1	6	0.5	0.333333	0	4	15.4277	52
CAP Plc	2018	INDUSTRIAL GOODS	1	6	0.3333	0.333333	0	4	15.6578	53
CAP Plc	2019	INDUSTRIAL GOODS	1	6	0.5	0.666667	0.166667	4	15.7267	54
CAPITAL HOTEL	2014	SERVICES	0	6	0.5	0.333333	0.166667	4	15.8995	33
CAPITAL HOTEL	2015	SERVICES	1	7	0.5	0.333333	0.166667	5	15.8389	34
CAPITAL HOTEL	2016	SERVICES	1	6	0.5	0.333333	0	4	16.0175	35
CAPITAL HOTEL	2017	SERVICES	1	6	0.5	0.333333	0	4	16.1021	36
CAPITAL HOTEL	2018	SERVICES	1	6	0.5	0.333333	0	5	16.1257	37
CAPITAL HOTEL	2019	SERVICES	1	6	0.5	0	0	4	16.1081	38
CAVERTON OFFSHORE	2014	SERVICES	1	6	0.5	0.25	0.25	4	17.4163	6
CAVERTON OFFSHORE	2015	SERVICES	1	6	0.5	0.25	0	4	17.492	7
CAVERTON OFFSHORE	2016	SERVICES	0	6	0.5	0.25	0	5	17.5376	8
CAVERTON OFFSHORE	2017	SERVICES	1	6	0.5	0.25	0	4	17.6495	9
CAVERTON OFFSHORE	2018	SERVICES	1	6	0.5	0.25	0.25	4	17.8596	10
CAVERTON OFFSHORE	2019	SERVICES	1	6	0.5	0	0.166667	4	18.0027	11
CHAMPION BREWERIES PLC	2014	CONSUMER GOODS	0	4	0.5	0	0.25	4	16.0765	40
CHAMPION BREWERIES PLC	2015	CONSUMER GOODS	1	4	0.5	0.25	0.25	2	16.1505	41
CHAMPION	2016	CONSUMER	1	4	0.5	0.25	0.25	3	16.11	42

BREWERIES PLC		GOODS							42	
CHAMPION BREWERIES PLC	2017	CONSUMER GOODS	1	4	0.5	0.25	0.25	3	16.1269	43
CHAMPION BREWERIES PLC	2018	CONSUMER GOODS	1	4	0.5	0.5	0.25	4	16.1656	44
CHAMPION BREWERIES PLC	2019	CONSUMER GOODS	1	6	0.5	0	0.25	4	16.2117	45
ChamsPlc	2014	ICT	1	4	0.5	0.166667	0	4	16.3027	29
ChamsPlc	2015	ICT	0	4	0.5	0.166667	0	4	15.9627	30
ChamsPlc	2016	ICT	0	4	0.6	0.2	0	5	15.6128	31
ChamsPlc	2017	ICT	0	4	0.5	0.5	0	4	15.3783	32
ChamsPlc	2018	ICT	0	4	0.5	0.5	0.166667	4	15.4747	33
ChamsPlc	2019	ICT	0	4	0.5	0.166667	0.166667	3	15.5994	34
CHELLARAMS PLC	2014	CONGLOMERATES	1	6	0.5	0	0.166667	4	16.6362	67
CHELLARAMS PLC	2015	CONGLOMERATES	1	6	0.5	0	0.166667	4	16.7281	68
CHELLARAMS PLC	2016	CONGLOMERATES	1	5	0.5	0	0.166667	5	16.4438	69
CHELLARAMS PLC	2017	CONGLOMERATES	1	6	0.5	0	0.166667	4	16.4083	70
CHELLARAMS PLC	2018	CONGLOMERATES	1	6	0.5	0	0.166667	4	16.3946	71
CHELLARAMS PLC	2019	CONGLOMERATES	0	6	0.5	0	0.166667	4	16.353	72
Courtevillle Plc	2014	ICT	1	6	0.5	0.5	0.25	4	15.3641	9
Courtevillle Plc	2015	ICT	1	6	0.5	0.75	0.25	4	15.2962	10
Courtevillle Plc	2016	ICT	1	6	0.5	0.75	0.25	4	15.193	11
Courtevillle Plc	2017	ICT	1	6	0.5	0.25	0.25	4	15.2224	12
Courtevillle Plc	2018	ICT	1	6	0.6	0.2	0.2	4	15.2484	13
Courtevillle Plc	2019	ICT	1	6	0.5	0	0.25	4	15.2138	14
CutixPlc	2014	INDUSTRIAL GOODS	1	4	0.5	0.5	0.25	4	14.3721	32
CutixPlc	2015	INDUSTRIAL GOODS	0	4	0.5	0.25	0.25	4	14.4929	33
CutixPlc	2016	INDUSTRIAL GOODS	0	4	0.5	0.25	0.25	4	14.453	34

CutixPlc	2017	INDUSTRIAL GOODS	0	4	0.5	0.25	0.25	9	14.6613	35
CutixPlc	2018	INDUSTRIAL GOODS	0	5	0.5	0.333333	0.166667	5	14.858	36
CutixPlc	2019	INDUSTRIAL GOODS	0	4	0.6	0.4	0.4	4	14.8668	37
CWG PLC	2014	ICT	1	4	0.5	0	0.166667	4	16.429	23
CWG PLC	2015	ICT	1	4	0.5	0	0.166667	4	16.1694	24
CWG PLC	2016	ICT	0	4	0.5	0.166667	0.166667	4	16.508	25
CWG PLC	2017	ICT	0	4	0.5	0.166667	0.166667	4	16.3407	26
CWG PLC	2018	ICT	1	6	0.5	0.166667	0.166667	4	16.1492	27
CWG PLC	2019	ICT	0	5	0.5	0.166667	0.166667	5	15.9368	28
DANGOTE CEMENT	2014	INDUSTRIAL GOODS	0	6	0.5	0	0.166667	3	20.7079	22
DANGOTE CEMENT	2015	INDUSTRIAL GOODS	0	6	0.5	0	0.166667	4	20.8285	23
DANGOTE CEMENT	2016	INDUSTRIAL GOODS	0	6	0.5	0	0.166667	3	21.1472	24
DANGOTE CEMENT	2017	INDUSTRIAL GOODS	1	6	0.5	0	0.166667	3	21.2336	25
DANGOTE CEMENT	2018	INDUSTRIAL GOODS	1	6	0.5	0	0.166667	3	21.2506	26
DANGOTE CEMENT	2019	INDUSTRIAL GOODS	1	6	0.5	0	0.166667	4	21.2779	27
DANGOTE SUGAR PLC	2014	CONSUMER GOODS	1	6	0.5	0.333333	0.166667	4	18.346	9
DANGOTE SUGAR PLC	2015	CONSUMER GOODS	1	6	0.5	0.333333	0.166667	4	18.4428	10
DANGOTE SUGAR PLC	2016	CONSUMER GOODS	1	6	0.5	0.333333	0.166667	4	18.964	11
DANGOTE SUGAR PLC	2017	CONSUMER GOODS	1	6	0.5	0.333333	0.166667	4	19.0889	12
DANGOTE SUGAR PLC	2018	CONSUMER GOODS	1	6	0.5	0.333333	0.166667	4	18.981	13
DANGOTE SUGAR PLC	2019	CONSUMER GOODS	1	6	0.5	0.333333	0.166667	4	19.0819	14
Eco Bank	2014	Financial Services	0	6	0.6	0.2	0.4	3	22.5251	29
Eco Bank	2015	Financial Services	0	6	0.5	0	0.5	4	22.4963	30
Eco Bank	2016	Financial Services	1	6	0.5	0	0.5	3	22.5568	31
Eco Bank	2017	Financial Services	0	6	0.5	0.333333	0.5	2	22.6496	32
Eco Bank	2018	Financial Services	0	6	0.5	0.333333	0.5	4	22.8303	33
Eco Bank	2019	Financial Services	0	6	0.5	0.333333	0.333333	3	22.8776	34

EKOCORP PLC	2014	HEALTHCARE	1	5	0.5	0	0	6	15.0584	23
EKOCORP PLC	2015	HEALTHCARE	1	6	0.5	0	0	3	15.1135	24
EKOCORP PLC	2016	HEALTHCARE	1	6	0.5	0	0	3	15.1557	25
EKOCORP PLC	2017	HEALTHCARE	1	6	0.5	0	0.166667	3	15.6215	26
EKOCORP PLC	2018	HEALTHCARE	1	6	0.5	0	0.166667	3	15.5994	27
EKOCORP PLC	2019	HEALTHCARE	1	6	0.5	0.166667	0.166667	4	15.6622	28
ETERNA PLC	2014	OIL AND GAS	1	6	0.25	0	0.25	4	16.3827	25
ETERNA PLC	2015	OIL AND GAS	1	6	0.25	0	0.25	2	17.1677	26
ETERNA PLC	2016	OIL AND GAS	1	6	0.5	0	0.25	1	17.2715	27
ETERNA PLC	2017	OIL AND GAS	1	6	0.5	0	0.25	3	17.6877	28
ETERNA PLC	2018	OIL AND GAS	1	6	0.5	0	0.25	2	17.7885	29
ETERNA PLC	2019	OIL AND GAS	1	6	0.5	0	0.25	2	17.1666	30
E-TRANZACT	2014	ICT	1	4	0.5	0	0.166667	3	15.3546	11
E-TRANZACT	2015	ICT	0	4	0.5	0.333333	0.166667	4	15.5792	12
E-TRANZACT	2016	ICT	1	4	0.5	0.333333	0.166667	3	15.7487	13
E-TRANZACT	2017	ICT	0	4	0.5	0.333333	0.166667	3	15.647	14
E-TRANZACT	2018	ICT	1	4	0.5	0.333333	0.166667	3	15.6018	15
E-TRANZACT	2019	ICT	1	4	0.5	0	0.166667	4	15.7275	16
Fidelity Bank	2014	Financial Services	0	6	0.5	0	0.333333	3	20.8947	27
Fidelity Bank	2015	Financial Services	0	6	0.5	0	0.333333	4	20.9317	28
Fidelity Bank	2016	Financial Services	0	6	0.6667	0	0.666667	4	20.9842	29
Fidelity Bank	2017	Financial Services	0	6	0.6667	0	0.666667	4	21.0448	30
Fidelity Bank	2018	Financial Services	0	6	0.6667	0	0.666667	4	21.2655	31
Fidelity Bank	2019	Financial Services	0	6	0.5	0	0.666667	5	21.4719	32
FIDSON HEALTHCARE PLC	2014	HEALTHCARE	0	6	0.5	0.333333	0.166667	3	16.5738	19
FIDSON HEALTHCARE PLC	2015	HEALTHCARE	0	6	0.5	0.5	0.166667	5	16.6291	20

FIDSON HEALTHCARE PLC	2016	HEALTHCARE	1	6	0.375	0.375	0.125	6	16.6289	21
FIDSON HEALTHCARE PLC	2017	HEALTHCARE	1	6	0.5	0.5	0.166667	6	16.6747	22
FIDSON HEALTHCARE PLC	2018	HEALTHCARE	0	6	0.5	0.5	0.166667	7	16.8351	23
FIDSON HEALTHCARE PLC	2019	HEALTHCARE	0	6	0.5	0.333333	0.166667	5	16.8293	24
First Bank Holding	2014	Financial Services	0	6	0.75	0.25	0.166667	4	22.1918	35
First Bank Holding	2015	Financial Services	0	6	0.5	0	0.833333	3	22.1503	36
First Bank Holding	2016	Financial Services	1	8	0.5	0.166667	0.125	4	22.2786	37
First Bank Holding	2017	Financial Services	0	6	0.5	0.166667	0.666667	4	22.3789	38
First Bank Holding	2018	Financial Services	0	6	0.5	0.166667	0.666667	4	22.4404	39
First Bank Holding	2019	Financial Services	0	6	0.5	0.166667	0.666667	4	22.5484	40
FLOUR MILLS NIG PLC	2014	CONSUMER GOODS	0	4	0.5	0	0.166667	4	19.5078	54
FLOUR MILLS NIG PLC	2015	CONSUMER GOODS	1	6	0.5	0	0.166667	4	19.654	55
FLOUR MILLS NIG PLC	2016	CONSUMER GOODS	1	6	0.5	0	0.166667	4	19.6601	56
FLOUR MILLS NIG PLC	2017	CONSUMER GOODS	1	6	0.5	0.166667	0.166667	4	19.9947	57
FLOUR MILLS NIG PLC	2018	CONSUMER GOODS	1	6	0.5	0.166667	0.166667	4	19.8276	58
FLOUR MILLS NIG PLC	2019	CONSUMER GOODS	1	6	0.5	0	0.166667	4	19.8482	59
FTN COCOA PROCESSORS PLC	2014	AGRICULTURE	1	6	0.5	0	0.25	4	15.302	23
FTN COCOA PROCESSORS PLC	2015	AGRICULTURE	1	6	0.5	0	0.25	4	15.3712	24
FTN COCOA PROCESSORS PLC	2016	AGRICULTURE	0	6	0.5	0	0.25	4	15.4788	25
FTN COCOA PROCESSORS PLC	2017	AGRICULTURE	1	7	0.5	0	0.25	4	15.4258	26

FTN COCOA PROCESSORS PLC	2018	AGRICULTURE	0	6	0.5	0	0.25	4	15.3876	27
FTN COCOA PROCESSORS PLC	2019	AGRICULTURE	0	7	0.5	0	0.25	4	15.4001	28
GLAXO SMITHKLINE CONSUMER NIG PLC	2014	HEALTHCARE	0	6	0.5	0.333333	0.166667	3	17.1475	43
GLAXO SMITHKLINE CONSUMER NIG PLC	2015	HEALTHCARE	0	6	0.5	0.166667	0.166667	4	17.2601	44
GLAXO SMITHKLINE CONSUMER NIG PLC	2016	HEALTHCARE	0	6	0.5	0.166667	0.166667	4	17.1544	45
GLAXO SMITHKLINE CONSUMER NIG PLC	2017	HEALTHCARE	0	6	0.5	0.166667	0.166667	4	17.0925	46
GLAXO SMITHKLINE CONSUMER NIG PLC	2018	HEALTHCARE	0	6	0.5	0.333333	0.166667	4	16.5692	47
GLAXO SMITHKLINE CONSUMER NIG PLC	2019	HEALTHCARE	0	6	0.5	0.333333	0.166667	3	16.7432	48
GREIF NIG. PLC	2014	INDUSTRIAL GOODS	0	4	0.5	0	0.166667	2	13.4057	74
GREIF NIG. PLC	2015	INDUSTRIAL GOODS	1	4	0.5	0	0.166667	3	13.481	75
GREIF NIG. PLC	2016	INDUSTRIAL GOODS	0	4	0.4	0	0.2	2	13.4905	76
GREIF NIG. PLC	2017	INDUSTRIAL GOODS	0	4	0.4	0	0.2	2	13.5756	77
GREIF NIG. PLC	2018	INDUSTRIAL GOODS	1	4	0.4	0	0.2	1	13.0726	78
GREIF NIG. PLC	2019	INDUSTRIAL GOODS	1	4	0.5	0	0.166667	1	12.0642	79
Guaranty Trust Bank	2014	Financial Services	1	6	0.5	0.166667	0.333333	4	21.5802	24
Guaranty Trust Bank	2015	Financial Services	0	6	0.5	0.166667	0.333333	4	21.6493	25
Guaranty Trust Bank	2016	Financial Services	0	6	0.4286	0.285714	0.285714	4	21.8599	26
Guaranty Trust Bank	2017	Financial Services	0	6	0.4286	0.428571	0.428571	4	21.9326	27
Guaranty Trust Bank	2018	Financial Services	0	6	0.5	0.5	0.333333	4	21.9133	28
Guaranty Trust Bank	2019	Financial Services	0	6	0.5	0.5	0.5	4	22.0474	29

GUINNESS NIG PLC	2014	CONSUMER GOODS	1	6	0.5	0.333333	0.166667	3	18.7008	64
GUINNESS NIG PLC	2015	CONSUMER GOODS	1	6	0.5	0.333333	0.166667	3	18.6216	65
GUINNESS NIG PLC	2016	CONSUMER GOODS	1	5	0.5	0.333333	0.166667	4	18.7354	66
GUINNESS NIG PLC	2017	CONSUMER GOODS	1	5	0.5	0.333333	0.166667	3	18.7994	67
GUINNESS NIG PLC	2018	CONSUMER GOODS	1	5	0.5	0.333333	0.166667	4	18.8476	68
GUINNESS NIG PLC	2019	CONSUMER GOODS	1	6	0.5714	0	0.285714	2	18.8956	69
HONEYWELL FLOUR MILL PLC	2014	CONSUMER GOODS	0	6	0.5	0	0.166667	4	17.9717	29
HONEYWELL FLOUR MILL PLC	2015	CONSUMER GOODS	1	6	0.4286	0.142857	0.142857	4	18.0342	30
HONEYWELL FLOUR MILL PLC	2016	CONSUMER GOODS	1	7	0.375	0.25	0.125	4	18.1469	31
HONEYWELL FLOUR MILL PLC	2017	CONSUMER GOODS	1	7	0.375	0.25	0.125	4	18.5442	32
HONEYWELL FLOUR MILL PLC	2018	CONSUMER GOODS	1	6	0.4444	0.222222	0.111111	4	18.6425	33
HONEYWELL FLOUR MILL PLC	2019	CONSUMER GOODS	1	6	0.5	0.125	0.25	4	18.7392	34
INTERLINKED TECHNOLOGIES	2014	SERVICES	0	6	0.5	0	0.25	5	13.0791	33
INTERLINKED TECHNOLOGIES	2015	SERVICES	0	6	0.5	0	0.25	5	12.9668	34
INTERLINKED TECHNOLOGIES	2016	SERVICES	0	6	0.5	0	0.25	5	13.0444	35
INTERLINKED TECHNOLOGIES	2017	SERVICES	0	6	0.5	0	0.25	5	13.1236	36
INTERLINKED TECHNOLOGIES	2018	SERVICES	0	6	0.5	0	0.25	4	13.075	37
INTERLINKED TECHNOLOGIES	2019	SERVICES	0	7	0.5	0	0.25	4	12.6648	38

JAPAUL OIL	2014	OIL AND GAS	0	6	0.5	0.333333	0.166667	4	17.471	20
JAPAUL OIL	2015	OIL AND GAS	1	7	0.5	0.333333	0.166667	4	17.3386	21
JAPAUL OIL	2016	OIL AND GAS	1	8	0.5	0.333333	0.166667	4	17.2183	22
JAPAUL OIL	2017	OIL AND GAS	1	8	0.5	0.333333	0.166667	4	17.1478	23
JAPAUL OIL	2018	OIL AND GAS	0	9	0.5	0.166667	0.166667	4	16.9952	24
JAPAUL OIL	2019	OIL AND GAS	0	8	0.5	0.166667	0.166667	4	16.9602	25
JOHN HOLT PLC	2014	CONGLOMERATES	1	6	0.5	0	0.166667	4	16.148	53
JOHN HOLT PLC	2015	CONGLOMERATES	1	6	0.5	0	0.166667	4	16.2405	54
JOHN HOLT PLC	2016	CONGLOMERATES	1	6	0.5	0	0.166667	2	16.3075	55
JOHN HOLT PLC	2017	CONGLOMERATES	1	6	0.5	0	0.166667	2	16.1423	56
JOHN HOLT PLC	2018	CONGLOMERATES	1	6	0.5	0	0.25	3	16.1509	57
JOHN HOLT PLC	2019	CONGLOMERATES	1	7	0.5	0	0.333333	5	16.1792	58
JULIUS BERGER NIG	2014	CONSTRUCTION/REAL ESTATE	1	4	0.5	0	0.166667	4	19.3609	44
JULIUS BERGER NIG	2015	CONSTRUCTION/REAL ESTATE	1	4	0.5	0	0.166667	4	19.3171	45
JULIUS BERGER NIG	2016	CONSTRUCTION/REAL ESTATE	1	4	0.5	0	0.166667	4	19.373	46
JULIUS BERGER NIG	2017	CONSTRUCTION/REAL ESTATE	1	4	0.5	0.333333	0.166667	2	19.4337	47
JULIUS BERGER NIG	2018	CONSTRUCTION/REAL ESTATE	1	4	0.5	0.333333	0.166667	2	19.48	48
JULIUS BERGER NIG	2019	CONSTRUCTION/REAL ESTATE	1	4	0.5	0	0.333333	2	19.5638	49
LAFARGE	2014	INDUSTRIAL GOODS	1	7	0.5	0.833333	0.166667	4	19.5387	55
LAFARGE	2015	INDUSTRIAL GOODS	1	7	0.5	0.833333	0.166667	4	19.9314	56
LAFARGE	2016	INDUSTRIAL GOODS	1	6	0.5	0.833333	0.166667	4	20.0329	57
LAFARGE	2017	INDUSTRIAL GOODS	1	6	0.5	0.833333	0.166667	4	20.191	58
LAFARGE	2018	INDUSTRIAL GOODS	0	7	0.5	0.833333	0.166667	4	20.1084	59
LAFARGE	2019	INDUSTRIAL GOODS	0	6	0.5	0.333333	0.166667	4	20.0244	60
Learn Africa Plc	2014	SERVICES	1	6	0.5	0.5	0.166667	4	15.2143	53
Learn Africa Plc	2015	SERVICES	1	6	0.5	0.5	0.166667	4	15.0924	54
Learn Africa Plc	2016	SERVICES	1	6	0.5	0.5	0.166667	3	15.3502	55

Learn Africa Plc	2017	SERVICES	1	6	0.5	0.5	0.166667	3	15.2946	56
Learn Africa Plc	2018	SERVICES	1	6	0.5	0.5	0.166667	3	15.5289	57
Learn Africa Plc	2019	SERVICES	1	6	0.5	0.333333	0.166667	4	15.5289	58
LIVESTOCK FEEDS PLC	2014	AGRICULTURE	1	6	0.5	0.333333	0.166667	3	15.5652	51
LIVESTOCK FEEDS PLC	2015	AGRICULTURE	0	6	0.5	0.333333	0.166667	2	15.3349	52
LIVESTOCK FEEDS PLC	2016	AGRICULTURE	1	6	0.5	0.333333	0.166667	2	15.8112	53
LIVESTOCK FEEDS PLC	2017	AGRICULTURE	1	6	0.5	0.333333	0.166667	4	15.4758	54
LIVESTOCK FEEDS PLC	2018	AGRICULTURE	1	4	0.5	0.166667	0.166667	4	15.1878	55
LIVESTOCK FEEDS PLC	2019	AGRICULTURE	1	6	0.5	0	0.333333	4	15.2102	56
MAY & BAKER NIGERIA PLC	2014	HEALTHCARE	1	6	0.5	0.166667	0.166667	4	15.9068	70
MAY & BAKER NIGERIA PLC	2015	HEALTHCARE	0	6	0.5	0.5	0.166667	4	15.9241	71
MAY & BAKER NIGERIA PLC	2016	HEALTHCARE	1	6	0.5	0.166667	0.166667	4	15.9696	72
MAY & BAKER NIGERIA PLC	2017	HEALTHCARE	1	6	0.5	0.166667	0.166667	4	15.9438	73
MAY & BAKER NIGERIA PLC	2018	HEALTHCARE	1	6	0.5	0.166667	0.166667	4	15.9076	74
MAY & BAKER NIGERIA PLC	2019	HEALTHCARE	1	6	0.5	0.333333	0.166667	4	16.0661	75
MCNICHOLS PLC	2014	CONSUMER GOODS	0	6	0.5	0.25	0.25	4	12.8381	10
MCNICHOLS PLC	2015	CONSUMER GOODS	1	6	0.5	0.25	0.25	3	12.9484	11
MCNICHOLS PLC	2016	CONSUMER GOODS	0	6	0.3333	0.166667	0.166667	4	13.0714	12
MCNICHOLS PLC	2017	CONSUMER GOODS	0	6	0.5	0.25	0.25	4	13.1979	13
MCNICHOLS PLC	2018	CONSUMER GOODS	0	6	0.4	0.2	0.2	4	13.624	14
MCNICHOLS PLC	2019	CONSUMER GOODS	0	6	0.5	0.166667	0.166667	4	13.4905	15

Meyer Plc (DN Meyer)	2014	INDUSTRIAL GOODS	1	6	0.6	0.4	0	3	14.7167	54
Meyer Plc (DN Meyer)	2015	INDUSTRIAL GOODS	1	6	0.5	0.5	0.25	3	14.6607	55
Meyer Plc (DN Meyer)	2016	INDUSTRIAL GOODS	0	6	0.5	0.5	0.25	4	14.6065	56
Meyer Plc (DN Meyer)	2017	INDUSTRIAL GOODS	1	6	0.5	0.5	0.25	4	14.4667	57
Meyer Plc (DN Meyer)	2018	INDUSTRIAL GOODS	1	6	0.5	0.25	0.25	3	14.4393	58
Meyer Plc(DN Meyer)	2019	INDUSTRIAL GOODS	0	6	0.5	0.25	0.25	6	14.6103	59
MOBIL (11) PLC	2014	OIL AND GAS	1	6	0.6	0.2	0.2	4	17.7119	63
MOBIL (11) PLC	2015	OIL AND GAS	1	6	0.4	0.2	0.2	5	17.8058	64
MOBIL (11) PLC	2016	OIL AND GAS	1	6	0.3333	0.166667	0.166667	3	17.9378	65
MOBIL (11) PLC	2017	OIL AND GAS	1	6	0.5	0.125	0.125	3	18.1283	66
MOBIL (11) PLC	2018	OIL AND GAS	0	6	0.5714	0.142857	0.142857	4	18.0734	67
MOBIL (11) PLC	2019	OIL AND GAS	0	6	0.5	0	0.166667	4	18.3286	68
MORISON INDUSTRIES PLC	2014	HEALTHCARE	0	6	0.5	0	0.166667	4	13.0149	59
MORISON INDUSTRIES PLC	2015	HEALTHCARE	0	6	0.5	0	0.166667	4	12.9545	60
MORISON INDUSTRIES PLC	2016	HEALTHCARE	1	6	0.6	0	0.2	4	12.931	61
MORISON INDUSTRIES PLC	2017	HEALTHCARE	1	6	0.4	0	0.2	4	13.2055	62
MORISON INDUSTRIES PLC	2018	HEALTHCARE	1	6	0.5	0.25	0.25	4	13.1991	63
MORISON INDUSTRIES PLC	2019	HEALTHCARE	1	6	0.5	0.25	0.25	4	13.012	64
MRS OIL (Texaco, Chevron)	2014	OIL AND GAS	1	4	0.5	0.166667	0.166667	4	17.8733	45
MRS OIL (Texaco, Chevron)	2015	OIL AND GAS	1	4	0.5	0.166667	0.166667	4	18.0186	46
MRS OIL (Texaco, Chevron)	2016	OIL AND GAS	0	6	0.5714	0.142857	0.142857	4	18.2145	47
MRS OIL (Texaco,	2017	OIL AND GAS	0	4	0.5	0.25	0.25	4	17.8852	48

Chevron)										
MRS OIL (Texaco, Chevron)	2018	OIL AND GAS	0	5	0.5	0.25	0.25	3	17.8097	49
MRS OIL (Texaco, Chevron)	2019	OIL AND GAS	0	6	0.5	0.25	0.25	4	17.6045	50
MULTIVERSE MINING AND EXPLORATION PLC	2014	NATURAL RESOURCES	1	5	0.5	0	0.166667	4	15.3717	12
MULTIVERSE MINING AND EXPLORATION PLC	2015	NATURAL RESOURCES	1	4	0.5	0	0.25	4	15.3704	13
MULTIVERSE MINING AND EXPLORATION PLC	2016	NATURAL RESOURCES	1	4	0.5	0	0.25	5	15.3409	14
MULTIVERSE MINING AND EXPLORATION PLC	2017	NATURAL RESOURCES	1	4	0.5	0	0.25	4	15.3255	15
MULTIVERSE MINING AND EXPLORATION PLC	2018	NATURAL RESOURCES	1	4	0.5	0	0.25	7	15.3014	16
MULTIVERSE MINING AND EXPLORATION PLC	2019	NATURAL RESOURCES	1	4	0.5	0	0.25	4	15.2886	17
NASCON ALLIED INDUSTRIES PLC	2014	CONSUMER GOODS	0	5	0.5	0	0.25	4	16.3457	41
NASCON ALLIED INDUSTRIES PLC	2015	CONSUMER GOODS	0	5	0.6	0.8	0.2	4	16.6064	42
NASCON ALLIED INDUSTRIES PLC	2016	CONSUMER GOODS	1	6	0.5	0.5	0.166667	4	17.0184	43
NASCON ALLIED INDUSTRIES PLC	2017	CONSUMER GOODS	1	8	0.5	0.5	0.166667	4	17.2208	44
NASCON ALLIED INDUSTRIES PLC	2018	CONSUMER GOODS	1	7	0.5	0.5	0.166667	4	17.2257	45
NASCON ALLIED INDUSTRIES	2019	CONSUMER GOODS	1	6	0.5	0.333333	0.166667	5	17.4705	46

PLC										
NCR Nigeria Plc	2014	ICT	1	6	0.5	0	0.166667	2	15.7175	65
NCR Nigeria Plc	2015	ICT	1	6	0.5	0	0.166667	2	15.8848	66
NCR Nigeria Plc	2016	ICT	1	5	0.5	0.166667	0.166667	4	16.279	67
NCR Nigeria Plc	2017	ICT	1	5	0.4286	0.285714	0.142857	4	16.0093	68
NCR Nigeria Plc	2018	ICT	1	4	0.5	0.5	0.166667	4	16.0938	69
NCR Nigeria Plc	2019	ICT	1	4	0.5	0.333333	0.166667	4	15.9468	70
OKOMU OIL PALM PLC	2014	AGRICULTURE	0	6	0.5	0	0.166667	4	17.3084	35
OKOMU OIL PALM PLC	2015	AGRICULTURE	1	6	0.5	0	0.166667	4	16.8139	36
OKOMU OIL PALM PLC	2016	AGRICULTURE	1	7	0.5	0	0.166667	4	17.0145	37
OKOMU OIL PALM PLC	2017	AGRICULTURE	1	8	0.5	0	0.166667	5	17.2583	38
OKOMU OIL PALM PLC	2018	AGRICULTURE	1	8	0.5	0	0.166667	4	17.464	39
OKOMU OIL PALM PLC	2019	AGRICULTURE	0	8	0.5	0	0.166667	5	17.5905	40
PRESCO PLC	2014	AGRICULTURE	0	6	0.5	0.166667	0.166667	4	17.3693	23
PRESCO PLC	2015	AGRICULTURE	1	4	0.5	0.166667	0.166667	4	17.8315	24
PRESCO PLC	2016	AGRICULTURE	1	4	0.5714	0.142857	0.142857	3	17.3412	25
PRESCO PLC	2017	AGRICULTURE	0	4	0.5	0.166667	0.166667	4	17.6439	26
PRESCO PLC	2018	AGRICULTURE	0	4	0.5	0.166667	0.166667	4	17.8876	27
PRESCO PLC	2019	AGRICULTURE	0	4	0.5	0	0.166667	4	18.0743	28
SCOA NIG PLC	2014	CONGLOMERATES	1	4	0.5	0.166667	0.166667	4	16.1425	45
SCOA NIG PLC	2015	CONGLOMERATES	1	5	0.5	0	0.166667	4	16.1996	46
SCOA NIG PLC	2016	CONGLOMERATES	1	6	0.5	0.166667	0.166667	3	16.4644	47
SCOA NIG PLC	2017	CONGLOMERATES	1	6	0.5	0.166667	0.166667	5	16.3719	48
SCOA NIG PLC	2018	CONGLOMERATES	1	6	0.5	0	0.166667	5	16.3823	49

SCOA NIG PLC	2019	CONGLOMERATES	1	6	0.5	0	0.166667	4	16.5095	50
SMART PRODUCTS Plc	2014	CONSTRUCTION/REAL ESTATE	1	6	0.5	0	0.25	4	11.6945	48
SMART PRODUCTS Plc	2015	CONSTRUCTION/REAL ESTATE	1	6	0.5	0	0.25	3	11.7856	49
SMART PRODUCTS Plc	2016	CONSTRUCTION/REAL ESTATE	1	6	0.5	0	0.25	4	11.9115	50
SMART PRODUCTS Plc	2017	CONSTRUCTION/REAL ESTATE	1	7	0.5	0	0.25	5	12.0002	51
SMART PRODUCTS Plc	2018	CONSTRUCTION/REAL ESTATE	0	6	0.5	0	0.25	4	12.0194	52
SMART PRODUCTS Plc	2019	CONSTRUCTION/REAL ESTATE	0	6	0.5	0	0.25	2	12.0419	53
StanbicIbtc Holding	2014	Financial Services	1	6	0.5	0.166667	0.5	4	20.6662	25
StanbicIbtc Holding	2015	Financial Services	0	6	0.5	0.166667	0.333333	4	20.6588	26
StanbicIbtc Holding	2016	Financial Services	0	6	0.5	0.166667	0.333333	4	20.7754	27
StanbicIbtc Holding	2017	Financial Services	1	6	0.5	0.166667	0.333333	4	21.05	28
StanbicIbtc Holding	2018	Financial Services	1	6	0.4286	0.285714	0.285714	4	21.2323	29
StanbicIbtc Holding	2019	Financial Services	0	6	0.5	0.333333	0.333333	4	21.3527	30
Sterling Bank	2014	Financial Services	0	6	0.5	0.333333	0.166667	4	20.5303	54
Sterling Bank	2015	Financial Services	0	6	0.5	0.333333	0.166667	4	20.4994	55
Sterling Bank	2016	Financial Services	0	7	0.5	0.5	0.333333	4	20.542	56
Sterling Bank	2017	Financial Services	0	6	0.5	0.333333	0.333333	4	20.793	57
Sterling Bank	2018	Financial Services	1	6	0.5	0.166667	0.333333	4	20.8212	58
Sterling Bank	2019	Financial Services	0	6	0.5	0.333333	0.333333	4	20.8911	59
UAC Of Nigeria PLC	2014	CONGLOMERATES	0	6	0.5	0.166667	0.166667	5	18.6858	83
UAC Of Nigeria PLC	2015	CONGLOMERATES	1	6	0.5	0.166667	0.166667	4	18.6726	84
UAC Of Nigeria PLC	2016	CONGLOMERATES	1	6	0.5	0.166667	0.166667	5	18.7444	85
UAC Of	2017	CONGLOMERATE	1	6	0.5	0.5	0.166	4	18.68	86

Nigeria PLC		S					667		78	
UAC Of Nigeria PLC	2018	CONGLOMERATES	1	6	0.5	0.5	0.166667	4	18.6914	87
UAC Of Nigeria PLC	2019	CONGLOMERATES	1	6	0.5	0.166667	0.333333	4	18.4939	88
Union Bank Of Nig	2014	Financial Services	0	4	0.5	0	0.333333	3	20.7324	43
Union Bank Of Nig	2015	Financial Services	0	4	0.5	0.166667	0.5	3	20.7691	44
Union Bank Of Nig	2016	Financial Services	0	4	0.5	0	0.666667	2	20.9486	45
Union Bank Of Nig	2017	Financial Services	0	4	0.4286	0.428571	0.285714	2	21.0986	46
Union Bank Of Nig	2018	Financial Services	1	4	0.5	0.333333	0.333333	3	21.1043	47
Union Bank Of Nig	2019	Financial Services	0	4	0.5	0.333333	0.5	2	21.3504	48
United Bank For Africa	2014	Financial Services	0	6	0.5	0.333333	0.666667	4	21.7394	53
United Bank For Africa	2015	Financial Services	0	6	0.5	0.333333	0.666667	4	21.7358	54
United Bank For Africa	2016	Financial Services	1	6	0.5	0.333333	0.666667	4	21.9773	55
United Bank For Africa	2017	Financial Services	1	6	0.5	0.333333	0.5	4	22.1268	56
United Bank For Africa	2018	Financial Services	1	7	0.5	0.5	0.666667	4	22.3063	57
United Bank For Africa	2019	Financial Services	0	6	0.5	0.166667	0.666667	4	22.4468	58
UPDC Plc	2014	CONSTRUCTION /REAL ESTATE	0	6	0.5	0.333333	0.166667	5	18.0363	17
UPDC Plc	2015	CONSTRUCTION /REAL ESTATE	1	6	0.5714	0.285714	0.142857	5	18.0916	18
UPDC Plc	2016	CONSTRUCTION /REAL ESTATE	1	6	0.5	0.333333	0.166667	5	18.0768	19
UPDC Plc	2017	CONSTRUCTION /REAL ESTATE	1	6	0.5	0.5	0.166667	5	17.9834	20
UPDC Plc	2018	CONSTRUCTION /REAL ESTATE	1	6	0.5	0.5	0.166667	4	17.6543	21
UPDC Plc	2019	CONSTRUCTION /REAL ESTATE	1	6	0.5	0.166667	0.166667	5	17.1806	22