EFFECTS OF AUDIT QUALITY ON EARNINGS MANAGEMENT OF LISTED OIL MARKETING COMPANIES IN NIGERIA

BY

Gabriel Msughter TYOKOSO

DEPARTMENT OF ACCOUNTING

FACULTY OF ADMINISTRATION

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Gabriel Msughter TYOKOSO MSc.
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A THESIS SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, AHMADU BELLO UNIVERSITY, ZARIA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF DOCTOR OF PHILOSOPHY (PhD) IN ACCOUNTING AND FINANCE

DEPARTMENT OF ACCOUNTING,
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FEBRUARY, 2017

DECLARATION

I declare that this Thesis entitled Effect of Audit Quality on Earnings Management of Listed Oil Marketing Companies in Nigeria has been carried out by me in the Department of Accounting. The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this Thesis was previously presented for another degree or diploma at this or any other institution.

Gabriel Msughter TYOKOSO _____ _____

Signature Date

CERTIFICATION

This Thesis entitled Effect Of Audit Quality On Earnings Management Of Listed Oil Marketing Companies In Nigeria by Gabriel Msughter TYOKOSO meets the regulations governing the award of the degree of Doctor of Philosophy (PhD) Accounting and Finance of the Ahmadu Bello University, and is approved for its contribution to knowledge and literary presentation.

Dr. H. M. Sabari Chairman, Supervisory Committee	_____ Signature	_____ Date
Dr. A. B. Dogarawa Member, Supervisory Committee	_____ Signature	_____ Date
Dr. H. Ibrahim Member, Supervisory Committee	_____ Signature	_____ Date
Dr. S. Abubakar Head of Department	_____ Signature	_____ Date
Prof. K. Bala Dean, School of Postgraduate Studies	_____ Signature	_____ Date

DEDICATION

This thesis is dedicated to the loving memory of my maternal and paternal grandmother, the late Mama Yegher Tyozenda and the late Mama Martha Kohol Tsughior, who encouraged me to go to school.

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ABSTRACT

This study examined the effect of audit quality proxied by audit firm size, auditor industry specialization, auditor tenure, client importance and audit committee financial expertise on earnings management represented by discretionary accruals of listed oil marketing companies in Nigeria. The study also examined the effect of the interaction between audit committee financial expertise and auditor industry specialization on earnings management of sampled firms. To achieve these objectives, the study used nine listed oil marketing companies that had consistently published their audited annual financial reports from 2009 to 2014, and analyzed the data using multiple regression technique. The dataset was first analyzed using pooled-OLS regression technique. However, in view of the panel nature of the dataset, it was further analyzed using fixed and random effects regression models while Hausman specification test was conducted to choose the preferred result among the two regression results. Result of the Hausman specification test suggests that the fixed effect regression model is most appropriate for the dataset. The result of the fixed effect regression analysis revealed that audit firm size, auditor industry specialization, client importance and audit committee financial expertise are positively associated with earnings management at less than 5% significance level respectively. In contrast, auditor tenure and the interaction between audit committee financial expertise and auditor industry specialization were negative and significantly associated with earnings management of firms at less than 5% significance level respectively. Overall, the study concluded that audit quality attributes of audit firm size, auditor industry specialization, auditor tenure, client importance, audit committee financial expertise and the interaction between audit committee financial expertise and auditor industry specialization had significant effect on earnings management of listed oil marketing companies in Nigeria. In view of the results, the study recommended among others auditor tenure of three years and above in order to check earnings management of firms in Nigeria. Also, auditor industry specialization should be encouraged by regulators such as SEC as the interaction between audit committee financial expertise and auditor industry specialization mitigates earnings management of firms in Nigeria. In addition, regulatory agencies such as SEC should make a policy that compels companies to disclose both audit and non-audit fees in their audited annual financial reports to enable users determine the level of audit client importance and the reliance to place on the auditor's report.

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CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

Financial reporting is one of the primary responsibilities of management which enables them give account of their stewardship. Managers of public companies are expected to prepare and present annual financial reports to shareholders, who are owners of the firm and other interested users such as creditors, analysts, government, and the general public to enable them assess the performance and financial position of the reporting entity. The main objective of financial reporting therefore is the provision of information on the financial performance and position of the reporting entity that is useful to different users, to enable them assess the stewardship of management and make informed economic decisions (International Accounting Standards Board (IASB), 2008; Glautier, Underdown, & Morris, 2011). This means that published financial reports that fail to meet the information needs of its users do not achieve their intended purpose.

In order to achieve this objective, information contained in financial statements has to meet basic qualitative attributes of relevance and faithful representation in addition to quantitative attributes. Relevance of financial statements information is associated with the extent to which published financial information is able to influence the decision of the users. Faithful representation on the other hand entails that published financial statements information should be verifiable, neutral and complete (IASB, 2008).

The need for financial reporting arises originally because of the separation of ownership from management and control in modern day business organizations. This relationship creates conflict

of interests and information asymmetry between the shareholders (principal) and managers (agent), who are involved in the day to day running of the firm. The conflict sometimes reflects in the preparation of financial statements as managers use their discretion over accounting choices to manipulate financial information contained in published financial reports for their personal benefit at the expense of other stakeholders. Reported accounting information is, therefore, often not free from complete bias as expected by different users of the financial reports.

The manipulative behaviour of managers, called earnings management is associated with the deliberate altering of financial statements through the use of judgment in structuring transactions to either mislead the firm's stakeholders about the true economic picture of the firm or to achieve some contractual benefit that is based on reported accounting numbers (Healy & Wahlen, 1999). Extant accounting literature suggests that managers engage in earnings management for different reasons such as, to earn compensation bonus (Healy, 1985), to beat analyst forecast (Comprix, Mills & Schimidt, 2007), to attract favorable subscription during Initial Public Offerings (IPO) (Teoh, Wong & Rao, 1998), and so on. The practice of earnings management however, is not without consequences for the reporting entity. Examples of these consequences include but not limited to reduction in the relevance of reported accounting information and corporate failure in worst scenarios. Earnings management is, therefore, of great concern to regulators, practitioners and accounting researchers since it obscures facts that different stakeholders need to know about the reporting firm (Okolie, 2014).

In view of the consequences of earnings management for the reporting firm, regulatory authorities need to put in place constant monitoring mechanisms to ensure that managers run the firm in the best interest of the shareholders. Literature suggests that audit quality is one of the mechanisms that are effective in monitoring managerial opportunism. Audit quality is associated with the joint probability that a given auditor both detects and reports a violation of generally accepted accounting principles (GAAP) in the client's accounting system. Consequently, company laws from different countries of the world make the external audit of financial reports of public companies by high quality auditors a statutory requirement. Examples include the company laws in United States (US), United Kingdom (UK), France, Japan and Malaysia. Similarly, section 357 of the Companies and Allied Matters Act (CAMA) Cap 20 LFN 2004 makes the annual audit of all companies listed on the Nigerian Stock Exchange (NSE) by competent external auditors a statutory requirement for public companies.

Though several countries from both developed and developing economies have made external audit of the financial reports of public companies by high quality auditors a statutory requirement, accounting scandals and corporate failures linked to earnings management still continue to occur globally. Notable accounting scandals and corporate failures in the last decade include: Enron and Worldcom in US, Parmalat in Italy, Cadbury PLC, African Petroleum (now Forte Oil) PLC, and Unilever PLC in Nigeria among others (see Ghosh, Marra & Moon, 2010; Fodio, Ibikunle & Oba, 2013; Chandrasegaram, Rahimansa, Rahman, Abdullah & Mat, 2013; Miko & Kamardin, 2015; Mishra & Malhotra, 2016). These scandals led to loss of public confidence in the quality of published financial reports and the audit function globally. In response to the aforementioned corporate scandals, regulators from many nations of the world

have embarked on new reforms to strengthen the independence of the external auditor and also restore the lost public confidence in the quality of published financial reports. In the US for instance, the Sarbanes-Oxly act was passed in 2002, which established the Public Company Accounting Oversight Board (PCAOB) to oversee the financial reporting process of public companies. Similar regulatory reforms aimed at enhancing audit quality and the quality of annual financial statements produced by public firms were also carried out in UK, Canada, Malaysia, South Africa and Nigeria. However, despite these regulatory reforms to mitigate earnings management, enhance audit quality and by extension the quality of published accounting reports, accounting scandals and corporate failures involving highly reputable external auditors are still prevalent globally. This has attracted the attention of accounting researchers who sought to establish the empirical link between audit quality and earnings management of firms.

Literature on audit quality has documented a number of audit quality attributes that affect earnings management of firms. Popular among these attributes are audit firm size, auditor industry specialization, auditor tenure, client importance, and audit committee financial expertise. The size of audit firm is thought to affect the earnings management of companies because big audit firms have more resources to acquire latest auditing technology than small audit firms (Sawan & Alsaqqa, 2013; Hosseinniakani, Inacio & Mota, 2014). In addition, big audit firms have more clients and their total fees are allocated among the many clients, thereby making them less dependent on any one client. Big audit firms perform more effective audit than small audit firms because they have greater wealth that is exposed to litigation risk in case of audit failure (Dye, 1993). The association between audit firm size and earnings management is

supported by much empirical evidence such as Jordan, Clark and Hames (2010), Kamolsakulchai (2015), Gumanti, Nastiti, Utami and Manik (2015), and Khalil and Ozkan (2016).

Auditor industry specialization is another attribute of audit quality which extant literature suggests could affect earnings management practices of firms. This is because industry specialist auditors are familiar with the business operations of the industry of their specialization and also possess industry relevant experience and knowledge that enables them to audit companies in the industry more effectively than their counterparts (Minutti- Meza, 2013; Sarwoko & Agoes, 2014). The empirical link between auditor industry specialization and earnings management is documented by several studies such as Jaggi, Gul and Lau (2012). Auditor tenure is another attribute of audit quality which extant literature suggests can affect earnings management of firms. This is because as the length of auditor- client relationship increases, the auditor becomes more effective in detecting unethical accounting practices than he was at the beginning of the audit engagement in view of his familiarity with the operations and financial reporting environment of the client (Lim & Tan, 2010; Siregar, Amarullah, Wibowo & Anggraita, 2012). The empirical relationship between auditor tenure and earnings is documented by many studies such as Moeinadin, Heirany and Moazen (2013), Bamahros and Wan – Hussin (2015), Brooks and Guo (2015), and Nawaiseh (2016).

Extant literature has also associated client importance with earnings management practices of firms. It is argued that relative to other clients, auditors allow their big clients more discretion in financial reporting. Auditors facing the risk of losing a big client and reporting unethical accounting practices of the client are more likely to compromise the quality of the audit exercise

(Chen, Sun & Wu, 2010; Sharma, Sharma & Ananthanarayanan, 2011). The relationship between client importance and earnings management of firms is supported by empirical evidence such as Okolie (2014a) and Park (2015). Also, audit committee financial expertise is another proxy of audit quality which extant literature associates with earnings management of firms. This is because audit committees whose members have accounting and financial expertise are already familiar with financial reporting environment and therefore more effective in their monitoring role over the external auditor and financial reporting process of the company. The association between audit committee financial expertise and earnings management is documented by several empirical studies such as Badolato, Donelson and Ege (2013), Salleh and Haat (2014), Ayemere and Elijah (2015), and Mishra and Malhotra (2016).

In light of the aforementioned, empirical evidence has suggested that audit quality could constrain the opportunistic earnings management behavior of managers, and ensure the credibility and transparency of financial reports produced by firms. Consequently, users of audited financial reports believe that such audited reports are completely free from bias and material misstatements, and so reliable. However, the accounting scandals and corporate failures witnessed globally, including the two largest in the world history - Worldcom and Enron (Albrecht, Albrecht & Albrecht, 2004) have cast doubts on the ability of audit quality to constrain earnings management practices of firms across sectors.

In Nigeria, the oil sector contributes significantly to the economic growth of the country. According to the Central Bank of Nigeria (CBN, 2010), the industry contributes about 90% of Nigeria's foreign exchange earnings. Despite its strategic importance, the operations of the oil

industry have been associated with allegations of scandalous financial practices recently. For example, the Punch (February, 2015) reported the case of non-remittance of funds to the federation account and excessive expenditure of oil proceeds by the Nigerian National Petroleum Corporation (NNPC). Similar allegations are associated with listed oil marketing companies in Nigeria as exemplified by the case of African Petroleum (now Forte Oil) Plc, where a credit facility of 24 billion naira was not disclosed in the financial statements of the company (Samaila, 2014). Interestingly, this material omission occurred under the watch of a big 4 audit firm that is expected to constrain such unscrupulous practice.

Owing to the importance of the oil sector to the economy of Nigeria and the allegations of manipulative tendencies labelled against the oil industry, it is imperative to examine the earnings management behaviour of oil marketing companies and the extent to which audit quality affects such behaviour. This study is therefore motivated by the fact that researches in this area which are mostly foreign based documented inconsistent and mixed findings due largely to jurisdictional and sectoral differences. The inconclusiveness of findings has provided incentive for further research effort. In addition, the fact that the oil sector in Nigeria has undergone a number of reforms particularly from 2009, coupled with dearth of local empirical studies on the association between audit quality and earnings management practices of the sector, make a study that will enable better understanding of the nature and extent of the association more desirable.

1.2 Statement of the Problem

Abundant accounting research has empirically examined the impact of audit quality on earnings management of firms. Exemplar studies include: Becker, Defond, Jiambalvo and Subramanyam

(1998), Bauwhede, Willekens and Gaeremynck (2000), Krishnan (2003), Piot and Janin (2005), Habbash (2010), Memis (2012), Yasar (2013), Pouraghajan, Tabari, Emamgholipour and Mansourinia (2013), Molik, Mir, Mclver and Bepari (2013) and Okolie (2014). However, most of these studies are foreign-based. Given the disparities in the nature of economies, the level of sophistication in the monitoring mechanisms and litigation risks faced by external auditors, studies from Nigeria may produce different results. For example, in the US alone, there are over 10,000 companies listed on the stock market compared to less than 1,000 companies listed on the NSE. In view of this large number of listed companies on the US stock market, most of the audit firms specialize along industry lines to offer specialized services. However, despite the relatively small number of companies listed on the Nigerian stock market coupled with the fact that the operations of the oil industry is complex, it is still important to study auditor industry specialization (one of the proxies for audit quality) to determine empirically the extent which it is associated with earnings management of listed oil marketing companies in Nigeria. This is important because given the complex nature of the oil industry business operations, industry specialist auditors are expected to play a prominent role in mitigating earnings management of companies operating in the sector due to their specific knowledge of the industry.

Also, most of the prior studies on audit quality and earnings management in Nigeria such as Okolie, Izedonmi and Enofe (2013) and Okolie (2014) focused more on audit firm size, audit fees and auditor tenure even though the literature has listed other proxies of audit quality. This approach limits the generalisability of findings concerning the effect of audit quality on earnings management of firms in Nigeria in general and listed oil marketing companies which have been ignored by prior studies. A study that includes more variables such as auditor industry

specialization and client importance is undoubtedly desirable as it provides a better understanding of the effect of audit quality on earnings management of firms in Nigeria. Though this study does not cover all the variables ignored by previous studies, the inclusion of more variables such as auditor industry specialization is important as it enables us to determine the effect of the interaction between auditor industry specialization and audit committee financial expertise on earnings management of firms in Nigeria.

Furthermore, the two studies in Nigeria focused on non-financial companies listed on NSE generally, and not specifically in relation to oil marketing companies. The importance of oil marketing companies to the Nigerian economy as evidenced in the large volume of trade in shares on the floor of the NSE, implies that these companies deserved to be studied in isolation for better understanding of their earnings management behaviour. In addition, the association of the operations of these companies with scandalous financial activities such as the case of African Petroleum (Now Forte Oil) PLC, where a credit facility of 24 billion naira was not disclosed in the financial statements (Samaila, 2014) raises concerns about the possibility of serious earnings manipulation in the companies. This calls for empirical investigation into the earnings management behaviour of oil marketing companies in Nigeria and the extent of its association with audit quality.

Moreover, prior studies in this area from both developed and developing economies have produced inconsistent and sometimes conflicting empirical evidence. While some of the studies documented significant negative relationship, others suggested significant positive relationship or no relationship between audit quality proxies such as audit firm size and earnings management

of firms. For instance, Becker, Defond, Jiambalvo and Subramanyam (1998) reported that the use of big 6 audit firms (one of the proxies of audit quality) is associated with less earnings management for a sample of US firms. Similar findings include Piot and Janin (2005), Habbash (2010), Memis (2012), Okolie, Izedonmi and Enofe (2013) and Okolie (2014). In contrast Yasar (2013), Pouraghajan, Tabari, Emamgholipour and Mansourinia (2013) documented evidence which suggests that big 4 audit firms are not likely to be associated with less earnings management of firms. One of the reasons for the mixed empirical evidence could be the difference in economic and legal conditions of countries. Research on audit quality and earnings management is therefore mixed and inconclusive, thus, providing the basis for the interaction of audit committee financial expertise with auditor industry specialization to ascertain if the direction and strength of previous findings on the effect of audit quality on earnings management of firms will change (Baron & Kenny, 1986).

Previous studies on audit quality and earnings management practices of firms in developed and developing countries often exclude audit committee despite its involvement in the appointment, reappointment and remuneration of the external auditor. Effective audit committee enhances audit quality through its active involvement in the audit and effective interaction with the external auditors (Rohaida, 2011). Larcker and Richardson (2004) have argued that ignoring internal governance mechanisms such as audit committee in studies of audit quality may be responsible for the mixed empirical evidence in prior studies. This argument is supported by Sun and Liu (2013) who provide evidence that external and internal governance mechanisms do not work as substitutes but complement each other in mitigating earnings management of firms.

This study introduced audit committee financial expertise as a proxy of audit committee to examine the effect of the interaction between audit committee and auditor industry specialization on earnings management of listed oil marketing companies in Nigeria. Considering the complex nature of the operations in the oil industry, interaction between industry specialist auditors and audit committee financial expertise is expected to improve the effectiveness of each of them in mitigating earnings management as they both share knowledge of the industry and financial expertise. Audit committee financial expertise was chosen as a proxy for audit committee to investigate the interaction effect of audit committee and auditor industry specialization because it is one of the important attributes of audit committee recognized by SEC (2011) code of corporate governance for Nigerian companies. The code states that the audit committee of public companies in Nigeria should contain at least one member with accounting and financial experience.

This study extends the work of Sun and Liu (2013) by investigating the interaction effect of audit committee (proxy by audit committee financial expertise) and auditor industry specialization on earnings management of listed oil marketing companies in Nigeria, ignored by (Sun & Liu, 2013) despite the fact that audit committee is very crucial to audit quality through the interaction with the external auditor. The interaction of audit committee financial expertise and auditor industry specialization is to empirically investigate whether external and internal governance mechanisms work as substitutes or complement one another in mitigating earnings management of firms. Therefore, examining the external auditor in isolation of related governance mechanisms such as audit committee provides an incomplete picture of the effect of internal monitoring mechanisms on earnings management of firms (Molik, Mir, Mclver & Bepari, 2013).

It is against this background that the present study is set to fill the gaps identified in the audit quality and earnings management literature by extending its analysis to cover audit firm size, auditor industry specialization, auditor tenure, client importance, audit committee financial expertise and the interaction between audit committee financial expertise and auditor industry specialization by focusing on oil marketing companies in Nigeria in view of their strategic importance to the nation's economy.

1.3 Research Questions

In view of the research problem, the following research questions are raised to guide the study:

i. What is the effect of audit firm size on earnings management of listed oil marketing companies in Nigeria?
ii. What is the effect of auditor industry specialization on earnings management of listed oil marketing companies in Nigeria?
iii. What is the effect of auditor tenure on earnings management of listed oil marketing companies in Nigeria?
iv. What is the effect of client importance on earnings management of listed oil marketing companies in Nigeria?
v. What is the effect of audit committee financial expertise on earnings management of listed oil marketing companies in Nigeria?
vi. To what extent does the interaction between audit committee financial expertise and auditor industry specialization affect earnings management of listed oil marketing companies in Nigeria?

1.4 Objectives of the Study

The broad objective of this study is to examine the effect of audit quality on earnings management of oil marketing companies listed on the Nigerian Stock Exchange (NSE). The study specifically sought to:

i. ascertain the effect of audit firm size on earnings management of listed oil marketing companies in Nigeria.
ii. assess the effect of auditor industry specialization on earnings management of listed oil marketing companies in Nigeria.
iii. examine the effect of auditor tenure on earnings management of listed oil marketing companies in Nigeria.
iv. determine the effect of client importance on earnings management of listed oil marketing companies in Nigeria.
v. evaluate the effect of audit committee financial expertise on earnings management of listed oil marketing companies in Nigeria.
vi. assess the effect of the interaction between audit committee financial expertise and auditor industry specialization on earnings management of listed oil marketing companies in Nigeria.

1.5 Research Hypotheses

In line with the research questions and objectives, the following hypotheses are formulated:

$H0_1$: Audit firm size has no significant effect on earnings management of listed oil marketing companies in Nigeria.

$H0_2$: Auditor industry specialization has no significant effect on earnings management of listed oil marketing companies in Nigeria.

$H0_3$: Auditor tenure has no significant effect on earnings management of listed oil marketing companies in Nigeria.

$H0_4$: Client importance has no significant effect on earnings management of listed oil marketing companies in Nigeria.

$H0_5$: Audit committee financial expertise has no significant effect on earnings management of listed oil marketing companies in Nigeria.

$H0_6$: The interaction between audit committee financial expertise and auditor industry specialization has no significant effect on earnings management of listed oil marketing companies in Nigeria.

1.6 Scope of the Study

This study examines the effect of audit quality on earnings management of oil marketing companies in Nigeria. The study covers the period of 2009-2014 which is considered sufficient for a study of earnings management. The period is relevant because the global economic meltdown that rocked the world (Nigeria inclusive) within this time provided opportunity for public companies to manipulate reported earnings in order to present impressive performance. In addition, the period witnessed unprecedented competition for fresh capital by companies listed on the Nigerian Stock Exchange which is capable of motivating public companies to engage in earnings management (Bello & Yero, 2011).

The study focuses on six proxies of audit quality: audit firm size (AFS), auditor industry specialization (AIS), auditor tenure (ADT), client importance (CLI), audit committee financial expertise (AFE) and interaction between audit committee financial expertise and auditor industry specialization (AFEAIS) which represents the independent variable. Earnings management, the dependent variable is represented by discretionary accruals (DAC). Discretionary accruals are the difference between total accruals and non – discretionary accruals of a firm.

1.7 Significance of the Study

The importance of a study on the effect of audit quality on earnings management of oil marketing companies in Nigeria needs not to be overemphasized. The significance of this study is manifold. The empirical evidence that the study provided could be used by regulatory authorities such as the Securities and Exchange Commission (SEC) and Central Bank of Nigeria (CBN) among others, to strengthen existing regulatory policies that would enhance audit quality and the integrity of financial reports of companies quoted on the NSE. This is important because most of the existing regulatory policies in Nigeria were adopted from developed countries with different economies and sophisticated regulatory framework. The Financial Reporting Council of Nigeria (FRCN) would also benefit immensely from the findings and recommendations of this study. This is because the results and recommendations of the study are a useful input into the ongoing public debate for the FRCN code of corporate governance for public companies in Nigeria.

The study also contributed to the existing literature on audit quality and earnings management of public companies in developed and developing economies especially in view of the fact that its

analysis extends to variables not covered by most previous studies. For instance, even though there are many previous studies on audit quality and earnings management of firms from both developed and developing countries, as far as this work can tell, the present study provides the first empirical evidence in respect of the interaction between audit committee financial expertise and auditor industry specialization on earnings management of firms. The empirical evidence on the interaction between audit committee financial expertise and auditor industry specialization revealed that internal and external governance mechanisms are not substitutes but complement each other in mitigating earnings management of firms. The study could also serve as a good library material for students and researchers who intend to carry out similar studies in this area. In addition, studies on audit quality and earnings management of firms in Nigeria are relatively scanty compared to foreign literature. This study is, therefore, a modest contribution to the existing local literature.

The study could also benefit both current and potential investors in Nigeria generally, and investors in the listed oil marketing companies in particular. This is because the empirical evidence on the effect of audit quality on earnings management would guide current investors to either divest or maintain their investments in the oil marketing companies listed on the Nigerian Stock Exchange (NSE). Potential investors could use the outcome of the study to understand the earnings management behaviour of oil marketing companies and consequently decide on whether or not to invest in the companies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews relevant literature on audit quality and earnings management of firms. Specifically, the chapter covers the concept of audit quality, attributes of audit quality, concept of earnings management, motives of earnings management and measurement of earnings management. The chapter also provides review of empirical studies on audit quality and earnings management and discusses the theoretical framework for the study.

2.2 Concept and Attributes of Audit Quality

Though audit quality is not a new concept in accounting literature, up till now it has no single universally accepted definition. The most widely used definition of audit quality is the one by DeAngelo (1981:183) which states that "the quality of audit services is the market-assessed joint probability that a given auditor will both (a) discover a breach in the client's accounting system, and (b) report the breach." This definition is anchored on the competence and independence of the external auditor. Competence is associated with the auditor's ability to detect violations of accounting principles in the accounting system of a client. Independence on the other hand entails the ability of the auditor to report observed breaches in the accounting system of a client.

Other definitions equate audit quality to the reliability of financial statements' information. Heralding this argument is Titman and Trueman (1986) who asserted that audit quality improves the reliability of financial statements information and enables investors to make more precise

estimates of the firm's value. This definition suggests that audit quality enhances the accuracy of reported accounting information. Thus, financial statements audited by high quality external auditors are expected to rarely contain material misstatements.

In another definition, Bedard, Johnstone and Smith (2010) associated audit quality with the auditor's compliance with generally accepted auditing standards (GAAS). They asserted that high quality audit is conducted in accordance with GAAS in order to provide reasonable assurance that the audited financial statements, and related disclosures are fairly presented in accordance with generally accepted accounting principles (GAAP). This definition suggests that high quality audit is more likely to comply with GAAS than low quality audit in the conduct of audit assignments. Similarly, Francis, Michas and Seavey (2011) associated audit quality with the issuance of appropriate audit report on the compliance of the client with GAAP. They argued that though audit quality is a complex concept that is difficult to reduce to a simple definition, it basically entails that the auditor issues an appropriate audit report concerning the level of compliance of the client with GAAP. They also contended that high quality audit complies with relevant auditing standards and issues an accurate opinion on the client's financial statements at an appropriate level of risk. The definitions of Bedard, Johnstone and Smith (2010) and Francis, Michas and Seavey (2011) suggested two major characteristics of high quality audit. Firstly, the auditor must issue an appropriate audit opinion on the financial statements of the client concerning its compliance with GAAP. Secondly, the audit must reasonably comply with GAAS in carrying out the independent examination of the client's financial statements.

The aforementioned definitions clearly suggest that accountants are yet to agree on a single definition for audit quality that suits all purposes. Consequently, and following DeAngelo's initial definition, this study views audit quality as the joint probability that a given auditor both detects and reports a violation of GAAP in the accounting system of the client. This study adopts DeAngelo's definition of audit quality in view of the fact that it captures the fundamental elements of quality audit which are competence and independence of the auditor. Competence is associated with the ability of the auditor to detect violation of GAAP in the accounting system of a client while independence is what makes the auditor to report the said violation of GAAP.

Similarly, the difficulty encountered in defining audit quality also extends to its measurement. Different proxies have been used in extant literature to represent high quality audit. For example, audit firm size (DeAngelo, 1981; Becker *et al.*, 1998), auditor industry specialization (Balsam, Krishnan & Yang, 2003; Krishnan, 2003; Tyokoso & Tsegba, 2015), audit fees, audit tenure, and auditor client importance (Okolie, Izedonmi & Enofe, 2013), audit committee independence, audit committee financial expertise and audit committee meeting (Molik *et al.,* 2013) have been documented in the literature to explain audit quality and its relationship with earnings management. Extant literature suggests a positive association between audit firm size and audit quality (DeAngelo, 1981). Empirical studies on audit quality and earnings management have found a relationship between the size of an audit firm and earnings management of firms. This is confirmed by (Becker *et al*. 1998; Tyokoso & Tsegba, 2015) who documented negative association between audit firm size and earnings management of public companies. Big audit firms are better able to constrain earnings management because they invest more in reputation capital and expertise than small audit firms (DeAngelo, 1981; Piot & Janin, 2005). Providing

quality-differentiated audit services is, therefore, necessary for big audit firms to protect and maintain their investment in reputation capital.

Accounting literature also suggests a positive relationship between auditor industry specialists and audit quality. Specialist auditors possess industry specific knowledge and experience which make them more effective in identifying accounting irregularities than non-specialist auditors. Industry specialist auditors also invest more in relevant audit technology than their counterparts. This gives them an advantage over other auditors in detecting unethical accounting practices such as earnings management. Empirical studies on audit quality and earnings management also associate auditor industry specialization (proxy for audit quality) and earnings management in firms. This is confirmed by Balsam, Krishnan and Yang (2003) and Tyokoso and Tsegba (2015) who documented a negative relationship between earnings management of firms and auditor industry specialization.

Another proxy of audit quality often associated with earnings management in accounting literature is auditor tenure. There are two contending arguments concerning the association between auditor tenure and earnings management. The first argument suggests that an overly long auditor- client relationship threatens the auditor's independence due to personal ties and familiarity with the client. Long auditor tenure is, therefore, likely to make the auditor lose his objectivity and make the audit engagement become a routine exercise (Piot & Janin, 2005). Consequently, long auditor tenure is not likely to mitigate earnings management (Knapp, 1991). In contrast, proponents of long auditor tenure contend that it leads to more audit efficiency and experience as the length of auditor-client relationship increases. This makes auditors more

effective in detecting questionable accounting practices of the client than they were at the early years of the audit engagement. The second argument suggests that long auditor tenure is likely to be associated with less earnings management of firms. Empirical evidence supports the association between auditor tenure and earnings management (see Okolie, 2014; Tyokoso & Tsegba, 2015).

Client importance is another proxy of audit quality which extant literature associates with earnings management behavior of firms. Literature suggests that auditors are more likely to overlook client's accounting irregularities when the client is a very important one (economically big in terms of revenue contribution to its total fees) than when the client is less important to them. Auditor's objectivity is, therefore, likely to be compromised when he faces the risk of losing an important client and not reporting accounting irregularities of the same client. Empirical evidence also confirms the association between audit client importance and earnings management of firms (Ebrahim, 2001; Okolie, Izedonmi & Enofe, 2013).

Also, audit committee financial expertise is another proxy of audit quality which extant literature associates with earnings management. Agency theory suggests that an audit committee, whose members possess financial expertise, is more likely to be effective in detecting and constraining accounting irregularities than an audit committee without financial expertise. The association between audit committee financial expertise and earnings management is well supported by empirical evidence (Thoopsamut & Jaikengkit, 2008; Molik, Mir, Mclver & Bepari, 2013).

2.3 Concept of Earnings Management

The accounting literature is yet to provide a universally accepted definition of the term ‘‘earnings management’’. Earnings management is called by several names such as accounting numbers game (Mulford & Comiskey, 2002), creative accounting (Balaciu, Bogdan & Vladu, 2009), income smoothing (Tucker & Zarowin, 2006), and so on. The concept of earnings management is defined differently by different researchers, depending on how they perceive it. Healy and Wahlen (1999) associated earnings management with the altering of financial statements through the use of judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers. According to Schipper (1989), earnings management involves ‘disclosure management’ in the sense of a purposeful intervention in the external financial reporting process, with a view to obtain private gain for shareholders or managers. To Fields, Lys and Vincent (2001), earnings management arises when managers exercise discretion over accounting numbers, with or without restrictions. The discretion is exercised to either maximize firm value (shareholders wealth) or to maximize the selfish interest of managers (opportunistic earnings management). The definition of Fields, Lys and Vincent (2001) unlike the first two definitions suggests that earnings management could either be within or outside GAAP.

The definitions above suggest that accounting research is yet to agree on a single definition of earnings management. This is because the concept is quite broad, and so not easily reducible to a single definition that is generally accepted by all accounting scholars. The definitions presented two opposing views concerning earnings management. The first argument sees earnings

management as legitimate and beneficial to shareholders, especially when it is within the framework of GAAP. In contrast, the second argument views earnings management as unethical and not beneficial to the shareholders, particularly when it violates accounting principles (GAAP). Consequently, this study aligns itself with the second argument which views earnings management as unethical and not beneficial to shareholders of the firm. In the context of this study, earnings management is seen as the manipulation of financial statements by managers using accounting choices, estimates and methods that violate GAAP to achieve specific objectives that do not reflect the underlying economic realities of the reporting firm.

Generally, earnings management involves different activities ranging from legitimate to outright fraudulent financial reporting. These activities can be broadly classified into four major types (Bauwhede & Willekens, 2003; Zhao, 2012). The first type of earnings management arises from the exploitation of flexibilities in accounting principles (GAAP), commonly called ‘‘within-GAAP earnings management”. GAAP allows flexibilities to enable firms prepare financial statements that reflect underlying economic reality. However, some managers abuse these accounting flexibilities through earnings manipulation. Examples of flexibilities in GAAP include choosing between various inventory valuation techniques and depreciation methods. This type of earnings management is perceived by some scholars as legitimate and beneficial to shareholders particularly, when it is well disclosed in the financial statements.

The second group of earnings management activities involves violation of accounting principles (GAAP). It is called “with-out GAAP” earnings management. Earnings management of this nature involves outright management fraud and is mostly associated with firms that have

exhausted flexibilities in accounting principles to manage earnings. Dechow and Skinner (2000), call this form of earnings management fraudulent financial reporting. Fraud is defined as " the intentional, deliberate misstatement or omission of material facts, or accounting data, which is misleading and, when considered with all other information made available would cause the reader to change or alter his or her judgment or decision" (The National Association of Certified Fraud Examiners, 1993: 12). Unlike "within GAAP" earnings management, this type of earnings management lacks legitimacy and is not disclosed in the financial statements. This is the type of earnings management activities that normally attract auditors and regulatory sanctions.

The third classification of earnings management activities is called real activities manipulation. This is also a ''within-GAAP'' earnings manipulation but is different from earnings management through accounting choices and is hardly subjected to auditor scrutiny. Earnings management through real activities manipulation involves "management actions that deviate from normal business practices, undertaken with the primary objective of meeting certain earnings thresholds" (Roychowdhury, 2006: 337). Examples of real activities manipulation include but not limited to earlier spending on maintenance or research and development (R & D) when reported earnings are higher than expected to reduce earnings number to desired level. The fourth group of earnings management activities is called classification shifting. Classification shifting is another form of ''within-GAAP'' earnings manipulation which entails "misclassifying line items within the income statement to inflate core earnings" (Zhao, 2012: 2). An example of classification shifting is the shift of core expenses such as selling, administrative and general expenses to special items such as restructuring charges.

2.3.1 Motives for Earnings Management

There are different reasons that motivate managers to manage reported earnings. According to extant literature, some of the reasons for earnings manipulation include: increasing share prices (Schipper, 1989), meeting performance-based compensation target (Bergstresser & Philippon, 2006), avoiding debt covenant violations (DeFond & Jiambalvo, 1994), and manipulating earnings around equity offerings such as IPO and seasoned equity offerings (SEO) (Rangan, 1998; Teoh, Wong & Rao, 1998). Though several reasons can be given for earnings management, Healy and Wahlen (1999) categorized these motives into four main groups. These are capital market incentive, management compensation contracts incentive, debt contract incentive, and political and regulatory requirements incentive.

2.3.1.1 Capital Market Incentives

The interaction between reported accounting earnings and stock prices in the capital market has a potential influence on managers' ability to engage in earnings management. For instance, Kim and Yi (2006) provided evidence which shows that discretionary accruals for companies, whose stocks are traded publicly, are greater than private firms by a magnitude of at least 1.2 percent of lagged total assets. This result implies that stock markets are likely to provide incentives for public firms to engage in earnings management.

In more advanced economies such as UK and US where the capital market is efficient, investors depend on analysts' forecasts in selecting portfolio of their investments from potentially successful firms. Meeting analysts' expectations in such capital markets is very important. Firms that meet or beat analysts' expectations attract higher returns on their stocks, even when it is

likely that the expectations are achieved through earnings manipulations (Bartov & Mohanram, 2004). Missing analysts' forecasts for instance, in efficient capital markets have severe negative consequences for stock returns of publicly traded firms (Matsunaga & Park, 2001). This is because investors consider firms which miss analyst forecasts as being riskier than those that meet forecasts expectations. Consequently, when pre-managed earnings are less than forecasted earnings, managers are likely to manage earnings upwards to boost reported earnings. On the other hand, when pre-managed earnings are above analysts' forecasts, managers manipulate earnings downwards to defer some returns to future reporting periods (Habbash, 2010).

Other capital market situations such as equity offerings (e.g. IPO) also serve as incentives for earnings management in firms. For example, Companies which are going public for the first time do not have previous stock prices, and so their initial stock prices are determined mainly by their financial performance before going public. This situation influences managers of IPO firms to manage earnings prior to IPO in order to attract favorable stock prices for their shares (Teoh, Wong & Rao, 1998).

2.3.1.2 Management Compensation Contract Incentives

Management compensation contracts also provide incentives for earnings manipulation of firms. Agency theory suggests that management compensation contracts could align the interests of shareholders with managers and minimize agency costs such as earnings manipulation. This is because management compensation contracts serve as monitoring and bonding contracts between managers, and shareholders of the firm (Habbash, 2010).

Management compensation contracts are often tied to accounting numbers to monitor whether or not the contract conditions are breached. However, when managers' compensation is tied to financial performance, managers are likely to make income-increasing accounting choices in order to maximize the value of their bonus rewards (Watts & Zimmerman, 1986). This implies that performance-based compensation plans have an unintended consequence over managers, as it motivates them to engage in earnings management to boost their rewards.

Prior research confirms the positive association between earnings-based compensation plans and managers opportunistic behavior. For example, Healy (1985) found evidence that managers manage earnings in order to increase cash compensation, when bonus rewards are tied to financial performance of the firm. Healy concluded that there is a strong association between accruals (proxy for earnings management) and managers' income-reporting incentives under a management bonus plan. Also, Leuz, Nanda and Wysocki (2003) provided similar evidence in support of the association between performance-related reward and mangers' opportunistic behavior. Therefore, management compensation plans tied to firm performance, provide incentives for managers to manipulate reported accounting earnings upwards in order to maximize their rewards at the expense of other stakeholders.

2.3.1.3 Debt Contract Incentives

In addition to the conflict of interests between stockholders and managers predicted by the agency theory, there could be a conflict of interests between shareholders and bondholders (Jensen & Meckling, 1976). For instance, decisions such as excessive dividend payments made to favor shareholders interests may be injurious to the interests of debt holders. The conflict of

interests between shareholders and bondholders result in agency costs of debt to the firm. Jensen and Meckling (1976) suggested that these costs may be borne by shareholders and managers if no action is taken to reduce them by monitoring and bonding contracts. Consequently, managers have incentives to enter into monitoring and bonding contracts such as writing restrictive covenants in debt agreements. The debt covenants restrict for instance, the ability of management to pay dividends, issue new debt and also give debt holders the right to demand early repayment of their debt if minimum accounting numbers are not achieved (Habbash, 2010). Though debt is a cheap source of financing compared to equity, according to the debt covenant hypothesis (Watts & Zimmerman, 1978), more debts impose more restrictive conditions on the borrowing firm. The firm is therefore, under constant pressure to avoid violation of restrictive debts covenants associated with borrowing. But when highly indebted firms are close to violating these debt covenants, they resort to make income-increasing accounting choices to boost reported earnings (Bello & Yero, 2011) in a bid to avoid costs associated with debt violation. Managers of firms close to violating debt conditions are therefore, more likely to manipulate accruals in order to avoid costs associated with debt covenant violation.

Abundant research also confirms the positive association between debt covenant violation and earnings management practices of firms. For instance, DeFond and Jiambalvo (1994) investigated the relationship between accrual manipulation and debt covenant violation for a sample of US firms. The study reported a positive association between debt covenant violation and abnormal accruals (proxy for earnings management) of US firms. Similarly, Sweeney (1994), Bello and Yero (2011), Kim, Lisic and Pevzner (2011), Sincerre, Sampaio, Fama and

Santos (2015) and Sepasi (2016) provided evidence of a positive association between debt and earnings management practices of firms.

2.3.1.4 Regulatory Requirements and Political Cost Incentives

Managers sometimes manage earnings because they are influenced by regulatory and political cost requirements. Regulatory requirements related to accounting numbers could provide the incentive for earnings management in public firms. Tight regulatory conditions in some countries put reporting firms under constant pressure and often influence them to manage reported earnings upwards. For instance, stringent listing requirements of some stock exchange provide incentives for earnings manipulation. Managers of firms listed on such exchanges often resort to manipulate earnings when they are close to violating listing regulations in order to remain listed on the stock exchange. Empirical evidence such as Haw, Qi, Wu and Wu (2005) and Johnson and Rock (2005) supported the positive association between regulatory requirements and earnings management of public firms.

Managers are sometimes motivated to manage earnings in order to avoid political costs (Watts & Zimmerman, 1986). The relationship between political costs and managerial opportunism is confirmed by many empirical studies such as Guay (2010), Kurdi (2010), Chen, Li, Liang and Wang (2011) and Braam, Nandy, Weitzel and Lodh (2015). For instance, Han and Wang (1998) provided evidence which shows that oil companies used income-decreasing accounting policies during the Gulf War to avoid political costs of showing higher profits from increased retail prices. In summary, regulatory requirements and political costs are more likely to motivate

managers of public firms to manage accounting earnings. Managers utilize the deficiencies in regulatory requirements to manage reported earnings.

2.3.2 Measurement of Earnings Management

Since earnings management is not observable, its measurement in accounting literature is quite controversial. Extant literature provided different methods of measuring earnings management, though each of them has its own strengths and weaknesses. Accounting accruals have however, been extensively used and accepted in accounting literature as a proxy for earnings management (See Jones, 1991; DeFond & Jiambalvo, 1994; Dechow, Sloan & Sweeney, 1995; Teoh, Wong & Rao, 1998). This study therefore, discusses some of the common accrual estimation models available in the accounting literature. These include but not limited to:

2.3.2.1 The Healy (1985) Model

Healy provides the earliest model that attempts to measure earnings manipulation. He defines accruals as the difference between accounting earnings and cash flow from operations. Healy's model suggests that systematic earnings management occurs in every reporting period. Earnings management is, therefore, computed as a mean aggregate of accruals for every period. Healy (1985) measures discretionary accruals as follows:

$$DA_{it} = TA_{it}/A_{it-1} \quad \text{(i)}$$

Where:

DA – is discretionary accruals for the period

TA_{it} – is total accruals for firm i in year t

A_{it-1} – is total assets for firm i in year t-1

Though Healy's model provided the first attempt to measure earnings management, it is criticized for erroneously assuming that non – discretionary accruals of firms are zero or constant. Consequently, the model misclassifies non – discretionary accruals of firms as discretionary accruals (Jones, 1991).

2.3.2.2 The DeAngelo (1986) Model

This model was developed from the Healy (1985) model. According to DeAngelo's (1986) model, discretionary accruals are measured as the difference between total accruals in the current year and total accruals in the previous year scaled by lagged total assets. This model assumes that non – discretionary accruals of firms from one period to the other constant. The model is expressed as follows:

$DA_{it} = (TA_{it} – TA_{it-1})/ A_{it-1}$ - (ii)

Where:

DA – discretionary accruals

TA_{it} – total accruals for firm in year t

TA_{it-1} – total accruals for firm i in year t-1

A_{it-1} – total assets for firm I in year t-1

Though, this model is an improvement over Healy (1985) model, in view of the fact that it also assumes non – discretionary accruals to be constant, it is criticized for misclassifying non-discretionary accruals of firms as discretionary accruals.

2.3.2.3 The Jones (1991) Model

Jones (1991) was the first to develop a model which controls for the effect of changes in the economic circumstances of a firm in response to the suggestion by Kaplan (1985) which indicates that total accruals are both affected by managerial discretion and changes in the economic conditions of a firm. Unlike, Healy (1985) and DeAngelo (1986) who assumed that non-discretionary accruals are zero or constant, Jones (1991) model expresses non-discretionary accruals as a linear function of the changes in revenue and fixed assets. The model assumes that while sales growth is used to control for a firm's non-discretionary working capital, the level of property, plant and equipment controls for non-discretionary depreciation expenses of the firm (Bernard & Skinner as cited in Habbash, 2010). The change in revenues is used as a proxy for the unmanaged change in revenues. In computing discretionary accruals, the model regresses total accruals on the value of gross property, plant and equipment, and changes in revenues which provide coefficients which are subsequently used to estimate unmanaged accruals. The residuals of the regression represent managed accruals (discretionary accruals) (Xiong, 2006). Jones model is expressed as follows:

$$TA_{it}/A_{it-1} = \alpha\,(1/A_{it-1}) + \beta_1\,(\Delta REV_{it}/A_{it-1}) + \beta_2\,(PPE_{it}/A_{it-1}) + \varepsilon_{it} \text{ - - - - - -} \quad \text{(iii)}$$

Where:

TA_{it} – is total accruals for firm i in year t

A_{it-1} – is the book value of total assets of firm i at the end of year t - 1

$\Delta REV_{it}/A_{it-1}$ – is sales revenues of firm i in year t less revenues in year t-1 scaled by A_{it-1}.

PPE_{it} – gross property, plant and equipment in year t

α $\beta 1$, $\beta 2$ – are estimated parameters

ε_{it} – is the residual

Jones (1991) model computes non-discretionary and discretionary accruals as forecasted value and the prediction error respectively. The major criticism against this model is its assumption that managers do not exercise discretion over revenues. The model therefore, yields biased discretionary accruals due to accrual estimation errors.

2.3.2.4 The Industry (Dechow & Sloan, *1991)* Model

Similar to Jones (1991) model, the industry model rejects the erroneous assumption by Healy and DeAngelo's models that non – discretionary accruals of firms are constant over time. Instead of measuring the determinants of non – discretionary accruals directly, the industry model assumes that changes in the determinants of non – discretionary accruals are the same for all firms within an industry. The industry model is expressed as follows:

$$NDA_t = \beta_1 + \beta_2 \, median_1 \, (TA_t) \qquad \text{(iv)}$$

Where:

NDA_t – is non - discretionary accruals for firms in year t

β1, β2 – are estimated parameters

$Median_1$ – median value of total accruals

TA_t – total accruals

2.3.2.5 The Modified Jones (Dechow, Sloan & Sweeney, *1995)* Model

Dechow, Sloan and Sweeney (1995) discovered that the major limitation of the Jones (1991) model is the assumption that only collected revenues constitutes non-discretionary accruals. According to the Jones (1991) model, total revenues are excluded from non-discretionary accruals. Subsequently, Dechow, Sloan and Sweeney (1995) documented evidence that the

modified Jones model is more powerful than the Jones (1991) model in detecting cases of revenue manipulations. In computing non-discretionary accruals, the modified Jones model regresses total accruals on gross property, plant and equipment while the changes in revenue are adjusted for changes in accounts receivables. Consequently, the model is perceived to be more powerful than other models of estimating discretionary accruals.

Prior research confirms the relative performance power of the modified Jones model over other discretionary accrual models. For instance, Dechow, Sloan and Sweeney (1995) examined the performance of five discretionary accrual models including Healy (1985), DeAngelo (1986), the industry model by Dechow and Sloan (1991), the Jones (1991) model, and the modified Jones model developed by Dechow, Sloan and Sweeney (1995). Findings from the empirical test suggested that Jones and modified Jones models were best in detecting earnings management.

Originally, Jones (1991) model and the modified Jones model were developed in time series form. However, Defond and Jiambalvo (1994) proposed a cross-sectional Jones model instead of the time series model, suggesting that the cross-sectional model better estimates accruals. Recent earnings management studies also favoured the use of cross-sectional modified Jones model in estimating discretionary accruals (see Subramanyam, 1996; DeFond & Subramanyam, 1998; Becker *et al.* 1998; Teoh, Wong & Rao, 1998; Klein, 2002; Xie, Davidson & DaDalt, 2003; Baxter & Cotter, 2009).

Consequently, the modified cross-sectional Jones Model is regarded to be relatively more powerful than all other available models of estimating discretionary accruals. The model is however, criticized for being prone to measurement errors, especially when estimating

discretionary accruals for firms in an industry which are not homogeneous. But relatively, the model is still better than other models, because it estimates discretionary accruals with minimal errors (Bello & Yero, 2011). The modified Jones model is expressed as follows:

$$TAC_{it}/A_{it-1} = \beta_0 (1/A_{it-1}) + \beta_1 (\Delta REV_{it} - \Delta REC_{it})/A_{it} + \beta_2 (PPE_{it}/A_{it-1}) + \varepsilon_{it} \text{ - - (v)}$$

Where:

TAC_{it} – is total accruals for firm i in year t

A_{it-1} – is the book value of total assets of firm i at the end of year t–1.

ΔREV_{it} – is sales revenues of firm i in year t less revenues in year t-1.

ΔREC_{it} – is the change in accounts receivables

PPE_{it} – is the value of gross property, plant and equipment at the end of year t

β_0, β_1 and β_2 – are estimated parameters

ε_{it} – is the residual.

2.3.2.6 Performance-matched (Kothari, Leone & Wasley, 2005) Accrual Model

Dechow, Sloan and Sweeney (1995) provided evidence that discretionary accruals estimated using both Jones and the modified Jones models has significant positive association with Return on Assets (ROA) of firms. This implies that estimating accruals through Jones and the modified Jones models is likely to result in performance related misspecification of accruals. To overcome this problem, Kothari, Leone and Wasley (2005) suggested the removal of the potential effects of the correlation between discretionary accruals and earnings performance by employing a matched-firm or portfolio technique to adjust the estimated discretionary accruals. They suggested a new model, which includes a control variable for firm performance, using lagged return on assets (ROA).

The new model was arrived at after testing the performance power of the Jones and modified Jones models in estimating discretionary accruals, and retesting the estimation power of the two models after adjusting for firm performance. The results of the tests indicated that performance-matched discretionary accruals enhance the reliability of inferences drawn from earnings management research. Though the new model appears to overcome the challenges associated with the Jones and modified Jones models, it is also limited. The model is limited because it is prone to type II error (accepting the null hypothesis when it should be rejected).

The Kothari, Leone and Wasley (2005) performance-matched discretionary accrual model is expressed as follows:

$$TAC_{it}/A_{it-1} = \beta_0(1/A_{it-1}) + \beta_1(\Delta REV_{it} - \Delta REC_{it})/A_{it-1} + \beta_2(PPE_{it}/A_{it-1}) + \beta 2ROA_{it-1} + \varepsilon it \quad (vi)$$

Where:

ROA_{it-1} - is return on assets of firm i in year t-1.

All other variables are as earlier explained above.

2.4 Review of Empirical studies on Audit Quality and Earnings Management

The debate on the relationship between audit quality and earnings management has attracted great attention from accounting researchers in both developed and developing economies. This is evident in the number of empirical studies conducted from both economies over the years. In developed economies for instance, Becker, DeFond, Jiambalvo and Subramanyam (1998) investigated the association between audit quality- in terms of audit firm size and earnings management of a sample of United States (US) companies. The study estimated discretionary accruals (proxy for earnings management) using the cross-sectional Jones (1991) model. The

result suggested that income increasing discretionary accruals for clients audited by big 6 auditors are lower than those of clients audited by the non- big 6 auditors. They observed further that variation in discretionary accruals for firms audited by Big 6 is lower than that of firms audited by non-big 6. The finding of the study is however limited because given the distinct nature of the US and Nigerian economies, findings of the study are not likely to apply to Nigerian companies in general and listed oil marketing companies in particular due to the complex nature of the oil industry business operations. Also, the study estimated discretionary accruals using the Jones 1991 model which erroneously assumes that all changes in revenue are non-discretionary accruals. Supposing the modified Jones (Dechow, Sloan, & Sweeney, 1995) model was used to estimate discretionary accruals, the findings might not have been the same. In addition, the study was conducted over a decade ago. With several developments that took place in the world's accounting system (US inclusive) since then, a new study might produce different results.

Ebrahim (2001) studied the effect of audit quality on earnings management using a sample of 1,938 companies listed on NYSE, AMEX and NASDAQ for the period 1988- 1999. Earnings management- represented by discretionary accruals (DA) was estimated using the modified Jones model while audit quality was proxy by audit firm size, audit tenure and client importance. Results of the study indicated a significant negative association between audit firm size and DA in US firms. Audit tenure and client importance had insignificant negative relationship with DA in US firms. The negative association between client importance and DA implies that auditors are not more likely to allow their big clients more discretion in financial reporting than small clients. However, this study is also limited because given the distinct nature of the US and

Nigerian economies coupled with the sampled companies, findings from the study are not likely to apply to listed oil marketing companies in Nigeria owing to the peculiarity of the sector. Also, even if oil companies were included in the sampled companies in US, considering the distinct nature of the oil industry, it is still important to study oil companies in isolation for a better understanding of the earnings management behaviour of these companies and the extent of association with audit quality.

In another study, Krishnan (2003) investigated the relationship between audit quality measured by auditor industry expertise and earnings management for the period 1989-1998 for US firms. Using a sample of 4,422 firms audited by Big 6 auditors, the study documented evidence that firms audited by non-specialist auditors, report absolute discretionary accruals that are higher than the discretionary accruals reported by firms audited by specialist auditors. Similarly, Balsam, Krishnan and Yang (2003) studied the association between audit quality measured by auditor industry specialization and earnings management. Using a sample of over 50,000 firm year observations for the period 1991-1999, they documented evidence that clients of specialist auditors have lower incidence of earnings management than clients of non-specialist auditors. Though the result of Balsam, Krishnan and Yang (2003) corroborated the findings of Krishnan (2003), the two studies are limited because the result of these studies may not apply to listed oil marketing companies in Nigeria in view of the fact that Nigeria is a developing economy with different features from US which is a developed economy. Also, the study was conducted over a decade ago. With several events such as IFRS that took place since then, new studies might produce different results.

Piot and Janin (2005) examined the effect of audit quality on earnings management of a sample of 102 non-financial companies in France from 1999-2001. Earnings management represented by abnormal accruals was estimated using Jones 1991 model while audit quality was represented by big 5 audit firms and audit committee. The result of data analysis showed that big 5 audit firms have no effect on earnings management of the sampled companies in France. In contrast, apart from audit committee independence, audit committee is associated with less abnormal accruals of the sampled companies in France. Though this study is different from some prior studies as it included audit committee attributes in addition to external auditor attributes in measuring audit quality, the study is limited because it estimated abnormal accruals using Jones 1991 model which erroneously assumes that all changes in revenue are non-discretionary accruals. Since the study was not specifically in relation to oil companies, findings from the study are not likely to apply to oil marketing companies in Nigeria in view of the distinct nature of the oil industry.

Additionally, Gul, Fung and Bikki (2009) examined the relationship between audit quality and earnings management for a sample of 32,777 firm year observations in US for the period 1993-2004. Using performance matched model (Kothari, Lcone, & Wasley, 2005) to estimate discretionary accruals (DA) and regression analysis to analyze the data collected, they documented evidence that the association between shorter auditor tenure and lower earnings quality is weaker for firms audited by industry specialists compared to those audited by non-specialist auditors. This finding supported previous studies that documented a negative association between auditor industry specialists and earnings management of firms. However, the study is limited because it estimated DA using Kothari, Lcone and Wasley (2005) model which is relatively more prone to type II error (accepting the null hypothesis when it should be

rejected). Also, the model is relatively not widely tested in accounting research for estimating DA, like the Jones model. Consequently, its accrual estimation power is doubtful.

Habbash (2010) investigated the effect of external auditor quality and corporate governance attributes on earnings management in UK. Using a sample of 350 non-financial companies listed on the London Stock Exchange to investigate the relationship between external audit attributes and earnings management, the study documented evidence that independent and specialized external auditors are negatively associated with earnings management of the sampled firms at significant levels. The result suggested that both auditor independence and auditor industry specialists impact negatively on earnings management of UK firms. The finding of the study may not apply to oil marketing companies in Nigeria in view of the peculiar nature of the companies in the oil industry such as the huge capital requirements and complex nature of business operations (Samaila, 2014). In addition, findings from the study may not apply to Nigerian companies generally due to different economic and legal conditions faced by companies in the two countries.

Rohaida (2011) examined the association between audit quality (represented by audit fees, industry specialist auditor, audit committee size, audit committee independence, audit committee financial expertise and audit committee meeting) and earnings management of companies in UK. Earnings management, represented by discretionary accruals, was estimated using Jones and modified Jones 1991 model, and Kothari, Lcone and Wasley (2005) model. Findings of the study showed that both audit fees and industry specialist auditors are associated with less earnings management of the sampled firms for all the measures of earnings management. Similarly, audit committee size and audit committee independence had insignificant negative relationship with

the different measures of earnings management. Audit committee financial expertise and audit committee meeting had mixed results with the different measures of earnings management. The findings of the study may however, not apply to oil marketing companies in Nigeria due to legal and economic considerations such as high litigation risk faced by external auditors in UK compared to low litigation risk of external auditors in Nigeria.

Molik, Mir, Mclver and Bepari (2013) examined the effect of audit quality on earnings management of Australian firms during the global financial crisis of 2006 to 2009. Earnings management represented by discretionary accruals were estimated using Jones (1991) model, modified Jones model (Dechow, Sloan & Sweeney, 1995) and the modified Jones model adjusted for firm performance (Kothari, Leone & Wasley, 2005) to enhance robustness. Panel regression analysis was used as the tool of data analysis for a sample of 149 firms. Findings of the study indicated a significant negative association between audit committee independence and earnings management of firms. An insignificant positive relationship was however, found between audit firm size (represented by Big 4), audit committee size, audit committee meeting, audit committee financial expertise and earnings management of the firms. Though the study is relatively better than some of the previous studies as it included audit committee attributes to capture the internal control aspects of audit quality, it is limited because it focused on only audit firm size and ignored other attributes of external audit quality such as auditor industry specialization, audit fees and auditor tenure. Also, the study failed to test the interaction effect of the sampled external and internal governance variables to determine how they jointly affect earnings management of firms. In addition, the fact that Australia is a developed country with a more developed capital market as evidenced in sophisticated governance mechanisms may limit

the application of the study findings to companies in developing economies generally and listed oil marketing companies in Nigeria particularly.

Zhou and Guan (2014) investigated the relationship between audit quality and earnings management of companies in China for the period 2008-2011. Discretionary accruals were estimated using the modified Jones model for a sample of 4,640 firm year observations. The study revealed that audit firm size has significant negative effect on earnings management in China, especially for firms with income increasing abnormal accruals. A positive relationship was found between auditor industry specialization and earnings management of the companies. The relationship however, turns negative in firms with income decreasing earnings management in China. Though the result of the study is in line with some prior studies, it focused on only the external aspect of audit quality and excluded audit committee which indirectly improves the quality of audit services rendered by external auditors. Also, given the different nature of the sampled companies in China, findings from the study may likely not be applicable to oil marketing companies in Nigeria due to sectoral and economic differences.

There are also many studies from developing economies that examined the relationship between audit quality and earnings management practices of firms. Gerayli, Yanesari and Ma'atoofi (2011) investigated the relationship between audit quality and earnings management in Iran using 540 firm-year observations for the period 2004-2009. The dependent variable, discretionary accruals was estimated using the modified-Jones model (Dechow, Sloan & Sweeney, 1995) while multiple regression analysis was used to analyze the data collected. The findings indicated that discretionary accruals are negatively related to auditor size, auditor

industry specialization and auditor independence measured by audit fees. The result implies that firms audited by high quality auditors are more likely to have less discretionary accruals than firms audited by lower quality auditors. The study is limited because even though both Iran and Nigeria are developing economies, the findings of the study may not apply to oil marketing companies in Nigeria due to some peculiar economic, sectoral and legal differences in the two countries. Additionally, the study excluded audit committee attributes from the measurement of audit quality and so failed to test the interaction effect of internal and external governance variables on earnings management of firms.

Also, Karimi and Gerayli (2014) studied the relationship between audit quality (represented by auditor industry specialization and auditor tenure) and earnings management estimated through modified Jones 1991 model of 91 companies listed on Tehran Stock Exchange (TSE) for the period 2008-2012. Evidence from the study indicated that auditor industry specialization is associated with less earnings management of firms listed on TSE. Auditor tenure had a negative but insignificant association with earnings management of the sampled companies. Though, the result of the study supported some prior studies, the fact that it was not specifically in relation to oil companies makes the findings unlikely to apply to listed oil marketing companies in Nigeria due to sectoral differences. Apart from that, the study focused on just auditor industry specialization and auditor tenure, thus, giving a partial picture of the association between audit quality and earnings management of firms.

Hegazy (2015) examined the effect of audit firm specialization on earnings management in Egyptian firms. A sample of seventy (70) auditors, comprising both specialist auditors and non-

specialist auditors were given a common task with the same time to perform under the supervision of a professor of auditing and three (3) senior practicing auditors. Findings at the end of the experiment indicated that industry specialist auditors do not constrain earnings management better than non-specialist auditors. The study is however, limited because even though both Egypt and Nigeria are developing economies, differences still exist that could make the findings of the study not applicable to listed oil marketing in Nigeria. Besides, extending the sample size of the study beyond seventy (70) auditors may likely change the outcome of the study. Also, the non- scientific selection of the study sample makes the study findings doubtful.

Memis (2012) investigated the relationship between audit quality and earnings management in 8 emerging countries using a sample of 1507 firm-year observations for 2008-2009. Discretionary accruals- a proxy for earnings management was measured using the modified Jones model. The findings of the study indicated that except for Brazilian and Mexican companies, there is significant relationship between discretionary accruals and audit quality measured by big 4 auditors. The result implies that audit quality does not constrain earnings management in all the sampled emerging countries (Brazil, Greece, Israel, South Korea, Mexico, Poland, Russia, and Turkey). Though the study covers eight emerging countries, the fact that it excluded Nigeria makes its findings unlikely to apply to listed oil marketing companies in Nigeria due to legal and environmental factors.

Additionally, Inaam, Khmoussi and Fatma (2012) investigated the relationship between audit quality and earnings management of Tunisian firms using 319 firm year observations for the period 2000-2010. Using the modified Jones model (Dechow, Sloan & Sweeney 1995) to

measure discretionary accruals, the study showed that auditor industry specialization and auditor size-measured by Big 4 auditors are negatively associated with earnings management of their clients. Auditor tenure had a negative but insignificant association with discretionary accruals. The study is limited because even though Tunisia and Nigeria are developing nations with several similarities, in view of the fact that the study was not directly in relation to oil companies makes the findings unlikely to apply to oil marketing companies in Nigeria.

Ahmadzade, Hassanzadeh, Pooryegane and Ebrahimi (2012) examined the relationship between audit quality and earnings management of a sample of 73 companies listed on the Tehran Stock Exchange for the period 2008-2011. The result of the regression analysis indicated that audit firm tenure and audit firm industry specialization are negatively associated with earnings management of Iranian firms during the study period. The result implies that both auditor tenure and auditor industry specialization are associated with less earnings management in Iran. However, the fact that the study focused on listed companies in Iran generally and not specifically in relation to oil companies may likely affect the application of the findings to listed oil marketing companies in Nigeria due to sectoral differences.

In another study, Yasar (2013) examined the effect of audit quality on earnings management of companies listed on Turkish Stock Exchange for the period 2003-2007. Empirical evidence from the regression analysis indicated a positive association between audit firm size and discretionary accruals of manufacturing firms in Turkey. The result implies that audit quality does not constrain earnings management in Turkey. The result of the study is however, limited because given the economic differences between Turkey and Nigeria findings from the study are not

likely to apply to oil companies in Nigeria. Also, the study focused on only audit firm size and excluded many important attributes of audit quality such as auditor industry specialization which extant literature suggests could mitigate earnings management. The focus on only one attribute of audit quality therefore limits the generalisability of findings on the impact of audit quality on earnings management of firms.

Additionally, Pouraghajan, Tabari, Emamgholipour and Mansourinia (2013) investigated the association between audit quality and earnings management of a sample of 140 firms listed on Tehran Stock Exchange for the period 2006-2011. The modified Jones model was used to estimate discretionary accruals, a proxy for earnings management. The result of data analysis showed an insignificant positive relationship between audit firm size and discretionary accruals. The result supported the findings of Yasar (2013) and suggested that audit firm size does not constrain earnings management of the sampled firms in Iran during the study period. The study is limited because even though Iran and Nigeria are developing economies with a lot of similarities, since the study was not specifically on oil companies, its findings are not likely to apply to oil marketing companies in Nigeria due to sectoral and some jurisdictional differences.

Chen, Wu, and Zhou (2006) also examined the association between audit quality and earnings management of the Taiwanian companies for the period 1998-2002. The study estimated discretionary accruals using the modified Jones model. Result of the regression analysis revealed that both Big 5 auditors (proxy for audit firm size) and industry specialist auditors are associated with less earnings management in Taiwan. The study is limited in view of the fact that its findings are not likely to apply to listed oil marketing companies in Nigeria due to economic and

jurisdictional differences between Nigeria and Taiwan. Though Nigeria and Taiwan may all be developing nations, a few differences still exist between the two countries such as the level of capital market development and governance mechanisms in the stock market.

Bamahros and Wan-Hussin (2015) investigated the effect of audit quality on earnings management for a sample of 525 companies listed on Malaysian Stock Exchange (MSE) in 2009. Earnings management was represented by discretionary current accruals (DCA) estimated by the performance- adjusted model of Ashbaugh, Lafond and Mayhew (2003) and discretionary total accruals (DTA) estimated by the modified Jones model. Results of the study revealed a significant negative association between audit firm tenure and both measures of earnings management. Using audit firm size (big 4), audit fees, audit committee independence, audit committee financial expertise and audit committee meeting to control for other audit quality proxies that affect earnings management, the study found significant negative association between audit committee financial expertise and both measures of earnings management. Audit committee independence had a significant positive association with DCA but became insignificant with DTA. The results also revealed an insignificant negative relationship between audit firm size and audit committee meeting, and earnings management. Though Tunisia and Nigeria are developing countries, findings of the study may however, not apply to oil companies in Nigeria due to legal and economic differences between Nigeria and Malaysia such as the level of capital market development.

Also, Ching, Teh and San (2015) investigated the relationship between audit quality and earnings management for a sample of one hundred (100) industrial products and consumer products

companies listed on the main board of Bursa Malaysia during the period of 2008-2013. Audit quality was proxy by audit firm size, audit fees, and audit partner tenure. Earnings management, represented by absolute discretionary accruals was estimated by the modified Jones (1991) model. The result of data analysis using regression technique indicated that both audit firm size and audit fees have insignificant negative relationship with earnings management of listed industrial products and consumer products companies in Malaysia. Audit partner tenure had an insignificant positive relationship with the sampled companies in Malaysia during the study period. However, findings from this study may not apply to listed oil marketing companies in Nigeria because of some legal and economic differences between Nigeria and Malaysia such as the level of capital market development.

He (2015) studied the relationship between auditor industry specialization, audit experience and earnings management (represented by accounting restatement) of a sample of 5,502 firm year observations for listed Taiwan companies from 2008-2009. Results from regression analysis revealed that Taiwan companies audited by industry specialist auditors are less likely to face accounting restatements. Similarly, industry experience of auditors has a significant negative association with accounting restatements. The study is limited because the sample excludes companies without accounting restatements. This exclusion has the potential to limit the generalizability of the study findings even within Taiwan. The result of the study is therefore not likely to apply to oil companies in Nigeria due to economic and jurisdictional differences between Nigeria and Taiwan. Though Nigeria and Taiwan may all be developing nations, a few differences still exist between the two countries such as the level of capital market development and governance mechanisms in the stock market.

There are also relatively few studies in Nigeria that examined the association between audit quality and earnings management of firms. Okolie, Izedonmi, and Enofe (2013) examined the effect of audit quality on earnings management of companies listed on the NSE for the period 2006-2011. Using a sample of 57 manufacturing firms and regression analysis to analyze the data, the study documented a significant negative association between audit quality (proxy by audit firm size, audit tenure, audit fees, audit client importance) and discretionary accruals of the sampled companies. Similarly, Okolie (2014) investigated the relationship between audit quality and accrual-based earnings management of Nigerian firms. Using a sample of 57 non-financial firms listed on the NSE and the modified Jones model to measure discretionary accruals, the study documented a significant positive association between audit fees and discretionary accruals, and a negative association between audit tenure and discretionary accruals of Nigerian companies. Though the two Nigerian studies produced consistent results, there are also limited because all of them ignore the internal control aspect of audit quality (audit committee). Also, since the studies were not directly in relation to oil marketing companies in Nigeria, the findings are not likely to apply to oil companies in Nigeria due to sectoral differences between the sampled companies and oil companies in Nigeria.

Also, Aliyu, Musa and Zachariah (2015) examined the effect of audit quality (represented by audit firm size, joint audit and auditor financial dependence- a measure of client importance) on earnings management of listed deposit money banks in Nigeria. Earnings management proxy by discretionary loan loss provision was estimated using Beaver and Engel (1996) model, tested by researchers such as Fiechter and Meyer (2011). The study used a sample of seven (7) deposit money banks listed on the NSE for the period of 2006 – 2013 while data analysis was done using

ordinary least square (OLS) regression technique. Findings from data analysis indicated that both audit firm size and joint audit have significant negative effect on earnings management of listed deposit money banks in Nigeria. Auditor financial dependence had a significant positive effect on earnings management of listed deposit money banks in Nigeria during the study period. Though this study is from Nigeria, it is limited because given the peculiar nature of the banking sector; it is likely that its earnings management will be different from other sectors such as oil marketing companies not captured in the study sample. Consequently, some findings of the study may likely not apply to listed oil marketing companies in Nigeria. Also, findings from the study could be different from other sectors in Nigeria owing to the difference in the method of estimating discretionary accruals used for financial companies.

Recently, Tyokoso and Tsegba (2015) investigated the effect of audit quality on earnings management of listed oil marketing companies in Nigeria for the period 2004-2013. The dependent variable earnings management represented by discretionary accruals (DA) was estimated using the modified Jones model while the independent variable audit quality was represented by audit firm size, auditor industry specialization and auditor tenure. The findings of the study indicated that both audit firm size and auditor industry specialization have insignificant negative effect on DA of the sampled listed oil marketing companies in Nigeria during the period of study. In contrast, auditor tenure had a significant negative effect on DA of the companies. Though, the study is recent and is in relation to listed oil marketing companies in Nigeria, it focused on only three measures of audit quality and ignored the internal control aspects of audit quality (audit committee). The omission of audit committee from the proxies of audit quality implies that internal governance mechanisms work in isolation of external governance

mechanism (external auditor). This may not be true because governance mechanisms do not work as substitutes but rather complement each other in the task of mitigating managerial incentives for earnings management.

From the review of the empirical studies, it is clear that majority of them are from foreign literature. Empirical studies from Nigeria are relatively scanty and have just started gathering momentum. Besides, empirical evidence on the relationship between audit quality and earnings management from both developed and developing economies are mixed and inconclusive, thereby providing a basis for further research.

2.5 Theoretical framework for the study

Studies on audit quality and earnings management practices of firms have often used the stewardship theory, the stakeholder theory and the agency theory to explain the relationship. The stewardship theory which has its roots in psychology and sociology maintains that the interests of managers (stewards) are aligned with those of the organization and the owners (Albrecht, Albrecht & Albrecht, 2004). The theory focuses on mechanisms that empower and facilitate the functioning of stewards rather than structures that monitor and control agents. Stewardship theory rejects the ‘‘policeman’’ attitude of the agency theory which assumes that the interests of principal and the agent are different, and sees agents as self-serving and self-centered (Habbash, 2010).

The stewardship theory suggests that managers as representatives of shareholders are trustworthy and good stewards of resources entrusted to them and therefore need no monitoring (Donaldson, 1990; Donaldson & Davis, 1994). The theory posits that since managers are not opportunistic

and act in the best interest of the owners, they should be given autonomy based on trust as this will reduce the cost of monitoring and controlling their behavior. Stewardship theory views monitoring of agents by the owners, and their representative as unnecessary, since managers are not opportunistic and will always act in the best interest of shareholders. Stewardship theory further argues that corporate executives are not only concerned with financial gains but by non-financial motives such as recognition from peers and bosses, and satisfaction from performing challenging tasks (Donaldson & Davis, 1994).

Consequently, the stewardship theory attracted several criticisms by those who believe that the interests of managers cannot be aligned with the interest of shareholders. Critics argue that monitoring mechanisms such as high quality external auditors are necessary in cutting information asymmetry between shareholders and managers, in order to reduce agency costs such as earnings management. Heralding this argument is Albrecht *et al*. (2004) who contend that relying on the relationship between owners and stewards based on stewardship theory could rather provide opportunities for management to commit fraud. This theory therefore fails to sufficiently explain and analyze the relationship between audit quality and earnings management of firms.

The stakeholder theory on the other hand views the firm as a nexus of relationships. Freeman (1984: 52), cited in Schilling (2000: 225) defines a stakeholder as "any group or individual who can influence or is influenced by the achievement of the organization's objectives". In the words of Clarke (2004), stakeholder theory defines the firm as multilateral agreements between the enterprise and its multiple stakeholders. Unlike the agency theory which reduces the stakeholders

in a firm to only shareholders and managers, stakeholder theory views the firm as comprising more than two stakeholders (e.g. employees).

The relationship between the company and its internal stakeholders (such as employees, managers and owners) is framed by formal and informal rules developed through the history of the relationship. While management receives finance from shareholders, they depend upon employees to accomplish the productive purpose of the company. External stakeholders (such as customers, suppliers and the community) are equally important, and also constrained by formal and informal rules that business must respect. The stakeholder theory recognizes that the firm and the society are interdependent. The firm therefore serves a broader social purpose than its responsibilities to only shareholders and managers as proposed by the agency theory (Kiel & Nicholson, 2003).

Though the stakeholder theory has more theoretical and practical appeal than agency theory, and stewardship theory, it is also heavily criticized because of the difficulty to treat equally and satisfy the competing demands of the multiple stakeholders in the firm as proposed by the stakeholder theory. The theory therefore, fails to adequately explain the association between audit quality and earnings management practices.

The agency theory is based on the relationship between the principal (shareholder) and the agent (managers). The separation of ownership from management and control in modern day business corporations provides the basis for the function of agency theory. This separation provides the opportunity for an agent (manager) to be appointed to manage the daily operations of the

company. This relationship however, creates the potentials for conflicts of interests between the agent and principal, and requires monitoring costs associated with resolving these conflicts (Jensen & Meckling, 1976).

Agency theory assumes that managers are motivated by their personal gains and work to exploit their personal interest and not the interest of the shareholders. Managers for instance may be interested in buying lavish offices, company cars and other extravagant items, since the cost of these items is not borne by them (managers) but the owners (shareholders). The main problem of agency theory is how to align the conflicting interests of the managers with the interests of shareholders. Consequently, when managers have incentives to manage earnings such as to meet or beat earnings target and performance-based compensation, they manipulate the company's reported earnings. This manipulation reduces the relevance and reliability of reported accounting earnings and financial statements generally. Agency theory therefore suggests monitoring mechanisms such as high quality audit to reduce these conflicts and align the interests of managers with the shareholders interests.

The self-seeking interest of managers therefore, increases costs to the firm such as costs of contract formation, loss due to decisions taken by the agents and the costs of observing and controlling the actions of the agents. In light of the above, managers cannot be fully trusted by shareholders. Consequently, strict monitoring of managers by the shareholders or their representatives such as external auditors is suggested by agency theory to protect the interest of shareholders from being compromised by the self interest of managers. Agency theory assumes

that earnings management could be indicative of agency problem and may be constrained by monitoring mechanisms such as high quality audit.

From the foregoing, agency theory explains better and clearer unethical practices in accounting and financial issues such as earnings management (EM). This study therefore draws on agency theory to test the relationship between audit quality and the incidence of earnings management in listed oil marketing companies in Nigeria. Agency theory is chosen because it better explains the motivation for earnings management and the association between audit quality as a monitoring mechanism, and earnings management than the other theories.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology adopted for the study. Specifically, the chapter covers the research design adopted for the study, the population and sampling design for the study, sources of data, techniques of data analysis, measurement of study variables, and model specification for the study.

3.2 Research Design

The correlational research design is adopted for this study based on positivist approach. A correlation research design is used to describe the statistical relationship between two or more variables. It is most appropriate for this study because it allows for testing of expected relationships between audit quality proxies and earnings management practices of listed oil marketing companies in Nigeria and the making of predictions regarding such relationships. The research design is based on positivist approach because positivism lends itself to a more scientific, objective and systematic approach to research, and also supports the use of quantitative methodology (Saunders, Lewis & Thornhill, 2007). This study is objective and so is of the positivism approach. Secondary data on the independent variable, audit quality represented by audit firm size (AFS), auditor industry specialization (AIS), auditor tenure (ADT), client importance (CLI) and audit committee financial expertise were extracted from the annual report and accounts of the sampled oil marketing companies for the study period. Similarly, data on the dependent variable, earnings management represented by discretionary accruals was also

extracted from the same source. The data for the study is analysed using panel multiple regression technique, correlation analysis and descriptive statistics.

3.3 Population and Sampling Design for the Study

The population of the research comprises the ten (10) oil marketing companies listed on the Nigerian Stock Exchange (NSE) as at 31st December, 2014. The list of the ten oil marketing companies and their year of listing is presented in Table 3.1:

Table 3.1: List of Companies and Year of Listing

S/No.	Name of Company	Year of Listing
1.	Forte Oil Plc	1978
2.	MRS Oil Nigeria Plc	1978
3.	Total Nigeria Plc	1978
4.	Mobil Oil Nigeria Plc	1979
5.	Conoil Plc	1989
6.	Afroil Plc	1990
7.	Oando Plc	1992
8.	Eterna Oil & Gas Plc	1997
9.	Japaul Oil & Maritime Services Plc	2005
10.	Beco Petroleum Products Plc	2009

Source: Author's Compilation from NSE Factbook

A two point filter was used to arrive at the working population of the study. Firstly, the company must be listed on the NSE and have the required data for the study period of 2009 - 2014. Year 2009 was chosen as the beginning of the study period because the economic meltdown that rocked the word during this time (Nigeria inclusive) provided opportunity for Nigerian companies to manipulate reported earnings to present impressive performance (Bello & Yero, 2011). Similarly, year 2014 was chosen as the end of the study period to ensure the availability of published financial statements for the sampled companies because as at June, 2016, the 2015 annual financial reports of the sampled companies were not publicly available. Secondly, once listed on the NSE, the company must have remained listed throughout the study period of 2009-2014. The filters were employed to ensure availability of the published financial statements of the companies throughout the study period. Consequently, the number of companies was reduced to a working population of nine (9). Afroil Plc was excluded from the study population because it was delisted in 2008 and so had no published financial reports for 2009-2014. The entire working population of nine (9) oil marketing companies was used as the study sample considering the fact that the data required for the study is readily available from the published financial reports of the companies, and the NSE factbook for the relevant years. In view of the fact that the total population is ten oil marketing companies and the study used a sample of nine companies, which constitutes 90% of the study population is an indication that the sample is a good representative of the population as argued by Asika (1991).

3.4 Sources of Data

The data for this study were obtained from secondary source. Secondary data were extracted from the published annual reports and accounts of the companies and the NSE fact book for the

relevant years. The data extracted from this source are on audit firm size (AFS), auditor industry specialization (AIS), auditor tenure (ADT), client importance (CLI) and audit committee financial expertise (AFE) which represents the independent variable. Similarly, data on earnings management (dependent variable), represented by discretionary accruals (DAC) was extracted from the same source. The data needed to compute the variables of study is statutorily required to be published in the annual report and accounts of listed companies in Nigeria.

3.5 Techniques of Data Analysis

Descriptive statistics was used to compute summary statistics for both the dependent and independent variables of the study. The use of descriptive statistics is important because it summarizes and enhances understanding of the data collected for analysis in a study. Before using multiple regression analysis to analyze the data for the study some robustness tests were carried out to enhance the reliability of findings. Data normality test was done using Shapiro-Wilk statistics. Similarly, Hetroskedasticity test was conducted using Breuch-Pagan/Cook-Weisberg statistics. Multi-colinearity test was carried out using Variance Inflation Factor (VIF) and Tolerance Value (TV) statistics. In addition, Hausman specification test was conducted to ascertain whether fixed or random effects model is most appropriate for the data.

The study also used Pearson correlation analysis to show the nature, direction and extent of the relationship between and among the dependent and independent variables. When the correlation coefficient is positive, it shows that as one variable increases, the other one also increases. A negative Pearson correlation coefficient indicates that an increase in one variable results in a

decrease in the other. The magnitude of the coefficient signifies the strength of the relationship between two variables.

In order to examine the effect of audit quality on earnings management of listed oil marketing companies in Nigeria, panel multiple regression analysis was used as the major technique of data analysis. Multiple regression analysis is adopted for the study because of its ability to predict and explain expected variation in earnings management as a result of audit quality. The choice of the appropriate multiple regression technique is however dependent on the nature of data to be analyzed. Consequently, the panel data multiple regression technique was used for this study since the dataset has both time series and cross-sectional attributes. The dataset comprises time series attributes because it was collected from 2009-2014. The cross- sectional attribute of the data is represented by a sample of nine (9) oil marketing companies in Nigeria that were used to examine the impact of audit quality on earnings management. The data was first analysed using Ordinary Least Square (OLS) multiple regression technique but in view of the panel nature of the dataset, it was further analysed using Fixed Effect (FE) and Random Effect (RE) regression technique.

3.6 Study Variables and their Measurement

There are two sets of variables in this study; the dependent and the explanatory variables:

Dependent variable: The dependent variable for this study is earnings management. The absolute value of discretionary accruals was used as the proxy for earnings management. Discretionary accruals were used as the proxy for earnings management because it best captures the earnings management practices of oil marketing companies in Nigeria (Bello & Yero, 2011).

The magnitude of discretionary accruals, irrespective of the sign (positive or negative), is an indication of the extent of earnings management of firms. This is in line with Becker, DeFond, Jiambalvo and Subramanyam (1998), Ebrahim (2001) and Molik, Mir, Mclver and Bepari (2013). To estimate discretionary accruals; the modified cross-sectional Jones Model (Dechow, Sloan & Sweeney, 1995) was used in view of the fact that it is superior to other models of estimating discretionary accruals (Bello & Yero, 2011). In addition, the wide usage of the modified Jones model in accounting research is a clear testimony that it is better than other models of estimating discretionary accruals.

The first step in estimating discretionary accruals with the modified Jones Model is to compute total accruals. Total accruals are computed using cash flow statement and balance sheet approaches. The cash flow statement approach has however, been proved to be better than the balance sheet approach of computing total accruals (Ebrahim, 2001). Cash flow statement approach was used in this study to avoid potential measurement errors associated with computing total accruals of oil marketing companies in Nigeria using balance sheet items.

The cash flow statement approach of computing total accruals is expressed below:

$$TACC_{it} = NI_{it} - CFO_{it} \quad (1)$$

Where:

$TACC_{it}$ = total accruals for firm i in year t

NI_{it} = net income for firm i in year t

CFO_{it} = cash flow from operations for firm i in year t

Net income was used instead of income before extra- ordinary or special items to avoid misclassifying discretionary accruals by Jones model. Special items are not usually discretionary but they are erroneously classified by Jones model as discretionary accruals, owing to the fact that they do not have a linear relationship with changes in revenues. The use of cash flows from operation to compute total accruals is to avoid potential measurement errors associated with computing total accruals using balance sheet items (Ebrahim, 2001).

The second step is to estimate the parameters using ordinary least square (OLS) regression as follows:

$$TACC_{it}/A_{it-1} = \alpha_1 \left(1/A_{it-1}\right) + \alpha_2 \left((\Delta REV_{it} - \Delta AR_{it})/A_{it-1}\right) + \alpha_3 \left(PPE_{it}/A_{it-1}\right) + e_{it} \quad - - \quad (2)$$

Where

$TACC_{it}$ = total accruals for firm i in year t

A_{it-1} = total assets for firm i in year t-1

ΔREV_{it} = change in net revenues for firm i in year t

ΔAR_{it} = change in accounts receivables for firm i in year t

PPE_{it} = gross property, plant and equipment for firm i in year t

e_{it} = error term (discretionary accruals for firm i in year t)

α_1, $\alpha 2$ and α_3 = are firm specific parameters.

Since the study is for one industry and time, the residuals are used directly as discretionary accruals which represent earnings management (see Bugshan, 2005 as cited in Bello & Yero, 2011).

After rearranging the variables in equation two above to make residuals the subject of the formula, we have equation three as the discretionary accrual equation shown below:

$$DAC_{it} = TAC_{it/} A_{it-1} - \alpha_1 \left(1/A_{it-1}\right) + \alpha 2 \left((\Delta REV_{it} - \Delta AR_{it})/A_{it-1}\right) + \alpha_3 \left(PPE_{it}/A_{it-1}\right) - - - 3$$

Where DAC_{it} is discretionary accruals while the other variables are as earlier explained.

Table 3.2 presents a summary of all the variables in the study and their measurements:

Table 3.2: Study Variables and their Measurement

Variable Acronym	Variable Name	A priori expectation	Measurement	Source
DAC	Discretionary accruals		Total accruals minus non-discretionary accruals	Becker *et al.* (1998)
AFS	Audit firm size	-	A dummy variable 1, if the firm is audited by a Big 4 auditor, 0 otherwise	Becker *et al.* (1998)
AIS	Auditor industry specialization	-	A dummy variable 1 if market size (MS) of the auditor ≥20 percent and 0 otherwise.	Inaam *et al.* (2012)
ADT	Audit firm tenure	-	Number of consecutive years the client has retained a particular audit firm. Dummy variable 1 for 3 years^{+}, 0 otherwise	Inaam *et al.* (2012)
CLI	Client Importance	+	Ratio of client's sales to the sum of all clients' sales audited by an auditor within the sample size	Ebrahim (2001)
AFE	Audit Committee Financial Expertise	-	Proportion of audit committee members with accounting and financial expertise	Thoopsamut and Jaikengkit (2008)
AFE*AIS	Interaction between Audit Committee Financial Expertise & Auditor Industry Specialization	-	Audit Committee Financial Expertise multiply by Auditor Industry Specialization	

Source: Author's Compilation, 2015

Key: +, -, * represent positive, negative and multiplication signs respectively

3.7 Model Specification for the Study

The model for this study is a multiple regression model with earnings management represented by discretionary accruals (DAC) as the dependent variable, and the independent variable, audit quality represented by audit firm size (AFS), auditor industry specialization (AIS), auditor tenure (ADT), client importance (CLI), audit committee financial expertise (AFE) and the interaction between audit committee financial expertise and auditor industry specialization. The model in this study was adopted and modified from the studies of Molik *et al.* (2013) and Okolie *et al.* (2013). The study adopted audit committee financial expertise from Molik *et al.* (2013) as a proxy for audit committee. Audit firm size, auditor tenure and client importance were adopted from Okolie *et al.* (2013) to represent the external auditor- related attributes of audit quality. In addition to the variables adopted from Okolie *et al.* (2013), auditor industry specialization was introduced in view of the complex nature of the operations of oil industry business to test the effect of industry specialist auditors on earnings management of listed oil marketing companies in Nigeria. Audit committee financial expertise was introduced in the model to test the effect of its interaction with auditor industry specialization on earnings management of oil marketing companies in Nigeria.

Unlike most of the previous studies in developed and developing countries such as Nigeria, this study brought together both internal and external attributes of audit quality in one model and tested the interaction effect of audit committee financial expertise and auditor industry specialization on earnings management of firms in Nigeria. Previous studies suggest that audit committee members with accounting and financial expertise are likely to hire high quality auditors such as industry specialist auditors. But whether audit committee with accounting and

financial expertise improves financial reporting quality by hiring industry specialist auditors is an empirical question yet to be answered. As far as the study can tell, this study provides the first empirical evidence on the effect of audit quality on earnings management of firms in addition to testing the interaction effect of audit committee financial expertise and industry specialist auditors on earnings management of firms using listed oil marketing companies in Nigeria.

The model is expressed as follows:

$DAC_{it} = \beta_{0+} \beta_1 AFS_{it} + \beta_2 AIS_{it} + \beta_3 ADT_{it} + \beta_4 CLI_{it} + \beta_5 AFE_{it} + \beta_6 AFE*AIS + \varepsilon_{it}$ - - - - 3.1

Where:

DAC = discretionary accruals

AFS = audit firm size

AIS = auditor industry specialization

ADT = auditor tenure

CLI = client importance

AFE = audit committee financial expertise

AFE*AIS = interaction between audit committee financial expertise and auditor industry specialization

β_0 = constant of the model

$\beta_1 - \beta_6$ = coefficients of the study model

ε = error term

CHAPTER FOUR
DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter is devoted to presentation and analysis of the data extracted from the financial statements of the sampled companies. The chapter first focused on preliminary analysis of the sampled companies using descriptive statistics. The presentation of descriptive statistics is followed by correlation matrix, presentation and analysis of regression results, comparison of regression results from different models and policy implications of the study findings.

4.2 Descriptive Statistics

The descriptive statistics of the dataset from the sampled oil marketing companies are presented in Table 4.1 where the mean, standard deviation, minimum and maximum values of the data for the variables used in the study are described.

Table 4.1 Descriptive Statistics

VARIABLE	MEAN	STD. DEV	MIN.	MAX.
DAC	.1004662	.0544201	.00017	.278911
AFS	.6851852	.4688031	0	1
AIS	.5185185	.5043487	0	1
ADT	.5740741	.4991257	0	1
CLI	.5925937	.3518855	.0280396	1
AFE	.1450617	.1038882	0	.3333333
AFE*AIS	.0648148	.0966779	0	.3333333

Source: STATA Output Result

Table 4.1 presented the descriptive statistics for the dependent and independent variables (DAC = Discretionary accruals, AFS = Audit Firm Size, AIS = Auditor Industry Specialization, ADT = Auditor Tenure, CLI = Client Importance, AFE = Audit Committee Financial Expertise and AFE*AIS = Interaction between Audit Committee Financial Expertise and Auditor Industry Specialization). The standard deviation of the variables ranges from 0.05 to 0.50. Discretionary accruals have the lowest standard deviation of 0.05 followed by the interaction between audit committee financial expertise and auditor industry specialization 0.09, audit committee financial expertise 0.10, client importance 0.35, audit firm size 0.46, auditor tenure 0.49 and auditor industry specialization 0.50. The relatively low standard deviation for all the study variables may be an indication that the sampled data for the study is normally distributed.

The Table also indicated an average value of 0.10 for discretionary accruals. Since earnings management is measured by absolute value of discretionary accruals in this study, the value of 0.10 is an indication that sampled companies were involved in minimal earnings manipulations during the study period. The minimum and maximum values of discretionary accruals during the study period are zero (0) and 0.28 respectively. These values imply that some sampled companies were actually not involved in earnings manipulations during the study period while the highest manipulation of earnings by the sampled companies during the study period stood at 0.28. This further corroborates the inference of minimal manipulation of earnings earlier revealed by the mean of DAC.

The Table further revealed an average value of 0.6851852 for audit firm size. The value implies that sixty nine (69) percent of the sampled oil marketing companies was audited by the big 4

audit firms in Nigeria (KPMG, PWC, Ernst and Young, Akintola Williams Delloitte) during the study period. The mean value of sixty nine percent further suggests that only thirty one percent of the sampled oil marketing companies were audited by non-big 4 audit firms in Nigeria during the period of investigation. This shows that the audit market in the sector is dominated by the big 4 audit firms in Nigeria and just a few non- big 4 audit firms audited listed oil marketing companies in Nigeria. The minimum and maximum values of audit firm size during the study period were zero (0) and one (1) respectively. The minimum and maximum values of audit firm size indicate that auditor size is measured by a dummy variable which takes the value of one if the company is audited by a big 4 audit firm and zero if otherwise.

Similarly, the Table shows that auditor industry specialization had a mean value of 0.5185185 during the study period. This value implies that fifty two (52) percent of the sampled companies were audited by industry specialist auditors during the period of the study. The value further reveals that only forty eight (48) percent of the sampled oil marketing companies were audited by non-industry specialist auditors during the period of study. The mean value of industry specialist auditors during the study period is slightly higher than the mean value of non-industry specialist auditors. The minimum and maximum values of auditor industry specialization stood at zero (0) and one (1) respectively because the variable was measured by dichotomous numbers of one if the sampled oil marketing company is audited by an industry specialist auditor and zero if otherwise.

The Table also indicated that auditor tenure had a mean value of 0.5740741 during the study period. This value indicates that fifty seven (57) percent of the sampled oil marketing companies

retained their auditors for a period of three years and above. This shows that more than fifty percent of the audit firms in the sector enjoy long tenure which enables them to acquire client's specific knowledge and its financial reporting practices necessary for a more effective audit. The mean further implies that only forty three percent of the sampled companies may have retained their auditors for a period of less than three years during the study period. The minimum and maximum values of auditor tenure during the study period are zero and one respectively in view of the fact that auditor tenure was measured by a dummy variable which takes a value of one for companies which retained their auditors for a period of three years plus and zero if otherwise.

Client importance, which shows the level of auditors' economic dependence on the sampled oil marketing companies, had a mean value of 0.5925937. This shows that on the average, auditors' financial dependence on the sampled companies was fifty nine percent. The high average value of client importance is an indication that the auditors of the sampled companies depended heavily on their clients for fees income. The high economic dependence of the auditors on their clients may impair the independence of the auditors and their audit opinion thus leading to increase in earnings management of firms. The minimum and maximum values of client importance during the study period are 0.0280396 and one (1) respectively. The value of 0.0280396 implies that the minimum financial dependence of auditors on the sampled companies during the study period is 2.8% while the maximum value of one (1) shows that some auditors depended one hundred percent on the sampled companies for fee income.

Moreover, the Table indicated a mean value of 0.1450617 for audit committee financial expertise. This value shows that only fifteen (15) percent of the sampled companies had their

audit committee made of members who have accounting and finance experience. This further suggests that eighty five (85) percent of the sampled companies had audit committee members without accounting and financial expertise. The minimum and maximum values of audit committee financial expertise during the study period were zero (0) and 0.333 respectively. These figures indicate that some of the companies had no members with accounting and finance experience in their audit committee membership while some had over thirty three (33) percent of the membership of their audit committee during the same period made of members with accounting and finance experience.

Finally, the Table revealed a mean value of 0.0648148 for the interaction between audit committee financial expertise and auditor industry specialization. The mean value implies that the interaction between audit committee financial expertise and auditor industry specialization during the study period is an average of six (6) percent. The minimum and maximum values of the interaction between audit committee financial expertise and auditor industry specialization during the study period were zero (0) and 0.33 respectively.

4.3 Correlation Matrix of the Study Variables

Table 4.2 presents correlation values between dependent and independent variables and the correlation among the independent variables themselves. These values are generated from Pearson Correlation output. The Table contains correlation matrix showing the Pearson correlation coefficients between the dependent and independent variables and among the independent variables of the study.

Table 4.2 Correlation Matrix of Dependent and Independent Variables

VARIABLE	DAC	AFS	AIS	ADT	CLI	AFE	AFE* AIS
DAC	1.0000						
AFS	-0.0627	1.0000					
AIS	-0.1273	0.4640	1.0000				
ADT	-0.3400	0.0612	0.1444	1.0000			
CLI	0.2617	-0.4490	-0.4883	0.0517	1.0000		
AFE	0.0729	0.2451	-0.2023	-0.1808	0.0009	1.0000	
AFE*AIS	-0.1593	0.3199	0.6521	0.0290	-0.2694	0.4030	1.0000

Source: STATA Output Result

From Table 4.2, it is observed that the independent variables of the study correlate perfectly well (between -0.4883 and 0.6521). There is no relationship among the independent variables that is large enough (greater than 0.7) to pose the problem of singularity of data (Hassan, 2011). The extent of relationship among all the independent variables is therefore minimal and negligible.

The Table revealed a negative correlation coefficient between audit firm size and discretionary accruals (-0.0627) of listed oil marketing companies in Nigeria during the period of investigation. The weak negative coefficient between audit firm size and discretionary accruals of the sampled companies is an indication that audit firm size is associated with decrease in earnings management of listed oil marketing companies during the study period. This relationship is not surprising because big 4 audit firms have the resources and capacity to perform high quality audit that is capable of mitigating earnings management of firms. In addition, big 4 audit firms have a reputation to protect more than small audit firms which serves

as incentive to provide high quality audit services to their clients. Also, the high risk of litigation costs associated with big 4 audit firms upon discovery of fraudulent financial reporting is an incentive for big 4 audit firms to detect and report manipulation of earnings.

Auditor industry specialization is also negatively correlated with discretionary accruals (-0.1273) of listed oil marketing companies in Nigeria during the study period. The low negative coefficient between auditor industry specialization and discretionary accruals of listed oil marketing companies in Nigeria suggests that auditor industry specialization is associated with less earnings management of firms. This may be because industry specialist auditors possess industry and firm specific experience that enable them to detect questionable accounting practices of clients more easily than their counterparts. Industry specialist auditors also invest in relevant audit technology and training that give them an edge over their counterparts in practice.

Similarly, auditor tenure is negatively associated with the discretionary accruals of firms (-0.3400). The negative relationship between auditor tenure and discretionary accruals of listed oil marketing companies in Nigeria shows that auditor tenure is associated with decrease in earnings management of firms. This relationship is expected because as the length of auditor- client relationship increases, the auditor becomes more familiar with the business and accounting practices of the client. The client specific experience acquired by the auditor makes him more effective in the later years of the assignment than at the beginning of the audit assignment. The negative coefficient between auditor tenure and discretionary accruals of sampled firms is in line with the learning curve theory which suggests improved performance associated with continuous performance of a task.

In contrast, the Table indicates a positive association between client importance and discretionary accruals of the sampled firms (0.5925937). The positive relationship between client importance and discretionary accruals of listed oil marketing companies in Nigeria is an indication that client importance is associated with increase in earnings management of firms. The result is consistent with a priori expectations which predicted a positive relationship between client importance and earnings management of the sampled firm. The positive association is expected because as the auditor's financial dependence on a particular client increases, the auditor is likely to compromise his judgement, and allow the client more reporting discretion.

The Table also reveals a positive correlation between audit committee financial expertise and discretionary accruals of the sampled firms (0.0729). This relationship is in contrast to a priori expectation which predicted a negative association between audit committee financial expertise and discretionary accruals of sampled firms. Members of the audit committee who possess accounting and finance experience are expected to use it for the overall benefit of the committee to effectively constrain the manipulations of accounting earnings. The positive coefficient between audit committee financial expertise and discretionary accruals of listed oil marketing companies in Nigeria indicates that audit committee financial expertise is associated with increase in earnings management of firms.

Similarly, the Table shows that audit committee financial expertise interaction with auditor industry specialization is negatively (- 0.1593) associated with discretionary accruals of sampled firms. The negative coefficient shows that the interaction between audit committee financial expertise and auditor industry specialization is associated with decrease in earnings management

of sampled firms. This result is consistent with a priori expectations which predicted a negative impact of the interaction between audit committee financial expertise and auditor industry specialization on earnings management of listed oil marketing companies in Nigeria. The negative relationship is expected because audit committee members with accounting and financial expertise working together with industry specialist auditors are likely to complement (Sun & Liu, 2013) each other and therefore become more effective in mitigating earnings management of firms due to synergy benefits enjoyed by the two governance experts.

4.4 Presentation and Analysis of Regression Results

Before analysing the data, the dataset was first subjected to a number of tests with a view to determining the best model to be analysed and employed for inferences and hypotheses testing. The tests include normality test, heteroskedasticity test, Hausman specification test and multicollinearity test.

1. **Normality Test**- Data normality test was conducted to ensure that the sampled data does not contain outliers that will produce spurious regression results. The test was conducted using Shapiro-Wilk test for normal data. The full result of the test is presented as appendix and it shows that except for the interaction between audit committee financial expertise and auditor industry specialization which has z- statistics value that is significant at 1%, all the other variables were not significant. The result implies that the dataset for the study is normally distributed.

2. **Heteroskedasticity Test** – A pooled – OLS regression result was generated based on the dataset. After the OLS regression result, this test was conducted using Breusch–Pagan/Cook-Weisberg test of heteroskedasticity to check if the variability of error terms is constant. The presence of heteroskedasticity indicates that the variation of the residuals or error terms may not be constant and could affect inferences made from beta coefficients, coefficient of determination (R^2) and F-statistics of the study model. The result of the test shows the presence of heteroskedasticity as the probability of the chi square is less than 5%, based on the p- value of 0.0315 (see full result in appendix).

3. **Hausman Specification Test**- Due to the presence of heteroskedasticity and the panel nature of the dataset, both fixed effect and random effect regressions were run. Hausman specification test was then conducted to choose the preferred model between the fixed effect and random effect regression models. The test basically checks if the error terms are correlated with the regressors. The result of the test (see full result in appendix) shows that the error terms are not correlated with the regressors as the chi-square probability is significant at 5% (0.0185). The result suggests that the fixed effect regression model is most appropriate for the sampled data. Consequently, the regression result presented in Table 4.4 and analysed in this study is based on the fixed effect model.

4. **Multicollinearity Test:** This test was carried out to check if there is strong correlation among the independent variables that may produce misleading result. From Table 4.2, the highest correlation coefficient is 0.65, far below 0.8 which is considered grievous for regression analysis. The low magnitude of the correlations among the independent variables

is an indication that multicollinearity may not be a problem for the sampled dataset. However, to further substantiate the absence of multicollinearity problem among the independent variables, colinearity diagnostics tests were conducted using variance inflation factor (VIF) and tolerance value (TV). The result of collinearity diagnostics test is presented in table 4.3 below:

Table 4.3 VIF/TV Test for Multicollinearity

Variable	VIF	TV (1/VIF)
AFS	5.49	0.182917
AIS	4.40	0.227267
ADT	3.15	0.317884
CLI	1.89	0.530479
AFE	1.49	0.672086
AFE*AIS	1.08	0.928870
Mean VIF	2.91	

Source: STATA Output Result

From Table 4.3 above, VIF values for all the independent variables were consistently below the benchmark of '10' which is considered harmful for regression analysis. This is supported by a mean VIF value of 2.91 which is above the benchmark of '1' considered suitable for regression analysis. Also, the TV for all the variables was above '0' and close to '1' which is recommended for regression analysis. The results of these two collinearity tests further confirmed the absence of multicollinearity problem earlier revealed by the weak correlation

coefficient among the independent variables of the study. The summary of the fixed effect regression result is presented in table 4.3.

Table 4.4 Summary of Fixed Effect Regression Results

Variable	Beta Coef	t-values	Prob.>t
AFS	.1561452	2.82	0.007
AIS	.0925595	2.55	0.015
ADT	-.0273476	-2.16	0.037
CLI	.0860875	3.03	0.004
AFE	.3054097	2.56	0.014
AFE*AIS	-.4013709	-2.48	0.017
R^2			0.4389
F-value			5.08
Prob.>F			0.0006

Source: STATA Output Result

Table 4.3 reveals an R^2 value of 0.44. The R^2, which represents the coefficient of multiple determination implies that 44% of the total variation in the dependent variable (discretionary accruals) of listed oil marketing companies in Nigeria is jointly explained by the explanatory variables (audit firm size, auditor industry specialization, auditor tenure, client importance, audit committee financial expertise and interaction between audit committee financial expertise and auditor industry specialization). Though the R^2 of 0.44 may appear low, it does not constitute a problem to the study because the F- statistics value of 5.08 (Prob.>F = 0.00) indicates that the model is fit to explain the relationship expressed in the study model and further suggests that the

explanatory variable are properly selected, combined and used. The R^2 generated in this study also compares favourably with R^2 in previous studies on audit and earnings management of firms. The value of R^2 of 44% also shows that 56% of the variation in the dependent variable is explained by other factors not captured in the study model. This suggests that apart from audit quality, there are other factors that mitigate earnings management of listed oil marketing companies in Nigeria. The nature and extent of relationship between the dependent variable and each of the independent variables of the study in terms of coefficients, t- values and p- values are explained further:

4.4.1 Audit Firm Size and Earnings Management

Contrary to *a priori* expectations, table 4.4 reported a positive relationship between audit firm size and earnings management that is significant at 1% based on coefficient and t- values of 0.16 and 2.82 respectively and p- value of 0.007. The result implies that audit firm size is not able to constrain but rather increases earnings management practices of listed oil marketing companies in Nigeria. According to a priori expectations, audit firm size is negatively associated with earnings management because large audit firms have more resources to conduct high quality audits than small audit firms. Also, big audit firms have a large client base which makes them less dependent on any one client that could make them compromise their audit quality. Big audit firms also have more investment in reputation capital which is at stake if they are found to have compromise audit quality than small audit firms.

One of the reasons for the significant positive relationship between audit firm size and discretionary accruals of listed oil marketing companies in Nigeria may be the knowledge of the

audit personnel. In view of the huge financial resources at the disposal of big 4 audit firms compared to non- big 4 audit firms, they are expected to afford employing competent and well trained audit staff that are capable of rendering superior audit services to their clients. Lack of a competent audit team is therefore likely to affect the quality of audit services rendered by the audit firm and the quality of financial reports by extension. Though descriptive statistics shows that 69% percent of the sampled companies are audited by big 4 audit firms in Nigeria, lack of well trained staff that clearly understands the operations of the oil industry may be responsible for the inability to constrain earnings management practices of listed oil marketing companies due to the complex nature of the oil industry business. Auditors irrespective of firm size need adequate knowledge of the business operations in the oil industry and their financial reporting practices to be able to mitigate earnings management practices of these companies.

Based on the result, the first hypothesis of the study which states that audit firm size has no significant effect on earnings management of listed oil marketing companies in Nigeria is rejected. The present finding is consistent with those of Yasar (2013), Pouraghajan, Tabari, Emamgholipour and Mansourinia (2013) and Molik, Mir, Mclver and Bepari (2013) who found a positive association between audit firm size and earnings management of firms. The result however, contradicts the findings of Chen, Wu and Zhou (2006), Gerayli, Yanesari and Ma'atoofi (2011), Inaam, Khmoussi and Fatma (2012), Okolie, Izedonmi and Enofe (2013), Zhou and Guan (2014), Tyokoso and Tsegba (2015), Aliyu, Musa and Zachariah (2015) and Ching, Teh and San (2015) who documented a negative relationship between audit firm size and earnings management of firms.

4.4.2 Auditor Industry Specialization and Earnings Management

Table 4.4 also reported a beta coefficient of 0.09 and t- value of 2.55 for auditor industry specialization with a p- value of 0.02 that is statistically significant at 5%. The result indicates that auditor industry specialization was not able to constrain but increases earnings management of the sampled firms during the study period. The result however, contradicts a priori expectations which predicted a negative relationship between industry specialist auditors and discretionary accruals of listed oil marketing companies in Nigeria. Industry specialist auditors are expected to mitigate earnings management of firms because they possess industry specific experience of business operations of clients which is suppose to make them more effective than non- industry specialist auditors in mitigating earnings manipulation firms. Specialist auditors also invest in industry relevant and up to date audit technology that make them perform a more quality audit than their counterparts.

One of the reasons for the significant positive association between auditor industry specialization and earnings management of the sampled firms may be lack of industry specific experience which makes industry specialist auditors more effective in audit assignments than non- specialist auditors. Though descriptive statistics shows that 52% of the sampled companies were audited by industry specialist auditors, this does not mean they audit only oil marketing companies in Nigeria and so possess the relevant expertise knowledge in this sector. Auditor industry specialization in this study was measured by the audit market share of an audit firm in view of the fact that audit market share is expected to be associated with industry experience of an auditor. However, for a highly competitive sector like the oil industry in Nigeria which is dominated by big 4 audit firms who have the power to compete as revealed by the descriptive

statistics of 69%, audit market share may not necessarily be associated with industry experience. The 52% industry specialist auditors is made of the big 4 audit firms which dominates the sampled companies but are not able to constrain earnings management of listed oil marketing companies in Nigeria.

The result supports the finding of Zhou and Guan (2014) and Hegazy (2015) who found a positive relationship between auditor industry specialization and earnings management of firms. The result however, contradicts the finding of Habbash (2010), Gerayli, Yanesari and Ma'atoofi (2011), Inaam, Khmoussi and Fatma (2012), Ahmadzade, Hassanzadeh, Pooryegane and Ebrahimi (2012), Karimi and Gerayli (2014), Tyokoso and Tsegba (2015) and He (2015) who documented a negative association between industry specialist auditors and earnings management of firms. The result is inconsistent with findings in developed and some developing economies where auditor industry specialisation has significant negative relationship with earnings management of firms. Based on the empirical evidence, the second hypothesis of the study which states that auditor industry specialization has no significant effect on earnings management of listed oil marketing companies in Nigeria is rejected.

4.4.3 Auditor Tenure and Earnings Management

Table 4.4 further reported a negative relationship between auditor tenure and earnings management that is significant at 5% based on coefficient and t- values of -.0273476 and -2.16 respectively and a p- value of 0.037. This result supports a priori expectations which predicted a negative relationship between auditor tenure and earnings management of oil companies in Nigeria. This result implies that long auditor tenure is associated with less earnings management

of the sampled firms in Nigeria. The result is expected because as the length of auditor- client relationship increases, he becomes more effective in detecting questionable financial reporting practices of the client as a result of the firm specific knowledge of the business environment and financial reporting practices of the client he has acquired.

The result is consistent with descriptive statistics which reveals that 57% of the sampled companies retained their audit firms for a period of three years and above. This shows that the auditors possess knowledge of the business operations and accounting practices of the sampled companies which enable them to mitigate earnings management in those companies. The significant negative relationship between auditor tenure and earnings management of listed oil marketing companies in Nigeria is in line with the learning curve theory which shows that improved performance of task is associated with prolonged period of performing the same task.

Based on the empirical evidence in respect of auditor tenure, the third hypothesis of the study which states that auditor tenure has no significant effect on earnings management of listed oil marketing companies in Nigeria is rejected. The present result is consistent with the finding of Ebrahim (2001), Ahmadzade, Hassanzadeh, Pooryegane and Ebrahimi (2012), Inaam, Khmoussi and Fatma (2012), Okolie, Izedonmi and Enofe (2013), Okolie (2014), Karimi and Gerayli (2014), Tyokoso and Tsegba (2015) and Bamahros and Wan- Hussin (2015) who documented a negative relationship between auditor tenure and earnings management of firms. The result is however, inconsistent with those of Gul, Fung and Bikki (2009) and Ching, Teh and San (2015) who documented evidence of a positive association between auditor tenure and earnings management of firms.

4.4.4 Client Importance and Earnings Management

Table 4.4 indicated a positive association between client importance and earnings management of listed oil marketing companies that is significant at 1% based on a beta coefficient and t-values of .0860875 and 3.03 respectively and p- value of 0.004. The significant positive relationship between client importance and discretionary accruals of sampled firms is in line with the descriptive statistics which shows that on average, the sampled companies provided 59% of the income of their auditors. The present result also confirms a priori expectations which predicted a positive relationship between client importance and earnings management of oil marketing firms in Nigeria. The positive relationship between client importance and earnings management of listed oil marketing firms in Nigeria is not surprising because auditors are more likely to allow big (in terms of fee income contribution) clients more discretion in financial reporting than small clients (Sharma, Sharma & Ananthanarayanan, 2011).

Auditors are generally, less willing to lose clients who contribute significantly to their fee income but more willing to lose clients who do not contribute much to their fees income. Therefore, when faced with the risk of losing an economically important client, most auditors are likely to compromise their judgement (Chen, Sun & Wu, 2010). The present finding lends support to the prior study of Aliyu, Musa and Zachariah (2015) who found a positive association between financial dependence of auditors and earnings management of Nigerian banks. The result however, contradicts the finding of Ebrahim (2001) and Okolie, Izedonmi and Enofe (2013) who documented a negative relationship between client importance and earnings management of firms. Based on the empirical evidence, the fourth hypothesis of the study which

states that client importance has no significant effect on earnings management of listed oil marketing companies in Nigeria is therefore rejected.

4.4.5 Audit Committee Financial Expertise and Earnings Management

Table 4.4 also indicated a positive relationship between audit committee financial expertise and earnings management of sampled firms that is statistically significant based on coefficient and t-values of .3054097 and 2.56 respectively and p- value of 0.014. The result however, contrasts a priori expectations which predicted a negative association between audit committee financial expertise and earnings management of sampled companies in Nigeria. Audit committee members with accounting and financial expertise are expected to constrain earnings management of firms because they are already familiar with financial reporting practices of firms and so could easily detect accounting irregularities than their counterparts.

The significant positive relationship between audit committee financial expertise and discretionary accruals of the sampled firms shows that audit committee financial expertise is not able to constrain but increases earnings management of firms during the study period. This result may be due to the complex nature of the oil industry business which may require audit committee members with accounting and financial expertise to also possess industry expertise of the operations of the sector before they can effectively constrain earnings management of firms in the sector. In addition, the descriptive statistics shows a low average of 15% for audit committee financial expertise while some sampled companies do not even have members with accounting and financial expertise in the membership of their audit committee. The non-inclusion of members with accounting and financial expertise in the membership of some

companies' audit committee could also be responsible for the inability of audit committee financial expertise to constrain discretionary accruals of the sampled firms in Nigeria.

The present finding lends support to the study of Rohaida (2011) and Molik, Mir, Mclver and Bepari (2013) who found a positive relationship between audit committee financial expertise and earnings management of firms. The result is however, inconsistent with the studies of Piot and Janin (2005) and Bamahros and Wan- Hussin (2015) who found a negative relationship between audit committee financial expertise and earnings management of firms. Based on the result, the study rejects the fifth hypothesis which states that audit committee financial expertise has no significant effect on earnings management of listed oil marketing companies in Nigeria.

4.4.6 Interaction of Audit Committee Financial Expertise with Auditor Industry Specialization and Earnings Management

Table 4.4 reported a negative effect of the interaction between audit committee financial expertise and auditor industry specialization on earnings management of the sampled firms that is statistically significant based on beta coefficient and t- values of -.4013709 and -2.48 respectively and p- value of 0.017. The result confirms a priori expectations which predicted a negative association between the interaction of audit committee financial expertise and auditor industry specialization and earnings management of the sampled firms. This result is expected because internal and external governance mechanisms work as complements and not substitute (Sun & Liu, 2013). Audit committee with accounting and financial expertise working with industry specialist auditors are likely to improve the performance of each other in mitigating earnings management of firms as both of them share knowledge about industry expertise and

financial expertise (Hundal, 2013; Cohen, Hoitash, Krishnamoorthy & Wright, 2014). This is evident in the regression result as both audit committee financial expertise and auditor industry specialization individually had significant positive relationship with discretionary accruals while the interaction between the two variables had a significant negative association with discretionary accruals of the sampled firms.

The result in respect of the interaction between audit committee financial expertise and auditor industry specialization suggests that auditor industry specialization improves the performance of audit committee financial expertise and vice versa in mitigating earnings management of firms. This result supports SEC (2011) code of corporate governance for public companies which requires audit committee members of companies in Nigeria to contain at least one member with accounting and financial expertise. Audit committee financial expertise improves the performance of industry specialist auditors and vice versa in mitigating earnings management of firms. The result also confirms the old saying that two good heads are better than one as the interaction between audit committee financial expertise and auditor industry specialization is negative and statistically significant with earnings management of the sampled firms. Based on the empirical evidence, the study rejects the sixth hypothesis which states that the interaction between audit committee financial expertise and auditor industry specialization has no significant effect on earnings management of listed oil marketing companies in Nigeria.

The summary of hypotheses testing and observations made in respect of each of the hypothesis is presented in Table 4.5.

Table 4.5 Summary of Hypotheses Testing

Independent Variable	Expected Sign	Reported Sign	Significant/Not Significant	Remarks
Audit firm size	-	+	Sig (1%)	Hypothesis one is rejected
Auditor industry specialization	-	+	Sig (5%)	Hypothesis two is rejected
Auditor tenure	-	-	Sig (5%)	Hypothesis three is rejected
Client importance	+	+	Sig (1%)	Hypothesis four is rejected
Audit committee financial expertise	-	+	Sig (5%)	Hypothesis five is rejected
Interaction between Audit committee financial expertise and auditor industry specialization	-	-	Sig (5%)	Hypothesis six is rejected

Source: Author's compilation from STATA result output

Table 4.5 shows that audit firm size, auditor industry specialization and audit committee financial expertise reported direction of association with discretionary accruals contrary to expectation. The study expected a negative association between audit firm size and discretionary accruals of firms but the regression result revealed a significant positive relationship between

audit firm size and discretionary accruals of sampled firms instead. The positive relationship may be due to the complex nature of oil industry business which requires auditors irrespective of size to possess expertise knowledge of the industry to effectively constrain earnings management of companies in the industry.

Auditor industry specialization was expected to be negatively associated with discretionary accruals of sampled firms but the regression result indicated a significant positive relationship. The present result may be in view of the fact that majority of the specialist auditors are big 4 audit firms. Auditor industry specialization is measured by the audit market share of audit firms with the expectation that audit market share is associated with industry expertise. However, considering the juicy nature of the oil industry in Nigeria, the audit market of the sampled companies is dominated by big 4 audit firms who are better placed to compete and not because they audit only oil marketing companies in Nigeria and so possess the requisite industry expertise to effectively constrain earnings management of firms.

A priori expectations also predicted a negative association between audit committee financial expertise and discretionary accruals of sampled firms. The regression result however, returned significant positive relationship between audit committee financial expertise and discretionary accruals of firms. The present result may be in view of the complex nature of the business operations of the oil industry which requires audit committee members to possess industry expertise of the sector in addition to accounting and financial expertise to effectively constrain

earnings management of companies in the industry (Cohen, Hoitash, Krishnamoorthy & Wright, 2014). Though the reported signs for these variables are contrary to a priori expectations, the fact that some previous studies also documented similar signs shows that the result is valid.

4.5 Comparison of the three Regression Results

In order to further understand the different behaviours exhibited by the dataset used in the study, the summary of the pooled- OLS, fixed effect and random effect results is compared. The summary is presented in Table 4.6.

Table 4.6 Summary of Regression Results from Different Models

Variable	OLS	FIXED	RANDOM
AFS	-.0030536	.1561452***	.0034529
AIS	.0562648*	.0925595**	.0709208**
ADT	-.0393105***	-.0273476**	-.0381286***
CLI	.0597532**	.0860875***	.0635109**
AFE	.1694277	.3054097**	.1835667
AFE*AIS	-.2852075*	-.4013709**	-.3449638**
CONS	.0544501*	-.1081198*	.0413093
Chi^2			17.12
N	54	54	54
R^2	.2633	.4389	.2907

Legend: *p<.1; **p<.05; *** p<.01

Source: Author's compilation from STATA result output

Table 4.6 revealed that pooled- OLS regression has an R^2 of 0.26 which implies that 26% of variation in discretionary accruals of the firms is jointly explained by the independent variables. Under OLS regression result, auditor tenure and the interaction between audit committee financial expertise and auditor industry specialization had a significant negative relationship with discretionary accruals of sampled companies at 1% and 10% respectively. Client importance and auditor industry specialization had a significant positive relationship with discretionary accruals of the sampled firms at 5% and 10% respectively. Except audit committee financial expertise that has insignificant positive relationship, audit firm size had insignificant negative relationship with discretionary accruals of the sampled companies. The F- statistics of the OLS regression model was significant at 5%. This means, from the pooled- OLS regression result, only auditor tenure, client importance, auditor industry specialization and interaction between audit committee financial expertise and auditor industry specialization have statistically significant relationship with discretionary accruals of the sampled companies.

The Table also revealed that the random effect result respectively returned coefficient values of -0.038 and 0.063 for auditor tenure and client importance. The coefficients are statistically significant at 1% and 5% respectively. Auditor industry specialization and interaction between audit committee financial expertise and auditor industry specialization had coefficient values of 0.07 and -0.34 significant at 5% respectively. In terms of coefficient of determination, the random effect result showed an R^2 value of 0.29. This shows that in so far as the random effect model is concerned, only 29% of the variation in discretionary accruals of sampled companies is explained by the combined effect of the independent variables.

On comparison of the results from the three models, fixed effect model appeared to have given a clearer picture of the relationship between the outcome and explanatory variables. This can be seen both in terms of number of independent variables that have significant relationship with discretionary accruals (audit firm size, auditor industry specialization, auditor tenure, client importance, audit committee financial expertise and interaction between audit committee financial expertise and auditor industry specialization) and coefficient of determination (R^2). Interestingly, the direction of association between auditor tenure, interaction between audit committee financial expertise and auditor industry specialization and discretionary accruals of the sampled companies is negative in all the three models. Also, the direction of association with respect to client importance, auditor industry specialization, audit committee financial expertise and discretionary accruals is positive in all the three models. This indicates the consistency of the estimates in all the three cases.

4.6 Policy Implications of the Findings

The study has several policy implications. These policy implications represent the contributions of the study to the existing body of knowledge in accounting research, regulators and providers of accounting services. The result of data analysis indicates that audit firm size is positive and significantly associated with earnings management of firms. This result implies that big audit firms do not play a prominent role in monitoring the opportunistic behavior of managers in managing earnings. The empirical evidence suggests further that the great attention given to big audit firms by regulators, clients and other users of audited financial statements is misplaced. Despite the fact that the big audit firms have dominated the audit market in Nigeria for so many years, they do not mitigate earnings management better than the small audit firms.

Similarly, the analysis shows a significant positive association between auditor industry specialization and earnings management of listed oil marketing companies in Nigeria. This result suggests that industry specialist auditors do not mitigate earnings management of firms more than their counterparts in Nigeria. The implication of this result is that a bad auditor cannot suddenly become a high quality auditor by merely specializing in some industries. A high quality auditor is a good auditor in any industry and not just in some selected industries because all audits (industry specialist and non-industry specialist audit) are based on the same set of auditing standards.

In contrast, the study revealed a negative and significant relationship between auditor tenure and earnings management of listed oil marketing companies in Nigeria. This result implies that long auditor tenure plays a prominent role in mitigating earnings management of firms. The implication of this result is that auditor tenure restriction placed on the tenure of external auditors in Nigeria by Securities and Exchange Commission (SEC) is warranted. It can be recalled that SEC (2011) code of corporate governance for public companies in Nigeria requires public companies to retain external auditors for a period not longer than ten years consecutively. A disengaged auditor can only be reappointed after a period of seven years. The present result in respect of auditor tenure suggests that mandatory audit firm rotation policy currently operational in Nigeria is in the best interest of the investors who are mostly affected when there is pervasive earnings management in firms.

The study also revealed a positive and significant relationship between client importance and earnings management of listed oil marketing firms in Nigeria. The result is an indication that

client importance is associated with more earnings management of firms. This result implies that the current regulatory policy in Nigeria where disclosure of non-audit services fees paid to external auditors in the financial reports is not mandatory denies users of firms' annual financial reports useful information for investment decisions. Mandatory disclosure of all fees paid to the external auditor could enable shareholders and other users of financial statements determine the level of reliance to place on the auditor's report.

Also, the study revealed a positive and significant association between audit committee financial expertise and discretionary accruals of listed oil marketing companies in Nigeria. Though the SEC code of corporate governance requires at least one member to possess accounting and finance experience, this result implies that the effective oversight of the audit committee over financial reporting of firms is not solely determined by the accounting and financial expertise of its members but include other factors such as the industry expertise of audit committee members.

In contrast, the study indicated a significant negative effect of the interaction between audit committee financial expertise and auditor industry specialization on discretionary accruals of listed oil marketing companies in Nigeria. The implication of this result is that the interaction between audit committee financial expertise and auditor industry specialization plays a prominent role in mitigating earnings management of firms. The result also implies that internal and external governance mechanisms do not work as substitutes but complement each other in mitigating earnings management of firms.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The study investigated the effect of audit quality on earnings management of listed oil marketing companies in Nigeria. The study was divided into five chapters. Chapter one covered the background to the study, discussed the statement of research problem which led to six specific objectives and six hypotheses for the study with a scope covering six years, from 2009 to 2014. The chapter also covered the significance of the study. In the background to the study, it was noted that earnings management has become a topical issue among policy makers, analysts, practitioners and academics owing to the fact that it obscures the facts that different stakeholders need to know.

In chapter two, a review of theoretical and empirical literature on audit quality and how it impacts on earnings management of firms was carried out. The review of extant literature suggested that prior studies documented inconsistent, mixed and inconclusive evidence on the nature and extent of association between audit quality and earnings management of firms. The review further indicated that though there are relatively few studies on audit quality and earnings management in Nigeria, the oil industry of the economy has received little or no research effort despite its strategic importance to the Nigerian economy. Based on the empirical studies reviewed, the study observed that audit firm size, auditor industry specialization, auditor tenure, client importance and audit committee financial expertise are audit quality attributes that can affect earnings management of firms.

In chapter three, the methodology adopted for the study was discussed. Correlational research design was used to examine the effect of audit quality on earnings management of the nine listed oil marketing companies in Nigeria that have consistently published their annual financial statements from 2009 to 2014. The chapter also discussed the variables of the study and their measurement, techniques of data analysis and specification of the model used in the study.

In chapter four, the sampled dataset was statistically described, analyzed and interpreted. Using the statistical package, Stata version 13, three sets of regression were run starting with the pooled-OLS. In view of the panel nature of the dataset, this was followed by fixed effect (FE) and random effect (RE) models. Hausman specification test was then conducted to choose the preferred model that is most appropriate for the dataset. Based on the result of Hausman specification test, the fixed effect regression result was chosen for analysis and interpretation. The result of the fixed effect regression indicated that jointly, all the explanatory variables used in the study have significant effect on earnings management of listed oil marketing companies in Nigeria. Other robustness tests conducted to enhance inferences from the findings were heteroskedasticity test using Breusch- Pagan/Cook- Weisberg, muticollinearity test using VIF and TV and Shapiro- Wilk test for normal data.

5.2 Conclusions

Based on the result of data analysis and discussion in chapter four, the study has reached the following conclusions:

The study provided empirical evidence on the association between audit quality (proxy by audit firm size, auditor industry specialization, auditor tenure, client importance, audit committee

financial expertise and the interaction between audit committee financial expertise and auditor industry specialization) and earnings management (proxy by discretionary accruals) of listed oil marketing companies in Nigeria. Specifically, the study concluded that audit firm size has a positive and significant effect on discretionary accruals of listed oil marketing companies in Nigeria indicating that audit firm size does not constrain but increases earnings management of the sampled firms.

The study also concluded that there is a positive and significant association between auditor industry specialization and discretionary accruals of listed oil marketing companies in Nigeria suggesting that industry specialist auditors do not constrain but rather increases earnings management of sampled firms. Moreover, the study concluded that auditor tenure has a negative and significant effect on discretionary accruals of listed oil marketing companies in Nigeria suggesting that auditor tenure constrains earnings management of sampled firms.

The study also concluded that there is a positive and significant relationship between client importance and discretionary accruals of listed oil marketing companies in Nigeria indicating that client importance does not constrain but increases earnings management of sampled firms in Nigeria. The study also concluded that there is a positive and significant association between audit committee financial expertise and discretionary accruals of listed oil marketing companies in Nigeria which implies that audit committee financial expertise does not mitigate earnings management of sampled firms in Nigeria. Finally, the study concluded that the interaction between audit committee financial expertise and auditor industry specialization had a negative and significant effect on discretionary accruals of listed oil marketing companies in Nigeria

suggesting that the interaction between audit committee financial expertise and auditor industry specialization constrains earnings management of the sampled firms. Overall, audit quality has significant effect on earnings management of listed oil marketing companies in Nigeria.

5.3 Recommendations

Based on the findings of this study, the following recommendations are suggested to different parties that are directly or indirectly involved in financial reporting process in Nigeria:

1. Public companies who hire the services of audit firms in Nigeria should judge audit firms on the basis of performance in prior assignments and not just the size of the audit firm. This is because audit firm size is not associated with less earnings management of Nigerian firms. Those who hire audit services in Nigeria should consider competence and experience of the audit firms rather than size that are likely to be associated with less earnings management of firms. Also, users of audited financial statements should subject all audited financial statements to the same scrutiny regardless of whether the audit report is from a big or small audit firm. This is to avoid making wrong investment decisions.

2. Regulatory authorities in Nigeria such as SEC should come out with a policy that encourages audit firms in Nigeria to create departments within their firms that specialize along industry lines of companies listed on the Nigerian Stock Exchange (NSE). This is necessary despite the fact that there are relatively few companies listed on the NSE and irrespective of the significant positive relationship between auditor industry specialization and earnings management of sampled firms. Auditor industry specialization should be encouraged because the interaction between audit committee financial expertise and auditor industry

specialization had a significant negative effect on earnings management of sampled firms in Nigeria. This is in view of the fact that corporate governance mechanisms do not work as substitutes but complement each other to effectively constrain earnings management of firms.

3. The study recommends auditor tenure of three years and above for external auditors of public companies in Nigeria. This reinforces SEC (2011) code of corporate governance which states that Nigerian public companies can retain external auditors for a period of ten years consecutively, while disengaged auditors can only be reappointed after a period of seven years. Auditor tenure of at least three years would enable the auditor acquire client specific experience that could make him detect questionable financial reporting practices of the firm more easily than he was at the beginning of his audit engagement while an auditor tenure of less than three years could deny the auditor firm specific experience, thus resulting to increase in earnings management of firms.

4. Regulatory bodies such as SEC and Financial Reporting Council of Nigeria (FRCN) should come out with a policy that makes it mandatory for Nigerian companies to publish both audit and non-audit fees paid to their auditors. This is against the current practice where non- audit fees paid to external auditors are disclosed by Nigerian companies voluntarily. The disclosure of both fees will enable informed users of audited financial statements in Nigeria to determine the level of auditor client importance and consequently, the reliance to place on the auditor's report.

5. The requirement by the SEC code of corporate governance that audit committee membership of Nigerian companies should contain at least one member with accounting and financial

expertise should be sustained and strictly enforced. This is in view of the fact that audit committee financial expertise improves the effectiveness of industry specialist auditors in mitigating earnings management of firms through their interaction. This is evident by the negative and significant impact of the interaction between audit committee financial expertise and auditor industry specialization on discretionary accruals of sampled firms. Audit committee financial expertise should not be discouraged as a result of its significant positive association with discretionary accruals of sampled firms because corporate governance mechanisms do not work as substitutes but complement each other to effectively constrain earnings management of firms.

6. Audit committee with accounting and financial members should encourage their companies to hire industry specialist auditors. This is because good knowledge of the business environment by the auditor coupled with the accounting and financial experience of the audit committee members is likely to make each of them more effective in mitigating earnings management of firms especially in industries with complex business environment such as the oil industry.

5.4 Limitations of the Study

Just like any other research, the findings of this study should be interpreted bearing in mind the following limitations:

i. Due to the fact that the study was concerned with the examination of accruals for listed oil marketing companies in Nigeria, the sample size excluded independent oil marketing

companies which are not listed on the Nigerian Stock Exchange (NSE) and also in view of the fact that their annual report and accounts are not publicly available. Though there are all oil marketing companies, a few differences still exist among them. This reduced the sample size of the study and consequently, the generalisability of the study findings across all oil marketing companies in Nigeria.

ii. Again, the use of proxies in accounting research has its limitations. In this study for instance, discretionary accruals (proxy for earnings management) estimated using the modified Jones model (Dechow, Sloan & Sweeney, 1995) was used. The use of the modified Jones model to estimate discretionary accruals have also been criticized to be prone to measurement errors, especially when estimating discretionary accruals for firms in an industry which are not homogeneous. Similarly, in line with previous studies, the study used proxies to measure audit quality. However, the limitation is not grievous as it is a general problem associated with the use of proxies in research and not just this study.

5.5 Suggestions for Further Research

The study examined the impact of audit quality on earnings management of listed oil marketing companies in Nigeria. Further research is suggested in the following areas:

1. The same research can be replicated for both listed and non-listed oil marketing companies in Nigeria. The present study focused on listed oil marketing companies only and so limits the generalisability of the study findings to all oil marketing companies in Nigeria. A study that will include non- listed oil marketing companies in Nigeria is therefore desirable.

2. The same study can be replicated by bringing in other audit quality proxies such as non-audit fees, audit fees, audit committee meeting and audit committee gender. A study that includes the suggested variables will enhance comprehensive understanding and enrich local literature on audit quality and earnings management in Nigeria.

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APPENDIX A

Regression Result Output From Stata

```
  ___  ____  ____  ____  ____ (R)
 /__    /   ____/   /   ____/
___/   /   /___/   /   /___/   11.0   Copyright 1984-2009
  Statistics/Data Analysis             StataCorp
                                       4905 Lakeway Drive
     Special Edition                   College Station, Texas 77845 USA
                                       800-STATA-PC        http://www.stata.com
                                       979-696-4600        stata@stata.com
                                       979-696-4601 (fax)

Single-user Stata license expires 31 Dec 9999:
       Serial number:  71606281563
         Licensed to:  STATAForAll
                       STATA

Notes:
      1.  (/m# option or -set memory-) 50.00 MB allocated to data
      2.  (/v# option or -set maxvar-) 5000 maximum variables

. edit

. *(10 variables, 54 observations pasted into data editor)

. xtset id year, yearly
       panel variable:  id (strongly balanced)
        time variable:  year, 2009 to 2014
                delta:  1 year
```

```
. summarize
```

Variable	Obs	Mean	Std. Dev.	Min	Max
firm	0				
id	54	5	2.606233	1	9
year	54	2011.5	1.723861	2009	2014
dac	54	.1004662	.0544201	.00017	.278911
afs	54	.6851852	.4688031	0	1
ais	54	.5185185	.5043487	0	1
adt	54	.5740741	.4991257	0	1
cli	54	.5925937	.3518855	.0280396	1
afe	54	.1450617	.1038882	0	.3333333
afeais	54	.0648148	.0966779	0	.3333333

```
. swilk dac afs ais adt cli  afe afeais

                    Shapiro-Wilk W test for normal data
```

Variable	Obs	W	V	z	Prob>z
dac	54	0.95856	2.071	1.560	0.05938
afs	54	0.97489	1.255	0.486	0.31336
ais	54	0.99908	0.046	-6.609	1.00000
adt	54	0.99668	0.166	-3.845	0.99994
cli	54	0.96620	1.689	1.123	0.13068
afe	54	0.96925	1.537	0.920	0.17869
afeais	54	0.85956	7.019	4.175	0.00001

```
. pwcorr dac afs ais adt cli afe afeais
```

	dac	afs	ais	adt	cli	afe	afeais
dac	1.0000						
afs	-0.0627	1.0000					
ais	-0.1273	0.4640	1.0000				
adt	-0.3400	0.0612	0.1444	1.0000			
cli	0.2617	-0.4490	-0.4883	0.0517	1.0000		
afe	0.0729	0.2451	-0.2023	-0.1808	0.0009	1.0000	
afeais	-0.1593	0.3199	0.6521	0.0290	-0.2694	0.4030	1.0000

```
. reg  dac  afs ais adt cli afe afeais
```

Source	SS	df	MS		
Model	.041326045	6	.006887674	Number of obs	= 54
Residual	.11563582	47	.002460337	F(6, 47)	= 2.80
				Prob > F	= 0.0207
Total	.156961865	53	.002961545	R-squared	= 0.2633
				Adj R-squared	= 0.1692
				Root MSE	= .0496

dac	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
afs	-.0030536	.0199542	-0.15	0.879	-.0431963	.0370892
ais	.0562648	.0315865	1.78	0.081	-.0072789	.1198086
adt	-.0393105	.0141635	-2.78	0.008	-.0678039	-.0108171
cli	.0597532	.0236181	2.53	0.015	.0122396	.1072667
afe	.1694277	.1163212	1.46	0.152	-.0645804	.4034357
afeais	-.2852075	.1478306	-1.93	0.060	-.5826042	.0121893
_cons	.0544501	.0295358	1.84	0.072	-.0049682	.1138684

```
. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of dac

         chi2(1)      =     4.63
         Prob > chi2  =   0.0315
```

```
. vif
```

Variable	VIF	1/VIF
ais	5.47	0.182917
afeais	4.40	0.227267
afe	3.15	0.317884
afs	1.89	0.530479
cli	1.49	0.672086
adt	1.08	0.928870
Mean VIF	2.91	

```
. xtreg dac afs ais adt cli afe afeais, fe

Fixed-effects (within) regression               Number of obs      =        54
Group variable: id                              Number of groups   =         9

R-sq:  within  = 0.4389                         Obs per group: min =         6
       between = 0.0303                                        avg =       6.0
       overall = 0.0163                                        max =         6

                                                F(6,39)            =      5.08
corr(u_i, Xb)  = -0.8776                        Prob > F           =    0.0006

------------------------------------------------------------------------------
         dac |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         afs |   .1561452   .0553138     2.82   0.007     .0442626    .2680279
         ais |   .0925595    .036368     2.55   0.015     .0189983    .1661207
         adt |  -.0273476   .0126366    -2.16   0.037    -.0529076   -.0017876
         cli |   .0860875    .028457     3.03   0.004     .0285277    .1436472
         afe |   .3054097   .1193262     2.56   0.014     .0640496    .5467698
      afeais |  -.4013709   .1616201    -2.48   0.017    -.7282783   -.0744634
       _cons |  -.1081198   .0568367    -1.90   0.065    -.2230829    .0068432
-------------+----------------------------------------------------------------
     sigma_u |   .0903658
     sigma_e |  .04060853
         rho |  .83198697   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(8, 39) =     3.89                 Prob > F = 0.0019

. est store fixed

. xtreg dac afs ais adt cli afe afeais, re

Random-effects GLS regression                   Number of obs      =        54
Group variable: id                              Number of groups   =         9

R-sq:  within  = 0.2907                         Obs per group: min =         6
       between = 0.1739                                        avg =       6.0
       overall = 0.2510                                        max =         6

Random effects u_i ~ Gaussian                   Wald chi2(6)       =     17.12
corr(u_i, X)       = 0 (assumed)                Prob > chi2        =    0.0089

------------------------------------------------------------------------------
         dac |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         afs |   .0034529   .0226553     0.15   0.879    -.0409507    .0478565
         ais |   .0709208   .0329059     2.16   0.031     .0064263    .1354153
         adt |  -.0381286   .0132749    -2.87   0.004     -.064147   -.0121102
         cli |   .0635109   .0254742     2.49   0.013     .0135824    .1134395
         afe |   .1835667   .1151158     1.59   0.111    -.0420561    .4091895
      afeais |  -.3449638   .1503477    -2.29   0.022    -.6396399   -.0502877
       _cons |   .0413093   .0332544     1.24   0.214    -.0238681    .1064868
-------------+----------------------------------------------------------------
     sigma_u |  .01678095
     sigma_e |  .04060853
         rho |  .14585752   (fraction of variance due to u_i)
------------------------------------------------------------------------------

. est store random
```

```
. hausman fixed random

                 ---- Coefficients ----
              |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
              |    fixed        random       Difference          S.E.
--------------+----------------------------------------------------------------
          afs |   .1561452     .0034529        .1526923        .0504614
          ais |   .0925595     .0709208        .0216387        .0154864
          adt |  -.0273476    -.0381286         .010781               .
          cli |   .0860875     .0635109        .0225766        .0126833
          afe |   .3054097     .1835667         .121843        .0314182
       afeais |  -.4013709    -.3449638       -.0564071         .059301
------------------------------------------------------------------------------
                           b = consistent under Ho and Ha; obtained from xtreg
            B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =       15.24
                Prob>chi2 =      0.0185
                (V_b-V_B is not positive definite)
```