BOARD CHARACTERISTICS AND EARNINGS MANAGEMENT OF LISTED FOODS AND BEVERAGES FIRMS IN NIGERIA

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BEING A DISSERTATION SUBMITTED TO SCHOOL OF POSTGRADUATE STUDIES, AHMADU BELLO UNIVERSITY, ZARIA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF SCIENCE DEGREE IN ACCOUNTING AND FINANCE

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Declaration

I hereby declare that this dissertation titled 'Board Characteristics and Earnings Management of listed foods and beverages firms in Nigeria' is original and has been written by me under the supervision of Prof. Musa Inuwa Fodio and Mallam Lawal Muhammad. To the best of my knowledge and belief, this work has never been submitted or presented to any institution for the award of degree or diploma. In addition, the materials consulted and used in the study have been duly acknowledged in the text and by means of references.

_____ _____

Idris Ibrahim **Date**

Certification

This dissertation titled 'Board Characteristics and Earnings Management of listed foods and beverages firms in Nigeria' meets the regulations governing the award of the degree of Master of Science (M.Sc.) in Accounting and Finance of Ahmadu Bello University Zaria; and therefore approved for its contribution to knowledge and literary presentation.

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Dedication

This research work is dedicated to Allah (SWT), the most Beneficent, most Merciful; and to our beloved prophet Muhammad, peace and blessing of Allah be upon Him. I thank Allah for giving me the opportunity to complete this research work successfully.

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All praise is due to Allah. May Allah's Peace and Blessings be upon His final Messenger, his pure Family, his noble Companions, and all those who follow them with righteousness until the Day of Judgment. I thank Almighty Allah (who has power over everything) for giving me the opportunity to bring this work to its logical conclusion.

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I must admit that the names mentioned above are far from complete. In fact, the making of a comprehensive list may necessitate another volume of this size if not more. Since this is not feasible, I duly thank all those whose names are worth mentioning but because of space constraint have not been mentioned.

Abstract

As a response to some financial scandals and corporate failures in Nigeria and around the globe which are linked to earnings management, certain characteristics of Board of Directors that can improve their monitoring function are suggested in the literature as corporate governance mechanisms. Thus, the study concentrated on three board characteristics' proxies, namely: Board Competency, frequency of Board Meetings and Gender Mix and their relationships with earnings management (because, they have not yet been studied extensively in Nigeria). Therefore, the study investigated the impacts of Board Competency, frequency of Board Meetings and Gender Mix on Earnings Management (in the context of agency relation) of listed foods and beverages firms in Nigeria from 2007 to 2013. The estimation of discretionary accruals (proxy for Earnings Management) is by using modified Jones (1991) model. The sample size of the population is nine (9) firms. Both correlational and ex-post factors research design were used. A multiple regression technique was employed to determine the impact of Board Characteristics on Earnings Management. The result was interpreted using fixed effect- least square dummy variables. The results reveal that Board Competency has no significant impact on Earnings Management. The impact of frequency of Board Meetings and Gender Mix on Earnings Management were however found to be negative and statistically significant. The study concluded that increase in number of board meetings and the proportion of women directors in the board constrain the level of discretionary accruals; while directors' knowledge of accounting and/or finance (board competency) does not guarantee quality of earnings. Therefore, in line with the findings and conclusions, the study recommends that SEC should encourage adherence to at least the minimum requirement of board meetings (four times in a financial year) by making it mandatory. Government in collaboration with Corporate Affairs Commission should come up with a policy where by companies will be forced to provide seat for women in their boards, give them responsibilities in area of finance and control related matters; as this would enhance firm performance and constrain earnings management, since they normally develop trust leadership.

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CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

Earning is one of the most important items in financial statements. This is because, users of financial statements mostly focus on the company's earnings before looking at other variables. Earnings represent the image of a company on the eyes of many investors and other financial statements' users for decision-making purposes. Earnings indicate the extent to which a company has engaged in value added activities. Therefore, increase in earnings represents an increase in company's value, while decrease in earnings signals a decrease in that value (Lev, 1989). Accounting deals with measurement and communication of economic information that involves the determination of net income (accounting earnings). Accounting's earnings serve as a major constituent of corporate information required in the capital market for assessing firm performance and for stock valuation (Musa, Ibikunle & Oba, 2013). Therefore, accounting earnings' information need to be more reliable. This is because, the integrity of financial reports depends on the reliability of earnings being reported by firms; and the capital market needs precise and unbiased financial reporting to value securities and revive investors' confidence (Roodposhti & Chasmi, 2011).

The only source through which information is passed from the principal to the owners is through financial statement. A reliable financial statement is expected to provide vital information to investors to enable them make the right business decisions. A reliable financial statement is assumed to provide information free from errors and bias that would enable users to make accurate judgment regarding the information (Shehu, 2013). Moreover, the responsibility for preparing and publishing external information lies with the firm's managers. As such, managers

use their knowledge of the firm and the current state of business circumstance to prepare information that gives a true and fair view of the firm's financial state and performance. However, due to information asymmetry, managers may use their own discretion in preparing and reporting financial statement to their own advantage (Scott, 2003). This may give rise to agency problem.

Agency problem is said to have existed when managers fail to act in the best interest of the owners. The existence of agency problem results from separation between ownership and control; as managers would have more inside information than the financial providers (shareholders). Evidence from literature reveals that managers use their discretion over accounting numbers to achieve private gain; and flexibility of accounting standard usually gives room for them to adjust earnings through managing accruals. Managers have many incentives to manage earnings like compensation, avoid debt covenant violation, meeting and beating benchmark, reducing regulatory or political cost, to meet analysts' expectations and to make a firm appears a less risky investment (Kasznik, 1999 and Trueman & Titman, 1988). Bunamin, Abdulra'uf, Johari and Abdulrahman (2012) have the notion that Earnings Management with the intention to manage users' perception in firms are considered unethical even if no accounting standards are violated. Hence, Earnings Management has the propensity to mislead which may be difficult to detect by ordinary people who do not have requisite knowledge on the issue relating to accounting numbers.

Earnings manipulation makes financial reporting to be of less quality and reduces the level of confidence of investors in their decision making process (Shehu & Abubakar, 2012). Nowadays, most users of financial statement do not count accounting earnings as a major yardstick for

performance evaluation as well as for decision-making. Evidences from literature and financial scandals around the globe prove that Earnings Management reduces investors' confidence. On the other hand, Board of Directors are regarded as an important internal corporate mechanism responsible for mitigating agency conflicts between managers and shareholders by helping in constraining the level of Earnings Management. Therefore, one of the major roles of Board of Directors is to monitor and reduce the incidence of Earnings Management (Hashim, Ariff & Salleh, 2013). They are responsible for monitoring managers on behalf of shareholders and overseeing the financial reporting processes.

Composing Board of Directors with diverse knowledge, skills, gender, and function is an important determinant of effective board for carrying out its monitoring function. Board composition includes the determination of the proportion of independent and executive directors, mix of qualification and expertise, designating audit, proportion of female directors on the board and number of Board Meetings (Man, 2012; Bertrand & Mullainathan, 2001). Several studies suggest that both the informativeness of reported earnings and firm's performance are affected by Board of Directors' attributes such as the board size, board independence, frequency of Board Meetings, Board of Directors' competencies and managerial ownership (Vafeas 1999; Klein 2012; Hermalin & Wesberch 2012). Therefore, they are expected to monitor and control the behaviours of managers to ensure they act based on the shareholders' interest. Although, a lot of literature suggest that effective board helps reduce Earnings Management, but issues related to corporate governance and Earnings Management are inconclusive. This is because many corporates failure witnessed around the globe occurred in the developed countries, where they have more sophisticated, and sound corporate governance system. And the Board of Directors were mostly held responsible for failure to control the activities of managers.

Accounting scandals and large businesses failure such as Pamalat (2003) in Italy, Enron (2000), Xerox (2001), Worldcom (2000), Satya Computer service in India among others indicate Board of Directors as internal corporate governance mechanism, might not be able to withhold managers from Earnings Management behaviours. And many people considered Board of Directors as passive entities controlled by management. This accounting scandals and businesses failure around the globe have shaken the integrity of accounting information and resulted in a drop of investors' confidence in capital market. Enron's case made the United States congress to respond by passing Sarbanes Oxley Act of 2002 to remedy perceived deficiencies in financial reporting. The role of Board of Directors was strengthened; and certain characteristics are suggested within the corporate governance (Saleh, Iskandar & Rahmat, 2005).

In view of the centrality of Board of Directors in the entrenchment of good corporate governance practice, many corporate governance codes were introduced in Nigeria (such as the Code of Best Practices on Corporate Governance in Nigeria- 2003 SEC Code; Code of Corporate Governance in Nigeria- 2011 SEC Code; Code of Corporate Governance for Banks in Nigeria Post-Consolidation- 2006 CBN Code among others) to tackle the issue of poor representation by the management that resulted in failure and bankruptcy of some companies such as Cadbury Nigeria, African Petroleum (AP), Savannah bank, and the financial scandal of the five banks' managers, all in Nigeria. Therefore, to improve the monitoring functions of board of directors, most of the commendable features of the 2011 SEC code are boards' related. As such, several characteristics of board of directors are suggested by the code; furthermore, there are also some attributes of Board of Directors that were not mention by the code, but suggested in the literature to improve

the monitoring functions of corporate boards. Several studies suggest that there are some Board of Directors' attributes that have significant impact on Earnings Management.

Considering the fact that most of the businesses failure and financial scandals around the globe happened in the developed countries where they have more sophisticated corporate governance system; and the list of recent cases of creative accounting practices seems to be growing as many corporate bodies in Nigeria are being investigated (Akenbor & Ibanichuku, 2012). Furthermore, foods and beverages sector of the economy has also witnessed the problem of earnings manipulation. For example, Cadbury Nigeria Plc. manipulated its financial statement to boost its image as well as push its stock price. As a result, the company inflated its turnover, profit and other performance indices. The company had been doing so since 2002 but was later discovered in 2006 (Onyenweau, 2009). Therefore, the motive behind this study is the implicit assertion made by Klein (2006) that poor corporate governance and Earnings Management are positively related; and that most corporate governance codes introduced in Nigeria are designed to strengthen boards' monitoring functions; yet there are still cases of corporate governance malfunctions. Several bodies of literature have identified various board attributes that can improve their monitoring functions. However, up to date there is no consensus as to what combination of board of directors' characteristics constitutes effective board in monitoring managerial incentive to manage earnings.

The study is aim at determine the impacts of board characteristics on earnings management. Three Board of Directors' characteristics of listed foods and beverages firms in Nigeria will be considered as the independent variables, namely: Board Competency, frequency of Board Meetings and Gender Mix. While the dependent variable will be Earnings Management, proxy by the discretionary accruals of listed foods and beverages firms in Nigeria.

1.2 Statement of the Problem

Previous literature such as Hashim & Devi (2008), Buamin *et al.* (2012) and Gulzar & Wang (2011) recognize Earnings Management as a potential agency cost, since managers manipulate earnings to mislead shareholders and fulfil their own interest. Therefore, the Board of Directors that is in charge of minimizing the agency conflict between managers and shareholders are expected to play a significant role in constraining the level of Earnings Management (Lei, 2014). Hence, most of the literatures that examined the relationship between Earnings Management and Board Characteristics suggest that Earnings Management erode the quality of financial statement. It also suggests that Board of Directors are not performing their duty effectively to constraint the level of Earnings Management.

High profile of accounting scandals and business failure around the globe (most especially in the developed economies) from the beginning of the 21st century highlighted the intentional misconduct of managers towards reporting earnings. Failure of large businesses such as Enron (200), Xerox, Worldcom (2000), Aldephia, Tyco, Parmalat, One-tel, Savannah bank, and Cadbury Nigeria Plc. raised concerns over the weakness of corporate governance/Board of Directors as it failed to protect the interests of shareholders; and the reliability on financial statement by shareholders for decision making became questionable (Musa, *et al*. 2013). This drew the attention of corporate governance reform around the globe. Consequently, the Sarbanes Oxley Act was introduced in 2000 by the United States to tackle the situation.

According to CBN (2006), a survey by SEC indicates that weak corporate governance accounted for the corporate failures in Nigeria, as only 40% of the listed companies recognized the code of corporate governance in place The list of recent cases of creative accounting practices seems to be growing as many more corporate bodies in Nigeria are still being investigated (Akenbor & Ibanichuku, 2012). The collapse of African International Bank, Savannah Bank, Cadbury Nigeria, the account manipulation of African Petroleum (AP) and the sack of five banks' managers have all been linked to Earnings Management in Nigerian public companies (Odia & Ogiedu, 2013). Previous studies recognise board as a crucial internal control mechanism and suggest that an effective board helps in mitigating Earnings Management activities.

Despite the fact that there are many empirical studies that investigated the issue of Board of Directors' attributes/corporate governance and Earnings Management, majority focused on determining the statistical impact of board size, board independence, CEO duality, managerial ownership and audit committee on Earnings Management. These prior studies includes: Saleh, Ja'afar & Hassan (2008), Shehu & Mamman (2011), Moustapa & Ragab (2011), Uadiale (2012), Odia & Ogiedi (2013), Ugbade, Lizan & Kaseri (2013), Musa, *et al.* (2013), Shehu (2013), Al-Damari & Ismail (2013), Swastika (2013), among others. However, Board Competency, frequency of Board Meetings and Gender Mix have not yet been studied extensively.

Board competency is a nomenclature used to refer to board of directors' financial expertise in relation to earnings management. In this study focus was made on board of directors' financial background. According to Yousef, Nur Hidayah, & Khairil Faizal (2014) and Ebraheem & Mohamad (2012), to monitor the financial reporting process, control manipulation, make information more transparent and address financial statements' issues, the directors must have

accounting knowledge. Empirical studies show that financial expertise is an important determinant of quality financial statement. Kantudu and Ishaq (2015) assert that board members who do not have financial and/or accounting knowledge cannot detect earnings management; and their inability to detect potential earnings manipulation by the management in financial statement will make them mere spectators in the financial reporting process. Meanwhile, literature supports the idea that Board of Directors' competency improves the quality of financial reports. Nevertheless, the few prior empirical researches on the effect of Board Competency on Earnings Management documented different statistical result. The study focused on investigating the influence of board competency on earnings management of listed foods and beverages firms in Nigeria; considering the fact that these companies have on average 30% competent directors with maximum and minimum of 7% and 50% board competency. When compared with other studies that used dichotomous variables to represent present or absent of board competency in the team of board directors, is an indication that not all the companies abroad have at least one board member that is competent. Despite there are competent directors in these companies, earnings management have been noticing. Therefore, the study test to see how board competency affect earnings management in Nigeria with reference to foods and beverages firms in Nigeria.

More so, the level of interaction and activities has influence on earnings management. Frequency of Board Meetings is presumed to be a good proxy for the corporate governance to control managers' behaviour. Board that meets frequently are expected to solve the problem effectively. Effective board is expected to meet regularly to stay on top of accounting and control related matter to make sure financial reporting process is functioning properly (Zhou & Chen, 2004). On the contrary, Jensen (1993) argues that most of the Board Meetings are not very effective, since the board is often forced to engage in high frequency activities to resolve corporate matters.

However, empirical researches on Board Meetings and Earnings Management are rare and mainly from abroad; and have been reporting different direction of association. Some researchers like Jaiswal & Banerjee (2009), Xie *et. al.* (2003), Zhou & Chen (2004) and Vafeas (1999) reported that frequency of Board Meetings is negatively associated with Earnings Management; Gulzar & Wang (2011) reported that number of Board Meetings have positive association with Earnings Management. Although, because of the importance of board meetings, Nigerian SEC code provided that board of directors should at least meet four times every financial year. But looking at the meetings held by these companies within the period under review, one can attest that there is a lack of consistency in the number meetings held. Some of them held meetings below the minimum requirement while some above (up to eight times). This inconsistency may be due to the flexibility of the code or based on the matter arises at each firms. This may also affect the magnitude of earnings management of the said firms. Therefore, investigation needs to be carried out to access the impact of frequency of board meetings on earnings management in the context of Nigerian foods and beverages firms in order to ascertain position.

According to Gallego, Garcia & Rodriguez (2010), board of diverse gender may better avoid practice of Earnings Management, hence, provides shareholders with more reliable financial reporting. Oscar and Daniel (2013) argued that female board member improve board monitoring and hence prevent earnings management to a larger extent. This is because male are likely view leadership as a series of transaction with subordinates, while female are more likely to have more interactive leadership style. Also male leaders are more concerned with making money and career advancement, while female are more interested in helping people (Krishnan & Pearson, 2008).

Despite there is these arguments in favour of women directorship, in reality, their representation in the foods and beverages firms' team of board of directors is very low, as some firms within the sector did not provide even a single seat for women. Even those that provided the seat for them their proportion is very low. On the contrary, some researchers like Hili & Affes (2012) and O'Reilly and Main (2012) suggest that women directors are only appointed for symbolic rather than for substantive reasons. This research also focused on the representation of women on board, with the argument proffered that boards with women are likely to be more effective than homogeneous boards.

In general, available literature in Nigeria shows that there is dearth of research work on the influence of Board Competency, Board Meetings, and Gender Mix on Earnings Management. Hence, this study is aimed at determining the possible relationship that exists between the various Board Characteristics (Board Competency, frequency of Board Meetings and Gender Mix) and Earnings Management with reference to listed foods and beverages firms in Nigeria. These Board Characteristics' variables to the best of our knowledge have not been captured altogether in any research work relating to Earnings Management in Nigeria (that is, based on the literature reviewed). Hence, the combined effect of these variables on Earnings Management is hoped to yield an effective result different from other researches.

Therefore, the study tries to provide answers to the following research question raised. 'How does Board Competency affect Earnings Management of listed foods and beverages firms in Nigeria? To what extent does frequency of Board Meetings affect Earnings Management of listed foods and beverages firms in Nigeria? How does Gender Mix affect Earnings Management of listed foods and beverages firms in Nigeria?'

1.3 Aim and Objectives of the Study

The main objective of this study is to determine the impact of Board Characteristics on Earnings Management of listed foods and beverages firms in Nigeria. However, the study has the following specific objectives:

i. To examine the effect of Board Competency on Earnings Management of listed foods and beverages firms in Nigeria.
ii. To determine the impact of frequency Board Meetings on Earnings Management of listed foods and beverages firms in Nigeria.
iii. To evaluate the effect of Gender Mix on Earnings Management of listed foods and beverages firms in Nigeria.

1.4 Hypotheses of the Study

As the main objective is set towards ascertaining the impact of Board Characteristics on Earnings Management of listed foods and beverages firms in Nigeria, the following hypotheses are formulated:

Ho_1: Board Competency does not have significant impact on Earnings Management of listed foods and beverages firms in Nigeria.

Ho_2: Frequency of Board Meetings does not have significant impact on Earnings Management of listed foods and beverages firms in Nigeria.

Ho_3: Gender Mix does not have significant impact on Earnings Management of listed foods and beverages firms in Nigeria.

1.5 Scope of the Study

This study focused on studying the impact of Board Characteristics on Earnings Management of foods and beverages firms listed on the Nigeria stock exchange (NSE) for the period 2007 to 2013. The choice of the period is because, it is within the period when codes of corporate governance for public limited liabilities companies were introduced two times by the Securities and Exchange Commission. The first code was introduced in 2003; while the second code was introduced in 2011 as a replacement to the 2003 SEC code; and most of the features of these two SEC codes are related to board's strengthening.

The study restricts itself to analysing quantitative data in determining the impact of Board Characteristics on Earnings Management. Thus, secondary data obtained from respective companies' financial statements and other companies' profiles were used.

1.6 Significance of the Study

The research result can help shareholders to know whether or not the variables of the study (namely- Board Competency, Board Meetings and gender sensitivity) are effective in constraining Earnings Management. This will enable them to make timely decision regarding their investment and to take appropriate action to control the behaviour of the board.

The research findings may help shareholders of the foods, beverages, tobacco and breweries firms in Nigeria to assess the level of compliance with the code of corporate of governance by the management, as well as the effectiveness of board in monitoring managers' opportunistic behaviours. The result may also provide information that is more valuable to Nigerian accounting regulators in making recommendation for corporate governance practice.

The study would extend prior researches on board effectiveness by including Board Competency of the directors as a determinant. It may be possible that directors achieve different performance

results under different board compositions. However, few studies have considered the Board Competency. Therefore, the result might be useful for companies to design more effective board composition.

The research result will be immensely beneficial to the regulatory authorities in Nigeria (like Securities and Exchange Commission and Corporate Affairs Commission) in understanding whether the variables studied in this work (Board Competency, frequency of Board Meetings and Gender Mix) could be effective to control the level of earnings manipulation in foods, and beverages firms in Nigeria. The result will be expected to provide a further policy on how to constrain Earnings Management. The result can also be used to assess the effectiveness of Board of Directors in Nigeria to provide a reference for future policy reform.

Due to dearth of literature or empirical studies on the impact of Board Competency, frequency of Board Meetings and gender sensitivity on Earnings Management in Nigeria, the study will add to available literature.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature relevant and related to the problems of our study. The review covers conceptual issues related to Earnings Management, corporate governance mechanism, board of director responsibility as specified in the Nigerian code of corporate governance and the empirical studies on the nexus between various Board Characteristics (Board Competency, frequency of Board Meetings and gender mix) and Earnings Management. The theoretical framework relevant to the study has also been discussed. All these were done to identify a gap in the literature to justify the need for the research.

2.2 Conceptualization

2.2.1 Concept of Board Competency

Competencies focus on what is expected of person in the work place and his or her ability to transfer and apply knowledge and skill to their work. Previous researches show that directors appear to require various clusters of competencies (Yusoff & Armstrong, 2012). The beginning of the study of Board of Directors' competencies started in the United Kingdom upon the establishment of Cadbury Report in 1992. Directors' competencies are seen to be of importance to corporate governance (Yusoff & Armstrong, 2012). Hambrick & Manson (1984) reveal two types of essential competencies required by the team of Board of Directors of firms- 'functional knowledge and firms' specific knowledge'. Functional knowledge refers to knowledge in

accounting, finance, and legal marketing economics. While a firms' specific knowledge incorporates the detail information about the firms and its operation. Therefore, directors who had reasonable financial background are more effective in providing internal control system mechanisms to control firm's performance. Cadbury (1992) states that non-executive member that is competent is of special importance for effectiveness of the board. A director may acquire the competencies through internal and external training and experience. Increase in the proportion of non-executive directors does not guarantee the effectiveness of board monitoring. But what guarantee is competency. Outside director must possess the necessary competency to carry out their control and overseeing duties, among which knowledge of company specific affairs is particularly essential (Chtorou, *et al.* 2001). Directors with financial expertise can provide incremental control effects on Earnings Management (Man, 2012). Competencies include functional and specific knowledge, skills and educational qualification that are necessary to enable directors to perform their role of monitoring top management (Yusoff & Armstrong, 2012). Agrawal & Chada (2001) argue that manipulation of earnings tends to be low for firms with directors who have knowledge in accounting and finance.

2.2.2 Concept of Board Meetings

Nowadays, there is a lot of criticism by many financial and academic publications on Board of Directors for not attending Board Meetings regularly; and which by extension may lower their ability to monitor management well (Modugu & Dabor 2013). The levels of board interaction and activities have influence on Earnings Management. Boards that normally meet often are more likely to solve the problems of the company effectively (Lipton & Lorsch, 1992). Lawler and Conger (2001) suggest that number of times a board meet is an important resource in improving the effectiveness of the board. Directors on board that meet frequently are more likely

to discharge their duties in accordance with shareholders interest because more time can be devoted to monitoring issues such as Earnings Management, conflict of interest and monitoring management. Diligent board enhances the level of oversight, resulting in improved financial reporting quality. Jaiswal & Banerjee (2012) argue that more number of meetings would facilitate more vigilant monitoring by the board in a company's affairs and thus would be associated with better firm's performance and thus reduce Earnings Management. Lei (2004) suggest that Board Meetings time is an important resource for improving the effectiveness of board. Adams (2000) argues that the number of meetings of the Board of Directors would be a good proxy for corporate governance to control the managers' behaviour. According to Jensen (1993), frequency of Board Meetings is an important proxy for measuring the integrity and effectiveness of corporate monitoring and discipline. This would constrain the level of earnings manipulation. On the contrary, he argues that most of the Board Meetings are not effective since the board is often forced to engage in high frequency activities to resolve corporate issues.

2.2.3 Concept of Gender Mix

Reasonable argument drawn from agency theory suggests that gender and ethnic diversity can have either a positive, negative or neutral influence on a firm's performance (Carter, Simkims & Simpson, 2010). Women participation in the corporate board has been increasing. In the past five years, seven countries have passed legislation mandating female board representation and eight have set non-mandatory target (Suisse, 2012). Pearce & Zahra (1991) argue that a representation of diverse interest including the number of females and minority members is an important characteristic of an effective board. Adams, Gray & Nowland (2010) find that the gender of directors appears to be value-relevant and suggest that appointing female directors may help resolve value-decreasing stakeholders' conflict. Diversity in agency due to diversity in groups

results in creating balance in the board and prevent from violence of members. It is high possible that women members in the board would challenge about different subjects or specific management decision by their questions and they would result into clear issues (Moradi, *et al.* 2013). Adams & Ferreia (2009) argue that female directors can better monitor managers' behaviour. Hence, they can improve the quality of firms earnings, as they have better communication, used more informed decisions, and independent thinking (Tsui, *et al.* 2011). Female directors can think more independently compared with male directors and also effectively monitor CEO behaviour (Carter, *et al.* 2003). Furthermore, female directors are more likely less tolerant than male directors to opportunistic activities under supervision (Man, 2012). Tsui, *et al.* (2011) states that female directors can improve board governance which is more likely to improve earnings quality. Therefore, female representation of board can actually reduce the extent of Earnings Management because they can develop trust leadership, which requires managers to share information, and they are risk averse for fraud and opportunistic Earnings Management. On the contrary, some researchers suggest that women directors are only appointed for symbolic rather than for substantive reasons.

Cornet & Warlard (2008) defined diversity as a set of personal, social, and organizational characteristics that contribute to the development of identity and personality of individuals. At the organizational level, it can be illustrated through an equal representation of men and women in the top of the hierarchy as well as equal treatment that would guarantee social justice and dismantle all form of discrimination (Campbell & Minguez-Vera, 2008). Women have been gaining ground on corporate board, yet the effect of women on corporate performance is a matter of some debates. A survey by catalyst (2009) shows that during the year 2008 and 2009, women represented 15% of the board seats of fortune 500 companies; and 90% of these companies have

at least one woman in their corporate boards while 20% have more than 3 women. Studies using data find that gender diversity on boards is associated with greater profitability. Adam & Ferreia (2009) find that female directors can be better monitor of managers' behaviour through board input such as attendance. Gulzar & Wang (2011) describe that the studies evidence the emergence of an issue of board sex diversity in corporate governance literature started from the last few years. Several studies have recently focused that the female member in the board can affect the firms' performance. However, some studies suggest that firm performance has no significant impact with board gender diversity. Carter, Simkins & Simpson (2003) argue that women may improve decision making of the board. Fondas & Sassalos (2000) argue that heterogeneous board is more efficient than homogenous board.

2.2.4 Concept of Earnings Management

Earnings Management assumes various terminologies: creative accounting, financial re-engineering, and accounting magic. Schipper (1989) defines Earnings Management as disclosure management in the sense of purposefully intervention in the external reporting process, with the intent of obtaining some private gain. According to Healy & Wahlen (1999), the most important reason why managers engage in the management of earnings is to enhance their compensation as well as safeguarding their job.

This shows that managers are sometimes rewarded based on their contribution/ performance. Therefore, there is likelihood that managers would engage in income-increasing Earnings Management. This is possible due to flexibility in accounting standard. Apart from the reward they could receive it may at the same time enable them safeguard their job from the eyes of the

law and the owner of the business. This is because owners have no in-depth knowledge of the status of their investment.

Healy & Wahlen (1999) also defined Earnings Management as a situation that occur when managers use their judgment in financial reporting and restructuring transaction to alter financial reports to mislead the stakeholders about the actual and true economic performance of an enterprises as well as to influence contractual outcome that depends on the reported earnings. Earnings Management is an anticipatory step to keep away from defaulting in a loan agreement reduce regulatory cost and increase regulatory benefit (Cornett, Marcus & Tehran, 2008). Therefore, firms are expected to report positive earnings figure. Earnings Management do occur for many reasons, some of which are to:

1. Manage earnings with the view of influencing stock market perception.
2. Increase their (managers) compensation and bonus
3. Avoid breach of loan agreement
4. Avoid regulatory intervention (Teoh, Welch & Wong, 1998)
5. Avoid negative earnings surprises (Matsumoto, 2002) with the management could engage in Earnings Management to avoid reporting losses and earnings declines.

According to Teoh, *et al.* (1998), managers have several windows of opportunities to manipulate earnings within the boundary of Generally Accepted Accounting Principle. They can choose an accounting method to advance or delay the recognition of revenues and expenses, use discretionary aspects of the application of the chosen accounting method, or adjust the timing of asset acquisitions and dispositions to alter reported earnings.

Bunamin, *et al.* (2012) described that any attempt to manipulate earnings to mislead users' perception is regarded as unethical even though no accounting standards are violated. This is because majority of respondent do not believe that earnings manipulation is ethical (Rafik, 2002).

According to Kassem (2012) many financial analysts believe that Earnings Management is harmful. This is because it tends to conceal the actual result of the companies' earnings; and it also shows that any attempt by the managers to use whatever means even if the means is approved accounting standard, or otherwise, is considered to be unethical and it erodes the quality of financial reporting.

According to Gulzar & Wang (2011), Earnings Management unlike fraud involves selection of accounting procedure and estimates that conform to Generally Accepted Accounting Principle (GAAP). It occurs within the bound of accepted accounting procedure. This kind of Earnings Management that is consistent with Generally Accepted Accounting Principle (GAAP) is not regarded as fraudulent financial reporting. Although, there is fear that management may cross border from the true Earnings Management to fraud. However, once it can be determined that, the management manipulated earnings with the intention of deceiving the perception of investors is regarded as unethical and fraudulent act by many analysts.

Modugu & Dabor (2013) referred to Earnings Management as the use of accounting techniques to produce financial reports that tend to present overly positive image of company's economic performance. This indicates that companies employ income-smoothing techniques to smoothen out fluctuation in earnings to meet analyst expectation. Based on their definition it indicates that

Earnings Management are normally adjusted upward to reflect persistent earnings or increased in earnings.

Dechow & Skinners (2000) believe that accounting practitioners and regulators view Earnings Management as a problem that needs an immediate control action. While some on the other hand believe that Earnings Management practice by some firms benefits investors. Healy & Wahlen (1999) argue that financial reporting can increase firms' value if economic earnings and firm performance is reliable and available on time.

Opportunistic Earnings Management literature, originated with Healy (1985). The study concluded that managers use accruals to strategically manipulate bonus income. For example, managers can smooth earnings by deferring income through accruals when an earnings target for a bonus plan cannot be reached or when bonus have already reached maximum level and can accelerate income in other periods. Earnings Management may be defined as reasonable and legal management decision making and reporting intended to achieve stable and predictable financial result. Large numbers of companies are using Earnings Management to steady earnings growth or to avoid reporting red ink. A common criticism of Earnings Management is that it reduces transparency by obscuring the true earnings of the company.

2.3 Methods of Earnings Management

Amart, Blake & Dowds (1999) identified various methods of earnings management (Creative Accounting)"

a. **Accounting Choices:** Accounting choices are made within the framework of Generally Accepted Accounting Principle (GAAP). GAAP are set of rules, practices and convention

that described what is acceptable financial reporting for external stakeholders. A firm is allowed to choose between different methods of treating certain transaction within the framework of Generally Accepted Accounting Principle (GAAP). Therefore, a company can choose the accounting policies that give a preferred image. Managers are free to choose an accounting estimates or method that would favour their reporting.

b. **Artificial transaction** can be entered into to manipulate monetary value of items in the balance sheet and to move profits between accounting periods.
c. **Genuine transaction** can also be timed to give the desired impression in the account.
d. **Certain entries in the account involve unavoidable degree of estimation, judgment, and prediction** without limit in the Generally Accepted Accounting Principles. The problem with many accounting choice is that there is no clear posted limit beyond which a choice is obviously illegal. Generally Accepted Accounting Principle does not tell managers what specifically is normal and what is extreme. Product of warranty cost estimation is an example of accounting decision many managers have to make.

Therefore, Earnings Management activities occur because of flexibility in making accounting or operating choices and or/because managers are trying to convey private information to financial statement users. Managers can opportunistically manipulate accounting reports by managing accruals. According to Kaplan (1985), normal accruals arising from the ordinary course of business may not reflect earnings manipulation. As such, any manipulation of earnings is likely to manifest in abnormal accruals.

Most studies on Earnings Management focus on two types of Earnings Management: accrual management and the manipulation of real economic activities. For accruals management, a firm may decide to use provisions for warranty cost, inventory values, credit losses, and the timing of

an amount of unusual items. On the other hand, manipulation of real economic activities is regarded as costly to affect firm's long-term interest. Schipper (1989) argues that it is very costly to determine Earnings Management tactics. She further argues that even more visible Earnings Management techniques like change in accounting policies and timing of capitalization are difficult to interpret.

Recent studies show that top managers' compensation is linked to firm performance that is associated to higher Earnings Management (Cornett, *et al.* 2008). Since mangers have inside information, they have opportunities to manage net income to maximize their bonuses (Healy 1985) on the contractual motivation. Furthermore, managers may manage earnings to increase net income at the expense of future earnings in order to secure their job (Defond & Park, 1997). Also managers can manage earnings to avoid debt covenants. Firms are more likely to avoid reporting losses by managing earnings; otherwise, they could violate covenants and face higher cost. Also they may overstate earnings in order to meet analysts forecast (Man & Wong, 2013)

2.3.1 Earnings Management models

Accrual accounting is based on the notion that there is a difference between cost and expenditures versus benefits and revenue. There are a number of subjective decisions involved in the allocation of expenditures and revenue over time. In the Earnings Management literature, it is often assumed that accruals are open to more discretion than cash flows. Several literatures suggest various ways of detecting Earnings Management. Healy (1985) and Jones (1991) pointed out that the most common way of detecting Earnings Management is the evaluation of accruals. Earnings Management usually reflect in a firm's earnings. Accruals are examined in order to determine whether they are discretionary or nondiscretionary accruals. The presence of abnormal accruals indicates Earnings Management. Theorists have been attempting to deliver an accurate

and objective measurement for Earnings Management in order to do a better quantitative research. The existing models of Earnings Management can be divided into three categories: accruals model, specific accruals model and accruals distribution model (Liu, 2011). There are many approaches in detecting Earnings Management but the Accrual-Based Models are the most popular approaches. Analysis of Earnings Management often focuses on management's use of discretionary accruals. In these accrual-based models, researchers estimate the discretionary components of reported income. Accrual model is currently the mainstream measuring of Earnings Management. This method points out that total accruals of a listed company is composed of accruals by Earnings Management, namely discretionary accruals and non-discretionary accruals. Therefore, from measuring non-discretionary accruals by constructing a regression model, discretionary accruals is calculated as the difference between total accruals and non- discretionary accruals, which measures the degree of Earnings Management.

There are several methods to measure abnormal accruals, which can be considered a proxy for Earnings Management. The various models are discussed below:

1) **The Healy model**

Healy (1985) was the first person to attempt in the Earnings Management literature to estimate Earnings Management by estimating deviations from normal levels of accruals. In his model, he started with total working-capital accruals. He predicts that systematic Earnings Management occurs in every period. He assumed that non-discretionary accruals follow random walk. For a company in a stationary condition, the non-discretionary accrual in period t is equal to the non-discretionary accrual in period t-1. As a result, the difference between the non-discretionary accruals in period t and t-1 is the discretionary accrual that is related to Earnings Management.

Total accruals are defined by:

$ACR = (ACA_t - ACL_t - ACash_t + ASTD_t - Dep_t)/TA_{t-1}$

Where:

ACR= total working capital accruals

ACA = change in current assets

ACL = change in current liabilities

ACash = change in cash and cash equivalents

A *STD* = change in debt included in current liabilities

Dep = depreciation and amortization expenses

TA = total assets

2) The standard-Jones (1991) model

Jones (1991) believes that the variations of revenue would bring variations on operating capital, causing a change in accruals, and the depreciations on fixed assets would decrease the accruals. Because of this, Jones used variance of revenue (∆ REV) and fixed asset (PPE), as independent variables to predict the discretionary accruals. The Standard Jones (1991) Model uses a two-stage approach to separate the normal and abnormal accruals. In the first stage, the parameters are estimated by regressing the total observed accruals on the change in sales (ΔREV) and the gross level of property, plant and equipment (PPE). The parameters are estimated for each sample firm separately by using the longest available time-series data prior to the event year. In the second stage, the discretionary component of the total accruals is determined by using the parameters that have been estimated in the first stage of the model. In this stage, the total expected accruals are determined by combining the parameters with ΔREV and PPE. The abnormal or discretionary accruals (DAC) are determined by subtracting total expected accruals from total observed accruals.

However, the model has its own shortcomings. One of the main disadvantages of the original Jones (1991) is that time series estimation needs only firms with sufficient time-series data to be included in Earnings Management research. For example, Jones (1991) selects firms with at least 10 time series data points for estimation. This requirement leads Earnings Management studies to select only well established firms (usually large in size), while Earnings Management may also exist in newly established and small firms. There are also problems related to serial correlated residuals. That is, self-reversing property of accruals that may induce specification problems to the Jones and modified Jones models (Peasnell, *et al.* 2000). The coefficient estimates on the change in revenue and the property, plant and equipment (PPE) variables are unlikely to be stationary over time; there are also confounding effects in the estimation periods, which are not related to Earnings Management (Dechow, *et al.* 1995). Total accruals are defined as follows:

$$TACC/TA_{i,t} = \hat{\alpha}_1\left(\frac{1}{TA_{i,t-1}}\right) + \hat{\alpha}_2\left(\frac{\Delta REV_{i,t}}{TA_{i,t-1}}\right) + \hat{\alpha}_3\left(\frac{PPE_{i,t}}{TA_{i,t-1}}\right) + e_t$$

Where: TACC= total accruals

△REV= change in revenue in year t

△PPE= property, plant and equipment in year t

e= error term (Discretionary accruals)

TA= total asset

3) The modified-Jones (1991) model by Dechow, Sloan and Sweany (1995)

According to Dechow, Sloan and Sweeney (1995), the original Jones model is unable to capture the impact of sales-based manipulation because accounts receivables should not be considered as

nondiscretionary accruals. Thus, they proposed a modification to the original Jones model known as the Modified Jones model (1995). The modification is designed to eliminate a conjectured tendency of the Jones Model to measure discretionary accruals with error when discretion is used over revenues. Dechow, *et al.* (1995) give evidence that the Modified Jones Model currently seems the most proficient at detecting Earnings Management. This is the most famous model to detect Earnings Management nowadays. In Jones model and cross-section Jones model, the assumption is that all the variances of revenue are non-discretionary. However, managers could use credit sales to manage earnings. So the only adjustment of Modified-Jones Model is that it deducts change in accounts receivable from change in sales revenue. The underlying assumption is that, all the change in accounts receivable is caused by Earnings Management. This is based on the following reasoning, for managers, it is much easier to manage earnings from accounts receivable than from cash sale income. As pointed out by Peasnell, *et al.* (2000), this implies that the model implicitly assumes that all changes in credit sales in the event period result from Earnings Management. When comparing the original Jones model with the modified jones model, Dechow, *et al.* (1995) find that the latter is significantly better in detecting sales-based Earnings Management. However, both models show a significant proportion of Type I errors when firm performance is extreme. Dechow, *et al.* (1995) explain that a Type I error occurs when the null-hypothesis that earnings are not systematically managed is rejected, when it is true.

$$TACC/TA_{i,t} = \hat{\alpha}_1\left(\frac{1}{TA_{i,t-1}}\right) + \hat{\alpha}_2\left(\frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{TA_{i,t-1}}\right) + \hat{\alpha}_3\left(\frac{PPE_{i,t}}{TA_{i,t-1}}\right) + e_t$$

Where: TACC= total accruals

△REV= change in revenue in year t

△PPE= property, plant and equipment in year t

△REC= change in account receivable in year t

e= error term (Discretionary accruals)

TA= total asset

4) The cross-sectional version of the standard-Jones and modified- Jones model by Defond and Jiambalvo (1994)

Jones uses time-series in the last model, but the data would incur bias. To avoid the bias, DeFond and Jiambalvo (1994) introduced cross-section Jones model, which assumes the non-discretionary accruals level in the same industry, are the same. First, the number of observations per model is considerably higher under the cross-sectional version. This increases the precision of the estimates. Second, by not imposing availability of time-series data, the cross-sectional sample is less subject to survivorship bias and allows the researcher to include firms with short histories. Third, misspecification of the coefficients due to non-stationary is not an issue for the time series (Klein, 2006). The standard Jones and Modified Jones model require sufficiently long time-series data in order to estimate the parameters in the first stage of the models. In practise, this has proven to be quite restrictive as it introduces the chance of several problems occurring with respect to survivorship bias, non-stationary coefficient estimates on ΔREV and PPE, and serially-correlated residuals. The cross-sectional regression in each industry portfolio also eliminates industry-specific effects when the accruals behaviour and the impact of the economy vary across industries. However, the cross-sectional version of the models has several weaknesses; for example, it is less probable that the model will capture: mean reversion in accruals; dynamic accrual management strategies; and industry-wide Earnings Management (Peasnell, *et al.* 2000).

The cross sectional versions of the two models are similar to the Jones (1991) and Modified Jones (1995) models (see the two models above), except that the parameters of the models are estimated by using cross section, not time-series data.

5) Industry Model by Dechow and Sloan 1991

Dechow and Sloan (1991) present industry model, which also eases the assumption that non-discretionary accruals, are constants as Jones model does. However, the difference is that industry model assumes that influence factors of non-discretionary accruals are the same between different enterprises in the same industry. Industry model eliminates the difference of non-discretionary accruals within different enterprises in the same industry, but if the changes of non-discretionary accruals are rendered by enterprise specific environment factors, the industry model cannot separate non-discretionary accruals and discretionary accruals accurately.

Industry model is as follows:

NDA= R1+R2 median (TA)

Where:

NDA= non-discretionary accruals

Median (TA) = the median of total accruals divided by total assets in year t-1

R1 and R2= industry-specific coefficients estimated from OLS model.

6) The margin model- by Peasenell, *et al.* (2000)

The margin model is applicable when cash flow performance is extreme. It uses a two-stage approach to determine abnormal accruals. However, the explanatory variables in the first stage regression are derived from a formal model linking sales, accruals and earnings. Depreciation is not taken into account, as it is believed that it is not appropriate for systematic Earnings

Management. Consequently, working capital accruals (WCA) are used rather than total accruals. WCA is regressed on total sales (REV) and total sales minus the change in trade debtors (REC). Peasnell, *et al.* (2000) argues that the primary advantage of this model is improved economic intuition, and therefore a more precise estimate of normal accruals. However, they also state that the downside of the model is that Earnings Management may, itself contaminate the variable that is being used, REV. Consequently, the margin model may be less powerful in detecting revenue-based Earnings Management.

The model is presented below:

$$WCA/TA = \mathbf{b}_0 + \mathbf{b}_1 REVt/TA + \mathbf{b}_2 CRt/TA + Et$$

Where:

WCA= working capital accruals (difference between change in non-cash current assets and the change in current liabilities excluding portion of long term debt)

REV= revenue (total sales)

CR= cash received from customers (total sale minus the change in trade debtors)

TA= total asset

b_0-$b_{3=}$ coefficient

7) Performance-match accruals model by Kathori, Leone and Wasley (2005)

Performance-matched accruals models are applicable when firm performance is extreme. This performance matched discretionary accruals model is calculated by incorporating return on assets (ROA) into the Modified Jones model. Dechow, *et al.* (1995) point out that the probability of Type I errors occurring is significantly high when the (cross sectional version of the) Original Jones and Modified Jones models are used in situations where firm performance is extreme.

They give two reasons for the occurrence of these Type I errors. Firstly, the nondiscretionary accruals could be correlated to firm performance. Hence, the null hypothesis is falsely rejected because of correlated measurement error in the proxy for discretionary accruals. Secondly, Earnings Management could be caused by other factors that are correlated to firm performance. In this case, Earnings Management is correctly detected; however, the cause of it remains unknown. Hence, a factor could be chosen that does not cause Earnings Management, but is correlated with firm performance; leading to a misspecification of the tests. Kothari, *et al.* (2005) argues that their approach provides additional controls when firm performance is extreme. Moreover, they argue that performance matching will remove performance motivated Earnings Management, as both the treatment and match control firms experience similar performance. Also, they state that performance-matched discretionary accruals represent abnormal accruals instead of total accruals. Additionally, the results of their study show a preference for the standard Jones model compared to the Modified Jones model under the performance matching approach. They find that the Modified Jones model will spuriously find Earnings Management under performance matching on the basis of ROA. Thus, bias is not eliminated from the Modified Jones model in low sales growth samples, under performance matching on the basis of ROA. Contrarily, bias is found to be eliminated from the Original Jones. The model is presented below:

$$TACC/TA_{i,t} = \hat{\alpha}_1\left(\frac{1}{TA_{i,t-1}}\right) + \hat{\alpha}_2\left(\frac{\Delta REV_{i,t}}{TA_{i,t-1}}\right) + \hat{\alpha}_3\left(\frac{PPE_{i,t}}{TA_{i,t-1}}\right) + ei + ROA$$

Where: TACC= total accruals

△REV= change in revenue in year t

△PPE= property, plant and equipment in year t

△REC= change in account receivable in year t

ROA= Return on assets

e= error term (Discretionary accruals)

TA= total assets

2.4 Concept of Corporate Governance, Board of Directors and Agency Problems

Corporate governance has become a pressing issue since the 2000 introduction of Sarbanes-Oxley Act in the United State which was issued in order to improve public confidence in companies after financial scandals of Enron and Worldcom. After these crises, people began thinking and questioning the effectiveness of corporate governance mechanism within an organization. Subsequently, corporate governance and Board of Directors' responsibility have been at the centre of the policy debate concerning governance reform.

Corporate Governance is a straightforward agency perspective because of the separation of ownership and control. The agency problem is an essential element of the contractual view of the firm developed by Coarse (1937) and Jensen & Meckling (1976). The essence of agency problem is the separation of management and control. The agency problem in this context refers to the difficulties a provider of finance faced in assuring that their funds are not expropriated or wasted on investment. The creation of agency problem results from the separation of ownership and control. As managers have more inside information than the financial providers; these financial providers face agency cost to monitor managers' behaviour. The managers might pursue their selfish interest to maximize their own wealth at the expense of other parties' wealth and interest (Jensen, 1986).

Man and Wong (2013) classified corporate governance mechanisms into two types: external and internal mechanisms. External mechanisms are determined by outside factors, intend to govern firms in favour of the interests of stockholders; and it include items such as legal protection and takeover rules. While internal mechanisms are determined by internal factors including insider shareholdings, board structure and Board Characteristics, such as independent directors' background, audit committee and ownership structure. Therefore, corporate Governance has succeeded in attaching a good deal of public interest because of its apparent importance for the economic health of corporations and society in general. As a result, different people have come up with different definitions that basically reflect the special interest in the field.

Corporate governance is the system by which business and firms are directed and controlled. The cooperate government structure specifies the distribution of a rights and responsibilities among different participant in the board, managers, shareholders and spell out the rules and procedures for making decision on corporate affairs OECD (1999) and Cadbury (1992).

Cooperate governance is about promoting cooperated fairness, transparency and accountability (Wolfenshohn, 1999). Nat (2013) describes that the prominence of Board of Directors in cooperate governance is an evidence in model definition of corporate governance; which sees corporate governance as the processes and structures by which the affairs of a companies are directed and managed, for the purpose of improving the long-term shareholders value. This is by enhancing corporate performance, accountability while taking into consideration the interest of other stakeholders. This indicates that the primary responsibility of corporate governance is to protect the interest of shareholders and this is vested on the shoulders of Board of Directors, as they are responsible for managing and controlling the activities of a firm by influencing management decision. The corporate governance exist to provide check and balance between

management and shareholders in order to reduce agency problem that many arise due to the separation of ownership and control (Ibrahim, 2007).

Corporate Governance is viewed from two perspectives: Narrow view and broad view. The narrow view (Anglo-Saxon) perceives corporate governance in term of issue regarding to management control and shareholders protection based on the principal-agency relationship of economic theory (Oyejide & Soyibo, 2001). Broad view (Franco-German) perceives corporate governance as mechanism that protects the interest of stakeholders that is shareholders, creditors, managers directors, government, society and any other interest party. That is why Raut (2010) defined corporate governance as the process aiming to allocate recourses in order to maximize the value of stakeholders-shareholders, investors, employees, customers, supplier, environment and the society. From the foregoing definition we can perceive that corporate governance is not only to protect the investors but all others parties that help the organization to move forward directly or indirectly. Since their contribution towards achieving the organizational goal cannot be overemphasize. However, proponent of narrow view argued that investors have a unique relationship with the firm as they sunk their investment and potentially place at risk.

Corporate governance is a set of process, custom, policies, laws and institution affecting the way companies are directed, managed and controlled. Corporate governance is a concept where management supervision take place in the decision making process. In the decision making process, corporate governance must be implemented; and one of its requirements is a firm's and organisation management. Dabor & Modugu (2013) Defined corporate governance as a system of rules, practice and process that is apply in controlling and directing the activities of a

company. Based on the definition, it shows that the affairs of a company are managed and controlled systematically and procedurally not arbitrarily.

Corporate governance also refers to how Board of Directors manage the companies, taking into consideration the impact of decision on shareholders, employees, customers, suppliers and communities. The Board of Directors oversee the conduct of the business and supervise management. Corporate status allows directors to delegate certain power to the officers such as the CEO. The board delegates responsibility for the company's day-to-day affairs to the executive. The board may also have audit and compensation's sub-committee of which the members of the committee will be subset of the board and report back to the Board of Directors on specific issues (Kawasaki, 2004). The Board of Directors' key purpose is to ensure company's prosperity by collecting the companies' affair whilst meeting the appropriate interest of the shareholders and other stakeholders. In addition to business and financial issues, Board of Directors must deal with challenges and issues relating to corporate affairs (Kawasaki, 2004). Based on previous literature, Earnings Management can be seen as a potential agency cost since managers manipulate earnings to mislead shareholders and fulfil their own interests. Among the set of corporate governance mechanisms, Board of Directors is often considered as the primary internal control mechanism to monitor top management, and protect the shareholder interest. Therefore the Board of Directors which is in charge of solving the agency conflicts between mangers and shareholders should play a role in constraining the level of Earnings Management. Furthermore, prior similar researches of financial reporting fraud suggest that effective board monitoring helps to maintain the credibility of financial reports (Lei, 2003)

According to Raut, (2010) there are various model of corporate governance around the world; and this differs according to the environment they operate: **A**nglo American Model- which tends to emphasize on the management responsibility of maximizing the interest of shareholders. While **C**oordinate or Multi-Stakeholders Model- which associated with continental Europe and it emphasizes on maximizing all the stakeholders interest in general. That all those parties that have relationship with the company in whatsoever must be satisfied accordingly that is the interest of every user must be satisfied.

In summary, directors are responsible to ensure financial statement is prepared according to approved accounting standard. Therefore, in order for the board to function effectively, certain characteristics are suggested within the structure of corporate governance. The major components of corporate governance include some benchmark of Board of Directors' characteristics. Therefore, main characteristic of Board of Directors refers to board composition, board size, directors' ownership and duality status of the Chairman and CEO (Saleh, Iskandar & Rahmat, 2005).

2.5 Nigerian Code of Corporate Governance and Board of Directors' Characteristics

According to SEC (2011), the code is not intended as a rigid set of rules and that the responsibility of ensuring compliance with or observance of the principles and provisions of the code is primarily with the Board of Directors. The SEC has also clearly indicated that its intention for replacing 2003 SEC code with the 2011 SEC code is consistent with international best practice on corporate governance. Currently there are four corporate governance codes in force in Nigeria: the 2011 SEC code and three others which are industry-specific. The three others are: 1) the 2006 code of corporate governance for banks in Nigeria post-consolidation

issued by central bank of Nigeria and applicable to all banks operating in Nigeria. 2) The 2008 code of corporate governance for licensed pensions operation issued by the national pension commission applicable to all pension fund administrators and pension fund custodians operating in Nigeria. 3) The 2009 code of corporate governance issued by the national insurance commission, and applicable to all insurance companies operating in Nigeria.

The following are the responsibilities of the board as prescribed in the SEC (2011) code: to oversee the effective performance of the management in order to protect and enhance shareholders value as well as meeting the companies' obligation to its employees and other stakeholders; to define the company's strategic goal and ensure that both human and financial resources are effectively deployed towards attaining those goals; it is responsibility of the board to ensure that the company carries on its business in accordance with its articles and memorandum of association and in conformity with the law of Nigeria; and the board shall define a framework for the delegation of its authority or duties to management specifying matters that may be delegated and those reserved for the board.

The board is an effective corporate governance mechanism. Shareholders elect members of the board to act on their behalf, and the board in turn delegates power to top management while still monitoring management performance and ratifying any decision that demonstrates a lack of good faith for shareholders. Composing a Board of Directors is an important corporate governance mechanism that can control managers' opportunistic behaviour and reduces Earnings Management. Board composition includes determining the mix of non-executive (including independent) and executive directors; designating audit, compensation, nominating and other committees; determining the mix of qualifications and areas of expertise; and determining the

proportion of female directors on the board (Man & Wong, 2013). Bertrand and Mullainathan (2000) also consider internal governance measurements, including the percentage of independent directors on the board and the number of Board Meetings. Independent directors supervise the managers in the firm and reduce the misappropriation of assets by the managers at the expense of shareholders' interests. A higher percentage of the independent directors would more efficiently control the managers, providing better corporate governance.

2.6 Review of Empirical Studies

The monitoring role of the Board of Directors is an important element of corporate governance. Several studies that emerged have empirically examined the relationship between Board Characteristics and Earnings Managements. Prior empirical researches suggest that some characteristics of a board have an influence on the quality of financial reports (Chtourou, Bedard & Courteau, 2001). Previous studies also recognize the importance of a board as an internal control mechanism; and further suggest that an effective board reduces Earnings Management. Hence, in the next sub-headings we are going to examine the empirical researches conducted by some scholars on the relationship between various Board Characteristics and Earnings Management. The variables of interest that includes Board Competency, Board Meetings and Gender Mix are to the best of our knowledge captured the most crucial aspect of directors' attributes.

2.6.1 Board Competency and Earnings Management

In a survey carry out by Yusoff & Armstrong (2012), eight types of competencies were ranked to be necessary and significant for Malaysian companies' directors. However, accounting and finance knowledge was ranked to be the most essential competencies for directors.

This provides evidence that directors' knowledge of accounting and/or finance should have significant effect Earnings Management. Directors with accounting and finance background may have a better chance of understanding earnings manipulation when compare to directors who do not have knowledge of accounting and finance (Johari, Saleh, Ja'afar & Hassan 2008). According to Xie, *et al.* (2003) directors who do not have appropriate competencies in accounting and finance field may be able to monitor business and marketing process but may not be able to understand Earnings Management practice. As such, there is an expectation that directors who have accounting and finance knowledge are able to reduce the level of Earnings Management.

Chtourou, *et al*. (2001) examines whether corporate governance practices have an impact on Earnings Management. They grouped US firms into to two: firms with high and low levels of discretionary accruals. They find that income decreasing Earnings Management is negatively associated with the presence of at least one member of Board of Directors with financial expertise. They also find that firms' outside directors that have experience as board members tend to have less income increasing Earnings Management that is experience board seem to reduce income decreasing Earnings Management. Therefore, the result finds evidence that effective board constrain Earnings Management. It supports the view that experience board member who has both experience on his company and other firms will provide better governance competencies.

Bala & Gugong (2015) examines the influence of board characteristics and earnings management of listed food and beverages firms in Nigeria. The study covers the period of six years 2009 to 2014. A multiple regression was employed to test the model of the study using Random Model. The results from the analysis revealed an inverse relationship between board size, board meetings and board financial expertise, and earnings management of listed food and beverages firms in Nigeria, while and board composition and women directorship are positively significantly related to earnings management of listed food and beverages firms in Nigeria.

Lin & Hwang (2010) employed meta-analytic techniques to the data from nearly 48 empirical studies, and find a negative relationship between board financial expertise and earnings management. In contrast Matawee (2013) show that a positive relationship between board financial expertise and earnings management.

Johari, *et al*. (2008) analyse the influence of board independence, competency and ownership on Earnings Management in Malaysia. By using dichotomous variable of 1 if a firm has at least one director that has professional qualification in accounting and finance, and 0 otherwise as a measure of Board Competency, while discretionary accruals as a measure of Earnings Management for a sample of 234 firms listed on the Bursa stock exchange over the period 2002-2003. The result reveals a non-significant relationship between knowledge as well as experience of the board members and Earnings Management activities. But Agrawal & Chada (2001) find that earnings manipulation in the US is low in firms with board members who have accounting and finance knowledge.

Bunamin *et al.* (2012) examines the relationship between board diversity (size, independence, competency, remuneration, and gender) and discretionary accruals of the top 100 companies in Malaysian corporate governance index in 2008. By using number of directors with professional qualification in accounting and finance as proxy for Board Competency, they find that Board Competency, board independence, board remuneration, and leverage do not have significant impact on discretionary accruals.

Yusof (2009) investigates to find out whether the Malaysian code of corporate governance (MCCG) has achieved its goal in improving the quality of earnings among firms. The study uses a sample of 190 KLCI components over a 4 years period from 1998 to 2003. The sample is divided into two categories: pre-MCCG and post-MCCG periods. The study employs modified Jones (1995) model to calculate discretionary accruals. In the post-MCCG, the result shows a significant positive association between board competencies and discretionary accruals. He suggests that longer tenure of service in board provides potential opportunities for them to manage reported earnings.

2.6.2 Frequency of Board Meetings and Earnings Management

Jaiswal & Banerjee (2012) argue that more number of meetings would facilitate more vigilant monitoring by the board in a company's affairs and thus would be associated with better firm's performance and thus reduce Earnings Management.

Kantudu & Ishaq (2015) examines the impact of monitoring characteristics on financial reporting quality of the Nigerian listed oil marketing firms. Financial reporting quality is represented with the qualitative characteristics of financial statement. Data for the study were obtained from an audited annual report and accounts of the sampled oil marketing companies for twelve years covering 2000 to 2011. Multiple regression was used to analyzed the data. Board meeting has an insignificant negative relationship with FRQ of the listed oil marketing companies in Nigeria in both OLS and RE regressions. This implies that frequency of meeting increases the level of earning manipulation which in turn decreases the quality of financial reporting. The finding is contrary to our expectation.

Francis, Hasan & Wu (2012) use the current financial crisis as quasi-experiment to examine whether and to what extent corporate boards affect the firm performance by using cumulative stock returns over the crisis to measure firms' performance. The study finds that the frequency of Board Meetings, directors' attendance behaviours, and director age (experience) affect firms' performance during the crisis.

Jaiswal & Banerjee (2009) examine the relationship between Earnings Management and corporate governance characteristics in the Indian context. The result suggests that more number of Board Meetings and higher attendance in these meetings resort to lesser Earnings Management. DeMelo (2009) also examines the effect of the Dutch corporate governance code on the practice of Earnings Management by publicly listed companies in Netherland by using a sample of 33 firms over the period 1997 to 2006. He finds that frequency of Board Meetings does not have significant relationship with Earnings Management.

Vafeas (1999) argues that the greater the meetings frequencies the more effective will be the boards monitoring function. They reveal that companies that have fewer Board Meetings than necessary, the value of firms will decrease. Xie, *et al.* (2003) finds evidence that Board of Directors that meet more frequent are more likely to reduce the level of Earnings Management. Previous studies evidenced that a board that meets more frequently is likely to monitor the board activities in order to reduce the Earnings Management more effectively (Xie, *et al.* 2003; Vafeas 1999).

Gulzar & Wang (2011) examine the effect of corporate governance characteristics on Earnings Management and find a significant positive association between Earnings Management and different corporate governance characteristic such as CEO duality and board meeting. Vafeas (1999) empirically investigates the relationship between board activities and the firm performance. He uses frequency of Board Meetings as a proxy for board activities. He finds that increase in Board Meetings lead to improved firm performance.

Sukeecheep, *et al.* (2013) investigates the influence of Board Characteristics on Earnings Management behaviour in Thai listed companies. The sample of the study consists of 550 firms for a period 2006 to 2010. The study finds no significant impact of Board Meetings on the Earnings Management of top Thai listed firms. The expectation is that Board of Directors that meet frequently will be more effective in monitoring the integrity of financial management and therefore, more likely to constraints earning management.

Zhou & Chen (2004) investigate the impact of audit committee and Board Characteristics on Earnings Management by using abnormal loan loss provision to measure Earnings Management

for a sample of over 300 listed firms in China over the period 2000-2002. The result reveals that Board Meetings are negatively related to Earnings Management for low Earnings Management banks. But for high Earnings Management group, Board Meetings, audit committee, board independence and board size play an important role in constraining Earnings Management. They suggest that board activity is an important dimension of board operation and effective board should meet regularly to stay on top of accounting and control related matters. Hence, Board Meetings among others are important mechanism of corporate governance.

Moradi, Salehi, Bighi & Najari (2012) investigate the relationship between Board Characteristics and Earnings Management of listed companies on Tehran stock exchange during 2006 to 2009. The result shows the frequency of Board Meetings does not have significant impact on Earnings Management.

2.6.3 Gender Mix and Earnings Management

Adam & Ferreia (2009) find that female directors can be better monitor of managers' behaviour through board input such as attendance. Gulzar & Wang (2011) describe that the studies evidence the emergence of an issue of board sex diversity in corporate governance literature started from the last few years. Several studies have recently focused that the female member in the board can affect the firms' performance. However, some studies suggest that firm performance has no significant impact with board gender diversity. Carter, Simkins & Simpson (2003) argue that women may improve decision making of the board. Fondas & Sassalos (2000) argue that heterogeneous board is more efficient than homogenous board.

Omoye & Eriki (2014) conducted a study to classify Nigerian quoted companies into high and low earnings management levels and also to investigate how corporate governance mechanisms relate to these categories of earnings management levels. A sample of 130 companies were drawn from quoted companies on the Nigerian stock exchange over the period of 2005 to 2010 and to identify the unique firm's corporate governance characteristics. The study revealed that, quoted companies in Nigeria prefer to use high earnings management practices; and that board gender representation had a negative and significant influence on the probability of Nigerian firms adopting absolute high earnings management.

Srinidhi et al. (2011) conduct a study on US firms over the years 2001-2007 and use accruals quality (extended Dechow & Dichev model as proposed by McNichols (2002)) and target beating as proxies for earnings quality. All the results show that female presence on the board is associated with both higher accruals quality and less propensity to manage earnings to beat benchmarks. They conclude that firms with women on the board have higher earnings quality. Gavious et al. (2012) use a sample consisting of 60 Israeli high-technology firms listed in the USA between 2002 and 2009 to investigate whether gender diversity on the board affects earnings quality. They analyse four earnings quality metrics of which two are ex-post measures (abnormal accruals and non-operating accruals) and two are ex-ante measures (presence of a Big Four auditor and financial leverage). Their results suggest that female presence on the board is associated with better earnings quality.

Oscar & Daniel (2013) studied Swedish listed companies within the period 1999-2007. In order to measure earnings quality, the extended Dechow & Dichev model (McNichols, 2002), and

performance-matched abnormal accruals were used. While boardroom gender diversity is measured as the proportion of female directors on the board found no association between boardroom gender diversity and earnings quality. Ye et al. (2010) investigates if female presence on the board promotes higher earnings quality in Chinese firms, and collect data of firms listed on the Chinese A-share market from 2001-2006. They follow Dechow & Schrand (2004) and consider earnings to be of high quality when they are persistent, indicative of future cash flows, and related to current stock performance. Results from the study suggest that female board members have no significant influence at all on earnings quality.

Bunamin *et al.* (201) examines the impact of board diversity and discretionary accrual of the top 100 companies in Malaysian Corporate Governance index. They find that Malaysian Corporate Governance index companies manage earnings despite their best compliance on corporate governance. They also find that women on board have positive relationship with discretionary accruals that is increases in the proportion of women in the board would lead to increase in Earnings Management. Also O'Reilly and Main (2012) examine the effect of women outside directors on firm performance and CEO compensation. Using a sample of over 2000 firms for the period 2001 to 2005, the result shows no evidence that adding women outsiders to the board enhances corporate performance.

Hili & Affes (2012) empirically study the impact of gender diversity of the Board of Directors on earnings quality and on Earnings Management by using a sample of 70 French firms. The result reveals that the enhancement of earnings persistence could not attribute to gender diversity that is gender diversity does not have significant impact whether positive or negative on Earnings Management. Also Carter, D'Souza, Simkims & Simpson (2010) investigate the relationship

between the number of women directors and the number of ethnic minority directors on the board and financial performance. They find no significant relationship between the gender and ethnic diversity of the board and financial performance for a sample of major US Corporation.

Emilia & Sami (2010) examine the association between gender, firms' executives and Earnings Management for a sample of 500 Finland firms. Panel regression of discretionary accruals is used. The result provides a considerable evidence to suggest that firms with female directors are associated with income-decreasing accruals. This implies that females are following more conservative Earnings Management strategies. The result of the empirical analysis indicates that the gender of the firms' executive may affect the quality of financial reporting. Also, Rose (2007) find that no significant association between female board representation and firm performance.'

Gulzar & Wang (2011) investigate the efficiency of corporate governance characteristics in reducing Earnings Management among listed firms of Shanghai and Shenzhen stock exchange in China. The result shows that presence of female director in the board help to reduce the level of Earnings Management.

Tsui, *et al.* (2011) investigate the relationship between female participation and corporate boards and earnings quality drawn from a sample of US listed firms from 2007 to 2011. They employ two measures of earnings quality: discretionary accruals and propensity of firms to beat earnings benchmark by small amount. The result of the study shows that the presence of female directors in monitoring position on audit and corporate governance committees makes more transparent reporting and earnings quality. It also reveals a positive relationship between female participation in corporate boards and earnings quality. Furthermore, after controlling for

endogeneity, and other firms and industry characteristics, the result still shows a higher earnings quality in firms with female board participation. Also Niskanen, *et al.* (2009) reveals that earnings quality is positively associated with gender diversity in corporate management.

Springer (2008) examines whether and how the participation of women in the firm's board of directors and senior management do not enhances firm's financial reporting or ability of checkmating opportunistic behaviour of management. The study finds that women are often appointed to leadership positions under problematic organizational circumstances associated with greater risk of failure and criticism, however, having more women on corporate board and top management does not seem to generate significant excess return and cannot restrained managers' opportunistic behaviour.

Ghazaleh & Garkaz (2015) examine the relation between the presence of women on the boards of directors of listed companies in Tehran Stock Exchange using and earnings management with discretionary accruals index. The required information were extracted from 90 accepted firms in Tehran Stock Exchange using Cochran sampling method for 7-years period (2006-2012). The findings of the study indicate that the presence of female directors in board is significantly and negatively associated with earnings management. It was made clear that firms with women on their boards, they have less use discretionary accruals for earning management.

Krishnan & Parsons (2005) examine the relationship between the proportions of women in the senior management rank and earnings quality by using a sample 770 firms-year observations for a period 1996 to 2000. The result shows that earnings quality is higher for firms with higher

gender diversity in senior management than for firms with low gender diversity in senior management.

Sun, Liu & Lan (2011) investigate whether female directors represented on the independent audit committees affect the ability of the committees in constraining Earnings Management. Using a sample of 525 firm-year observations for a period 2003 to 2005, the study did not find any significant association between the proportions of female directors on audit committees and extent of Earnings Management.

Wei & Xie (2010) examine the relationship between CFO gender and Earnings Management by using a sample of publicly traded firms from 1999 to 2006. The study finds that male CFOs engage more Earnings Management than female CFOs. It also reveals that female CFOs are more risk averse in making financial reporting and operational decisions than male CFOs are.

2.6.4 Literature Gap

Despite the fact that there are many empirical studies that investigated the issue of Board of Directors' attributes/corporate governance and Earnings Management, majority focused on determining the statistical impact of board size, board independence, CEO duality, managerial ownership and audit committee on Earnings Management. However, Board Competency, frequency of Board Meetings and Gender Mix have not yet been studied extensively.

The empirical studies reviewed especially on the effect of Board Competency on Earnings Management cast some doubt on the statistical result. Despite there are many arguments supporting the view that directors' knowledge of accounting and finance helps in constraining Earnings Management, yet most of the empirical researches find insignificant impact of Board Competency on Earnings Management. Some even find significant positive association. This

could be as a result of the fact that these studies (like that of Chtorou et al. (2001) and Johari et al. (2008)) use dichotomous variables to represent Board Competency, by assigning 1 if at least one member of Board of Directors has qualification in accounting and finance and 0 if otherwise. This will not capture the proportion of Board of Directors with accounting and finance knowledge in each firm. Furthermore, Bunamin et al. (2012) use number of Board of Directors with accounting and finance knowledge as a proxy for Board Competency, forgotten that board size varies from one firm to another. Some companies may relatively have larger board size than another. Therefore, the measurement could not capture the relative proportion of Board of Directors with accounting and finance knowledge. Hence, we measured Board Competency in term of 'ratio of Board of Directors with qualification in accounting and finance to total board size.

Furthermore, on the issue of gender sensitivity and Earnings Management, there is clear evidence that some group of companies or sectors are more gender sensitive. Most of these empirical researches studied the entire listed companies in their respective countries. This may not capture the real impact of women in the boardroom. However, taking a particular domain that almost have similar business and gender sensitivity can provide a real result. That is also another reason for restricting our research to foods and beverages sector to see the influence of gender sensitivity on Earnings Management in that particular sector.

Most of the empirical studies reviewed that considered these three variables if not those of Bala & Gugong (2015), Kantudu & Ishaq (2015) and Omoye and Erike (2014) among others are foreign based studies. As such, further study is required to ascertain how these variables can

influence earnings management in Nigeria with reference to listed foods and beverages firms in Nigeria.

2.7 Theoretical Framework

The theory underpinning this study is agency theory. This is the theoretical framework used by most researchers for clear understanding of the impact of board characteristic and firm value (cater, Simkins & Simpson, 2003). Agency theory elucidates the existence of the incentive for management to use Earnings Management (Salah, 2010). Jensen & Meckling (1976) define an agency relationship as a contract under which one or more person (the principals) engage another person (the agent) to perform some services on their behalf which involves delegating some decision making authority to the agent. According to Brennan (1995) the agency problem usually arises if an agent fails to act in the best interest of the shareholders (the principal). This may occur when managers try to achieve their own interest at the detriment of the shareholders; just to maximize their reward or meet some earnings target or debt covenant. All this is possible because of separation of ownership and control and information asymmetry (since managers have more information than the real owners of a company). Management may manage earnings to hide the true financial position and relevant information of a business organization that investors ought to have known. Agency theory elucidates the possibility for managers to manage earnings; managers may produce a bias financial report without the opportunity of others to see through it. Because of the opportunistic behaviour of an agent, corporation put in place a mechanism to align the interest of the principal and agent through the establishment of Board of Directors (Bunamin *et al.* 2012). Therefore, their action as an agent of shareholders may provide better monitoring of management that in turn leads to transparent and quality reporting. Shareholders employ team of Board of Directors to oversee the effective performance of the

management in order to protect and enhance their value as well as meeting the companies' obligation to its employees and other stakeholders.

In most agency relationships, the principal and the agent will incur monitoring and bonding costs. In a corporate entity, to oversee the management operation and constraint the management opportunistic behaviour, the shareholders invest in information and monitoring system, including employing Board of Directors, audit committee, and auditors (Hashim & Devi 2008).

However, impact of corporate governance mechanism on Earnings Management should be placed in the context of agency problem arising from the separation of ownership and control. According to Fama and Jensen (1983), creating a board that is effective in monitoring management action depends on the composition of individuals serving on the board. Thus, certain characteristics of Board of Directors are suggested in the literature to be effective in constraining the level of Earnings Management.

Agency theory suggests that a more diverse board may provide better monitoring of management. Furthermore, board of diverse gender may better avoid practice of Earnings Management, hence, provides shareholders with more reliable financial reporting (Gallego, Garcia & Rodriguez, 2010). Agency theory also supports the idea that corporate boards that meet more frequently have increased capacity to effectively advise, monitor and discipline management, and thereby enhancing corporate performance (Ntim & Osei, 2011)

CHAPTER THREE
STATEMENT OF METHODOLOGY

3.1 Introduction

This chapter discusses the methodology adopted for the study. It explains the research design, population of the study, sample size and sampling techniques adopted in the study. It describes the method of data collection, analysis and interpretation as well as variables measurement, research instrument and technique of statistical analysis of data.

3.2 Research Design

The study adopted correlational research design by employing both descriptive and inferential statistics using regression analysis. A correlational study tries to measure the degree of relationship between one or more variables for making predictions about relationship. In order to use the correlational research design, the variables of the study must be related; each variable of the study must be expressed in numerical form, that is, it must be quantifiable; and the research must follow a quantitative approach (Water, 2014; Ramscar, 2002).

In addition to correlational research design, the study also adopts ‘‘ex-post facto or causal-comparative design’’. Data are collected after the event or phenomenon under investigation has taken place, which is why it is called ex-post facto. That is, the causes are studied after they have presumably exerted their effect on another variable before the research.

Descriptive statistics is used to present and summarise data for easy understanding and interpretation; while inferential statistics is also used for data analysis and interpretation in such a way that conclusion about the population would be reached, based on data received on the sample (Vincent, Olaegbe & Sobona, 2008).

The choice of correlation design is because the study aimed at finding the relationship between Board Characteristics and Earnings Management; the study also attempted to follow quantitative approach to find the effect of Board Characteristics on Earnings Management (all the variables of the study have been assigned numerical values in the process of establishing the relationship). Ex-post facto design was also adopted because the study investigated the effect of independent variables- Board Characteristics on the dependent variable- Earnings Management after the event under investigation has taken place. Ex post facto design is a quasi-experimental study examining how independent variables present prior to the study affect a dependent variable.

3.3 Population of the Study

The population of the study comprised all the listed foods and beverages firms on the Nigerian Stock Exchange as at 2013. Therefore, the population comprises all the twenty-one (21) listed foods and beverages firms in Nigeria. The total numbers of firms are derived from the Nigerian Stock Exchange (NSE) fact book as at 2013. The classification based on the fact book is as follows:

Beverages-brewers/distiller	7
Beverages-non-alcoholic	1
Food products	11
Food products diversified	2
Total	21

(See appendix 1 for the list of companies)

Data for the study was obtained from the annual financial statements of the listed companies, NSE factbook and other companies' profiles.

3.4 Sample size and Sampling Technique

The sample size of the study is nine (9) foods and beverage firms listed on the Nigeria stock exchange. Effort was made to see that adequate sample size was drawn, considering the size of the population (21) as well as the degree of precision desired. The sample size covered 43% of the population. This is arrived at after using 2 stages criteria:

The first stage is that a firm must meet the criterion of being listed on the NSE within 2007-2013 and should not have been delisted within the period. As such Honey well flour mills plc and Nigeria Bottling Company were deselected, and we were left with nineteen (19). The second stage is that a firm must have been publishing it directors' profile as well as having information on variables of the study. Therefore, the sample size that covers the span of this study and satisfies the criteria of having information on all the variables at the time of conducting this research were nine (9) listed foods and beverages firms. Thus, some companies were dropped because we could not get access to Board of Directors profiles (issue related to Board Competency), while some companies do not have complete financial statements within the period to get the information related to accounting figures required for computation of discretionary accruals, ROA and firm size.

The period for the study is 2007 to 2013. The period reflects the time when corporate governance is in effect in the Nigerian capital market. This is because the regulatory innovation began in 2003 and subsequently re-strengthens in 2011.

3.5 Method and Sources of Data Collection

The study used secondary source of data collection. The data was collected from the annual reports and account of the sampled companies, Nigerian stock exchange factbook and other relevant sources for a period of seven (7) years (2007 to 2013). The firms are public limited companies listed on the Nigerian Stock Exchange. By virtue of being public limited companies and as a requirement of being listed, annual financial report has to be made available to the Nigerian Stock Exchange.

3.6 Techniques of Data Analysis

Multiple regression was used to analyse the relationship between Board Characteristics and Earnings Management. The data for the study is panel in nature (that is cross-sectional time-series data). Panel data lead to errors that are clustered and possibly correlated overtime. This makes the use of OLS regression problematic.

The regression was run in a panel manner; as such, various options of panel data regression were run, like, random effect GLS regression, fixed effect (within) regression and GLS regression. But the most robust of all is fixed effect (within) regression (as suggested by Hausman specification test). Therefore, by extension, the result is reported using Fixed Effects-Least Square Dummy variables (LSDV)**.** The Fixed Effect- LSDV provides a good way to understand fixed effect (see Model Specification). Stata 10 was used as a tool of analysis because it allows for carrying out certain statistical tests, like heteroskedasticity test, VIF test, Hausman test, and estimation of residuals.

3.7 Model Specification

The essence of the model is to study the impact of Board Characteristics on Earnings Management of listed foods and beverages firms in Nigeria. From the literature reviewed, the study found that Board Competency, frequency of Board Meetings and Gender Mix are important attributes of Board of Directors; and play a significant role in monitoring managers' opportunistic earnings management behaviour. Therefore, statistical analysis for this study has its root in agency theory. Hence, the model is stated as follows:

$DAC_{it = b0} + b_1BC_{it} + b_2FBMit + b_3GMit + b_4 ROA_{it} + b_5FSIZE_{it} + E_t$

Moreover, the model of the study is further modelled with Fixed Effect- Least Square Dummy variables (LSDV). This is because 'fixed effect within regression' was suggested by Hausman Specification Test. The Fixed Effect- LSDV provides a good way to understand fixed effect. The effect of independent variables is mediating by the different across sampled firms. Hence, by adding the dummy for each firm, the model estimated the pure effect of Board Characteristics on Earnings Management that is, by controlling for the unobserved heterogeneity. Each dummy is absorbing the effects particular to each firm. As such, dummy variables is created for each firm (except one), and included in the model. Since we have nine (9) firms each of whom was measured at 7 points in time (7 years), then we included eight (8) dummy variables in the model. The statistical inferences is drawn using this model. So the model for the Fixed Effect- LSDV becomes:

$DAC_{i=}b_0+b_1BC_i+b_2FBMi+b_3GMi+b_4ROA_i+b_5FSIZE_i+b_6D1+b_7D2+b_8D3+b_9D4+b_{10}D5+b_{11}D6+b_{12}D7+b_{13}D8+E_i$

Where:

DAC = Discretionary accruals

b_0 = intercept (constant)

$b_1 – b_6$ = parameters (slope coefficient)

BC= Board Competency

FBM = Frequency of Board Meetings

GM = Gender Mix

ROA = Return on Asset

FSIZE = Firm Size

D1-D8= dummy variables for each firm (except one)

3.8 Variables Measurement- Independent and Dependent Variables

Dependent Variable	**Measurement**
Earnings Management (Discretionary Accruals)	The absolute values of discretionary accruals (residual obtained from modified Jones model (by Dechow et al. (1995))
Independent Variables	
Board Competency	Proportion Board of Directors who have qualification in accounting or finance to total Board of Directors.
Frequency of Board Meetings	Natural logarithms of number of Board Meetings held in a year.
Gender Mix	Proportion of female Board of Directors to total Board of Directors.
Control Variables	
Firm Size	Natural logarithms of total asset.
Return on Asset (ROA)	EBIT/Total Asset

Source: compiled by the author (2014)

Dependent Variable: Discretionary accruals measurement

This study used discretionary accruals to measure Earnings Management. Modified Jones (1995) model was used to extract the discretionary accrual, that is, the residual values obtained after regressing in the modified Jones Model. According to Dechow, *et al.* (1995), the original Jones model is unable to capture the impact of sale-based manipulation because account receivables should not be considered as non-discretionary accruals. Thus, they proposed a modification to the original Jones model known as modified Jones Model (1995). The study adopts modified Jones (1995) model because it is widely tested and accepted by many scholars and it is the best model to estimate discretionary accruals with minimal error (Bello and Yero, 2011). Furthermore, both Gulzar and Wang (2011) and Johari et al. (2008) used this model to estimate the extent of Earnings Management. The model is presented below:

$$TACC/TA_{i,t} = \hat{\alpha}_1\left(\frac{1}{TA_{i,t-1}}\right) + \hat{\alpha}_2\left(\frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{TA_{i,t-1}}\right) + \hat{\alpha}_3\left(\frac{PPE_{i,t}}{TA_{i,t-1}}\right) + e_t$$

Where = TACC = Total accrual (Discretionary + Non-discretionary) for firm 'i' in year t

Δ REV = Change in operating revenues for firm i in year t

Δ REC = Change in account receivables for firm i in year t

PPE = Gross property, plant and Equipment for firm i in year t

t and t-i = time subscript

i = firm subscript

e= error term (residual value) - discretionary accruals.

Therefore, to separate non-discretionary accruals component from discretionary accruals component in the total accruals, the stages involve:

The total accruals have to be computed first. Therefore, in our study total accruals are computed by the differences between net incomes and operating cash flows (that is net income for firm i in year t – net operating cash flow for firm i in year t). Then insert the value of TACC (Total accruals) into the modified Jones model's equation. PPE are also included to control for the portion of total accruals related to non-discretionary depreciation expenses.

After regressing for the above equation, the residual value (e_{it}) obtained, represent discretionary component of the total accrual. Therefore, the absolute values of the residuals represent Earnings Management

3.9 Control variables

In this study, firm size and return on assets (ROA) were used as control variables to control for the effects of Board Characteristics on Earnings Management. These are variables often used by many researchers when determining the impact of Board Characteristics on Earnings Management.

ROA was used as a control variable by Klein (2002); Bartov, Givoly and Hayn (2001); Gulzar and Wang (2011) and Johari, *et al.* (2008). ROA gives an idea as to how efficient management is at using its assets to generate earnings. Dechow et al. (1995) suggest that firm performance supposed to have a positive association with discretionary accruals. Without controlling for such, discretionary accruals may reflect changes in the sample firm performance. Johari, *et al.* (2008) finds that ROA has a significant positive relationship with discretionary accruals. Also Moradi, *et al.* (2012) finds that ROA has a significant positive impact on Earnings Management. Riahi & Arab (2011) also found that profitability has a positive relationship with Earnings management.

Firm size is used in most Earnings Management studies to control for many factors such as political cost and economies of scale. Earlier studies have found that firm size has negative impact on Earnings Management (Dechow, *et al.* 1995; Defond & Jiambalvo 1994). Therefore, discretionary accruals are expected to have a negative relationship with firm size. According to Abed, Al-Attar and Swaidan (2012) smaller companies are subject to less control from authority and therefore, engage in Earnings Management activities but some argue that Earnings Management activities increases as the size of a company increases. Soliman and Ragab (2013) have empirically found that firm size has a significant positive relationship with Earnings Management. They claim that large firms face greater scrutiny from investors, and thus more likely to manage earnings to satisfy their forecast. Bolouri, *et al.* also (2011) documents a positive relationship between firm size and Earnings Management. Lee (2013) in his study, 'the influence of corporate governance on earnings quality', finds that firm size does not have significant impact on Earnings Management. In addition, Johari, *et al.* (2008) does not find any significant relationship between firm size and Earnings Management. On the contrary, Musa, *et al.* (2013) documents a significant negative impact of firm size on Earnings Management.

3.10 Justification of the Methodology

The choice of correlation design is because the study aimed at finding the degree of association between Board Characteristics and Earnings Management. While ex-post facto design was also adopted because the study investigated the effect of independent variables- Board Characteristics on the dependent variable- Earnings Management after the event under investigation has taken place (the study relied upon historical data). The period of the study chosen reflects the time when code of corporate governance is in effect in the Nigerian capital market. The study

followed quantitative approach to determine the impact of Board Characteristics on Earnings Management. Therefore, in line with our objectives and hypothesis formulated we made use of multiple regressions to determine the impact of independent variables on the dependent variable, because it is the most suitable techniques for determining the extent of impact of independent variables on dependent variable. Stata Statistical Package was used because it allows ascertaining the impact of the independent variables on the dependent variable as well as testing for robustness such as heteroskedasticity test, fixed and random effect test, multicollinearity test etc. The variables for the study are Board Competency, frequency of Board Meetings Gender Mix and discretionary accruals. In addition, Return on Asset and firm size are introduced in the model as control variables. We used stata application package to generate residuals from modified Jones (1991) model for each year of the study. The choice of modified Jones (1991) model is because it is widely tested and accepted by many scholars and it is the best model to estimate discretionary accruals with minimal error (Bello & Yero, 2011).

CHAPTER FOUR
DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter covers data presentation, analysis, interpretation, and discussion of the results of the study. Hence, results from the descriptive statistics, the correlation matrix, the robustness test, and the regression results are presented and discussed. The chapter also discusses the implications of the research findings.

4.2 Descriptive statistics

Table 4.1 presents descriptive statistics of the variables of the study. The mean, standard deviation, minimum, and maximum have been used to describe the data.

Table 4.1: descriptive statistics

Variables	Obs	Mean	Std.Dev.	Minimum	Maximum	Skewness	Kurtosis
DAC	63	0.0574	0.0527	0.0018	0.2537	1.5676	5.6724
BC	63	0.3179	0.1130	0.0767	0.5000	-0.3739	2.2455
FBM	63	1.5249	0.1999	0.6931	2.0794	-0.7048	6.9657
GM	63	0.0711	0.0712	0.0000	0.2500	0.7184	2.9856
ROA	63	0.1788	0.1826	-0.3076	0.6117	-0.7060	3.9142
FSIZE	63	17.5408	1.153	14.8458	19.3514	-0.6710	2.3642

Source: Extracted from STATA output 10

The absolute value of discretionary accruals of the listed foods and beverages firms in Nigeria (based on the modified Jones model) has a minimum value of 0.0018, (which is much closer to zero) and a maximum of 0.2537. This shows that the minimum percentage of discretionary accruals from the total accruals of the sampled firms is 0.18% (which is less than 1%). While during the period, some firms manage earnings to the extent of 25% of the total accruals. The magnitude of absolute value of discretionary accruals in the sample firms has a mean of 0.0574 with standard deviation of 0.0527. This indicates that the deviation between companies is quite very small. The discretionary accrual values are above zero, which suggests the existence of Earnings Management in the listed foods and beverages firms in Nigeria.

The Board Competency is measured by the proportion of Board of Directors who have qualification in accounting and/or finance to total Board of Directors. From the table, the Board Competency has a mean of 0.3179, a minimum of 0.07669 and a maximum of 0.5000. This indicates that in each board of the sampled companies there is at least one board member with qualification in accounting and/or finance. It also appears that 8% to 50% of the directors during the period 2007-2013 were competent. This shows that there are directors who are competent during the period of the study.

The number of meetings held by the Board of Directors of listed foods and beverages firms during the period has a mean of 4.6824 (1.5249) with standard deviation of 0.9127 (0.1999) and the range is from the minimum of 2 (0.6931) to a maximum of 8 (2.0794). Furthermore, the SEC code states that, for Board of Directors to effectively perform its oversight function and monitor

managers' performance, they should at least meet 4 times in a financial year. From the foregoing, we can see that some companies did not conform to the provision of the code (for seating two times). But some companies have gone beyond the minimum requirement (for sitting up to 8 times). However, on average, the sampled companies have conformed to the provision of the code for having a mean of 4.6825.

Gender Mix refers to the number of female directors divided by the total number of directors on the board. From the table, we can see that the proportion of women on the boards range from a minimum of 0.0000 to a maximum of 0.2500 and a mean of 0.0712. This shows that the women representation on the board of the sampled companies is very poor. This is because the average representation is only 6.4%. The minimum of 0.000 proves that some companies did not include women in their team of Board of Directors during this period of study; and for those that included women, the maximum representation is only 25%. The standard deviation of 0.0712 indicates the deviation between companies is low. This shows that representation of women on the board is poor across the sampled companies. However, representations of women tend to be low even in the developed economies (Catalyst, 1999).

The return on asset (ROA) is used as control variable. The ROA has a mean of 0.1718 with a standard deviation of 0.1826, a minimum of -0.3076 and a maximum of 0.6117. This shows that the profitability between the companies varies greatly as some companies reported negative ROA of -30.76% while some company (ies) reported positive ROA as high as 61.17%. The variance in ROA of the listed foods and beverages firms in Nigeria may sometimes differ across

the companies due to size in their total assets. The standard deviation of 0.1826 proves that ROA between companies varies; as such, there is an expectation that the magnitude of Earnings Management will differ across the companies. This is because ROA is scaled by total size (firm size); and firm size is believed to have an effect on the magnitude of Earnings Management. On average, the sampled firms reported positive ROA of 17.18%.

The second control variable is firm size proxies by natural logarithms of total assets. It has a mean of 17.5408 with standard deviation of 1.153 and the range is from a minimum of 14.8485 to a maximum of 19.3514.

4.3 Correlation matrix

The correlation matrix is used to determine the degree of association between independent variables and dependent variable. It is also used to identify whether there is relationship among the independent variables themselves, to be able to detect if multicollinearity problem exists.

Table 4.2: Correlation matrix

Variables	DAC	BC	FBM	GM	ROA	FSIZE
DAC	1.0000					
BC	0.4898	1.0000				
FBM	-0.2620	-0.0278	1.0000			
GM	-0.1793	0.2463	-0.2202	1.0000		
ROA	0.2937	-0.1001	0.1608	0.2184	1.0000	
FSIZE	0.0616	-0.2907	0.2037	-0.1334	0.4097	1.0000

Source: Extracted from STATA output 10

From the table, the relationship between Board Competency and Earnings Management of listed foods and beverages firms in Nigeria is positive and significant at 1% level. This can be observed from the correlation coefficient of 0.4898 with a significant value of 0.0000. The positive association indicates that Earnings Management may increase with the increase in the

proportion of Board of Directors who have qualification in accounting or finance. Despite the fact that it is found in the literature that Board Competency reduces Earnings Management, yet to our surprise, the statistical result reveals a positive association. This may be possible, because many people consider Board of Directors of public companies as passive entities that are controlled by management (Lei, 2003). However, the conclusion cannot be made now because it is only an association. To access the real impact, we have to conduct regression analysis.

Moreover, the frequency of Board Meetings has a significant but weak negative association with Earnings Management of listed foods and beverages firms in Nigeria. This is because; the correlation coefficient is 0.2620 significant at 5% level. The direction of the relationship suggests that more meetings by Board of Directors may have a reducing effect on the level of Earnings Management of listed foods and beverages firms in Nigeria.

Furthermore, the degree of association between Gender Mix and Earnings Management is -0.1793. This shows that there is a negative association between the two. Although the association is weak, but the correlation coefficient indicates that, there is an inverse relation between the two. This statistical association suggests that adding woman in a board may reduce the incidence of Earnings Management. The correlation coefficient will not serve as a basis for generalization on the impact of Board Characteristics on Earnings Management as it only gives a degree of association between the dependent variable and the independent variables.

Additionally, the ROA introduced as a control variable has a significant positive relationship with Earnings Management of listed foods and beverages firms. This can be confirmed from the correlation coefficient of 0.2937. While a positive association is observed between firm size and Earnings Management, but statistically insignificant. This can be seen from the coefficient value of 0.0616 with a probability value of 0.6315.

The relationships between independent variables themselves suggest to be minimal because, only ROA and Board Competency have significant relationship with firm size. In order to access the presence of multicollinearity, the study further conducted multicollinearity test, using Variance Inflation Factor (VIF) and its reciprocal (1/VIF). The benchmark for VIF is that at 5% collinearity is suspected, at over 10% collinearity is assumed to be present. The result suggests absent of multicollinearity. This can be confirmed from the statistical result that shows all the VIF and 1/VIF are above 1 and less than 1 respectively, while the mean value of VIF is 1.25. All these suggest absence of multicollinearity

4.4 Robustness test

In order to improve the validity of the statistical inference, and to avoid making wrong inferences, some robustness tests were conducted. For the purpose of the study, panel regression was used; as such, various options of panel regression were run. These include OLS regression, GLS regression, random effect GLS regression, fixed effect (within) regression and Hausman specification test (see table 4.5). However, the most robust of all is fixed effect (within) regression.

Table 4.3: Multicollinearity test

Variable	VIF	1/VIF
fsize	1.36	0.732710
roa	1.36	0.734847
gm	1.26	0.795121
bc	1.16	0.862730
fbm	1.12	0.890670
Mean VIF	1.25	

Table 4.4: Heteroskedasticity Test

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

         chi2(1)      =    11.48
         Prob > chi2  =   0.0007
```

Table 4.5: Hausman test

```
    Test:  Ho:  difference in coefficients not systematic

                  chi2(5) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =       23.59
                Prob>chi2 =      0.0003
                (V_b-V_B is not positive definite)
```

The OLS regression result reveals that all the independent variables except firm size are statistically significant with F-statistics of 10.50 and probability value of 0.000. There is an absence of multicollinearity (see table 4.3). However, the Breusch-Pagan test for heteroskedasticity reveals the chi-square value of 11.48, significant at 1% level (see table 4.4). This indicates the presence of heteroskedasticity in the data. It is for this reason that OLS technique has a high chance of resulting in inefficient statistical result and by extension leading to incorrect inferences, which may lead to type 1 or a type 2 error.

Given that the data has heteroskedasticity problem, the study focuses on two techniques used to analyse panel data- random effect GLS regression and fixed effect regression. When using fixed effects model, it is assumed that something within the individual may affect or bias the predictor or outcome variables and there is need to control for this. Fixed effect removes the effect of those time-invariant characteristics so that the net effect of the independent variables on the dependent variable can be assessed. While random effects assume that, the entity's error term is not correlated with the predictors that allow time-invariant variables to play a role as explanatory variables. A quantity being random means that it fluctuates over unit in some population; and which particular unit is being observed depends on chance.

To decide between fixed or random effects the study run hausman test**.** The hausman used to test whether the unique error term is correlated with the regressors. Fixed effects is the alternative hypothesis which states that the entity's error term is correlated with regressor; while random effects is the null hypothesis which states that the entity's error term is not correlated with the regressor. Therefore, the results from random effect and fixed effect reveal that F-statistics are significant in all scenarios. But hausman specification test considered fixed effect (within) regression as the appropriate estimator of parameters on the bases that fixed effect correlated with the variables as the hausman test is statistically significant at 1%. This can be confirmed from the chi-square value of 23.59 and a probability value of 0.0003 (see table 4.5 above). Therefore, hausman test indicated that the fixed effect (within) regression is the preferred model that should be used. However, by extension the study run for Fixed Effect- LSDV regression model. This model is arrived at by introducing dummy variables (as explained under Model

Specification). The dummy variables have the ability to control firms' individual intercept or unobserved heterogeneity, that is, each dummy is absorbing the effects particular to each firm.

Hence, result will be interpreted using Fixed Effect- Least Square Dummy Variables Model. By comparison, the fixed effect using dummies and fixed effect (within group) regression yield same result; except that F-statistics slightly increase by 0.7 with fixed effect using dummies (see appendix III and IV for comparison.

4.5 Regression results

This subsection deals with inferential analysis of data. The result is in relation to the impact of Board Characteristics on Earnings Management of listed foods and beverages firms in Nigeria. It contains individual impact of the independent variables (Board Competency, frequency of Board Meetings and Gender Mix) on the dependent variable (Earnings Management). Hence the regression results are presented below (table 4.3)

Table 4.6: Summary of Regression Results

Fixed Effect- LSDV		
Variables	Coefficient	t-statistics
Constant	-0.1089	-0.56 (0.580)
BC	0.0806	0.79 (0.4350)
FBM	-0.0953	-4.03 (0.0000)
GM	-0.2243	-2.70 (0.009)
Control Variables		
ROA	0.2845	4.57 (0.000)
FSIZE	0.0212	1.45 (0.1530)
R-square	71%	
Adj-R square	63%	
F-Statistic	9.01 (0.0000)	

Source: Extracted from STATA output 10

4.6 Test of Hypotheses

The regression results reveals that Board Competency has no significant impact on Earnings Management of listed foods and beverages firms in Nigeria. This can be confirmed by the t-value of 0.79 with significant value of 0.435. This shows that Board of Directors' qualification in accounting or finance does not have any significant impact on the Earnings Management of the sampled companies. This is contrary to the findings in literature which show that members of Board of directors who have accounting and/or finance' background are better able to reduce Earnings Management. The implication of this finding is that director's qualification in accounting and finance does not have significant effect on Earnings management. The finding serves as a base for failing to reject the null hypothesis earlier formulated, which states that Board Competency does not have significant impact on Earnings Management of listed foods and beverages firms in Nigeria. The finding is in tandem with those of Johari et al. (2008), Buamin et al. (2012) and Xie et al. (2003) who also found insignificant impact of Board Competency on Earnings Management. It is however, contradicts the finding of Agrawal and Chada (2001) who found that earnings manipulation in the US is low in firms with board members who have accounting and finance knowledge.

Moreover, the inferential statistics show that frequency of Board Meetings has a t-value of -4.03 with a significant value of 0.0000 (that is significant at 1% level). This signifies that frequency of Board Meetings is negatively influencing the Earnings Management of listed foods and beverages in Nigeria. This implies that the higher the Board Meetings the lower the discretionary accruals. The beta coefficient of -0.0953 indicates that discretionary accruals reduce by 9.53%

with an increase in one more board meeting. This is in line with the argument put by Vafeas (1999), Jaiswal, and Bernajee (2012) that the greater the meeting frequencies the more effective will be the boards' monitoring function and subsequently constrain Earnings Management. The implication of this finding is that foods and beverages firms' compliance to Board Meetings will enhance earnings quality by reducing the level of discretionary accruals. The result provides justification for the rejection of the null hypothesis, which states that frequency of Board Meetings has no significant effect on Earnings Management of listed foods and beverages firms. The finding is in line with those of Jaiswal and Banerjee (2012), Xie. et al. (2003), Zhou and Chen (2004) and Vafeas (1999) who also found a negative impact of Board Meetings on Earnings Management. But the finding contradicts those of Sukeecheep et al. (2013), Moradi et al. (2012) and DeMelo (2009) who did not find evidence of a significant relation between frequency of Board Meetings and Earnings Management.

The regression results further reveal that Gender Mix has negative and significant impact on Earnings Management of listed foods and beverages firms at 1% significant level. This can also be observed from the statistical t-value of -2.7000 with probability value of 0.009. This shows that increase in the proportion of women directors on the board significantly reduces the Earnings Management of listed foods and beverages firms in Nigeria. By implication therefore, even though the percentage of women on the board of listed foods and beverages firms is very low, an increase in female representation on the board will enhance earnings quality through constraining the level of discretionary accruals. The beta coefficient of -0.2242 indicates that discretionary accruals will reduce by 22.42% with an increase of at least one-woman director. This finding confirms the assertion made by Tsui et al. (2011) that female participation in a

board can improve earnings quality because they have better communication; use more informed decision and independent thinking and have a developed trust leadership. The finding serves as a base for the rejection of the null hypothesis, which states that Gender Mix has no significant impact on Earnings Management of listed foods and beverages firms in Nigeria. Interestingly, this finding is similar to the findings of Gulzar and Wang (2011), Tsui et al. (2011) and Niskanem et al. (2009). The result is contrary to those found by Hili and Affes (2012), Sun et al. (2011) and O'Reilly and Man (2012) who did not find evidence of a significant impact of gender diversity on Earnings Management.

The control variable-ROA has a significant positive impact on Earnings Management of listed foods and beverages firms in Nigeria. The t-value of 4.57 and the probability value of 0.0000 suggest the positive impact. This means that managers of the firms are more incline to manage earnings when performance is high. Dechow *et al.* (1995) and Kazniks (1999) suggest that firm performance is expected to have a positive association with discretionary accruals. The finding is in line with those of Johari *et al.* (2008) and Moradi et al. (2012) who found that ROA has a significant positive relationship with discretionary accruals. Ria and Arab (2011) find a significant positive association between ROA and Earnings Management; and believe that their result is consistent with the prediction of several researches who affirm that Earnings Management is operated in the case where an extreme performance is achieved.

The second control variable is firm size. The impact of firm size on Earnings Management of listed foods and beverages firms in Nigeria is positive, but statistically insignificant because the

t-value is 1.4500 with a probability value of 0.153. Even though, it is not significant the positive impact suggests that large firms manage earnings than small firms. Nevertheless, the finding of the study is in tandem with those of Lee (2013) and Johari (2008) who did not find evidence of a significant relation between firm size and Earnings Management.

The F-statistic as shown in the table measures the overall impact of independent variables (Board Competency, frequency of Board Meetings, Gender Mix, ROA and firm size) on the dependent variable-discretionary accruals. The result shows that F-statistic is 9.01 significant at 1% level. This implies that the board characteristic variables investigated in the study have a significant combined impact on Earnings Management of listed foods and beverage firms in Nigeria during the period under review (2007-2013). It also suggests the fitness of the model. The R-square-coefficient of determination is 0.705. This explained the individual variation of the dependent variable because of change in the independent variables. Therefore, the Board Characteristics, proxies by Board Competency, frequency of Board Meetings and Gender Mix (in addition to ROA and firm size) have combined predictive power of 71% in controlling Earnings Management of listed foods and beverages firms in Nigeria. While a negligible 29% is attributed to stochastic error variances. The adjusted R-square provides an adjustment to the R-square such that independent variables that have correlation with dependent variable increases adjusted R-square. Therefore, the R-square adjusted for the number of variables that have strong correlation in the model occupies 63% of the Earnings Management.

For the fact, the R-square is 71%, and the F-statistics is 9.01 (significant at 1% level), it indicates the model is well fitted. Moreover, based on this we can conclude that Board Characteristics have significant impact on Earnings Management of listed foods and beverages firms in Nigeria.

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

As a response to financial scandals and some corporate failures in Nigeria linked to managerial incentive to manage earnings, SEC to improve the monitoring function of the Board of Directors introduced the code of corporate governance for 2003 and 2011. Therefore, this study investigated the effect of some Board Characteristics namely, Board Competency, frequency of Board Meetings and Gender Mix on Earnings Management (in the context of agency relation) of listed foods and beverages firm in Nigeria from 2007 to 2013. The study considered the discretionary accruals of the firms to represent the extent of Earnings Management. The estimation of discretionary accruals was based on the modified Jones (1991) model. The study hypothesized that Board Competency, frequency of Board Meetings and Gender Mix have no significant impact on Earnings Management of listed foods and beverages firm in Nigeria. ROA and firm size were included in the model of the study as firm specific factors that may have influence on Earnings Management.

The sample size of the study is nine (9) out of twenty-one (21) firms. Both correlational and ex-post factors research design were used. This is because the study tried to find the relationship and effect of Board Characteristics on Earnings Management using historical data. The data collected was purely from secondary sources; extracted from the companies' annual reports and other corporate websites. A multiple regression technique was employed to assess the impact of Board Characteristics on Earnings Management. The regression was run in a panel manner; various options of panel data regressions were run but the most robust of all is fixed effect (within) regression. This by extension the study run for Fixed Effect- LSDV regression model. The dummy variables have the ability to control firms' individual intercept or unobserved heterogeneity that is each dummy is absorbing the effects particular to each firm.

The study found that Board Characteristics have significant impact on Earnings Management of listed foods and beverages firms in Nigeria. Individual results showed that Board Competency has no significant impact on Earnings Management of listed foods and beverages firm in Nigeria. The impact of frequency of Board Meetings on Earnings Management of listed foods and beverages firm in Nigeria was found to be negative and statistically significant. Gender Mix was also found to have significant negative impact on Earnings Management of listed foods and beverages firm in Nigeria. Lastly, the control variable, ROA was found to have significant positive impact on Earnings Management, while firm size was statistically insignificant in influencing the level of Earnings Management of listed foods and beverages firm in Nigeria.

5.2 Conclusions

Based on the findings of the research, the study concludes as follows:

i. The empirical findings in the study provide evidence that Board Characteristics have significant impact on Earnings Management of listed foods and beverages firm in Nigeria. The empirical findings revealed that two individual characteristics of Board of Directors (frequency of Board Meetings and Gender Mix) have a significant negative effect on Earnings Management of listed foods and beverages firm in Nigeria, while Board Competency does not have significant influence on Earnings Management.

ii. The study confirms the importance of corporate board meetings in enhancing the monitoring function of Board of Directors. The significant negative effect of frequency of Board Meetings on Earnings Management was an indication that more frequency of Board Meetings reduces Earnings Management of listed foods and beverages firms in Nigeria. This is possible when board members meet frequently to discharge their duties in accordance with shareholders interest. Therefore, firms with board of directors'meetings that are more frequent are associated with low Earnings Management.

iii. Moreover, the significant negative impact of Gender Mix on Earnings Management of listed foods and beverages firms in Nigeria was an indication that Earnings Management reduces with an increase of women in the team of Board of Directors. This is possible because women do normally challenge management decision by their question; and they always develop trust leadership than their male counterpart. Hence, more women participation in the affairs of the board reduces the incidence of Earnings Management.

iv. Furthermore, the empirical finding reveals that Board Competency does not have significant impact on Earnings Management. This means that directors' knowledge in the field of accounting or finance do not make any difference in the Earnings Management practice of listed foods and beverages firms in Nigeria. Thus, Board Competency does not guarantee the quality of earnings. The result did not support the notion that, financial experts, because of their knowledge in accounting and/or finance are at better chance to detect any form of earnings manipulation, they may use their expertise to promote earnings management.

v. In general, these findings suggest that frequency of Board Meetings and Gender Mix undertake less accrual management. Although, not all the variables of the study opposed to the stated hypotheses, but the study has achieved its objectives by answering the research questions.

5.3 Recommendations

In line with the findings and conclusions of this study, the following recommendations are offered:

i. The study recommends that SEC should encourage adherence to at least the minimum requirement (four times in a financial year) by making it mandatory to hold meetings at least four times in a year. The SEC should encourage more frequent meetings by Board of Directors because, the empirical evidence indicates that Board Meetings are associated with low Earnings Management.

ii. SEC should henceforth consider gender composition when designing or amending the provision of the code. It should provide a means of enforcing women participation on corporate boards. There is need for her to specify the proportion of women a company should at least maintain as directors and to make it mandatory for companies to abide by it.

iii. The authority should provide a means through which more meetings will be encouraging by enforcing public firms to be following the provision of the code accordingly. Hence, appropriate measures need to be taken by government to ensure companies abide by the regulation. This will be possible if government clearly shows its concern by compelling companies to abide by the provision of the code.

iv. Government in collaboration with Corporate Affairs Commission should come up with a policy that will force public companies to provide seat for women in their boards, give them responsibilities in area of finance, and control related matters. As the study established the importance of women in reducing discretionary accruals, women participation would enhance firm performance and constrain earnings management, since they normally develop trust leadership.

v. Lastly, the flexibility of the SEC code contributes failure and bankruptcy of some firms in Nigeria as only 40% of the listed firms recognize the code put in place. Therefore, there is need for the regulatory authority to make it rigid rule; and failure to abide by it should attract appropriate sanctions.

5.4 Limitations of the study

Like most studies, this research work is subject to a number of limitations. The limitations include:

i. The limitation of the study is the issue of survivorship bias related to the period of study; as only foods and beverages firms being listed on the NSE between 2007 and 2013 were included. Hence, firms with short histories (not listed within the period) were excluded. The study should have used all the twenty-one firms, but dearth of data and survivorship bias hindered the use of all the firms.

ii. There are various models for detecting the extent of earnings management, but this study restricts itself to the use of Dechow et al. (1995) model. This is because, it is the model used by most researchers (including Gulzar and Wang (2011) and Johari et al. (2008)) and was proved to produce minimum error.

iii. In the literature, Board Competency has been defined in two ways: Board Competency in term of directors' knowledge in the field of accounting and/or finance and Board Competency in term of directors' years of experience on a board. This study examined the influence of Board Competency in term of directors' knowledge of accounting and/or finance on earnings management.

5.5 Suggestions for Further Research

i. This study examined the effect of Board Competency, frequency of Board Meetings and Gender Mix on Earnings Management of listed foods and beverages firms for the period 2007 to 2013. The period of the study can be extended to 2015; there are other Board of directors attributes that were not captured in this study. All these need to be revisited to capture some changes that might have occurred.

ii. The same Board Characteristic' variables used in this study can be examined in another domain/sector to see whether or not the research findings would be similar.

iii. Further research should examine the effect of Board Competency (in term of directors' years of experience on a board) on Earnings Management.

iv. Further research is needed on the impact of independent director's competency on earning management.

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Appendix 1: Listed companies under foods, beverages, tobacco and breweries firms as at 2012

Beverages- Brewers/distillers:

1) Champion Breweries plc.
2) Golden Guinea Breweries plc.
3) Guiness Nigeria plc.
4) International Breweries plc.
5) Jos International Breweries plc.
6) Nigerian Breweries plc.
7) Premier Breweries plc.

Beverages- Non-alcoholic

8) 7-up Bottling Company plc.

Foods Products

9) Big Treat plc.
10) Dangote Flour Mills plc.
11) Dangote Sugar Refinary plc.
12) Flour mills of Nigeria plc.
13) Honey well Flour Mills plc.
14) Multi-Trex Integrated Foods plc.
15) Northen Nig. Flour Mills plc.
16) National Salt Company of Nig. Plc.

17) P. S. Mandrides plc.
18) UTC Nigeria plc.
19) Union Dicon Salt

Foods Products Diversified

20) Cadbury Nigeria plc.
21) Nestle Nigeria plc.

Sources: NSE factbook, 2012

SAMPLED COMPANIES

1) Guiness Nigeria plc
2) Dangote Flour Mills plc
3) Flour mills of Nigeria plc
4) Nestle Nigeria plc
5) Nigerian Breweries plc.
6) Dangote Sugar Refinary plc.
7) Cadbury Nigeria plc.
8) National Salt Company of Nig. Plc.
9) Champion Breweries plc

APPENDIX II: Data for the study

Where DAC= Discretionary accruals extracted for each firm

year	DAC	BC	FBM	GM	ROA	FSIZE
2007	0.050742	0.333333	1.386294	0.066667	0.198869	18.08578
2008	0.008222	0.307692	1.386294	0.076923	0.204546	18.12556
2009	0.088757	0.357143	1.386294	0.071429	0.276385	18.08748
2010	0.113998	0.230769	1.386294	0.076923	0.271458	18.15375
2011	0.082507	0.333333	1.386294	0.25	0.287749	18.33977
2012	0.051097	0.333333	1.386294	0.25	0.222964	18.44571
2013	0.065843	0.333333	1.609438	0.25	0.171943	18.6118
2007	0.073881	0.444444	1.386294	0	0.018962	17.78073
2008	0.089306	0.4	1.386294	0	0.063871	17.87477
2009	0.048471	0.4	1.609438	0	0.134577	17.82201
2010	0.11526	0.4	1.386294	0	0.117406	17.90924
2011	0.081067	0.4	1.609438	0	0.06238	18.04651
2012	0.029329	0.4	1.609438	0	0.07332	17.98023
2013	0.030475	0.4	1.791759	0	0.067669	18.01392
	0.001788	0.076923	1.386294	0	0.142064	17.90325

2007						
2008	0.016105	0.083333	1.386294	0	0.103602	18.11194
2009	0.003348	0.076923	1.386294	0	0.125031	18.2501
2010	0.054184	0.142857	1.609438	0	0.165346	18.57538
2011	0.004177	0.142857	1.791759	0	0.109432	18.96596
2012	0.036485	0.142857	1.609438	0	0.117186	18.78962
2013	0.002554	0.214286	1.791759	0	0.088981	19.22666
2007	0.068287	0.111111	1.609438	0	0.39507	16.87198
2008	0.1097	0.25	1.386294	0	0.408224	17.18829
2009	0.0173	0.2	1.609438	0.1	0.355527	17.60537
2010	0.007066	0.222222	1.609438	0.111111	0.313742	17.91562
2011	0.041058	0.222222	1.386294	0.111111	0.279603	18.15861
2012	0.01876	0.222222	1.386294	0.111111	0.292138	18.30373
2013	0.039346	0.333333	1.609438	0.111111	0.260558	18.49956
2007	0.034592	0.214286	1.609438	0	0.302127	18.32139
2008	0.010128	0.214286	1.609438	0.071429	0.352236	18.46386
2009	0.021269	0.214286	1.609438	0.071429	0.389412	18.48823
2010	0.036345	0.230769	1.609438	0.076923	0.393101	18.55512
2011	0.012595	0.2	1.609438	0	0.289422	19.09839
2012	0.045098	0.230769	1.609438	0	0.252064	19.3514
2013	0.070588	0.230769	1.609438	0.076923	0.275846	19.34795
2007						
	0.216969	0.444444	1.609438	0.111111	0.611737	17.73001
2008	0.253732	0.444444	1.609438	0.111111	0.518637	17.87894
2009	0.077895	0.444444	1.609438	0.111111	0.250542	18.17453
2010	0.173617	0.444444	0.693147	0.222222	0.259237	17.94738
2011	0.140713	0.444444	1.609438	0.111111	0.163397	18.05117
2012	0.15383	0.444444	1.609438	0.111111	0.212475	18.23497
2013	0.006267	0.4	2.079442	0.2	0.230731	18.28271
2007	0.044366	0.3	1.386294	0.1	0.063894	16.20609
2008	0.053948	0.3	1.609438	0.1	0.058387	16.53959
2009	0.03329	0.5	1.386294	0.1	0.110575	16.5982
2010	0.115828	0.5	1.386294	0.1	0.151534	17.05527
2011	0.13614	0.5	1.386294	0	0.1213	17.31153
2012	0.005691	0.444444	1.609438	0	0.081759	17.70776
2013	0.068875	0.444444	1.94591	0	0.078339	17.83077
2007	0.002859	0.333333	1.386294	0.111111	0.288881	15.62188
2008	0.006514	0.333333	1.609438	0.111111	0.249104	15.84997
2009	0.048323	0.333333	1.386294	0.111111	0.333187	15.91414
2010	0.01003	0.333333	1.791759	0	0.263016	15.87829

2011	0.130782	0.4	1.386294	0.1	0.312401	16.12276
2012	0.055706	0.4	1.791759	0.1	0.377597	16.18478
2013	0.040438	0.444444	1.791759	0.111111	0.354008	16.25185
2007	0.037828	0.285714	1.386294	0.142857	-0.03	15.66821
2008	0.016836	0.428571	1.386294	0.142857	-0.12243	15.26619
2009	0.054191	0.285714	1.098612	0.142857	-0.19609	15.13085
2010	0.015564	0.285714	1.609438	0.142857	-0.16588	14.84584
2011	0.059259	0.428571	1.386294	0	-0.27964	15.75546
2012	0.030959	0.333333	1.609438	0	-0.30757	15.73232
2013	0.044339	0.3	1.386294	0	-0.30516	16.02792

BC(Number)	BM (number)	GM(number)	Board size)
5	4	1	15
4	4	1	13
5	4	1	14
3	4	1	13
4	4	3	12
4	4	3	12
4	5	3	12
4	4	0	9
4	4	0	10
4	5	0	10
4	4	0	10
4	5	0	10
4	5	0	10
4	6	0	10
1	4	0	13
1	4	0	12
1	4	0	13
2	5	0	14
2	6	0	14
2	5	0	14
3	6	0	14
1	5	0	9
2	4	0	8
2	5	1	10
2	5	1	9
2	4	1	9
2	4	1	9
3	5	1	9

3	5	0	14
3	5	1	14
3	5	1	14
3	5	1	13
3	5	0	15
3	5	0	13
3	5	1	13
4	5	1	9
4	5	1	9
4	5	1	9
4	2	2	9
4	5	1	9
4	5	1	9
4	8	2	10
3	4	1	10
3	5	1	10
5	4	1	10
5	4	1	10
4	4	0	8
4	5	0	9
4	7	0	9
3	4	1	9
3	5	1	9
3	4	1	9
3	6	0	9
4	4	1	10
4	6	1	10
4	6	1	9
2	4	1	7
3	4	1	7
2	3	1	7
2	5	1	7
3	4	0	7
3	5	0	9
3	4	0	10

APPENDIX III: **Descriptive, correlation and regression results and robustness test**

```
. preserve
xtset id year, yearly
        panel variable:  id (strongly balanced)
         time variable:  year, 2007 to 2013
                 delta:  1 year

. su dac bc fbm gm roa fsize, detail
```

dac

Percentiles		Smallest		
1%	.0017881	.0017881		
5%	.003348	.0025536		
10%	.0062671	.0028588	Obs	63
25%	.0168361	.003348	Sum of wgt.	63
50%	.0443659		Mean	.0573733
		Largest	Std. Dev.	.0527176
75%	.0778952	.1538298		
90%	.1307823	.1736171	Variance	.0027791
95%	.1538298	.2169691	Skewness	1.567622
99%	.2537323	.2537323	Kurtosis	5.672357

bc

Percentiles		Smallest		
1%	.0769231	.0769231		
5%	.1111111	.0769231		
10%	.1428571	.0833333	Obs	63
25%	.2222222	.1111111	Sum of wgt.	63
50%	.3333333		Mean	.3179468
		Largest	Std. Dev.	.1130158
75%	.4	.4444444		
90%	.4444444	.5	Variance	.0127726
95%	.4444444	.5	Skewness	-.3739484
99%	.5	.5	Kurtosis	2.245526

fbm

Percentiles		Smallest		
1%	.6931472	.6931472		
5%	1.386294	1.098612		
10%	1.386294	1.386294	Obs	63
25%	1.386294	1.386294	Sum of wgt.	63
50%	1.609438		Mean	1.524859
		Largest	Std. Dev.	.1999211
75%	1.609438	1.791759		
90%	1.791759	1.791759	Variance	.0399684
95%	1.791759	1.94591	Skewness	-.7046745
99%	2.079442	2.079442	Kurtosis	6.965723

gm

Percentiles		Smallest		
1%	0	0		
5%	0	0		
10%	0	0	Obs	63
25%	0	0	Sum of wgt.	63
50%	.0769231		Mean	.0710594
		Largest	Std. Dev.	.071201
75%	.1111111	.2222222		
90%	.1428571	.25	Variance	.0050696
95%	.2222222	.25	Skewness	.7181503
99%	.25	.25	Kurtosis	2.985633

roa

Percentiles		Smallest		
1%	-.3075662	-.3075662		
5%	-.1960856	-.3051631		
10%	-.029997	-.2796404	Obs	63
25%	.0817587	-.1960856	Sum of wgt.	63
50%	.2045456		Mean	.1788379
		Largest	Std. Dev.	.182617
75%	.2894221	.3950697		
90%	.3775969	.4082239	Variance	.033349
95%	.3950697	.518637	Skewness	-.7059915
99%	.6117372	.6117372	Kurtosis	3.914156

fsize

Percentiles		Smallest		
1%	14.84584	14.84584		
5%	15.62188	15.13085		
10%	15.75546	15.26619	Obs	63
25%	16.53959	15.62188	Sum of wgt.	63
50%	17.91562		Mean	17.54078
		Largest	Std. Dev.	1.153102
75%	18.30373	19.09839		
90%	18.6118	19.22666	Variance	1.329645
95%	19.09839	19.34795	Skewness	-.6709565
99%	19.3514	19.3514	Kurtosis	2.36423

```
. pwcorr dac bc fbm gm roa fsize, star (0.05) sig
```

	dac	bc	fbm	gm	roa	fsize
dac	1.0000					
bc	0.4898*	1.0000				
	0.0000					
fbm	-0.2620*	-0.0278	1.0000			
	0.0381	0.8289				
gm	0.1793	0.2463	-0.2202	1.0000		
	0.1597	0.0517	0.0828			
roa	0.2937*	-0.1001	0.1608	0.2184	1.0000	
	0.0195	0.4350	0.2079	0.0856		
fsize	0.0616	-0.2907*	0.2037	-0.1334	0.4097*	1.0000
	0.6315	0.0208	0.1092	0.2973	0.0009	

```
. regress dac bc fbm gm roa fsize
```

Source	SS	df	MS		
Model	.082612686	5	.016522537	Number of obs	= 63
Residual	.08969404	57	.00157358	F(5, 57)	= 10.50
				Prob > F	= 0.0000
Total	.172306726	62	.002779141	R-squared	= 0.4795
				Adj R-squared	= 0.4338
				Root MSE	= .03967

dac	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
bc	.2721304	.0479924	5.67	0.000	.1760274	.3682335
fbm	-.0943354	.0267012	-3.53	0.001	-.1478038	-.0408671
gm	-.0797211	.0793498	-1.00	0.319	-.2386164	.0791741
roa	.1090969	.0321817	3.39	0.001	.0446542	.1735396
fsize	.0061677	.005104	1.21	0.232	-.0040529	.0163884
_cons	-.007334	.0971094	-0.08	0.940	-.2017922	.1871242

```
. hettest

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

         chi2(1)      =    11.48
         Prob > chi2  =   0.0007
```

```
. vif
```

Variable	VIF	1/VIF
fsize	1.36	0.732710
roa	1.36	0.734847
gm	1.26	0.795121
bc	1.16	0.862730
fbm	1.12	0.890670
Mean VIF	1.25	

```
. xtset id year, yearly
       panel variable:  id (strongly balanced)
        time variable:  year, 2007 to 2013
                delta:  1 year

. xtreg dac bc fbm gm roa fsize, fe

Fixed-effects (within) regression               Number of obs      =        63
Group variable: id                              Number of groups   =         9

R-sq:  within  = 0.4590                         Obs per group: min =         7
       between = 0.0719                                        avg =       7.0
       overall = 0.1416                                        max =         7

                                                F(5,49)            =      8.31
corr(u_i, Xb)  = -0.7298                        Prob > F           =    0.0000

------------------------------------------------------------------------------
         dac |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          bc |    .0805772   .1024266     0.79   0.435    -.1252567    .2864111
         fbm |    -.095275   .0236315    -4.03   0.000    -.1427643   -.0477856
          gm |   -.2242518   .0829644    -2.70   0.009    -.3909751   -.0575285
         roa |    .2844756   .0622397     4.57   0.000     .1594002     .409551
       fsize |    .0212137   .0146083     1.45   0.153    -.0081429    .0505702
       _cons |   -.2300092   .2338379    -0.98   0.330    -.6999241    .2399057
-------------+----------------------------------------------------------------
     sigma_u |   .06089806
     sigma_e |   .03220963
         rho |   .78140481   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0:     F(8, 49) =     4.68                 Prob > F = 0.0003

. est store fixed

. xtreg dac bc fbm gm roa fsize, re

Random-effects GLS regression                   Number of obs      =        63
Group variable: id                              Number of groups   =         9

R-sq:  within  = 0.3989                         Obs per group: min =         7
       between = 0.5030                                        avg =       7.0
       overall = 0.4429                                        max =         7

Random effects u_i ~ Gaussian                   Wald chi2(5)       =     40.56
corr(u_i, X)       = 0 (assumed)                Prob > chi2        =    0.0000

------------------------------------------------------------------------------
         dac |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          bc |    .2403703   .0617739     3.89   0.000     .1192957    .3614449
         fbm |   -.0893233   .0237676    -3.76   0.000     -.135907   -.0427396
          gm |   -.1650623   .0806802    -2.05   0.041    -.3231926   -.0069319
         roa |    .1616253   .0402104     4.02   0.000     .0828143    .2404362
       fsize |    .0012809   .0067467     0.19   0.849    -.0119424    .0145042
       _cons |    .0775102   .1186812     0.65   0.514    -.1551006     .310121
-------------+----------------------------------------------------------------
     sigma_u |   .01997388
     sigma_e |   .03220963
         rho |   .27774386   (fraction of variance due to u_i)
------------------------------------------------------------------------------

. est store random

. hausman fixed random

                 ---- Coefficients ----
             |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
             |    fixed        random       Difference          S.E.
-------------+----------------------------------------------------------------
          bc |    .0805772     .2403703       -.1597931        .0817018
         fbm |    -.095275    -.0893233       -.0059517               .
          gm |   -.2242518    -.1650623       -.0591895        .0193339
         roa |    .2844756     .1616253        .1228504        .0475069
       fsize |    .0212137     .0012809        .0199328        .0129571
------------------------------------------------------------------------------
                           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)
                          =       23.59
                Prob>chi2 =      0.0003
                (V_b-V_B is not positive definite)
```

Appendix IV: **Fixed Effect Least Square Dummy Variables Regression**

```
regress dac bc fbm gm roa fsize d1 d2 d3 d4 d5 d6 d7 d8
```

Source	SS	df	MS	Number of obs =	63
				F(13, 49) =	9.01
Model	.121471173	13	.009343936	Prob > F =	0.0000
Residual	.050835553	49	.00103746	R-squared =	0.7050
				Adj R-squared =	0.6267
Total	.172306726	62	.002779141	Root MSE =	.03221

dac	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
bc	.0805772	.1024266	0.79	0.435	-.1252567	.2864111
fbm	-.095275	.0236315	-4.03	0.000	-.1427643	-.0477856
gm	-.2242518	.0829644	-2.70	0.009	-.3909751	-.0575285
roa	.2844756	.0622397	4.57	0.000	.1594002	.409551
fsize	.0212137	.0146083	1.45	0.153	-.0081429	.0505702
d1	-.136231	.0604331	-2.25	0.029	-.2576759	-.0147862
d2	-.1122855	.0455965	-2.46	0.017	-.2039152	-.0206559
d3	-.1631294	.0715182	-2.28	0.027	-.3068506	-.0194082
d4	-.1754228	.0639961	-2.74	0.009	-.3040278	-.0468179
d5	-.2034853	.0762298	-2.67	0.010	-.3566749	-.0502957
d6	-.0757234	.0561364	-1.35	0.184	-.1885337	.0370869
d7	-.0899141	.0351169	-2.56	0.014	-.1604842	-.0193441
d8	-.1337638	.0380193	-3.52	0.001	-.2101664	-.0573612
_cons	-.1089031	.1951465	-0.56	0.579	-.5010646	.2832585

.