# IMPACT OF FIRM ATTRIBUTES ON AUDIT DELAY OF QUOTED MANUFACTURING FIRMS IN NIGERIA

**BY**

**Adamu JIBRIL**
**P16ADAC8339**

**A THESIS SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES,
AHMADU BELLO UNIVERSITY ZARIA,
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD
OF MASTER OF SCIENCE DEGREE (M.Sc.) IN
ACCOUNTING AND FINANCE**

**DEPARTMENT OF ACCOUNTING
A.B.U. BUSINESS SCHOOL
AHMADU BELLO UNIVERSITY,
ZARIA**

**MAY, 2018**

## DECLARATION

I hereby declare that this Dissertation entitled **"Impact of Firm Attributes on Audit Delay of Quoted Manufacturing Firms in Nigeria"** is a product of my research effort. It has not been submitted in any form or presented in any way for the award of any degree. All materials consulted for the purpose of the research have been duly acknowledged by way of reference

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Adamu, JIBRIL _____
P16ADAC8339

_____
Date

## CERTIFICATION

This Dissertation, entitled **"Impact of Firm Attributes on Audit Delay of Quoted Manufacturing Firms in Nigeria"** by **Adamu JIBRIL** meets the regulations governing the award of the degree of Master of Science in Accounting and Finance of Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

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|---|---|
| **Dr. L. Mailafia**<br>Chairman, Supervisory Committee | **Date** |
| **Dr. A. A. Abdullahi**<br>Member, Supervisory Committee | **Date** |
| **Dr. S. Abubakar**<br>Head of Department | **Date** |
| **Prof. S. Z. Abubakar**<br>Dean, School of Postgraduate Studies | **Date** |

## DEDICATION

This Dissertation is dedicated to Almighty Allah for given me life, time, opportunities and sustaining me throughout the period of my studies.

## ACKNOWLEDGEMENTS

This research work would not have been completed without the support of many. I wish to show gratitude to those whose efforts and constructive criticisms have enriched the work in several ways. I acknowledge the efforts, contributions as well as the suggestions of the Chairman, Supervisory Committee in the person of Dr.Luka Mailafia. I am grateful for all his patience, corrections and suggestions, as well as valuable hints that havelogically improved this work. I will ever remain thankful to him and I pray Almighty God brings his dreams and wishes to pass. I am also grateful to the member, Supervisory Committee Dr. A. A. Abdullahi for his contributions and guidance throughout the programme, may the almighty God Continue to bless him. I am also thankful to my reviewers, Prof. I. L. Chechet, Mal S. Salami, Mal I. Yusuf, Dr I. Nasiru and Dr M. M.Bagudo for their constructive criticisms and suggestions. I acknowledge the head of department Dr SalisuAbubakar and also to all the Lecturers of the Accounting Department for their inputs in this work.

My sincere appreciation goes to my Parents, wife and children. Thank you all for your understanding, support, encouragement and patience throughout the program. My sincere thanks also go to all my colleagues, the members of 2012/2013 M.Sc Accounting and Finance class. I am also grateful to many others who have contributed to the success of this work.

## ABSTRACT

This study is on the impact of firm attributes on audit delay of quoted manufacturing firms in Nigeria. As an important information mechanism, audit report remains the primary focus of audit firms, companies, regulators and investors. Undue audit delay reduces the quality of financial reporting by not providing timely information to investors and prospective investors. The study employed correlation research design using a sample of twenty one quoted manufacturing firms for the period of five years (2011-2015). The data was sourced from the annual reports of all manufacturing companies quoted on the floor of the Nigerian stock exchange. The method of data analysis utilized in the study is the Generalize Least Square data estimation techniques. In line with the objectives of the study, the finding reveals that; firm size and firm complexity have significant positive impact on audit delay; firm profitability, firm age and firm accrual have significant negative impact on audit delay. The study therefore, recommends that in achieving the objective of making the financial statements readily available for making timely decisions, quoted manufacturing firms in Nigeria should give priority to firm attributes(firm size, firm profitability, firm age, firm accrual and firm complexity) employed in this study.



**Key notes:***Audit delay, firm attributes, firm size, profitability, firm age accrual, firm complexity*

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# CHAPTER ONE

# INTRODUCTION

## 1.1 Background to the Study

Financial statements communicate important information about the financial health of a company,hence financial statement must be made available to stakeholders in time so that they can use the information reported therein to make important decisions. No matter how informative or well-prepared, the value of a financial report declines if it is not made available in time for users to make informed decisions (Salem, 2013). Therefore, the usefulness of published corporate financial statements depends on their timeliness.

The call for high quality and timely financial information has become imperative across the globe due to the increasing affiliation of business organizations and sale of shares in the capital market. Accordingly, the business organizations are being obliged to satisfy the information demands of investors and prospective investors to provide them with timely information in the annual financial reports. Recognizing the importance of timely release of financial information, regulatory actsuch as Companies and Allied Matters Act (2004),set statutory maximum time limits within which registered companies in Nigeria are required to issue audited financial statements to stakeholders and also file such report with Securities and Exchange Commission (SEC) and Corporate Affairs commission (CAC). The law required companies registered in Nigeria, to file their annual reports within 90 days of their accounting year-end, despite 90 days delay window given by CAMA, most registered companies in Nigeria found it difficult to report within the period (Dibia&Onwuchekwa, 2013).

The problem of audit delay is particularly pernicious in developing countries particularly Nigeria, where regulatory norms for the timeliness of audited financial reports are not enforced properly and where the general business culture is not attuned to observing

punctuality and efficiency in matters like financial reporting (Iyoha, 2012). Premises on the maximum time limit of 90days required by CAMA (2004), for all companies registered in Nigeria to issue audited financial statement, audit delay is the number of days lag after 90days of accounting year end to publication date of audited annual report.

Some of the generic variables relating to firm attributeswhich are not limited to;firm size, firm age, company yearend, industry classification, multinational or local status, listing status and management attitude, sign of net income, financial difficulties, debt-equity ratio, relative profitability, business complexity, company growth, total accrual, extraordinary itemsand market performance,(Al-Ajmi, 2008; Fagbem&Uadiale, 2011; Iyoha, 2012;Dibia&Onwuchekwa, 2013; and Vuko&Cular, 2014).In summary, the firm attributes that were used to understand audit delay in this study are: firm size, firm profitability, firm age, firm accrual and firm complexity.

Firm size is an important variable that impact on audit delay, it is argued that the bigger the size of the firm, the timely release of audited financial report and the reliable the internal control system of the firm (Ibadin, Izedonmi&Ibadin, 2012). This is possibly due to the ability of larger firms to engage large auditing firms and to pressure auditors to complete the audit work in a timely manner. In addition, larger companies may have their audit reports completed earlier than smaller once because larger firms may have stronger internal controls, which give the auditor access to required data from the internal controls and reduce the extent of substantive tests (Almosa&Alabbas, 2008). Contrary, large firms publish their financial statements later than the small ones since the financial transactions in large firms are more complex. In other words, there may be a positive relationship between firm size and audit delay (Turel, 2010).From the foregoing, firm size is expected to have a negative relationship with audit delay.

Firm profitability as an important variable that impact on audit delay, prior researchers argued that firms reporting a profit for the period are expected to have a shorter audit delay compared to ones reporting a loss. Firms with a profit are expected to invite the auditor to complete the audit engagement as quickly as possible so as to be able to release the good news of their profitability to their stakeholders as soon as possible(Almosa&Alabbas, 2008; Ibadin, et al. 2012 and Saqer, 2015). Contrary, based on signaling theory, by delaying bad news, the management is giving its shareholders a silent signal and opportunity to divest from the firm's shares before the information reaches the market and since reporting is a regulatory requirement by all companies, bad news or good news cannot impact on audit delay (Mahajan&Chander, 2008 and Merdekawati& Regina, 2011). Therefore, in line with majority augments a negative relationship is expected between audit delay and firm profitability.

Another important variable that impact on audit delay is the firmage. Saqer (2015) argued that promptness in financial reporting by a company is influenced by its existence over time. As a company continues in operations and financial reporting, its accountants learn more, the 'teething problems' which would cause unusual delays are minimized. As a result, an older, well-established company is likely to be more proficient in gathering, processing and releasing information when needed because of learning experience gained over many years of existence. In short, older firms might have improved their financial reporting practices over time. However, a few other studies (Al Jabr, 2006; Mahajan&Chander, 2008) found no association between age of company and audit delay in annual financial reports. But despite some evidence that company age did not influence audit delay, the present study however argues that the contrary is true, based on the theoretical arguments posed above. Hence, a negative relationship is expected between company age and audit delay.

Firm accrual is used as an indicator of audit delay; accruals have a higher risk of error and require more audit effort. It is arguedthat audits of high accrual companies pose more

uncertainty than audits of low accrual companies because of the potential of estimation errorand a greater chance that high accrual companies have undetected asset realization and going concern problems related to a higher level of accruals (Vuko&Cular, 2014). Since higher levels of accounting accruals increase the risk of information reliability because they are inherently subjective, linked to future realizations and prone to opportunistic earnings management (Hooy& Lee, 2010,). Contrary, firm accruals are mostly associated with large and older companies; as such total accrual will impact negatively on delay of publishing the financial statement of such companies with high accruals (Saqer, 2015). Based on the above argument, a positive relationship between audit delay and total accruals is expected.

Furthermore, firm complexity was employed;Vuko and Cular (2014) argued that business complexity impact on audit delay positively because it has to do with account receivable and inventories which take most of the audit effort. Gajevsky (2015) argues that the more complex a business operation is the more time taken in auditing the firm and consequently delays in the publication. Thus, it is expected that business complexity will have a positive relationship with audit delay.

Audit delay has become subject to an increasing amount of attention from accounting researchers and regulatory bodies (Leventis, Weetman&Caramanis, 2005). It is evidence that companies in transition economies issue their financial statements for later than do companies in the more developed market economies. Hence, such delay may adversely affect the level of confidence reposed on the financial statements(McGee,2007). In Nigeria, by the provisions of CAMA (2004) as amended the maximum time within which companies are expected to complete and make public their financial report is three (3) months. However, most companies present their reports much later than this date (Dibia&Onwuchekwa, 2013). Therefore, a study on the current level of audit delay in Nigeria firms is in the right

direction.The study focused specifically on listed manufacturing firms as it domain. The sector is chosen because of its vital role in the industrialization process and economic development of the country.

## 1.2 Statement of the Problem

Timeliness in financial reporting is a significant characteristic of accounting information. Stale information is of little use to investors in their investment decision making processes. Both prior analytical and empirical evidence provide strong support for this contention. Almosa and Alabbas (2008) demonstrated analytically that timeliness of audited financial reports are considered to be a critical and important factors affecting the usefulness of information made available to external users. Empirical studies have also shown that timely information affects the investment decision in the stock market (Fagbem&Uadiale, 2011; Iyoha, 2012 andDibia&Onwuchekwa, 2013). In essence, timely corporate financial reporting is an essential ingredient for a well-functioning capital market. Undue delay in releasing financial statements increases uncertainty associated with investment decisions (Ibadin& Elijah, 2015).

The problem of audit delay is pernicious in developing countries particularly Nigeria, where regulatory norms for the timeliness of audited financial reports are not enforced properly and where the general business culture is not attuned to observing punctuality and efficiency in matters like financial reporting (Iyoha, 2012). Premises on the maximum time limit of 90days required by CAMA (2004), for all companies registered in Nigeria to issue audited financial statement, most registered companies in Nigeria found it difficult to report within the period (Dibia&Onwuchekwa, 2013).Stale reporting in emerging markets is of particular importance since information in these markets is relatively limited and has a longer time lag (Saqer 2015). Therefore, research into the delay reporting would be of much importance to

regulators of capital markets in formulating policies that will enhance the market efficiency, decision making and reduce information asymmetry in these markets.

The empirical evidence on the impact of audit delay as a matter of fact been at extreme ends and largely inconclusive in the literature, while some studies observed significant relationship between variables employed to explain audit delay others observed no significant relationship. The polarity in empirical findings interestingly is a common denominator for both studies undertaken in developed economies and those undertaken for emerging markets (Ibadin& Elijah, 2015).

Firm size which is an explanatory variable of audit delay in our study is used by studies like; Iyoha (2012);Ibadin et al. (2012), they found that firm size has no significant impact on audit report delay. Modugu, Erahbhe and Ikhatua (2012)and Dibia and Onwuchekwa (2013) in their studies found firm size to be significant in explaining audit delay. However, these mixed findings may be attributed to the measurement of audit delay, the researchers measured audit delay in number of days from financial year end to auditors report date which did not capture the delay from auditors report date to when the information get to the stakeholders, that is the date of publishing the financial statement.

Firm profitability as an explanatory variable for audit delay has mixed finding in the literature and that necessitate the inclusion of it in our study, studies of Oladipupo (2011) and Moduguet al. (2012),both studies found that firm profitability has no significant impact on audit delay. ContraryIbadinand Elijah (2015) andFagbem and Uadiale (2011) found significant relationship between firm profitability and audit delay.

Another important variable that impact on audit delay chosen in this work is the firmage. It is observed from the literature mixed finding, Saqer (2015) recorded a significant relationship between firm age and audit delay in their studies, Ibadin and Elijah (2015) in their own

studies recorded insignificant relationship between audit delay and age of the firm, however, this can be attributed to the measurement adopted by their studies on audit delay, they both use number of days from the financial year end and the date the external auditor signed their report.

Firm accrual and firm complexity are used to explain audit delay in quoted manufacturing companies in Nigeria; this is premised on the fact that no any research to the best of our knowledge has adopted these two variables to explain audit delay in Nigeria particularly in quoted manufacturing sector. Work of Vuko and Cular (2014), Gajevsky (2015) found these explanatory variables of audit delay to be significant in explaining audit delay.

Despite the unanimity in the literature that audit delay is not an attribute to be encouraged, the findings with respect to the explanatory variables of audit delay have been at polarity and this suggests to us that the issues surrounding the explanatory variables of audit delay are far from been resolved, motivated more aside the measurement of audit delay, which is the total lag, that is, the days different from financial yearend to the date of publishing the financial report which the previous researchers reviewed adopted the auditors lag, that is days difference from the financial year end to auditors report date, is the inclusion of firm accruals and firm complexities as explanatory variables for audit delay, which no researcher has use to the best of our knowledge in Nigeria, particularly in quoted manufacturing sector our main domain.

## 1.3 Research Questions

Based on the background and problem of the study, the following questions are raised:

i. What is the impact of firm size on audit delay of listed manufacturing firms in Nigeria?

ii. What is the influence of firm profitability on audit delayof listed manufacturing firms in Nigeria?

iii. What is the impact of firm age on audit delay of listed manufacturing firms in Nigeria?

iv. What is the influence of firm total accrual on audit delay of listed manufacturing firms in Nigeria?

v. What is the impact offirm complexity on audit delay oflisted manufacturing firms in Nigeria?

## 1.4 Objectives of the Study

The main objective of the study is to investigate the impact of firm attributes on audit delay of quoted manufacturing firms in Nigeria. The study specifically seeks to examine the:

i. impact of firm size on audit delay of listed manufacturing firms in Nigeria;

ii. influence of firmprofitability onaudit delay of listed manufacturing firms in Nigeria;

iii. impact of firm age onaudit delay of listed manufacturing firms in Nigeria;

iv. influence of firm accrual onaudit delay of listed manufacturing firms in Nigeria;

v. impact offirm complexity onaudit delay of listed manufacturing firms in Nigeria;

## 1.5 Hypotheses of the Study

In line with the objectives of this study, the following hypotheses are formulated.

$H_{01}$: Firm sizehas no significant impact on audit delay of listed manufacturing firms in Nigeria.

$H_{02}$: Firm profitabilityhas no significantinfluence on audit delay of listed manufacturing firms in Nigeria.

$H_{03}$: Firm age has no significant impact on audit delay of listed manufacturing firms in Nigeria.

$H_{04}$: Firmaccrual has no significantinfluence on audit delay of listed manufacturing firms in Nigeria.

$H_{05}$: Firm complexity has no significantimpact on audit delay of listed manufacturing firms in Nigeria.

## 1.6 Scope of the Study

This study focused on firm attributes and audit delay of quoted manufacturing firms in Nigeria. The study covered the period of 5 years, from 2011 to 2015, this period is sufficient to establish a relation between the variables of the study.The choice of the period of study (2011-2015) is justified by the fact that year 2011 was the worst peak where manufacturing companies contributed only 4% to the country Gross Domestic Product (GDP), Central Bank of Nigeria sector contributions to GDP. In addition, the adoption of International Financial Reporting Standards (IFRS) in 2012, companies where compelled to adhere to the standards in financial reporting and all companies where mandated to have two reports in 2011, the Pre-IFRS and the old standard. Therefore, this period offers a good basis for identifying the general pattern in audit delay of listed manufacturing firms in Nigeria.

The study focused specifically on listed manufacturing firms as it domain. The sector is chosen because of its vital role in the industrialization process and economic development of the country. Therefore, there is the need to boost the investors and prospective investors' confidence by timely disclosure of the sector financial information for decision making. On the other hand, firm attributes in this study covered;firm size, firm profitability, firm age, firm accruals andfirm complexity.

## 1.7 Significance of the Study

The foregoing discussion has defined all the major aspects of the research problem and provides the background to this study. It highlights that audit delay in Nigeria is of concern as most companies in Nigeria are not able to complete the auditreports in time to release their financial statements by the declared date of financial yearend. As the issue of delay in timely reporting is quite serious in Nigeria, this study takes on the task of examining the impact of audit delay in the financial reporting of quoted manufacturing firms in Nigeria.

Auditors can use findings of this research to identify existing barriers to the timely release of reports and to formulate better practices that can reduce audit delay by the auditors, particularly the firm attributes employed in this work as having impact on audit delay.

The Government and its agencies would benefit from this study. The situation in Nigeria is such that taking all the statutory provisions on timing of published audited annual reports and accounts into consideration, Securities and Exchange Commission (SEC) and Corporate Affairs Commission (CAC) expect every registered company to publish their financial statement within 90 days from the end of their financial year to the corporations and other regulatory agencies.The finding from this study will bring to light causes of not reporting within the time limits and policies can be made by government to mitigate the delay of reporting.

To the body of academic, this study will serve as a search light indicating area of further researches on this topic. The findings of the research work will add to exiting literature particularly as it concern audit delay of quoted manufacturing companies in Nigeria.

Managers and other stakeholders in a given business environment, a company is an integral part of the society and cannot be separated from the environment (internal and external) in which it operates. Managers therefore, owe stakeholders both within and outside the company certain social and ethical obligations. Findings from this study on the possible causes of audit

delay can be used by the manager to mitigate delay in reporting financial statement and a possible explanation to stakeholders on the causes of audit delay in the organization.

# CHAPTER TWO

# LITERATURE REVIEW

## 2.1 Introduction

This chapter present reviews of existing literature that are relevant to the firm attributes andaudit delay. The chapter is organized in three main parts; conceptual literature, empirical literature and the theoretical framework that underpins the company features and audit delay. The rationale behind this was to use the evidence from the studies to uncover gaps in the literature and methodology.

## 2.2 Concept of Audit Delay

Audit delay is a concept that has received important attention by researchers, regulatory authorities, auditors and investors. In the works of Dyer and McHugh (1975) are the first notable researchers that defined audit delay as the time lag taking from the accounting yearend to the date of publishing financial statements, they term it as total lag, in arriving at this definition they identified three lags of preliminary lag, auditor's signature lag, and total lag. The preliminary lag represents that delay during which the auditors were unable to carry out their final examination of 90 per cent of the financial report, Auditor's signature lag is the period from which the auditors assessed 90 per cent of the accounts to the date the audit report was submitted to the directors and total lag represented the interval between the receipts of the auditor's report by the directors to the date the auditors signed the report. It represented the time taken by the directors to consider the auditors' report and for the auditors and directors to make any final adjustments. However, this definition did not take into consideration time taken after the final adjustment and actual publication date which significantly increase the delay in publication.

According to Lee and Jahng (2008), audit delay is the period of time taken from company's financial year end to auditors' report date. This condition is what makes financial statements relevant and reliable in financial reporting timeliness for high decision making. However, this definition fail to take into consideration the time taken by management to make the report ready for use.

Turel (2010) defined audit delay as opposite of timely financial reporting and it is the time taken from financial year end to the date of publishing the financial report, audit delay and timeliness of audit report are used interchangeable and by measurement in the literatures are the same but in meaning or interpretation are opposite.

Companies and Allied Matters Act (2004)set statutory maximum time limits within which registered companies in Nigeria are required to issue audited financial statements to stakeholders and also file such report with Securities and Exchange Commission (SEC) and Corporate Affairs commission (CAC). The law required companies registered in Nigeria, to file their annual reports within 90 days of their accounting year-end, Therefore, audit delay is defined in this study as the difference of days after 90days of financial year end and date of publishing financial statements, this definition take care of all delay in financial reporting to the date it get to the stakeholder of the company.

### 2.2.1 Audit Delay and Financial Statements

Accounting is defined as a process of quantifying the financial activities of economic entities and providing this information to users to help them make economic decisions (Tulsian, 2014). Decisions to purchase or sell securities, borrow money, extend commercial credit, enter into employment agreements, and other kinds of economic decisions depend in a large part on financial statement (Porwal, 2001). Indeed, it has been argued that the primary role of

accounting is to provide an effective measurement and reporting system for decision-making (Paul &Waidi, 2016).

Users of accounting information can be broadly grouped under two categories, those internal to the entity such as managers, ownership and employees, and external users such as creditors, investors, regulatory agencies, taxing authorities etc. Both groups of users need assurance that the information furnished is reliable, accurate, fairly presented, and free from bias. For this reason, after the financial report is prepared, it needs to be reviewed by a competent person or persons other than the one who prepared the statement in order to ensure that the information provided is correct and free from bias. This is done by persons or agencies called auditors who are assumed to have no bias or vested interests in the contents of the information and who can be trusted to check that the company accountants have accurately reported the actual conditions of the company. Therefore, auditing is an important part of the communication process in accounting. Users of financial information demand reliable information and auditors help satisfy that demand.

The main duty of auditors is to examine and evaluate the client's financial statements and to communicate their opinion about their veracity and reliability. The auditor examines whether the client's financial statements portray a truthful picture of the company's financial performance and if they comply with the stipulations of the International Financial Reporting Standards (IFRS). This opinion is published through an appropriate audit report to interested parties such as investors and regulatory agencies. The audit report can thus be recognized as the end stage of the auditing process and represents the culmination of the auditor's task.

The contents and opinions in the audit report can vary depending on the auditor's satisfaction or dissatisfaction with the company's accounts. The auditor expresses his or her opinion in one of four types of audit report: unqualified, qualified, adverse, and disclaimer of opinion.

The type of report issued by the auditor depends on particular circumstances and each type of report is appropriate for specific situations (Salem 2013; Paul &waidi, 2016). If the auditor believes that the financial statements represent a true, accurate and fair view of the company's affairs, then he/she will issue an unqualified report approving the statements. If the auditor has doubt about some aspects of the statements, he/she may approve them but with a qualified opinion explaining those doubts to justify how some aspects of the statements need to be read with caution. The more extreme cases of disapproval occur with an adverse report or disclaimer of opinion. An adverse report indicates that the auditor does not agree with the veracity of the financial statement and a disclaimer of opinion is issued when the auditor informs the public that his/her opinion has not been approved and incorporated in the report published by the company.

### 2.2.2 Impact of Audit on Financial Reports

There is no doubt that users of annual reports consider the auditor's report to be a critical device for assuring that the information given to them fairly represents the facts of a company's situation, or that it shows the nature of the biases if the annual report is inaccurate. The purpose of independent expert opinion given in an audit is to lend credibility to the financial statements released by a company (Stamp &Moonitz, 1979). Auditing is useful in a number of different contexts and is comprised of two main types, internal and external. Internal auditing, which is performed by an employee of the entity, aims to determine whether the existing system in the company is effectively designed to communicate management's directives, collect necessary data, and report results to the management. Internal auditing is thus oriented towards ensuring the internal efficiency of the company's operations and the proper flow of information between departments. Internal auditors work in the interests of the company. External users of accounting information will, however, not derive complete satisfaction from an internal auditor's assurance about the fairness and

accuracy of accounting reports. Therefore, external auditors who can be believed to be free of bias or partisan interest need to be engaged to have the information in the reports 'checked out' (Porter, Hatherly& Simon, 2008). Also, the purpose of auditing in both cases differs, as internal auditing is more concerned with efficiencies within the organization, while external auditing is concerned with the financial performance of the company and expected returns to all stakeholders. An independent auditor, external to the business, examines financial statements prepared by the management to ensure that the information reported in them accurately represents the condition of the company to the users of its financial statements.

According to the American Accounting Association's (AAA) Committee on Basic Auditing Concepts (1973), the demand for external auditing is created by four conditions in the business environment.

First, the demand for external auditing may arise from the existence of a conflict of interest between the users and providers of information. After the Industrial Revolution, the company form of organization emerged, characterized by a separation of ownership (shareholders) and control (managers). With a distinction between the roles of management and other stakeholders, there is an information gap between the two since the managers, involved in the day-to-day operations of the company, may have more knowledge of the company's status than the other stakeholders. Managers may deviate from the overall objective of the firm of wealth maximization in pursuance of their own goals which may not be in the best interests of the owners. Further, managers may also have an incentive to disclose false information about reaching the targets set by the owners without having actually achieved those set goals (Jensen &Meckling, 1976). Thus, auditing is needed as a mediating process between management and other stakeholders to ensure that the information presented to stakeholders fairly represents the facts of the situation or, if it does not, audit opinion must show the nature

of the biases. The statements reported by managers to portray the firm's financial performance, position, and cash flows need to be audited by an impartial authority to ensure that the information represents the company's status as accurately as possible.

The second reason for having external auditing comes as a consequence of the activities that depend on financial information. Since the users of company statements rely on financial information for making a host of decisions – from buying shares to changing operational structures – they are concerned with the possibility of biased, misleading, irrelevant or incomplete information. They need to be assured that the information is reliable and complete so that they can act upon their decisions without fear or uncertainty. In this situation, the external auditor's work adds to the credibility of the underlying information and, as a consequence, users may be more confident in the information and make more accurate decisions and evaluations (Ittonen, 2010).

The third objective behind the auditing of financial reporting is to maintain a link between the actual process of accounting and the communicated information. This relationship is becoming more complex with advancements in accounting practices and communications technology, so auditing is needed to ensure that the information is provided in an understandable way to users. Moreover, Ittonen (2010) argues that the interpretation of financial statements also requires a thorough understanding of accounting and reporting practices, business processes, governance issues and institutional settings.

Such a requirement makes it very difficult or even impossible for the majority of users of financial information to obtain direct assurance as to the quality of the information received. Therefore, there is a growing need for the financial statements to be audited by an external auditor who has the necessary competence and the ability to understand the firm's business,

accounting practices and its transactions to validate the accuracy of the information (Salehi&Bizhan, 2010).

Finally, auditors help to bridge the gaps and biases in information reporting that arise from the remoteness of the business environment caused by the separation of the users of information (owners, creditors and potential investors.) and information sources. As users of information are not involved in the day-to-day operation of the business, they can only observe the business from a distance. This deprives them of the ability to directly assess the quality of the information received. For this reason, a third party is needed by users to audit the firm, to help them assess the quality of the financial information provided.

### 2.2.3 Professional and Legal Requirements for Financial Reporting in Nigeria

There is a multiplicity of agencies and regulations that have provisions with implications for accounting practice in Nigeria. Though the agencies and regulations are many, the main legal framework for accounting practice is the Companies and Allied Matters Act (CAMA) (2004). The CAMA requires that financial statements (in all of the sectors of the Nigerian economy) comply with the Statement of Accounting Standards (SAS) issued by the Nigerian Accounting Standards Board (NASB). The objective is to reduce or minimize variability in accounting practice in Nigeria. Prior to 2003, compliance with accounting standards and provisions of the agencies as they relate to accounting practice was more of persuasion. However, the NASB Act, which took effect on 1 July 2003, was essentially enacted to enhance enforceability of Statement of Accounting Standards (SAS) and other provisions of the relevant agencies. The Act changed the mechanism for enforcing compliance with SASs to a more stringent regulatory regime wherein non-compliance with SASs and other regulations is illegal. That is, it moved sanctions for non-compliance to a legally enforceable regime with stiff penalty for breaches.

The call for high quality and timely financial information has become imperative across the globe due to the increasing affiliation of business organizations and sale of shares in the capital market. Accordingly, the business organizations are being obliged to satisfy the information demands of investors and prospective investors to provide them with timely information in the annual financial reports. Recognizing the importance of timely release of financial information, regulatory agencies (such as the Securities and Exchange Commission, Corporate Affairs commission, Banks and Other Financial Institutions Act, Insurance Act) in Nigeria have set statutory maximum time limits within which listed companies are required to issue audited financial statements to stakeholders and also file such report with relevant regulatory bodies. For instance the Corporate Affairs Commission (CAC) and Securities Exchange Commission require companies registered in Nigeria, to file their annual reports within 90 days of their accounting year-end, (BOFIA, 2003; CBN, 2004; CAMA, 2004 & CITA, 2007). The finding from this study will bring to light causes of not reporting within the frame time and policies can be made by government to mitigate the delay of reporting.

### 2.2.4 Companies and Allied Matters Act 2004, Investment and Securities Act 1991 and Financial Statements

CAMA, 2004 and the subsequent amendments were enacted to regulate the incorporation and activities of all corporate bodies in Nigeria. Sections 541 – 623 are about "dealing in the securities of companies and vests its administration on the Corporate Affairs Commission. Indeed, the CAMA, 2004 with the subsequent amendments is a comprehensive securities law for the country as it deals with a wide range of issues such as invitation of public to a securities offer, registration of securities, prospectuses, allotment, unit trusts, reconstructions, mergers and takeovers as well as insider trading"(SEC,1999). A listed company on the First Tier or Main Board of the Nigerian Stock Exchange, must among others, submit quarterly, half –yearly and annual accounts to the Stock for presentation to market operators. Section

334 requires directors of every company to prepare financial statements in respect of each year of the company. S.334(2) states that the financial statements should include:

Statement of accounting policies; the balance sheet as at the last date of the year; a profit and loss account or, in the case of company not trading for profit, an income and expenditure account for the year; notes on the account; the auditors' report; the directors' report; statement of cash flow; a value added statement of the year; a five-year financial summary; andfor holding company, a group financial statement.

Section 336 of CAMA (2004) requires companies that have subsidiaries to prepare yearly the individual and group accounts. The group financial statement should comprise a consolidation of balance sheet and the profit and loss account of the company and its subsidiaries. In addition, Section 337 shows the detailed of form and content of group financial statements which should comply with the requirements of Schedule 2 of the Act.

### 2.2.5 Determinants of Audit Delay

Generic factors relating to firm attributes are firm size, firm age, month of yearend, industry classification, multinational or local status, listing status and management attitude. Variables related to earning are sign of net income, financial difficulties, debt-equity ratio, relative profitability and market performance. There are also some variables relating to some significant discrepancies in firm performance and profitability which could delay audited reports such as extraordinary items, correction of previously reported interim earnings, contingencies, bankruptcy, high uncertainty, non-traditional income and business complexity (Courtis, 1976;Carslaw& Kaplan, 1991;Turel, 2010;Hooy& Lee, 2010;Iyoha, 2012;Dibia&Onwuchekwa, 2013;Salem, 2013;Vuko&Cular, 2014;Gajevsky, 2015;Ibadin& Elijah, 2015;Saqer, 2015 and Ishaq&Che-Ahmad, 2016).

In order to identify the source of audit delay, Courtis (1976) investigated whether it was management or the auditor who was responsible for the lack of punctuality in realizing audited annual reports. Auditors, however, offered three reasons why they should not be held to blame. They observed that the main cause of lag in the actual auditing process was the company's inability to keep its accounts up-to-date. This prevented the auditors from immediately commencing a meaningful audit review as they had to spend some weeks bringing the accounts up to book. The auditors claimed that in some cases the reports were post-dated to coincide with the publishing of the printed annual reports. The auditors argued that inefficiencies in the printing industry also caused long reporting delay. This gives rise to a debate between auditors and companies on who is to be held responsible for the delay. Courtis (1976) opinedthat it is wrong to lay blame squarely on either management or the auditor despite the protestations by the auditors there is a whole complex of reasons arising from the interaction between the two which leads to audit delay.

Similarly, Gilling (1977) argued that punctuality, or the lack of it, in the production of financial statements could be attributed to the efficiency or tardiness of either management or the auditor, or to discrepancies occurring during interactions between them. According to Gilling (1977), the timeliness of corporate financial reporting would be largely determined by management as it imposes time constraints on the auditors. But in the absence of such constraints, the reporting delay would be largely determined by the speed and efficiency of the audit process and the manner in which the auditors schedule their work.

From the foregoing, it becomes apparent that audit delay is the result of a host of factors concerning both company and auditors. This research work will look into only factors ascribed to companies to arrive at a reasonable explanation for audit delay. Therefore, this

literature review will proceed with identify variables related to firm attributes which are relevant to explaining audit delay in Nigeria.

In summary, the firm attributes that was used to understand audit delay in this study are firm size,firm profitability,firm age, firm accruals and firm complexity, this is justified by the prior studies that the variable chosen are the most effective firm attributes in explaining audit delay and also firm total accrual and firm complexity are variables suggested for further study by Ishaq and Che-Ahmad (2016).

## 2.3 Concept of Firm Attributes

Firm attributes are specific characteristics a firm possesses thought not limited to; firm size, firm age, month of yearend, industry classification, multinational or local status, listing status and management attitude. Attributes related to earning are sign of net income, financial difficulties, firm accrual, debt-equity ratio, relative profitability, firm complexityand market performance.

### 2.3.1Firm Size

Firm size is one of the most influential features in organizational studies (Pandey, 2009 and Salem, 2013). Large firms are different from smaller firms, in that larger firms are likely to have more layers of management, greater number of departments, increase specialization of skill and greater bureaucracy than smaller firms (Yegon, 2015). Company size matters for a number of reasons. Larger firms are associated with lower fixed cost per unit, cheaper access to outside financing, diversification of their financing sources and less likely to fail or liquidate (Ishaq&Che-Ahmad, 2016). Gajevsky (2015) were of the opinion that as firm size increases, fixed costs become relatively less important. Larger companies are associated with better diversification capacities, ability to exploit economies of scale and of scope, stronger internal control systems. Bigger size firms are likely to be more profitable as more profit

opportunities abound with bigger capital resources than smaller size firms with smaller capital resources. On the other hand, larger firms are also associated rigidity and unnecessary bureaucracy that can block profitable opportunities that may requires urgent attention (Dang & Li, 2015).

Gajevsky (2015) defined firm size as ownership of asset, because opportunities abound to the firm as a result of asset acquire which are also related to production efficiency, company size can be measured using total asset, total sale and market value of equity, age of the company, listing status, linked to international (Turel, 2010, Iyoha, 2012, Dang & Li, 2015 and Gajevsky 2015). For the purpose of the study firm size is defined as the total asset owned by the firm and was measured by it natural logarithm.

### 2.3.2 Firm Profitability

Firm profitability is one of the major area investors pay attention to when analyzing the viability of a business. Tulsian (2014) explained firm profitability is composed of two words, "profit" and "ability". Profit refers to total income earned by the enterprise during the specific period of time while ability refers to operational efficiency of the enterprise. It is the ability of enterprise to make profit on sales; sufficient return on the capital and employees used in the business operation. While profit report just about the financial and operational efficiency of an enterprise, profitability interpret the profit in relation to other elements likely to affect profit in order to help in decision making (Tulsian, 2014).

Firm profitability is the ability of a given firm to earn profit. The ability of the firm to earn profit from all activities of an enterprise; it indicates how well managers of an enterprise generate earnings by using the resources of the business at disposal (Dogan, 2013). Profitability can be measured using; return on asset (ROA), return on equity (ROE), sign of dividend, dichotomized when profit is 1 other wise 0, (Vuko&Cular, 2014). The gross profit

margin considers amount made after direct cost of sale have been taken into account, ROA defines net income before tax divided by total asset which reflect how well the company is using it resources to generate profit (Turel, 2010). The ROA is often used to compare the efficiency and operating performance as it looks at the returns generated from the asset financed by company. ROE on the other hand is indicating how effective a firm is in turning shareholder fund into net profit (Turel, 2010).

Firm profitability in this study is defined as the profit making ability of the business. It is measured by ROA often used to compare the efficiency and operating performance as it looks at the returns generated from the asset financed by company.

### 2.3.3Firm Age

Firm age has been identified in prior literature as an attribute having likely impact on the quality of accounting practice in terms of timeliness. The older the firms, the more likely they are to have strong internal control procedures. Thus, fewer control weaknesses that could cause reporting delays are expected in older firms. Similarly, younger firms are more prone to failure and have less experience with accounting controls (Hope and Langli, 2008). That is, age has the potential to reduce reporting delay.

Courtis (1976) definefirm age as the number of years the firm exist in his study of 204 listed companies in New Zealand however, Owusu-Ansah (2005) define age of company as the number of financial reports the company have published since commencement of the business. Dibia and Onwukeka (2013) and Saqer (2015) see company age as the number of age(s) of a company from incorporation to date using government fiscal year.

This work adopted the definition of Owusu-Ansah (2005) define firm age in relation to the number of financial reports the company have published since commencement of the business.

### 2.3.4 FirmAccrual

Accruals have a higher risk of error and require more audit effort. It is arguedthat audits of high accrual companies pose more uncertainty than audits of low accrual companies because of the potential of estimation errorand a greater chance that high accrual companies have undetected asset realization and going concern problems related to a higher level of accruals (Vuko&Cular, 2014). Since higher levels of accounting accruals increase the risk of information reliability because they are inherently subjective, linked to future realizations and prone to opportunistic earnings management (Hooy& Lee, 2010), a positive relationship between audit delay and total accruals is expected.

### 2.3.5Firm Complexity

Vuko and Cular (2014) defined business complexity as the audit effort which consumed more audit time since it involves account receivables and inventories of the company. It measures audit effort or risk or hand-to-audit asset involving audit time and effort beyond that of other assets. Gajevsky (2015) defines business complexity as the complexity of business operation associated to its account receivables and inventories and relative care must be taken when dealing with them.

This study adopted the definition of business complexity given by Vuko and Cular (2014) as the audit effort which consumed more audit time since it involves account receivables and inventories of the company, it is measured by total account receivable and inventories divided by total assets.

## 2.4 Empirical Studies on Firm Attributes and Audit Delay

The study, impact of firm attributes and audit delay is a topic that has received great attention from scholars in the field of finance. The main of this section in this chapter therefore is to

review those works as follows; the proxies firm attributes are reviewed separately in order to see the impact of each variable on audit delay of listed manufacturing firms under study.

### 2.4.1 Firm Size and Audit Delay

The pioneer research on audit delay by Dyer and McHugh (1975) examined the relationship between selected corporate features and reporting delay in Australian, using univariate analysis. The independent variables used in their study were firm size, yearend closing date, and relative profitability. The study found that firm size was related to audit delay as larger firms (with assets over 5 million dollar) had consistently been more timely reporters than smaller firms. This was to be expected as large firms were more in the public eye and depended on maintaining a reputation of timeliness to attract investors.

In another relative study on audit delay in New Zealand, Gilling (1977) uses firm size in explaining audit delay, hefound firm size to be a significant negatively on audit delay specifically as a result of the manner in which auditing firms in New Zealand scheduled their work. The leading auditing firms scheduled their work in the following order: overseas companies, large public companies and smaller public companies. In spite of the more complex accounting work involved in large companies, it was found that companies with total assets over NZ$50m and overseas companies operating in New Zealand had shorter audit report lags. Gilling explained that this ordering of priorities was partly a result of client pressure on auditing firms but, more significantly, it was caused by the auditor's need to plan, control and even out the work flow. He also argued that since large companies consumed more of the auditor's time and costs than smaller companies, auditors sped up the completion of large companies' audits to obtain a speedier recovery of fees.

In addition to the size of company, Givoly and Palmon (1982) introduced two other company characteristics relating to the quality of its internal control system and the complexity of its

operation. The results revealed that there was a negative relationship between the size of company measured by sales volume and reporting delay as larger companies tended to report earlier than smaller companies. They argued that larger companies have greater resources that enabled them to purchase less delay as larger companies are usually audited by big audit firms that possess the necessary audit resources for timely reporting. In addition, they argue that larger companies are more susceptible to maximum pressure from shareholders to be more punctual so they are more cautious about audit delay. Since complexity of operations has a bearing on the overall operational structure of the company, the authors argue that it might capture some untapped factors influencing the audit process. The company attribute of complexity of operations was measured by sales growth in the recent past and by the ratio of inventories to total assets. The results showed there was no consistent relationship between internal control system and the time lag, but complexity of operations was directly related to time lag.

In the same direction Ashton, Graul and Newton (1989) collected data from 465 companies during the period 1977 and 1982 to investigate the relationship between the dependent variable (audit delay) and independent variables shown to be important in prior studies. Apart from company size (measured by total assets) and month of yearend, it examined industry classification categorizing companies into financial services companies and all others. The results indicated that there was an inverse relationship between size of company and audit delay. They also indicated that companies with yearends in December or January had shorter delays by 13 days. Industry classification was significant in all six years and audit delay was shorter for financial service companies.Extraordinary items were found to be significant in all six years as the audit delay was shorter by 11 days for companies that did not report extraordinary items or require qualified opinion. Sign of net income was significant in five

years and audit delay was 9 days shorter for companies with low debt proportions and positive net incomes and longer for companies which reported losses.

The size of a company, which is measured by total assets, is the most popular factor attributed to causing audit delay that has been used in previous studies (Al-Ajmi, 2008; Turel, 2010; Fagbem&Uadiale, 2011; Iyola, 2012;Dibia&Onwuchekwa, 2013andVuko&Cular, 2014). Most of these prior studies found a negative association between audit delay and company size. This is possibly due to the ability of larger companies to engage large auditing firms and to pressure auditors to complete the audit work in a timely manner. In addition, larger companies may have their audit reports completed earlier than smaller once because larger companies may have stronger internal controls, which give the auditor access to required data from the internal controls and reduce the extent of substantive tests (Almosa&Alabbas, 2008). In this study, the size of company was determined by measurement of total asset.

Turel (2010) investigated timeliness of financial reporting in emerging capital markets: evidence from Turkey, a sampled of 211 companies quoted on the Istanbul stock exchange found out that company size is positively significant with audit delay of quoted companies studied. OLS regression was adopted in analyzing the data collected for the year 2007.

The work of Oladipupo (2011) investigated the extent of audit lag in Nigeria. Forty companies were selected. Both univariate and multivariate analyses were performed on the data collected. The study observed that; audit delay ranged from 16 to 284 days; Nigeria listed companies take approximately four months on the average beyond their balance sheet date before they are finally ready for the presentation of the audited accounts to the shareholders; That profitability, total assets, total debt, total equity, audit fees and industry type have no significant impact on audit delay.

The work of Iyoha (2012) examines the impact of company attributes on the timeliness of financial reports in Nigeria a sample of 61 companies' annual reports for ten (10) years were selected. The data were analyzed and results estimated using Ordinary Least Square (OLS) Regression. The findings reveal that company size is insignificant in explaining audit report delay.Ibadin et al. (2012) a study in the same direction in Nigeria on the association between selected corporate attributes, company attributes and timeliness of financial reporting,also found that company size is not statistically significant with audit delay, data were analyzed and results estimated using Ordinary Least Square (OLS) Regression.

In the same direction, Modugu, et al., (2012), examine the relationship between audit delay and company characteristics in Nigeria. A sample of 20 quoted companies was selected for a period of 2009 to 2011. Ordinary Least Square technique was adopted in the analysis, the result shows that company size to be negatively significant with audit delay. Company size was also found negatively significant in explaining audit delay in Nigeria quoted financial sector in the work of Dibia and Onwuchekwa (2013) for the period 2008 and 2011,Ordinary Least Square technique was adopted in the analysis. However, these mixed findings may be attributed to the measurement of audit delay which they measured as the number of days lapse from the financial yearend and the auditor' signature date. It is argued that there are delay from the date of external auditor' signature date to the date of publishing the financial statement, hence this research work take the total delay from the end of accounting yearend down to the date of publishing the financial statement.

### 2.4.2 Firm Profitability and Audit Delay

Several researchers have used firm profitability as an explanatory variable for audit delay (Ahmad &Kamarudin, 2003; Almosa&Alabbas, 2008; Ashton et al., 1989;Dyer and McHugh, 1975 and Carslaw& Kaplan, 1991). They argue that companies reporting a profit

for the period is expected to have a shorter audit delay compared to ones reporting a loss. Companies with a profit are expected to invite the auditor to complete the audit engagement as quickly as possible so as to be able to release the good news of their profitability to their stakeholders as soon as possible (Hossain& Taylor, 1998).

The pioneer research on audit delay by Dyer and McHugh (1975) examined the relationship between selected corporate features and reporting delay in Australian, using univariate analysis.Testing the claim that firms with bad profit news took longer to publish their annual reports than firms with good profit news, the researchers found no association between the relative profitability (rate of return on ordinary capital) and the total time taken by Australian companies to publish their annual reports. Firms with exceptional results (positive or negative) did not differ in reporting delay from those with average profits.

In extending the prior research on audit delay by Kinney and McDaniel (1993) on the occurrence of abnormal or unusual requirements in the yearly financial report by linking it to correction of previously reported interim earnings. The authors argued that the time taken for the correction of previously reported earnings could lead to increased yearend audit work and audit auditor/clients negotiation to monitor the changes. Data were collected for a sample of 85 companies which made yearend announcements of corrections to previously reported interim earnings over the period 1976 and 1988. The descriptive audit delay statistics indicated that the companies correcting previously reported quarterly earnings had a mean audit delay of 68 days, while matched companies only had a delay of 51 days. In addition, the results also showed that audit delay was significantly positive for companies with interim overstatements and declining earnings.

In Karachi stock exchange, Hossain and Taylor (1998) empirically examined the impact of selected corporate attributes on audit delay for a sample of 103 non-financial companies

listed on the Karachi Stock Exchange (KSE) for the year 1993. The study examined seven corporate attributes, including, size of the company (measured by total sales and assets), debt-equity ratio, profitability (measured by rate of return on assets and net profit margin), subsidiaries of multinational companies and industry type, yearend and nature of control system. The surprising result of this study was that while profitability was found to be significant at only the 20% level, the variables commonly used in previous research, such as company size and industry type, were found to be insignificant, whereas the new variable of subsidiaries of multinational companies was significant at the 5% level. Apart from the static attributes of a company like size, yearend and nature of control system, it is evident here that profitability has emerged as a key factor to be examined for audit delay. Focusing specifically on profitability,

Similar study in Saudi Arabia, Almosa and Alabbas (2008) explore the factors that have an effect on timeliness of audit report in Saudi Arabia by using a sample of 91 companies listed on Saudi Stock Market for the years 2003, 2004, 2005 and 2006. The study developed a model which hypothesized that audit delay is a function of company's attributes variables. The results indicated that there was a positive relationship between audit delay and company's size. However, the audit delay was negatively associated with income (as proxy of profitability) which means audit delay was shorter for companies gaining profits. In addition, the results also showed that the audit delay in Saudi was shorter for financial companies

The work of Oladipupo (2011) investigated the extent of audit lag in Nigeria companies, forty companies were selected. Both univariate and multivariate analyses were performed on the data collected using OLS and Modugu el at. (2012) examine the relationship between audit delay and company characteristics in Nigeria, a sample of 20 quoted companies was

selected for a period of 2009 to 2011, both studies found that profitability has no significant impact on audit delay.

A recent study conducted by Ibadin and Elijah (2015) on corporate attributes and audit delay in emerging markets: evidence from Nigeria, found a significant negative relationship between audit delay and profitability,this is also in agreement with the work of Fagbem and Uadiale (2011) on an appraisal of the determinants of timeliness of audit report in Nigeria. However, this variable suffered from the same audit delay measurement.

### 2.4.3 Firm Age and Audit Delay

Another important variable that impact on audit delay chosen in this work is the firm age, Abdulla (1996) in Bahrain, along with size of company (measured as the natural log of total assets), profitability, financial leverage (measured as the ratio of total liabilities to total assets), and industry membership. The author investigated the impact of the existence of stock exchanges on annual report delays by comparing the delays after and before the establishment of the Bahrain Stock Market (BSE) in June 1989. With respect to the other independent variable of size, it was found that larger companies tended to release their financial statements earlier than smaller companies. Additionally, companies with bad news about their performance tended to release their financial statements later than those with good news. But the relationship between timeliness and the other variables of industry membership, financial leverage and listing status were found to be insignificant.

In their study on audit delay in Zimbabwe, Owusu-Ansah (2000) found a negative significant result for company size from a two-stage regression which indicated that larger companies in Zimbabwe were more likely to release their annual reports faster than smaller companies. The researchers explain that large companies in Zimbabwe may have the resources to employ modern technology which enables them to release their annual reports on a timely basis. They

also argued that large companies may possess strong control systems, so auditors do not need to spend a long time in conducting compliance and substantive tests. In addition, company age was found negative related to audit delay, as older companies were found to have a shorter financial reporting delay, which meant that the “reporting lead time of a company is a decreasing function of its age”.

Firmage was also employed the work ofSaqer (2015), they found a negative significant relationship between audit delay and firm age in his workon timeliness of audited financial reports of Jordanian listed companies. As a company continues in existence and its accountants learn more, the 'teething problems' which would cause unusual delays are minimized. As a result, an older, well-established company is likely to be more proficient in gathering, processing and releasing information when needed because of learning experience gained over many years of existence. In short, older firms might have improved their financial reporting practices over time.

Firm age was also found negatively significant in explaining audit delay in Nigeria quoted financial sector in the work of Dibia and Onwuchekwa (2013) for the period 2008 and 2011, Ordinary Least Square technique was adopted in the analysis,

Iyoha (2012) examines the impact of company attributes on the timeliness of financial reports in Nigeria a sample of 61 companies’ annual reports for ten (10) years were selected. The data were analyzed and results estimated using Ordinary Least Square (OLS) Regression. The findings reveal that company age is insignificant in explaining audit report delay.Ibadin and Elijah (2015) on corporate attributes and audit delay in emerging markets: evidence from Nigeria, found insignificantrelationship between audit delay and company age.

### 2.4.4 Firm Accrual and Audit Delay

Firm accrualwas used as an indicator of audit delay; accruals have a higher risk of error and require more audit effort. It is arguedthat audits of high accrual companies pose more uncertainty than audits of low accrual companies because of the potential of estimation errorand a greater chance that high accrual companies have undetected asset realization and going concern problems related to a higher level of accruals (Vuko&Cular, 2014). Since higher levels of accounting accruals increase the risk of information reliability because they are inherently subjective, linked to future realizations and prone to opportunistic earnings management (Hooy& Lee, 2010).

The study by Hooy and Lee (2010) on audit delay of listed companies in China, employed total accrual in explaining audit delay in China using forty nonfinancial companies as sampled for the period of five years from 2003 to 2007. They found total accrual to be positively significant with audit delay. The technique of the analysis adopted by the study is panel regression technique. Vuko and Cular (2014) on assessing of audit delay in Croatia adopted total accrual as explanatory variable of audit delay. The research is conducted on a sample of Croatian listed companies, covering the period of four years (from 2008 to 2011). They use OLS regression analysis they found a positive significant relationship between audit delay and total accrual.

Saqer (2015) in his studyon timeliness of audited financial reports of Jordanian listed companies found a negative significant relationship between audit delay and total accrual. He aligned his result of high accrual companies are associated with older companies and such reporting of high accrual companies are timely because older companies are well-established companiesare likely to be more proficient in gathering, processing and releasing information when needed because of learning experience gained over many years of existence.

### 2.4.5 Firm Complexity and Audit Delay

Business complexity is included in this work as an important variable that impact on audit delay, this is premised that no researcher to the best of our knowledge has used it in explaining audit delay in Nigeria particularly manufacturing firm, this is the audit effort which consumed more audit time since it involves account receivables and inventories of the company.

Vuko and Cular (2014) included business complexity in their study on finding determinants of audit delay in Croatiaas explanatory variable of audit delay; they found a positive significant relationship between audit delay and business complexity. The research is conducted on a sample of 20 Croatian listed companies, covering the period of four years (from 2008 to 2011). They use OLS regression analysis.

Gajevsky (2015) defines business complexity as the complexity of business operation associated to its account receivables and inventories to total assets of the company and relative care must be taken when dealing with them. Gajevsky (2015) in their work; audit quality and corporate governance: evidence from the bucharest stock exchange. The full sample consists of the entities listed on the Bucharest Stock Exchange in the period 2008-2012 found out insignificant relationship between business complexity and audit delay of listed firms in Burcharest Stock Exchange.

## 2.5 Theoretical Framework

The works of Eilifsen and Messier, (2000) argue that the demand for auditing arises from the auditor's monitoring role in the principal-agent relationship. According to agency theory, an agency relationship is a contract under which one or more principals engage an agent to perform some service on the principals' behalf and delegate some decision-making authority to the agent (Jenson and Meckling, 1976). As such when there are conflicts between the

interests of the principal and the agent, the agent may not act in the best interests of the principal. In order to avoid or minimize such divergences from his or her interests, the principal can establish monitoring systems. The financial statement audit is a monitoring mechanism that helps reduce information asymmetry and protect the interests of the principals, specifically, the existing and potential stockholders, by providing reasonable assurance that management's financial statements are free from material misstatements (Watts and Zimmerman, 1986).

Decision theory,accountants have decided that investors are the major of users and as a result have turn to various theories in economics and finance particularly, to theories of decision and investment, to understand the type of accounting information investors need (Scott, 2003). The real world is not characterized by ideal conditions. Scott(2003), states that theoretically it is impossible to prepare financial statement that is both reliable and relevant. This is because present value model that is reliable is less relevant. While historical cost based accounting is reliable but not relevant. Relevant financial statement is defined as ones that showed the discounted present values of the cash flows from the firm's assets and liabilities (Scott, 2003). The decision usefulness concept first appeared in the American Accounting Association (AAA) monograph in 1966. The decision usefulness approach to accounting theory takes the view that if it is not theoretically possible to prepare correct financial statement, at least, it is essential to make historical cost-based statement more useful (AAA Monograph,1966). Accountants must now pay much closer attention to financial statements users and their decision needs, since under non – ideal situations it is not possible to read the value of the company directly from the financial statements (Scott, 2003).

According to Beisland (2009), "an objective of financial reporting is to assist investors in valuing equity. For financial information to be value relevant, it is a condition that accounting

numbers should be related to current company value". He further claims that if there is no association between accounting numbers and company value, accounting information cannot be termed value relevant and, hence, financial reports are unable to fulfill one of their primary objectives.

Stakeholder theory maintained that organizations have to account for their stewardship over the resources entrusted to them to various stakeholders including among others debenture holders and members of the public (Jensen &Meckling, 1976, O'Donnell, 2000, cited in Tahir, 2008). This therefore suggests that the responsibility of directors is to serve various interest groups and individuals. However, the theory was developed to address the shortcomings of the agency theory. The agency theory was criticize for prioritizing the interest of shareholders above the general interest of other stakeholders, such as employees, the government and the society in general (Charron, 2007, cited in Barde, 2009). This theory argued that the firm is a social person and therefore is responsible and accountable not only to the shareholders but to numerous other stakeholders. In line with this, firms are expected to disclose more information in financial statements in order to satisfy the interest of various stakeholder groups (not only shareholders' interest).

Agency theory has largely been used in explaining the relationship between firm accrual, firm complexity and audit delay. It is argued that high accrual companies and companies with complex activities cause's principals mounting pressure on the agent to publish their report for stewardship because accruals and business complexity have a higher risk of error and require more audit effort. It is arguedthat audits of high accrual companies and companies with complex activities pose more uncertainty than audits of low accrual companies or business with moderate or simple operations because of the potential of estimation errorand a greater chance that high accrual and complex companies have undetected asset realization and going concern problems (Vuko&Cular, 2014). Since higher levels of accounting accruals

and business complexity increase the risk of information reliability because they are inherently subjective, linked to future realizations and prone to opportunistic earnings management and agency cost (Hooy& Lee, 2010).

The theory of inspired confidence(Theory of rational expectations) (Limperg, 1932) addresses both the demand and the supply for audit services. The demand for audit services is the direct consequence of the participation of third parties (interested parties of a company) in the company. These parties demand accountability from the management, in return for their investments in the company.Accountability is realized through the issuance of periodic financial reports. However, since this information provided by the management may be biased, and outside parties have no direct means of monitoring, an audit is required to assure the reliability of this information. With regard to the supply of audit assurance, Limperg (1932) suggests that the auditor should always strive to meet the public expectations.

Theory of rational expectation is linked with company size and firm's age in such that, as the size of the company increases, the investors expect a report, since annual reports are the only monitory mechanism to know the financial health of their fortunes in the company and in lieu to decision taking. Ittonen 2010 argued that company with increase size and older companies are always in the eyes of the investors and an expectation of reporting financial statement promptly from the management of such companies.

The theory of rational expectation or inspired confidence was used to explain the relationship between profitability and audit delays. Prior researchers argued that companies reporting a profit for the period is expected to have a shorter audit delay compared to ones reporting a loss. Companies with a profit are expected to invite the auditor to complete the audit engagement as quickly as possible so as to be able to release the good news of their profitability to their stakeholders as soon as possible. (Almosa&Alabbas, 2008 and

Saqer,2015), they argued that to inspired confidence on the investors it is expected of the management of companies to publish their financial statement periodically and hence a rational expectation from the management to report performance to install confidence.

The theories that were used in this study are Agency theory and theory of rational expectation.

# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Introduction

The chapter begins with the discussion of the research design that was adopted for the study, and then followed by the population and sample of the study. The chapter also discusses various sources and method of data collection for the study as well as the technique of data analysis that was employed. It also presents variables measurement and the model of the study.

## 3.2 Research Design

This study adopted correlational research design. This is justified by the fact that correlational research design describes the statistical relationship between two or morevariables and allows testing of this relationship. The design is well suited in examining the several sample units across time. Thus, the design is consistent with the main objective of this research. The study was designed in a way to estimate the impact of firm attributes (firm size, firm profitability, firm age, firm accrual and firm complexity) on the audit delay of quoted manufacturing firms.

## 3.3 Population and Sample of the Study

The population of the study consists of 74 manufacturing companies quoted on the Nigerian Stock Exchange (NSE) as at 31st December, 2015, in the Agriculture, Conglomerate, Consumer goods, Industrial goods, Healthcare and Natural resources sectors. The sample covers 21 quoted manufacturing firms for five years, 2011to 2015. The total numbers of observation from the corporate annual reports of the companies were 105 from which data was obtained for the variables.

The study employs stratified sampling techniques in selecting the sample of the study. The stratified sampling method was used because of the heterogeneous nature of the study

population. The proportional sampling technique on the other hand ensures that a heterogeneous population has its defined strata taken account of in the sampling while simple random sampling gives each unit of the population an equal opportunity of inclusion in the sample and were selected entirely by chance.

This initial sample size is supported by Yamane (1967) sample selection method (Guilford and Frucher, 1973) as stated below:

According to Yamane (1967), $n = N / [1 + (Ne^2)]$,

Where: 'n' is the sample size,

'N' is the population,

'e' is the error limit (15% precision level was used for the purpose of this study)

Therefore, $n = 74 / [1 + 74 (0.15^2)]$

$n = 74/ 1.71$

$n = 28$

Adjusted Yamane (1967), $n_1 = n/1+(n-1)/N$

Therefore, $n_1 = 28/1+(28-1)/74$

$n_1 = 28/1+0.3649$

$n_1 = 21$

Based on the above calculation. The sample size of 21 with error limit of 15% is considered appropriate for this study. The propose samples from each of the sector for the study were determine through the use of proportional sampling technique as thus:

**Table 3.1 Population and Sample size of the study**

| S/N | Sector | Number of firms | Computation | Number of firm selected |
|---|---|---|---|---|
| **1** | **Agriculture** | **5** | $5/74 \times 21$ | **1** |

| | | | | |
|---|---|---|---|---|
| **2** | **Conglomerates** | **6** | $6/74 \times 21$ | **2** |
| **3** | **Consumer goods** | **27** | $27/74 \times 21$ | **8** |
| **4** | **Industrial goods** | **21** | $22/74 \times 21$ | **6** |
| **5** | **Health care** | **10** | $10/74 \times 21$ | **3** |
| **6** | **Natural resources** | **5** | $5/74 \times 21$ | **1** |
| **Total** | | **74** | | **21** |

**Source:**Researcher computation 2017

The total population and samples are in appendix A.

### 3.4 Sources and Method of Data Collection

For the purpose of this study, secondary data were extracted from the financial statements of the sampled manufacturing firms for the period 2011 to 2015. The use of secondary data is justified based on the fact that the study is based on the quantitative research methodology, and hence requires quantitative data.

### 3.5 Techniques of Data Analysis

Multiple regression models were employed as a tool of data analysis. It estimates the relationship among the variables of the study.Thetechnique was used because of its effectiveness and efficiency in estimating the statistical impact of one variable on another variable. Generalized Least Square (GLS) regression model is considered suitable for this study. It is a generalized linear modeling technique that was used to model a single response variable which has been recorded on at least an interval scale. The technique was applied to single or multiple explanatory variables and also categorical explanatory variables that have been appropriately coded (Hutcheson, 2011). However, the appropriate estimation technique depends on the properties of the error components. Thus in estimating panel regressions, researchers usually are confronted with the following: Fixed Effects estimation and Random Effects estimation. The Hausman (1978) test helps to determine the choice between the fixed or random effect models in conducting the GLS regression by calculating the value of Probability chi-square. The decision rule is that if the probability of the chi-square is lower

than the study confidence level of 5%, then the assumptions for the random effects estimation are violated and fixed effect should be used, and vice versa.

Robustness tests were also conducted in order to improve the validity of all statistical inferences for the study. The tests include; normality test, test for multicollinearity using the Variance Inflation Factor (VIF) and the Breutsch-Pegan or Cock-Weiberg test for heteroscedasticity to check for the fitness of the model and reliability of findings. STATA software package was used in the analysis.

### 3.6 Variables Measurement and Models Specification

The variables of the study consist of the dependent and independent variables. The selection of variables and measurement was based on the existing theoretical literature and empirical evidence from prior studies such as the works of: Courtis(1976), Carslaw and Kaplan (1991), (Turel 2010), Hooy and Lee (2010),Iyoha (2012), Dibia and Onwuchekwa (2013),Vuko and Cular (2014), Gajevsky (2015) and Ibadin and Elijah (2015).

The definitions and measurements of the variables used in this study are presentedbelow;

**Table 3.2 Variables Measurement**

| Variable name | Symbol | Expected Relationship | Measurement | Source |
|---|---|---|---|---|
| Audit delay | AUDE | | Number of days from the financial yearend to the date of publishing audit report | Ishaq&Che-Ahmad (2016) |
| Firm size | SIZC | Negative | Natural logarithm of the total asset of thecompany | Carslaw& Kaplan, (1991) |
| Firm profitability | PRFT | Negative | ROA: Profit after tax / Total assets | Vuko&Cular (2014) |
| Firm age | AGE | Negative | Number of years the company has existed | Dibia&Onwuchekwa (2013) |
| Firm accruals | TACL | Positive | (Profit before tax - Operating Cash Flow) / Total assets | Vuko&Cular (2014) |
| Firm complexity | BCOM | Positive | (Total account receivable + inventories) / total assets | Gajevsky (2015) |

**Source:** Researcher Compilation (2017)

The audit delay model used in this study was adapt fromprior studies to suit the company features and audit delay of quoted manufacturing companies in Nigeria,

(Che-Ahmad &Abidin, 2008).

The model:

$$Y = \alpha + \beta X + \mu i \text{(Gujarati and Porter, 2009).}$$

$$AUDE_{it} = \propto_{it} + \beta_1 SIZC_{it} + \beta_2 PRFT_{it} + \beta_3 AGE_{it} + \beta_4 TACL_{it} + \beta_5 BCOM_{it} + \mu_{it}$$

Where;

AUDE = audit delay (in number of days)

$\propto_{it}$ = the constant

SIZC= firm size

PRFT = firm profitability

AGE = firm age

TACL = firm total accruals

BCOM = firm complexity

$\mu$ = error term

$\beta_1$- $\beta_5$ = Beta coefficient

$_{it}$ = period $_i$ and time $_t$

## CHAPTER FOUR

## RESULTS AND DISCUSSION

## 4.1 Introduction

This chapter presented, analysed and interpreted the results obtained from the various test conducted in the study. The chapter begins with descriptive statistics, which show the summary of the data used for the study, then correlation matrix showing the relationship among the variables in the study and then the discussions of the regression results and other robustness test conducted. The chapter ended with the discussions of the major findings from the analysis and the policy implications of the findings.

## 4.2Descriptive Statistics

Descriptive statistics are used to enable the researcher to summarize and organised data in an effective manner to enhance understanding of the data. The descriptive statistics table showed information on the mean, standard deviation, minimum and maximum for each of the variables employed in the study. Table 4.1 contains descriptive statistics results of the study in a summary form.

**Table 4.1 Descriptive Statistics**

| Variable | Mean | Standard Dev. | Minimum | Maximum |
|---|---|---|---|---|
| **AUDE** | 21.11429 | 44.3247 | 0 | 214 |
| **SIZC** | 7.266413 | 0.7972646 | 5.794 | 8.993 |
| **PRFT** | 0.051986 | 0.0764628 | -0.259 | 0.239 |
| **AGE** | 45.14286 | 13.97899 | 17 | 70 |
| **TACL** | -0.0368523 | 0.1173465 | -0.41 | 0.49 |
| **BCOM** | 0.2436984 | 0.1330295 | 0.044 | 0.569 |

**Source:** Output of summary of statistics obtained from STATA 14 Results.

Table 4.1 showed that the mean of audit delay (AUDE) is 21days representing average AUDE across quoted manufacturing firms. It is also observable from the table that the difference between the mean of AUDE and standard deviation of AUDE across quoted manufacturing firms is 23days indicating low variability around mean. It implies that the

AUDE is low among the quoted manufacturing firms in Nigeria. The table also showed that the minimum and maximum AUDE are 0 and 214days respectively, indicating a very wide range. This means that audit delay is very high in some years than in others. Thus, manufacturing firms tend to record a very high audit delay at some years and low audit delay in other years.

The mean of firm size as indicated by table 4.1 is 7.27, representing the average size of the manufacturing firms in the study. The standard deviation is 0.80 indicating a very low variability among the variables. It means that most of the manufacturing companies are within the same range in terms of their total asset. The minimum and the maximum firm size are 5.80 and 8.99 respectively. This implies that the range is 3.19, indicating a moderate range in total asset owned by the manufacturing firms. It implies that the different between the largest manufacturing company and the smallest is very moderate.

Table 4.1 also showed that the average firm profitability as indicated by the mean is 0.052, representing the average return on asset, while the standard deviation is 0.076 representing the average variability of return on total asset among the sampled manufacturing firms within the period covered by the study. This implies that the level of profitability among the manufacturing firm is widely spread. Some firms tend to record relatively higher level of profitability than others. The minimum and the maximum as shown by the table are -0.26 and 0.24. Hence, the range is 0.5 implying that there is very wide gap between the highest profit and lowest loss.

The mean of firm age as indicated by table 4.1 is 45.14, representing the average age of the sampled manufacturing firms in the study. The standard deviation is 13.98 indicating a wide variability among the variables. It means that most of the manufacturing companies are not within the same range in terms of their age. The minimum and the maximum age of sampled

firms are 17 and 70 respectively. This implies that the range is 53 years, indicating a very wide range in age of the sampled manufacturing firms. It implies that the difference between the firm with the lowest age and the manufacturing company with the highest age is very wide.

Table 4.1 further showed that the mean for firm accrual (TACL) is -0.04 indicating the average level of TACL across the sampled manufacturing firms and standard deviation of TACL is 0.12. The difference between the mean and the standard deviation is 0.08. This is an indication of small variations in the TACL around the mean. It means that there is a very small variation in the TACL status of the sampled firms. The minimum and maximum are -0.41 and 0.49 respectively. This is an indication of a very wide range 0.9. The range corroborates the revelation of the standard deviation that there is a very small gap between the firm with lowest TACL and one with the highest TACL.

Table 4.1 showed that average firm complexity (BCOM) across the sampled manufacturing firms within the period of the study is 0.24. The standard deviation is 0.13 indicating a very low level of variability in the BCOM among the firms. The difference between the mean and the standard deviation is 0.11. This indicates a very low variability around the mean. The implication is that there is very small difference in the BCOM of the manufacturing firm in Nigeria. The minimum and maximum are 0.04 and 0.57 respectively. Thus, the range value is 0.53 representing the difference between the maximum and minimum BCOM among the sampled manufacturing firms.

## 4.3 Correlation Result

The correlation matrix shows the relationship between each pairs of variable in the regression model, the level of correlation between the variables is very important because excessive correlation may distort the standard error of estimation and lead to a wrong conclusion (Ahmad, 2014). The correlation matrix also serves as a preliminary test for multicollinearily. However, in this study, further test of multicollinearity was conducted through Variance Inflation Factor (VIF) and Tolerance Value (TV).

**Table 4.2 Correlation Result**

| | AUDE | SIZC | PRFT | AGE | TACL | BCOM |
|---|---|---|---|---|---|---|
| AUDE | 1.0000 | | | | | |
| SIZC | -0.0392 | 1.0000 | | | | |
| PRFT | -0.3830 | 0.2364 | 1.0000 | | | |
| AGE | -0.2492 | 0.1918 | -0.1836 | 1.0000 | | |
| TACL | -0.2907 | -0.0107 | 0.2119 | 0.1341 | 1.0000 | |
| BCOM | 0.2174 | -0.3814 | -0.0244 | -0.1985 | -0.0076 | 1.0000 |

**Source**: output of correlation matrix obtained from STATA 14 Results.

The correlation matrix showed the relationships between each pair of variables. The relationship between each independent variable and the dependent variable expected to be strong while the relationship between each pair of independent variable is expected to be low. This is because, according to Gujarati and porter (2009), a correlation coefficient between two independent variables above $\pm 0.8$ is considered excessive and may indicate the existence of multicollinearity. However, table 4.2 showed that all correlation coefficient between the pairs of the independent variables are less than $\pm 0.8$. Thus, suggesting that the five independent variables can be well fitted into one regression model.

The correlation matrix table reveals that the correlation coefficient between audit delay and firm size is -0.04. The result implies that firm size has a negative relationship with AUDE of quoted manufacturing firms in Nigeria. The larger the firm sizes the lower the audit delay. Similarly, the larger the firm, (in terms of its total asset) the timely in financial reporting.

This result is in line with the argument that lager firms are more closely watched, analyzed and scrutinized by stakeholder outside the firm. As a result, they are forced to present a financial statement without much delay.

The correlation matrix also showed that the correlation coefficient between AUDE and profitability is -0.38. This implies inverse relationship between profitability and AUDE of quoted manufacturing firms in Nigeria. The result suggests that as profitability increase the amount of AUDE decrease; thus, the higher the profitability, the lower the audit delay. Firms with higher profitability are likely to have loweraudit delay while firms with no sign of profitability are likely to higher audit delay. This is in line with the argument that firms reporting profit are egger to release the good news than bad news.

The correlation matrix table also reveals that the correlation coefficient between audit delay and age of the sampled firms is -0.25. The result implies that firm age has a negative relationship with AUDE of quoted manufacturing firms in Nigeria. The older the firm the lower the audit delay. This result is in line with the argument that older firms are more closely watched, analyzed and scrutinized by stakeholder outside the firm. As a result, they are forced to present a financial statement without much delay.

Table 4.2 further revealed that the correlation coefficient between the AUDE and total accrual (TACL) is -0.29. This means that TACL has a negative relationship with AUDE of quoted manufacturing firms in Nigeria. The result implies that as TACL decreases AUDE of sampled firms to increases. Hence, high TACL will result in an increase in AUDE. The result is in line with the argument that high accrual firms tend to delay in publishing their financial statement.

Finally, the correlation matrix showed that the coefficient of correlation between audit delay and business complexity (BCOM) is 0.21. The result implies that BCOM has a positive

relationship with AUDE of quoted manufacturing firms in Nigeria. That is, the more firms business complexity the more the delay in publishing financial report. The result suggests that business complexity has some positive relationship with audit delay of quoted manufacturing firms in Nigeria.

## 4.4 Result of Robustness Tests

Robustness tests are conducted to test the validity of the statistical inference of a regression model. The robustness test conducted for this study includes;multicollinearity test and heteroscedasitity test.

### 4.4.1 Muticollinearity Test

Muticolinearity test is conducted to check harmful correlation between the explanatory variables that could distort the regression result. In this study, muticollinearity test was conducted using Variance Inflation Factor (VIF) and Tolerance Value. According to Gujarati (2004), when VIF value is more than 10 and/or when the tolerance value (TV) is more than 1.00 then there is a strong indication of the presence of multicollinearity.

**Table 4.3 Multicollinearity**

| | VIF | 1/VIF |
|---|---|---|
| SIZC | 1.30 | 0.7665 |
| PRFT | 1.21 | 0.8261 |
| BCOM | 1.20 | 0.8367 |
| AGE | 1.17 | 0.8577 |
| TACL | 1.10 | 0.9121 |
| MEAN VIF | 1.19 | |

**Source: output from STATA 14**

The multicollinearity test from table 4.3 showed that all the VIF values are less than 10 and the tolerance values are less than 1. In addition, the mean VIF as indicated by the table 4.3 is

1.19. The result means that there is no evidence of multicollinearity among the explanatory variables.

### 4.4.2 Heteroscedasticity Test

Heteroscedasticity test is conducted to check the homoscedasticity assumption of the regression model. The presence of heteroscedasticity violates the homoscedasticity assumption and may lead to a wrong inference. In this study, heteroscedasticity test was conducted using Breusch- Pagan/Cook-Weisberg test. The null hypothesis for the test is "constant variance" (presence of homoscedasticity). Thus, if the p-value is less than or equal to 5% then there is evidence to reject the null hypothesis. The result of Breusch-pagan / Cook – Weisberg test for the study showed chi2 value is 36.90 and the p-value of chi2 is 0.0000 is an indications of presence of heteroskedasticity, see Appendix B for the result.

## 4.5 Interpretation and Discussion of Regression Result

The Breusch-pagan/Cook-Weisberg test indicated the presence heteroscedasticity and as such, the Ordinary Least Square (OLS) regression result alone cannot be relied upon for inferences. Thus, the study adopted additional robust regression (Fixed & random) effect models to improve the quality of the statistical inferences. The hausman specification test was conducted to choose between the fixed and random effect model. The result of the hausman test revealed that the value of chi2 is 5.22 and the prob>chi2 is 0.3898. The insignificant value as reported by the probability of chi2 indicates that the hausman test is in favour of random effect model. Further to this, the Breusch and Pagan lagrangian multiplier test for random effect was conducted to choose between the random effect result and OLS regression. The result revealed that the chi2 value is 0.02 with prob>chi2 is 0.4428. The result indicated that the best model to be interpreted is the OLS regression model as such robust OLS was further conducted and the result as thus:

**Table 4.4 OLS Robust Regression result**

| Variables | Coefficient | t | p-value |
|---|---|---|---|
| INTERCEPT | -26.64 | -0.62 | 0.537 |
| SIZC | 11.72 | 2.07 | 0.041 |
| PRFT | -262.15 | -5.21 | 0.000 |
| AGE | -0.98 | -2.98 | 0.004 |
| TACL | -56.49 | -2.08 | 0.040 |
| BCOM | 74.83 | 2.73 | 0.007 |
| | | | |
| R-Square: | 0.3340 | | |
| F-Statistic: | 6.44 | | |
| Prob>chi2 | 0.0000 | | |

**Source:** Regression Result from Output STATA 14

The R-square value showed the level at which the explanatory variables explain the dependent variable. Table 4.4 revealed that the R-square is 33.40%. This means that the firm attributes variables in the study explained the audit delay (AUDE) to the tune of 33%. The value of F-Statistic is 6.44 with probability of chi2 = 0.0000. The probability of chi2 is significant at 1%, indicating that the model is fit. This serves as a substantial evidence to conclude that firm attributes variables selected for the study are suitable for the study, impact of firm attributes on audit delay of quoted manufacturing firms in Nigeria.

Findings from the regression result revealed that all the independent variables (firm size, firm profitability, firm age, firm accrual, andfirm complexity) have significant impact with AUDE of quoted manufacturing firms in Nigeria. However, firm size and firm complexity is the only variable that has a positive significant relationship with audit delay of quoted manufacturing firms in Nigeria.

### 4.5.1 Firm size and Audit Delay

The regression result from table 4.4 revealed that firm size has a t-value of 2.07, a coefficient of 11.72 and a p-value equal to 0.041. This means that firm size has a significant positive relationship with AUDE. The significant relationship means that firm size have statistical influence on AUDE. However, the value of the coefficient of beta as indicated in the table 4.4, mean that the relationship between firm size (SIZC) and AUDE is positive. The positive relationship means that as SIZC increases, AUDE is also expected to increase and give room for delay in publishing financial statement of quoted manufacturing firms in Nigeria.

This result is contrary to the earlier expectation that SIZC has a significant negative impact on audit delay of quoted manufacturing firms in Nigeria. The positive relationship revealed that as the firm grows bigger in terms of its total asset, it also experience increase in both structural and administrative complexities that creates room for delay in publishing her financial statement. In addition, smaller companies in term of total assets have a simple administrative and structural form hence a lower delay in publishing their financial statement.

### 4.5.2 Firm Profitability and Audit Delay

As indicated by table 4.4, profitability has a t-value of -5.21 and a coefficient of -262.15 with a p-value 0.000. The result means thatfirm profitability is negatively related to audit delay (AUDE). The 1% level of significance as indicated by the p-value means that firm profitability has a strong influence on AUDE, while the negative coefficient signified negative relationship between firm profitability and AUDE. However, the inverse relationship means that there is a negative relationship between firm profitability and AUDE of quoted manufacturing firms in Nigeria. That is, as firm profitability increases, AUDE decrease; indicating low level of delay in publishing financial report of quoted manufacturing firms in Nigeria.

The finding is in agreement with the prior expectation of the study. The result means that firms with higher profitability have recorded good performance and as such, do not have reason to delay the good news. It is expected that when firm produce good results in terms of their performances, they would want to disclose it to the public to prove they have been able to meet up with their expectations. The finding is also in conformity with the argument that organization good newsof performance; the management tends to egger to release the good news and hence timely reporting.

On the other hand, the finding also indicates that poor performance influence managers to delay the publishingof financial statement to meet the expectation of the stakeholders. When managers record poor performance, they may be tempted to avoid reporting such poor performance to the public and may be force to resort opportunities earning management to hide their poor performance, which would subsequently lead to audit delay.

Furthermore, the finding corresponds to the provision of the efficient contracting theory. The theory aligns the mutual interest of the principal to that of the agent. The theory explained that when managers, record good performances they tend avoid any sort of opportunities behavior because it create a "win, win situation" between the shareholders and the managers.

### 4.5.3 Firm Age and Audit Delay

The regression result from table 4.4 further revealed that age has a t-value of -2.98, a coefficient of -.977 and a p-value equal to 0.004. This means that firm age has a significant negative relationship with AUDE. The significant relationship means that firm age does have statistical influence on AUDE. However, the value of the coefficient of beta as indicated in the table 4.4, mean that the relationship between firm age and AUDE is negative. The negative relationship means that as firm age increases, AUDE is also expected to decrease

and this give room for lower delay in publishing financial statement of quoted manufacturing firms in Nigeria.

This result is in accordance with our earlier expectation that firm age has a significantnegative impact on audit delay of quoted manufacturing firms in Nigeria. The negative relationship revealed that the older the firm becomes the stronger and efficient the internal control system and the timely in publishing the company financial statement. In addition, newer companies in term of age have a survival problem hence delay in publishing their financial statement.

### 4.5.4 Firm Accrual and Audit Delay

The regression result from table 4.4 also revealed that firm accrual (TACL) has a t-value of -2.08, a coefficient of -56.49 and a p-value equal to 0.040. This means that TACL has a significant negative relationship with AUDE. The significant relationship means that TACL does has statistical influence on AUDE. However, the value of the coefficient of beta as indicated in the table 4.4, mean that the relationship between TACL and AUDE is negative. The negative relationship means that as TACL increases, AUDE is expected to decrease.

This result is contrary to the earlier expectation that TACL has a significant positive impact on audit delay of quoted manufacturing firms in Nigeria. However, the unexpected outcome could be as result of the fact that company with high accrual are associated with older and experienced companies that have efficient internal control system that aid promptness in reporting of their financial statement. Hence, TACL play an important role in explaining the audit delay of quoted manufacturing firms in Nigeria.

### 4.5.5 Firm Complexity and Audit Delay

Finally, Table 4.4 revealed the relationship between firm complexity (BCOM) and AUDE. It revealed that BCOM has a t-value of 2.73, a coefficient of 74.82 and a p-value of 0.007. This means that BCOM has a significant positive relationship with AUDE. The significant relationship means that BCOM has a statistical influence onAUDE while the positive relationship means that as BCOM increases, AUDE is expected to increase. However, the positive relationship between BCOM and AUDE means that as BCOM increases, delay in publishing quoted manufacturing firms financial statement also increases. The regression result, therefore, means that BCOM is one of the variables that influence audit delay of quoted manufacturing firms in Nigeria. The finding is in line with the earlier expectation that BCOM has a significant impact on audit delay of quoted manufacturing firms in Nigeria.

## 4.6 Hypothesis Testing

The study was designed to test five hypotheses. The hypothesis which was earlier stated in null forms would be tested using the result obtained from OLS regression as presented in table 4.5.

**Table 4.5 Test of Hypotheses**

| Variables | t | p-value |
|---|---|---|
| INTERCEPT | -0.62 | 0.537 |
| SIZC | 2.07 | 0.041 |
| PRFT | -5.21 | 0.000 |
| AGE | -2.98 | 0.004 |
| TACL | -2.08 | 0.040 |
| BCOM | 2.73 | 0.007 |

***Source***: Regression Result from Output STATA 14.

**$H0_1$: Firm size has no significant impact on audit delay of quoted manufacturing firms in Nigeria.**

The result from table 4.5 showed that firm size has a t-value of 2.07 and a p-value of 0.041. Thus, indicating that firm size is significant at 5%. This result implies the study has found substantial evidence to reject the null hypothesis and accept the alternative hypothesis that firm size has a significant impact on audit delay of quoted manufacturing firms in Nigeria. The implication of the result is that firm size has a statistical influence on audit delay of quoted manufacturing firms in Nigeria. The finding is consistent with the study conducted by Turel (2010) and also contradicts the findings of Modugu et al. (2012), Dibia and Onwuchekwa (2013), and Salem (2013) who recorded a negative relationship andIyoha (2012), and Ibadin and Elijah (2015) whose results were insignificant related with audit delay.

**$H0_2$: Firm profitability has no significant impact on audit delay of quoted manufacturing firms in Nigeria**

Table 4.5 showed that firm profitability has a t-value of -5.21 and a p-value of 0.000. The p-value indicates that firm profitability is significant at 1%. Hence, the study has established enough evidence to reject the null hypothesis and accept the alternative hypothesis that firm profitability has significant impact on audit delay of quoted manufacturing firms in Nigeria. By accepting the alternative hypothesis, the study inferred that firm profitability is one of the firm attributes that impacton audit delay of quoted manufacturing firms in Nigeria. This finding is in line with the findings of Fagbem and Uadiale (2011), Vuko and Cular (2014) and Ibadin and Elijah (2015)but contradict findings of Oladipupo (2011) and Modugu et al. (2012).

**$H0_3$: Firm Age has no significant impact on audit delay of quoted manufacturing firms in Nigeria.**

The result from table 4.5 showed that firm age has a t-value of -2.98 and a p-value of 0.004. Thus, indicating that firm age is significant at 1%. This result implies the study has found substantial evidence to reject the null hypothesis and accept the alternative hypothesis that firm age has a significant impact on audit delay of quoted manufacturing firms in Nigeria. The implication of the result is that firm age has a statistical influence on audit delay of quoted manufacturing firms in Nigeria. The finding is consistent with the study conducted by Dibia and Onwuchekwa (2013), Salem (2013) and Saqer (2015). And also, contradict the findings of Iyoha (2012), and Ibadin and Elijah (2015).

**$H0_4$: Firm Accrual has no significant impact on audit delay of quoted manufacturing firms in Nigeria.**

Table 4.5 also showed that firm accrual has t-value of -2.06 and a p-value of 0.045. The result means that firm accrual is significant at 5%. The result further suggests that the study has established enough statistical evidence to reject the null hypothesis and accept the alternative hypothesis that firm accrual has a significant impact on audit delay of quoted manufacturing firms in Nigeria. The implication of the result is that firm accrual is one of the firm attributes that impact onaudit delay of quoted manufacturing firms in Nigeria. This finding is in line with the study conducted bySaqer (2015) and contrary to the studies of Hooy and Lee (2010) and Vuko and Cular (2014) who recorded a positive significant relationship.

**$H0_5$: Firm Complexity has no significant impact on audit delay of quoted manufacturing firms in Nigeria.**

Finally, table 4.5 revealed that firm complexity has a t-value of 2.73 and a p-value of 0.007. It implies that firm complexity is significant at 1%. This means that the study has found enough evidence to reject the null hypothesis and accept the alternative hypothesis that

firmcomplexity has significant impact on audit delay of quoted manufacturing firms in Nigeria. The implication of this finding is that firm complexity is one of the firm attributes that impacton audit delay of quoted manufacturing firms in Nigeria. The result is in line with findings of Vuko and Cular (2014) and contrary to the finding of Gajevsky (2015).

### 4.7 Discussion of Major Findings

From the tests conducted on the data collected and the analyses of the results this study found that firm attributes are associated with audit delay in the listed manufacturing firms in Nigeria. Evidences from the regression results indicated that the variables of firm attributes explained about 33% of the total variation in the audit delay of listed manufacturing firms in Nigeria at 99% confidence level during the period covered by the study, specifically the following were found:

i. Firm size has a significant positive impact on the audit delay of quoted manufacturing firms in Nigeria. This means that increase in the size of the company in term of total asset,the more time taking in publishing their financial statement.

ii. Firm profitability impact negatively on audit delay of quoted manufacturing firms in Nigeria. This means that audit delay of quoted manufacturing firms in Nigeria is largely influenced by the ability of the firm to make profit from the resources of the firm.

iii. Firm age of a firm has a significant negative impact on audit delay of quoted manufacturing firms in Nigeria. This means that the older the firm becomes the stronger her internal control system and the promptness in releasing the financial reports. Hence age is an important variable in explaining audit delay of quoted manufacturing firms in Nigeria.

iv. Firm accrual has a negative significant impact on audit delay of quoted manufacturing firms in Nigeria. This means that total accrual is an important company feature in

explaining audit delay of quoted manufacturing firms in Nigeria.

v. Firm complexity has significant positive impact on audit delay of quoted manufacturing firms in Nigeria.

## 4.8 The Policy Implication of Findings

The study provides evidence to the users of financial statement by indicating that the firm size could go a long way in impacting on audit delay. Larger firms in terms of its total asset, also come within increase in both structural and administrative complexities that creates room for delay in publishing their financial statement. This implies that larger manufacturing firms take longer time to publish their financial statement than smaller ones; the management has to be closely monitored by the regulatory authorities since increases in size also come within increase in both structural and administrative complexities that creates room for unethical accounting practice hence auditors take longer time bringing their book up to date.

The evidence indicates that firm attributes- particularly profitability plays a significant role in audit delay and by implication, promptness in reporting within regulatory time frame of 90 days. This should make the management of the organisations to strive for profitability. This is because managementis in competition with other providers of information and if they do not provide useful, cost-effective and timely information, it signaled to theinvestors' bad state of the organization. This shall have negative impact on the shares of the organization because investors will withdraw their investment from such organization.

Corporate Affairs Commission and Securities and Exchange Commission which are regulatory bodies should urge the quoted companies to comply with preparation and publication of financial reports within 90 days as stipulated by CAMA, 2004 because companies are expected to increase investors' confidence in Nigerian Stock Market.

The implications of the aforementioned are enormous for foreign and local investors who make their decisions based on accounting information. Stakes are equally high for policy makers who consider information timeliness as very important to stock market development, which is very important for the well-functioning of the economy.

# CHAPTER FIVE

# SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## 5.1 Summary

This study examined the impact offirm attributes on audit delay of quoted manufacturing firms in Nigeria. Specifically, the study assessed the impact of firm size, firm profitability, firm age,firm accrual andfirm complexity onaudit delay of quoted manufacturing firms in Nigeria

To enhance the understanding of the subject matter, the concept of audit delay and firm attributes (firm size, firm profitability, firm age,firm accrual and firm complexity) were conceptualized. Also relevant empirical literatures were reviewed to identify gaps and establish a theoretical backing. Some of the chiefly literatures reviewed include the work of Al-Ajmi 2008; Hooy and Lee 2010; Fagbem and Uadiale 2011; Oladipupo 2011; Modugu et al. 2012; Iyoha 2012; Dibia and Onwuchekwa 2013; Salem 2013; Vuko&Cular 2014; Saqer 2015; and Ibadin and Elijah 2015. In addition, Agency theory and theory of rational expectation were used to underpin the study. The agency theory was used to underpin the structural variables firm attributes employed in the study, and the rational expectation theory was used to underpin the dependent variable and firm profitability.

Correlational research design was adopted to examine the impact of firm attributes on audit delay of quoted manufacturing firms in Nigeria. The population of the study consists of 74 quoted manufacturing firms in Nigeria as at 2015. The sample size consists of 21 manufacturing firms, which were arrived at using Yamane sample size formula. Panel regression was adopted for the study, in which fixed and random effect test were conducted.

From the tests conducted on the data collected and the analyses of the results this study found that company features are strongly associated with audit delay of quoted manufacturing firms

in Nigeria. Specifically, from the regression results conducted the study found a significant relationship between the audit delay and firm attributes (firm size, firm profitability, firm age, firm accrual and firm complexity). The regression results indicated that the variables of company features explained about 33.40% of the total variation in the audit delay of quoted manufacturing firms in Nigeria. Specifically, the study found that firm size and firm complexity have a significant positive relationship with audit delay of quoted manufacturing firms in Nigeriaand firm profitability, firm age and firm accrual have a significant negative relationship with audit delay of quoted manufacturing firms in Nigeria.

## 5.2 Conclusion

Based on the tests conductedon the data and analyses of the results, this study found that firm attributes have significant impact on the audit delay of quoted manufacturing firms in Nigeriaduring the period covered by the study. The study therefore concludes that:

i. Firm size has a significant positive impact on the audit delay of quoted manufacturing firms in Nigeria. This means that increase in the size of the company in term of total asset, the more time taking in publishing their financial statement.

ii. Firm profitability impact negatively on audit delay of quoted manufacturing firms in Nigeria. This means that audit delay of quoted manufacturing firms in Nigeria is largely influenced by the ability of the firm to make profit from the resources of the firm.

iii. Firm age of a firm has a significant negative impact on audit delay of quoted manufacturing firms in Nigeria. This means that the older the firm becomes the stronger her internal control system and the promptness in releasing the financial reports. Hence age is an important variable in explaining audit delay of quoted manufacturing firms in Nigeria.

iv. Firm accrual has a negative significant impact on audit delay of quoted manufacturing firms in Nigeria. This means that total accrual is an important company feature in explaining audit delay of quoted manufacturing firms in Nigeria.

v. Firm complexity has significant positive impact on audit delay of quoted manufacturing firms in Nigeria.

### 5.3 Recommendations

In line with the findings and the conclusions of this study, the study recommends that policy makers and regulators should intensify regulations and surveillances in the manufacturing firms due to the evidence of delay financial reporting that is associated with the firm attributes. Particularly, they should make it a policy that quoted companies, especially manufacturing firms should take into Cognisance firm attributes employed in this study and this could improve the audit work and the financial reporting promptness. Specifically, the following recommendations are offered:

i. Despite the structural and administrative complexities that are associated with larger companies, managers should deploy a means of reporting financial statement timely in order to boost the investors' confidence in the organization. This is evidenced from our finding that company size impact positively on audit delay of quoted manufacturing firms in Nigeria.

ii. Managers of manufacturing firms in Nigeria should strive for good performance if they are to enjoy timely financial reporting. This is evidenced from the fact that profitability has negative and significant impact on audit delay of quoted manufacturing firms in Nigeria.

iii. Evidence from the findings of the study, older firm in term of age has to maintain a system of accountability and reporting throughout the year within the company,this will help reduce the amount of audit hours needed at the end of the financial year and

assist auditors to do their final audit work. Moreover, companies should evaluate and improve the internal control systems by designing a system in accordance with scale and complexity and the risk content of lending, trading, investing and other activities since older firms are associated with strong internal control system.

iv. The researchers should continue to employ firm accrual level in explaining audit delay in quoted manufacturing firms in Nigeria. This is based on our finding that firm accrual impact negatively on audit delay of quoted manufacturing firms in Nigeria.

v. More effort is urgently needed on the part of the listed manufacturing companies to complete their financial statements on a timely basis. In particular, in terms of firm complexity and nature of the company transaction, this study has identified that audit delay is particularly significant for firms with complex transaction. Although a longer delay is inevitable for companies with complex activities due to the extensive auditing work generated, many of these companies also depend on capital from external investors; and so must realize that there is a great incentive to publish their reports early to maintain the positive interest of stakeholders. Firms in this category must perform more interim recording work, engage large auditing firms and pressure auditors to complete the audit work in a timely manner. On the other hand, as stock-taking and inventory for companies was identified to be a task that delayed auditing at the end of the year, these companies must make more effort to ensure efficient stock management and recording so that auditors have easy access to the requisite information.

## 5.4 Limitation and Areas for Further Studies

The study examined the impact of firm attributes on audit delay of quoted manufacturing firms in Nigeria using statistical tools and data collected from the financial statement of quoted manufacturing firms within the period of the study (2011-2015). This study therefore,

limited itself to the scope and objectives earlier as specified in the chapter one of the study and caution should be exercised in using the work as a basis for generalisation.

In the process of this research, some certain areas that could be investigated have surfaced. For instance, the impact of audit firms' features and governance attributes on audit delay in manufacturing and other sectors of the Nigerian economy requires research effort, especially as they are not covered in this study. There is the need for similar studies that will assess the relationship between company features and audit delay of quoted manufacturing firms using different tool of analysis like survey of stakeholders' opinion about causes of audit delay, so as to see how company features can be used to achieve prompt utilization of financial statement for informed decision making. There is also the need to conduct similar research using a different source of data, employing different financial reporting delay and company features proxies, and using different scales of measurement of variables and techniques for data analysis. Further research in these areas would not only complement this study, but would also help in bringing about improvement in financial reporting practices in the Nigerian corporate landscape.

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## APPENDIX A

**Population of the Study**

**Agriculture**

1. FTN Cocoa Processors Plc
2. The Okomu oil Palm Plc
3. PrescoPlc
4. Ellah Lakes Plc
5. Livestock Feeds Plc

**Conglomerates**

1. A G Leventis Nigeria Plc
2. ChellaramsPlc
3. John Holt Plc
4. SCOA Nigeria Plc
5. Transnational Corporation of Nigeria Plc
6. UAC of Nigeria Plc

**Consumer Goods**

1. DN Tyre and Rubber Plc.
2. Champion Breweries Plc.
3. Golden Guinea Breweries Plc.
4. Guiness Nigeria Plc.
5. International Breweries Plc.
6. Jos International Breweries Plc.
7. Nigerian Breweries Plc.
8. Premier Breweries Plc.
9. 7-up Bottling Company Plc.
10. Big Treat Plc.
11. Dangote Flour mills Plc.
12. Flour mills of mills Nigeria Plc.
13. Honeywell Flour mills Plc.
14. Multi-Trex Integrated Foods Plc.
15. Northern Nigeria Flour mills Plc.
16. National Salt Company of Nigeria Plc.
17. P S Mandrids Plc.
18. UTC Nigeria Plc.
19. Union Dicon Salt Plc.
20. Cadbury Nigeria Plc.
21. Nestle Nigeria Plc.
22. Beta Glass Plc.
23. Nigerian Enamellware Plc.
24. Vita form Nigeria Plc.
25. Vono Products Plc.
26. PZ Cussons Nigeria Plc.
27. Unilever Nigeria Plc.

**Industrial Goods**

1. African Paint (Nig) Plc.
2. Ashaka Cement Plc.
3. Berger Paints Nigeria Plc.
4. Chemical and Allied Products Plc.
5. Cement Company of Northern Nigeria Plc.
6. Dangote Cement Plc.
7. DN Meyer Plc.
8. First Aluminum Nigeria Plc.

9. Lafarge Cement Wapco Nigeria Plc.
10. Paint and Coatings Manufacturing Nigeria Plc.
11. Premier Paints Plc.
12. Curtix Plc.
13. Nigerian Wire Industries Plc.
14. Nigerian Wire and Cable Plc.
15. Avon Crowncaps and Containers (NIG) Plc.
16. Greif Nigeria Plc.
17. Nigerian Bags Manufacturing Company Plc.
18. Poly Products Nigeria Plc.
19. West African Glass Industry Plc.
20. Nigerian Sewing Machine Manufacturing Co. Plc.
21. Nigerian Ropes Plc.

**Health Care**

1. Ekocorp Plc.
2. Union Diagnostic and Clinical Services Plc.
3. Morison Industries Plc.
4. Evans Medical Plc.
5. Fidson Healthcare Plc.
6. Glaxo Smith Line Consumer (Nig) Plc.
7. May and Baker Nigeria Plc.
8. Neimeth International Pharmaceutical Plc.
9. Nigeria-German Chemicals Plc.
10. Pharma-DEKO Plc.

**Natural Resources**

1. B O C Gases Plc.
2. Alumaco Plc.
3. Aluminium Extrusion Industries Plc.
4. Multiverse Plc.
5. Hallmark Paper Products Plc.

**Sample of the Study**

**Agriculture**

1. PrescoPlc

**Conglomerates**

2. A G Leventis Nigeria Plc
3. UAC of Nigeria Plc

**Consumer Goods**

4. Champion Breweries Plc.
5. Guiness Nigeria Plc.
6. 7-up Bottling Company Plc.
7. Dangote Flour mills Plc.
8. Flour mills of mills Nigeria Plc.
9. Honeywell Flour mills Plc.
10. Cadbury Nigeria Plc.
11. Vita form Nigeria Plc.

**Industrial Goods**

12. Ashaka Cement Plc.
13. DN Meyer Plc.

14. Dangote Cement Plc.
15. Curtix Plc.
16. Berger Paints Nigeria Plc.
17. Greif Nigeria Plc.

**Health Care**

18. Evans Medical Plc.
19. Fidson Healthcare Plc.
20. May and Baker Nigeria Plc.

**Natural Resources**

21. Aluminium Extrusion Industries Plc.

## APPENDIX C

```
 ___  ____  ____  ____  ____ (R)
 /__    /   ____/   /   ____/
___/   /   /___/   /   /___/   14.0   Copyright 1985-2015 StataCorp LP
  Statistics/Data Analysis            StataCorp
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                                      979-696-4601 (fax)

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Notes:
      1.  Unicode is supported; see help unicode_advice.
      2.  Maximum number of variables is set to 5000; see help set_maxvar.

. edit

. *(9 variables, 105 observations pasted into data editor)

. summarizeaudesizcprft age taclbcom

    Variable |        Obs        Mean    Std. Dev.       Min        Max
-------------+---------------------------------------------------------
aude |        105    21.11429     44.3247          0        214
sizc |        105    7.266413    .7972646   5.794124   8.993313
prft |        105     .051986    .0764628   -.259351   .2386116
age |        105    45.14286    13.97899         17         70
tacl |        105   -.0368523    .1173465  -.4050971    .488887
-------------+---------------------------------------------------------
bcom |        105    .2436984    .1330295   .0439511   .5686097

. pwcorraudesizcprft age taclbcom, star(0.05)sig

             |     audesizcprft      age     taclbcom
-------------+------------------------------------------------------
aude |   1.0000
             |
             |
sizc |  -0.0392   1.0000
             |   0.6910
             |
prft |  -0.3830*  0.2364*  1.0000
             |   0.0001   0.0152
             |
age |  -0.2492*  0.1918* -0.1836   1.0000
             |   0.0104   0.0499   0.0609
             |
tacl |  -0.2907* -0.0107   0.2119*  0.1341   1.0000
             |   0.0026   0.9135   0.0300   0.1725
             |
bcom |   0.2174* -0.3814* -0.0244  -0.1985* -0.0076   1.0000
             |   0.0259   0.0001   0.8051   0.0424   0.9390
             |

. regaudesizcprft age taclbcom

      Source |       SS           df       MS      Number of obs   =       105
```

```
-------------+----------------------------------   F(5, 99)        =      9.93
       Model |  68243.5596         5  13648.7119   Prob> F         =    0.0000
    Residual |  136083.069        99  1374.57645   R-squared       =    0.3340
-------------+----------------------------------   Adj R-squared   =    0.3004
       Total |  204326.629       104  1964.67912   Root MSE        =    37.075

------------------------------------------------------------------------------
aude |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
sizc |   11.71995   5.208355     2.25   0.027     1.385442    22.05445
prft |  -262.1485   52.31051    -5.01   0.000    -365.9439   -158.3531
age |  -.9767034   .2808176    -3.48   0.001    -1.533906   -.4195003
tacl |  -56.48703   32.43934    -1.74   0.085    -120.8537     7.87965
bcom |   74.82503   29.87641     2.50   0.014     15.54374    134.1063
       _cons |  -26.64488   40.56968    -0.66   0.513    -107.1439    53.85416
------------------------------------------------------------------------------

. vif

    Variable |       VIF       1/VIF
-------------+----------------------
sizc |      1.30    0.766531
prft |      1.21    0.826147
bcom |      1.20    0.836725
age |      1.17    0.857700
tacl |      1.10    0.912119
-------------+----------------------
    Mean VIF |      1.19

. tsset id year
panel variable:  id (strongly balanced)
time variable:  year, 2011 to 2015
delta:  1 unit

. hettest

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

chi2(1)      =    36.90
Prob>chi2  =   0.0000

. xtregaudesizcprft age taclbcom, fe

Fixed-effects (within) regression               Number of obs     =        105
Group variable: id                              Number of groups  =         21

R-sq:                                           Obs per group:
within  = 0.0863                                         min =          5
between = 0.2123                                         avg =        5.0
overall = 0.1370                                         max =          5

F(5,79)           =       1.49
corr(u_i, Xb)  = -0.1448                        Prob> F          =     0.2015

------------------------------------------------------------------------------
aude |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
sizc |   5.778259   20.30359     0.28   0.777    -34.63502    46.19154
prft |  -238.8085   98.45509    -2.43   0.018    -434.7785   -42.83856
age |   .3434186   2.812766     0.12   0.903    -5.255251    5.942089
tacl |  -24.17496   35.42503    -0.68   0.497    -94.68673     46.3368
bcom |   35.23653   83.06476     0.42   0.673    -130.0997    200.5728
       _cons |  -33.43912   182.7465    -0.18   0.855     -397.187    330.3087
-------------+----------------------------------------------------------------
sigma_u|  26.379311
sigma_e|  37.008206
rho |  .33690456   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(20, 79) = 1.02                     Prob> F = 0.4520

. est store fe

. xtregaudesizcprft age taclbcom, re

Random-effects GLS regression                   Number of obs     =        105
```

```
Group variable: id                              Number of groups  =         21

R-sq:                                           Obs per group:
within  = 0.0776                                         min =          5
between = 0.6979                                         avg =        5.0
overall = 0.3340                                         max =          5

                                                Wald chi2(5)      =      49.31
corr(u_i, X)   = 0 (assumed)                    Prob> chi2        =     0.0000

------------------------------------------------------------------------------
aude |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
sizc |   11.71762    5.22683     2.24   0.025     1.473224    21.96202
prft |  -262.1989     52.437    -5.00   0.000    -364.9735   -159.4243
age |  -.9769852   .2818787    -3.47   0.001    -1.529457   -.4245131
tacl |  -56.25179   32.42985    -1.73   0.083    -119.8131    7.309545
bcom |   74.76991   29.97611     2.49   0.013     16.01781     133.522
       _cons |  -26.59054   40.71682    -0.65   0.514     -106.394    53.21296
-------------+----------------------------------------------------------------
sigma_u|  1.6656747
sigma_e|  37.008206
rho |  .00202165   (fraction of variance due to u_i)
------------------------------------------------------------------------------

. est store re

. hausmanfe re

                ---- Coefficients ----
             |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
             |       fe           re          Difference          S.E.
-------------+----------------------------------------------------------------
sizc |    5.778259     11.71762       -5.939363        19.61928
prft |   -238.8085    -262.1989        23.39038        83.32926
age |    .3434186    -.9769852        1.320404        2.798606
tacl |   -24.17496    -56.25179        32.07683        14.25615
bcom |    35.23653     74.76991       -39.53338        77.46733
------------------------------------------------------------------------------
                           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(5) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =        5.22
Prob>chi2 =      0.3898

. xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

aude[id,t] = Xb + u[id] + e[id,t]

        Estimated results:
                        |       Varsd = sqrt(Var)
                ---------+-----------------------------
aude |   1964.679        44.3247
e |   1369.607       37.00821
u |   2.774472       1.665675

        Test:   Var(u) = 0
chibar2(01) =     0.02
Prob> chibar2 =   0.4428

. regaudesizcprft age taclbcom, robust

Linear regression                               Number of obs     =        105
```

```
F(5, 99)          =       6.44
Prob> F           =     0.0000
                                                R-squared         =     0.3340
                                                Root MSE          =     37.075

------------------------------------------------------------------------------
             |               Robust
aude |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
sizc |   11.71995   5.666676     2.07   0.041     .4760329    22.96386
prft |  -262.1485   50.30689    -5.21   0.000    -361.9683   -162.3287
age |  -.9767034   .3282254    -2.98   0.004    -1.627974   -.3254331
tacl |  -56.48703   27.19853    -2.08   0.040    -110.4548   -2.519251
bcom |   74.82503   27.37263     2.73   0.007      20.5118    129.1383
       _cons |  -26.64488   43.05307    -0.62   0.537    -112.0715    58.78175
------------------------------------------------------------------------------

.
```