EFFECT OF BOARD DIVERSITY ON EARNINGS MANAGEMENT IN LISTED MANUFACTURING AND ALLIED COMPANIES IN KENYA

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF A MASTER OF SCIENCE IN FINANCE, SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI

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DECLARATION

This Project is my original work and has not been presented for a degree in any other university.

Signed…………………..………………   Date………...............…………………...

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D63/6294/2017

This Project has been submitted for examination with my approval as university supervisor.

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DEDICATION

I wish to dedicate this project especially to my loving father, Richard Nyoka, and mother, Jane Nyamwaya, my sister, Christine Mong'ina, for their understanding, patience and support during my study period.

LIST OF ABBREVIATIONS AND ACRONYMS

ANOVA: ANALYSIS OF VARIANCES

CEO: Chief Executive Officer

CMA: Capital Markets Authority

DF: Degrees of Freedom

EM: Earnings Management

GAAP: Generally Accepted Accounting Principles

NSE: Nairobi Securities Exchange

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ABSTRACT

Board diversity as an aspect of corporate governance has gained traction among researchers and practitioners of corporate finance. Although much research has been devoted to corporate governance, few studies exist on board diversity especially on its relationship with earnings management. The current study sought to examine the effect of board diversity on earnings management among listed manufacturing firms at the Nairobi Securities Exchange. The study was under pinned by agency theory, stewardship theory and the positive accounting theory. The study adopted descriptive research design. Study population consisted of nine listed manufacturing firms in Nairobi securities exchange as at 31 December 2017. This study used secondary data that was retrieved from the annual reports of all the listed manufacturing companies in the NSE. Information about board diversity to be collected includes number of directors, proportion of male to female directors, proportion foreign to local directors, term structure of the board. Collected information included net income, operations cash flow, accounts receivables and net property of all listed manufacturing companies. Data that was used was collected for a period of seven years from 2011-2017. The collected data was sorted and classified ready for use. Data was entered into excel and exported to STATA and analysed using descriptive and regression analysis. The researcher used regression analysis to examine the relationship between the study variables. The objectives were examined at 95% confidence level while employing student t test. The data was subjected to diagnostic tests to evaluate conformity with multiple regression model assumptions thus ensuring validity of the results. The study employed normality, heteroscedasticity, multicollinearity, serial correlation and unit root diagnostic tests. The results established that Gender diversity had a statistically significant negative effect on earnings management of listed manufacturing firms in Kenya ($\beta_1 = -1.13855$, $p = 0.020 < \alpha = 0.05$). Age diversity had a nonstatistically significant effect on earnings management ($\beta_2 = -.7016052$, $p = 0.486 > \alpha = 0.05$), Board independence had a nonstatistically significant effect on earnings management($\beta_3 = 1.2038$, $p = 0.295 > \alpha = 0.05$, Nationality had a statistically significant effect on earnings management ($\beta_4 = 2.460476$, $p = 0.038 < \alpha = 0.05$) and Firm size had a statistically significant effect on earnings management ($\beta_5 = 1.010958$, $p = 0.001 < \alpha = 0.05$). The study recommends to management of listed manufacturing to aggressively adopt more diverse boards especially on gender since it is associated with reduction in earnings management. The companies' shareholders should understand the benefit of having gender diverse boards. Secondly, the study recommends to policy makers especially Capital Market Authority to continue enforcing the rules concerning diversity with focus on gender and nationality to minimise the mass failure of firms.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Roles of boards of directors have been major pillars of corporate governance over the last two decades (Tricker & Tricker, 2015). A proportion of scholars express their views that different boards of directors affect organizational performance resulting in different orientations. Board members' gender, age, education and experience in the industry are some of the most common attributes of boards of directors (Letting, Aosa and Machuki, 2012). Serious questions have been raised about the effectiveness of different corporate governance that have been taking the oversight role in protecting the interest of investors and control of managerial opportunistic behaviour as a result of the recent collapse of a fraction of large companies in the world (Heninger Kim & Nabar, 2009).

Agency, stewardship and stakeholder theories are the three major theories showing the nexus between board variations and earning management. The idea of separating the managers from the owners that result into agency cost increase is explained in the agency theory that was found by Jensen and Meckling (1976). The second theory (stewardship) was developed by Donaldson and Davis (1991). Stewardship theory explains that the attainment of success by the organization results to motivation and satisfaction of the stewards who are the directors of the company. The study was based on the last theory, positive accounting theory (PAT) that was brought to being by Watta and Zimmerman (1978). This last theory helps in explaining the choice for using a given accounting principles.

Kenyan corporate boards are revealed to have been mostly occupied by the male workers since the process of appointing the representatives are done on the old way where the male directors introduce some of their friends to the board at the verge of their retirement (Ekadar and Mboya, 2011).

1.1.1   Board Diversity

According to Wang & Huynh (2013), board diversity stands for a fraction of women, racial minorities and ethnicity on the board. Board diversity concerning the age distribution, physical impaired, gender and education qualifications and other forms of board diversity have sparked debate worldwide for some time now. Campaigns are being carried on by various organizations with the quest of increasing the number of people from different ethnic divide, number of women, racial orientation and different age groups in the corporate governance diversity standards metrics and networking for development. Number of women in the corporate boards have been increasing steadily since 2008, this is according to Chanavat and Ramsden, (2013).

The corporate board diversity ranged from ethnic minority representation, gender and the diversity in terms of skills of the boards' members, this was according to Freeman (1999) whereas Murimuthu (2008) defined the diverse group as female African American, Asian and Hispanic which was in agreement with the examination made by Freeman. The corporate boards make a decision on the directors' attributes, diverse perspective, experience and skills that mostly suit the company. The key attributes for the board of directors should focus on the accounting or finance, international markets management experience or business, the knowledge based on customer experience, women and other minorities that are underrepresented on the board (Freeman, 1999).

A wide range of issues affecting the firm or organization can be well addressed by the board that contain an almost proportional mix of diverse set of functional expertise, educational qualifications, industry experiences, ethnic and gender mix. Diversity is defined as separation, variability and disparity among members from the same unit, this is according to Harrison and Klein (2007). In other words, diversity represent variation in kind and category particularly on information, experience and knowledge among the members of a unit and lastly, disparity stands for the difference in the social assets of resources such as status.

1.1.2 Earnings Management

Scholars have described the concept of earning management differently. Habib, Uddin & Islam, (2013) explains the meaning of earnings management as applying the accounting techniques to generate financial statements and records that gives attractive exaggeration of the activities of the firm and the financial position. It was argued by Xie, Davidson & Dadalt (2003) that the way the accounting rules are applied is taken advantage of by the earnings management and that they are flexible when the expenses are incurred and revenue recognized. Earnings management is experienced when the managers tend to use judgement on the financial reporting and also structuring of the transactions with the aim of changing the financial reports Healy & Wahlen (2009).

Earnings management can be achieved by making changes between acceptable accounting methods for instance inventory valuation. False and misleading information may be generated by the earning management that may affect the investors thus having adverse effect on their investment decisions. Security prices are set by the capital markets from the knowledge of financial information. Financial information is important in that it can be used by the investors to decide on whether to buy, hold or sell securities. Efficiency of the market is dependent on the

flow of information to the capital markets, this is as noted by Kam (2014). The market may not be valued correctly when the relayed information is wrong (Davidson et al, 2013).

Real performance of the shareholders may be hidden by the earnings management and as a result affect the shareholders' chances of making informed decisions. According to Deehow et al (2015), the earnings are inflated by the managers prior to season equity offerings. Consistent results are obtained due to managers' perception that need govern the pre-issue earnings with the aim of improving expectations of the investors concerning the future performance.

1.1.3 Earnings Management and Board Diversity

A study by Kam (2007) maintains that the boards of director's play a key function in coming up with good company practices. Governance of the management is done by the directors whose sole purpose is to protect the stakeholders' interests. In case the managers use earnings management to obtain their personal gain, conflict of interest may arise between them and the shareholders and the likelihood of dismissal reduced at poor performance. The board committee constitutes both executive and non-executive directors. Non-executive directors perform the role of independent judgement to the board. Check and balance role is brought about by the non-executive directors to all the activities performed by executive directors (Davidson and DaDalt, 2003).

Independent non-executive directors help the shareholders in monitoring the management activities. The larger representation in the board committee by the non-executive directors is linked with increased confidence in the financial reporting system of the firm Lareker, Richardson & Tuna (2014). It is difficult for the occurrence of earnings management in the case where board has more independent directors (Myers and Omer, 2003). The incidence of earnings management is not reduced by the outside directors Kam (2007). Additionally, it was pointed out

that there was positive relation between earnings management and the board size of directors (Mohamad & Sulong, 2010).

The Capital Markets Act, (Cap.485A) of year 2002, Gazette Notice Number 3362 issued guidelines on Corporate Governance Practices by Public Listed Companies in Kenya. It spells out a requirement that directorships in the listed companies be comprised of the executive and non-executive directors. The guidelines further state that the non-executive directors should be at least one third of the total number of Board members. The Capital Markets Act, (Cap.485A) of year 2002, Gazette Notice Number 3362 also state that the independent Board member shall serve for a term not exceeding nine years and may thereafter be re-designated as a non-independent member.

1.1.4 Manufacturing Firms in Kenya

Kenya has large scale manufacturing sector that serves both in the local market and the east African region market. Both affiliates of Multinational Corporation are indigenous and franchised within the region such as east African cables limited. 25% of the Gross Domestic Product (GDP) was approximately contributed by manufacturing in 2013 (KNBS, 2014). 17% of formal employment was contributed to by manufacturing together with 15% of total export in Kenya in 2013. There existed 700 registered members as the Kenya association of manufacturers' report (KNBS, 2014). Basing on the annual average returns, they are classified into large, medium and small-scale manufacturing. Output products vary across the manufacturing firms in Kenya. The Kenya Economic Sector Survey (2010) documented major manufacturing exports from this sector included horticultural products, processed coffee and tea, iron steel, soda ash and fish products.

Manufacturing imports included mainly industrial machinery, petroleum products, motor vehicles, plastics, and iron in primary and non-primary form, medicinal and pharmaceutical products, chemical fertilizers and animal and vegetable fats and oils. Out of the 700 members it is noted that the larger proportion represented by 80% are based in the capital city, Nairobi. The remaining proportion of 20% is spread across other urban centres and cities. There are nine listed manufacturing and allied companies in Kenya including: Carbacid Investments Ltd, Unga Group Ltd, East African Breweries Ltd, Mumias Sugar, British American Tobacco Kenya, Eveready East Africa Ltd, Flame Tree Group Holdings Ltd, Kenya Orchards Ltd, and B.O.C Kenya Limited (NSE,2018).

1.2 Research Problem

Board diversity has been noted to have an influence on earning management by firms. Kam (2007) explicated that companies' good practices are conducted by board diversity whereas the directors are in the management role and monitoring to ensure that protection of the shareholders are protected. They ensure that there is match in both the managers and shareholders' interests. In case the earnings management is used private interest of the managers, conflict interest may arise and this may reduce the likelihood of dismissal in case of poor performance (Davidson and DaDalt, 2003).

In Kenya, board diversity has gained prominence as it has in other countries (Ekadah and Mboya, 2011). The years 1980s and 1990s saw the collapse of a number of limited companies, State Corporations, banks and other financial institutions; some listed in the Nairobi Securities Exchange. The collapse and subsequent delisting of Uchumi Supermarkets Limited from the NSE in 2006 and Kenya Meat Commission 2004, the collapse of a number of medium size non-

listed companies like the Kenya Bus Services Limited (2005) are just but a few local examples. Evidence is available to show that a majority of the failure cases especially of the state Corporations and Limited Companies were due to systematic failures by the Board of management.

A number of studies have been done on the influence of board diversity and earnings management. Xie et al (2003) study stated that significant inverse relationship exists between earnings and percentage of outside directors and committee board number of meetings. Also, Berdard et al (2004) confirmed the relationship between measures of earnings management and independent audit committees was significantly negative. On the same note, Barton (2001) conducted an investigation for the relationship between the board structure and earnings management. From the findings, it was revealed that negative relationship existed between board size composition and earnings management.

Locally, few studies on board diversity and earnings management have been undertaken. However, governance corporate practices consist of considerable number of studies and earnings management. There was a statistical significance relationship between board size and earnings management as reported by Bullc (2014). Further research conducted on the same area by Mwangi & Iraya (2015) revealed that there was inverse relationship between the size of the board and earnings management. However, there was a positive correlation between earnings management and CEO duality and board activity. In that regards therefore, this study is focused to answer the research question; what are the effects of board diversity on earnings management of listed manufacturing firms in Kenya?

1.3 Research Objective

The objective of this study was to determine the effect of board diversity on earnings management in manufacturing and allied companies listed in the Nairobi Securities Exchange.

1.4 Value of the Study

The findings of the study hereto add to the existing knowledge in the diversity in the composition of the board in institutions in developing countries like Kenya. As a result, this informs on how diversity of board members can optimize wealth creation. The study would also inform financial institutions, entrepreneurs and consultants with the necessary tools to advance the performance of the respective organisations. The importance of the information from this study would act as a guide to the Kenyan Government in relation to the possible need for legislation for the gender composition in the corporate boards.

Consequently, this study's results would be beneficial both local and foreign investors especially when making investment decisions. This study would provide more insights on the best companies to invest in. It would also contribute to improved understanding of how the structure of the board influences earnings management in a developing country. The study findings might also be resourceful to the shareholders of various companies on the significance of adopting good corporate governance practices for purposes of maximizing shareholders' wealth.

The empirical findings from this study would be resourceful in policy setting by CMA. It might be used to provide guidance on promoting policies that uphold good corporate governance. The study would serve as a key purpose in terms of contribution to theory. The study would help understand the importance of agency theory among other theories, its application and how it

relates to the empirical findings of this study. Further researchers interested in this area of study can use the findings of this study as a source of information for future research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides the review of the theoretical framework, determinants of earnings management, empirical review and theoretical framework.

2.2 Theoretical Framework

Many theories have been developed on corporate governance that engages agency theory, stewardship theory and the positive accounting theory. The theories and their relevance for the current study is elaborate in following sub sections.

2.2.1: Agency Theory

Agency theory was developed by Jensen and Meckling in the year 1952. Jensen and Meckling (1976) gave the definition of agency relationship to be the terms of agreement where the principal incorporates a different an agent to carry out the services such as decision-making authorities on his behalf. Referring to agency hypothesis, the firm's measure of complexity and potential for agency gains affects the ability of managers to change the information and manipulate earnings which may be vital. A big firm with complicated organizations and the agency problems are found to be more diversified across than an industry or a country, this is according to (Padilla, 2000).

In addition, managers are argued to call for diversification so that they can increase their compensation, this is according to (Jensey and Murphy, 1990) and for prestige and power (Jensen, 1986) to protect their positions in the firm by managing specific investments lower their personal investments' risks and that of the firm (Amihud and Lev, 1981). Diversification is important to the managers that it may help the managers to change the accounting figures and

also creating favorable atmosphere for earnings management not to be detected. From this argument, it can possibly come to the mind of the people that single line operating business in the local market have the high chance of less opportunities for earnings management when contrasted with the organizations' operations in numerous lines or topographically expanded firms or both (Amihud and Lev, 2001).

Agency cost is the part of managers' incentives to control costs. Agency theory provides empirical evidence that the managing earnings is given preference in management of numbers so that they can benefit from the contracting process. The presence of information asymmetry between the investors and directors have been archived by numerous studies that is a fundamental condition for earnings management (Yu, 2008). This resulted due less information received by the shareholders hence the internal management may use its position to manage and manipulate the earnings reported (Amihud and Lev, 2001).

Agency theory is very relevant for the current study on relationship between board diversity and earnings management in that boards of directors act as the agents of the shareholders in the management of the affairs of the company. Agency problem may occur if the directors pursue their self-interest like manipulation of books of accounts especially if the firm is doing poorly to give a picture of good performance especially if their rewards is based on firm performance.

2.2.2 Stewardship Theory

Sociology and organizational disciplines were explained to be combined in the stakeholder theory, this is as noted by Barbuto & Wheeler (2006). Stakeholder theory is portrayed as the group or people who are influenced or can influence the accomplishment of the institution'

objectives. There are systems of connections to serve by administrators including; workers, suppliers and business associates. Furthermore, it is argued in this theory that the group of systems is more vital than proprietor chief workers' relationship as clarified in the agency theory. Means through which the managers can legitimize their unusual overpayment are from incentive mechanism in share options Keasy et al (1997). Executive power is being abused and is particularly attached to the problem of their overpay being that their remunerations have tremendously increased faster than the average earnings and there is weak relationship between the managerial performance and compensation (Conyon et al, 1995; Greg et al, 1993). Modesty of the managers is the only key aspect that can restrain executive pay assisted with the creation of independent remuneration committees as the case in large companies is ineffective (Kay and Silnerston, 1995).

Stakeholder theory is applicable in the analysis of board diversity role in management of earnings in listed manufacturing firms. The theory identifies the various groups that have a stake in the management of manufacturing firms apart from owners whose influence can affect firm's survival. It is believed by the supporters of this model that main lines of reforms in corporate governance for example non-executive directors and the involvement of shareholders in key decision making and full information about the corporate affairs are the most appropriate control mechanisms (Kay and Silberston, 1995).

2.2.3 Positive Accounting Theory

Positive accounting theory (PAT) was brought to being by Watts and Zimmermann (1986). This theory helps in explaining the reason for using a particular accounting principle. Preference of one method over the other is as well is also highlighted in this theory (Hamayun Kabir, 2010).

The reason for making specific decisions by the managers is explicated in the Positive Accounting Theory. In its evaluation process, the theory applies different relations between groups of people such as the managers against the owners, managers against the investors and the organization against the society.

Individuals in the group of stakeholders have different behaviours that enable them to fulfil their needs. In that regards therefore, managers may apply different accounting methods that may enable them optimize their own benefits. PAT operates under three different theories in explaining the choice of the accounting methods by the managers Watts and Zimmermann (1986). The three hypotheses include; bonus plan, debit covenant and the political cost hypothesis. Several studies have empirically approved the predictions made by these hypotheses.

There might enable the managers to take the future profits now so that they can increase the current profits. Increase in the reported earnings is predicted by the hypothesis especially when the executives get bonuses rewards. According to PAT, self-interest controls the behaviour of a particular manager. It is indicated in the self-interest that the managers value their own interests other than the company's interest. Debt covenant refers to an agreement between a party that gives out the debt and the borrower of the debt. Example of this could be a loan from the bank or credit that favours the organization (Watts and Zimmermann, 1986).

The positive accounting theory underpins the current study on the relationship between board diversity and earning management in that director who are responsible for day-to-day operation of companies may apply a accounting policies and assumptions that enables them to optimise their benefits leading to manipulation of books of accounts to reflect a given level of earnings.

The directors may approve of an accounting method that ensures their remuneration is maximised at the expense of stockholders of the company.

2.3 Determinants of Earning Management

The section presents and elaborates on factors that influence earning management in firm. The Factors includes: Firm size, managerial ownership, Audit quality, Firms Financial Performance, Industry and Financial Leverage. The factors are discussed as below;

2.3.1 Firm Size

It is explained in the political cost that big firms pick on the accounting methods that allows for the delay of earning disclosure to future times. Bigger firms have the higher chances of getting exposed to the pressure of the most influential. This have the managers encouraged when choosing an accounting method that may help in reducing the political cost calculated on the basis of accounting figures (Cornier et al, 2008). A study conducted in the U.S by Jones (2011) on relationship between manipulation of accounting and size of the firm showed that the American managers apply accounting methods that help them in reducing earnings for them to receive reimbursement and show that the company suffered losses due to unfair competition.

2.3.2 Managerial Ownership

It is shown in a number of literatures that poor alignment between shareholders and management makes the managers to apply discretionary accruals especially particularly to hike compensation-based earning. According to Jensen (2014), it is assumed that the managerial discretion is increased by high stock valuation and that earning manipulation results to overvaluation process. Agency costs of overvalued equity are generated by the latter. Though, the managers' overconfident behaviour hypotheses propose that managers do not intend to manipulate earnings (Roll, 2016; Malmendier &Tate, 2015).

2.3.3 Audit Quality

Lower earnings management is resulted by the high-quality audit thus the improved management earnings Jiang et al (2008). Firms audited by the big 4 auditors record lower discretionary accruals that those audited by non-big4 after the auditor's controlling process on the independence, tenure and size. The corporate fraud is reduced by the higher number of audits as the degree of audits is inversely proportional to the corporate fraud Uzun et al (2014). Chances of financial misstatements is highly reduced when the audit committee is highly independent Klein (2012).

2.3.4 Firms Financial Performance

Accounting information published on the stock markets are highly relied on by the investors in the companies' evaluation. In that case therefore, managers are encouraged to impact share costs (Degeorge et al, 2009). They are hence spurred to get to the required limits (Graham et al, 2005) especially when the accomplished profits are below the set target (Cornier et al, 2006). Managers are in most of the cases motivated to manage the earnings any time the result is close to zero in order to prevent losses. Consequently, the managers are motivated to manage the earnings so that they can make the weakness invisible or less visible DeAngelo et al (2016).

2.3.5 Financial Leverage

There is ambiguous relationship between earnings management and leverage (Healy & Palepu, 2011). Regarding to agency theory, internal governance is self-disciplined by the financial leverage mechanism to moderate the cost of debt among managers, owners and the creditors as based in the agency theory (Jensen & Meckling, 1976). Higher quality of accounting figures tend to be achieved by the firms that are more dependent on external financing with the belief that they may have a lower cost of external financing. Nonetheless, the debts owed by the firm are

always under regulation through formal written contracts which set standard terms to be met by the firm i.e. covenants.

2.4 Empirical Review

Several researches have been conducted prior to this study topic i.e. paper of Srinidhi, Gul and Tsui (2011). The study investigates whether the corporation in the U.S with gender diverse boards record high quality earnings. This paper therefore tried to give an additional empirical evidence in regards to the prior research about the subject. Better reporting discipline by managers is exhibited by the firms with female directors. Moderating impact of board diversity concerning the connection between the official council practices and the execution of the firm a contextual analysis of the Omani organizations less those sorted under the budgetary part Al Matari, Al Swidi and Fadzil (2014). The connection between official board of trustees' freedom official council meeting and the execution of the firm is uncovered even though it is insignificant.

A study by Bedard, Chtourou and Courteau (2014) surveyed 100 firms in the financial sector to analyze the connection between the effectiveness of audit committee and earnings management. The findings showed that there was a significant connection between the two variables. The attributes of the corporate management productivity were examined in the decrease of earnings management among the organizations listed in Shanghai and Shenzhen stock trade in china. Unusual working capital was taken in the investigation where working collections as intermediary for earnings management was utilized. The outcome from the examination demonstrated that there was a critical positive connection between various corporate management qualities and earnings management i.e. CEO duality, female executives, board meetings and the concentrated proprietorship.

Factors that are used to identify earnings management in the emerging countries were investigated by a research in Tunisian Context Charfeddine, Riahi & Omri (2013). In particular, the study shows that incentive and constraint factors significantly determine earnings management. Study by Hooghiemstra, Hermes Oxelheim & Randøy (2019). The impact of Board Internationalization on income Management was analyzed using a sample size of 3,249 where 586 non-financial related firms listed in Nordic firms amid the period 2001-2008 and larger amounts of profit management is connected with the remote chief.

The incorporation of women on the board and audit councils was connected with diminished profit administration in the investigation examination by Ismail and Adullah (2013). The investigation was too worried about whether the family proprietorship would control the connection between ladies on sheets and the income administration. Impact of ladies in the sheets of executives and review board of trustees on the profit quality was inspected (Overmans, 2017). The income quality demonstrated positive association with the nearness of ladies in the sheets of executives. Further researches were conducted by Omoro, Aduda & Okiro (2015) on the demographic diversity in the top management team in the financial corporation in Kenya on financial reporting quality.

Paper by Nguyen (2016) was done to establish the impact of board of directors and partners characteristics on the publicly listed firms in Vietnam. The study sampled 570 non-financial organizations that were listed over the period of 2010 and 2014. The study found a non-linear relationship between organizational ownership and earnings management. Firms with larger

shares of foreign ownership showed the likelihood of being faced with manipulative practices by local managers compared to locally owned organizations. Relationship between board, gender orientation and the protection of bookkeeping in Finnish setting was examined Wang (2015). The results from the study showed no significant effect of the board gender diversity on the conditional conservatism.

Musyoka (2015) did a research to establish the influence of the structure of the board on earnings management for the organizations in the list of Nairobi Securities Exchange. The study uncovered that the span of the board, board autonomy, board action, gender orientation, age variation, ethnic variation and financial leverage emphatically influence profit administration among firms recorded in the Nairobi securities Exchange. The examination completed on the examination of the relationship between income administration and sexual orientation assorted variety in the top managerial staff and review companies found no significant relationship between the tested variables Mulder (2017).

A study by Wicaksana, Yuniasih & Handayani (2017) explored the relation between company's board diversity and earning management in Indonesian Listed Companies. Board diversity have negative effect on earning management. Both industrial type and company's size does not affect earning management. Study used purposive sampling instead of probability sampling hence there could have been bias. Kao & Chen (2004) conducted the research on the association between earnings management and characteristics. The firm's management may use the earnings management for their own benefits. The study revealed that earnings management increases with the size of the board.

Influence of board characteristics on earnings management of the list of food and beverage firms in Nigeria was examined by Bala & Gugong (2015). The result from the study showed that there was inverse relationship between the size of the board, the board meetings and the board financial expertise in relation to the earnings management of the listed food and beverages firms in Nigeria. The board diversity effect on financial performance of trading and manufacturing companies listed in Nairobi securities exchange. The results from the study showed a strong positive association between board nationality and the financial performance. Effects of corporate governance practices on the earnings management of the listed companies in Nairobi Securities exchange. Result showed that the earnings management is negatively related to the ownership concentration, the size of the board and the board independence but it was associated positively to the activities of the board and CEO duality.

2.5 Conceptual framework

Conceptual framework diagrammatically shows the association between dependent and independent variables. The independent variable is board diversity (gender diversity, age diversity, board independence and Nationality) and dependent variable is earning management. The firm size is the control variable.

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                              ┌─────────────────────────────┐
                              │ Firm size                   │
                              │   • Ln of total Assets      │
                              └─────────────────────────────┘
                                         ╲
┌───────────────────────────────────┐    ╲
│ Gender diversity                  │     ╲
│   • Ratio of female directors to  │──→   ╲
│     total number of directors.    │       ╲
└───────────────────────────────────┘        ╲
┌───────────────────────────────────┐         ↘
│ Age diversity                     │     ┌─────────────────────────────┐
│   • Ln logarithm of average age of│──→  │ Earnings management         │
│     directors                     │     │   • Ln of Discretionary     │
└───────────────────────────────────┘──→  │     accruals of Company     │
┌───────────────────────────────────┐     └─────────────────────────────┘
│ Board Independence                │──→
│   • Ratio of independent directors│
│     to total directors            │
└───────────────────────────────────┘
┌───────────────────────────────────┐
│ Nationality                       │──→
│   • percentage of the number of   │
│     foreigners in the board       │
└───────────────────────────────────┘
```

Independent Variable   **Control Variable**   **Dependent Variable**
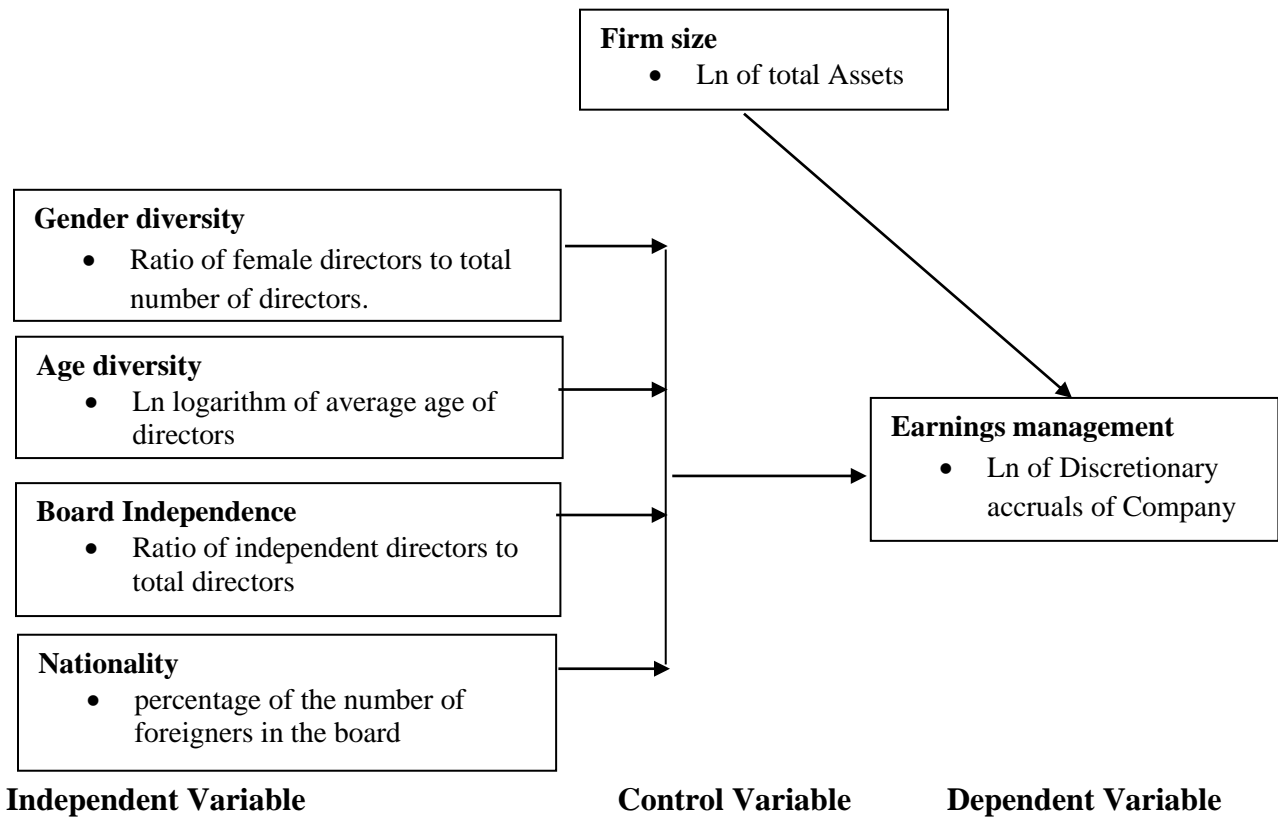
Figure 2.1: conceptual framework

2.6 Summary of Empirical Review and Research gaps

Table 2.1 Summary of knowledge gap

Researcher and focus of study	Study methodology	Research Findings	Research Gaps
Al Matari, Al Swidi & Fadzil, (2014). This study examined the moderating effect of board diversity on the relationship between executive committee characteristics and firm performance in Omani companies	The sampling covers two years, 2011 and 2012. This study used multiple regression and hierarchical multiple regression to analyze the association between independent, moderating and dependent variables.	board diversity moderated the relationship between executive committee Characteristics and firm performance	The board diversity was used as moderating variable instead of independent variable.
Charfeddine, Riahi & Omri (2013). Paper investigated factors that determine earnings management in emerging countries in the Tunisian context.	Study used data collected from the Tunisian stock exchange during the period 2003 - 2009. study regress the residuals of these models on a set of explanatory variables were hypothesized having an impact on earnings management.	In particular, study show that six from the nine tested variables significantly determine earnings management.	Study focused on determinants of earning management in general and these factors did not include boar diversity.
Hooghiemstra, Hermes Oxelheim & Randøy (2018). The Impact of Board Internationalization on Earnings Management	Using a sample of 3,249 firm-year observations representing 586 non-financial listed Nordic firms during 2001–2008,	Foreign director is associated with significantly higher levels of earnings management.	The study focused on one aspect of board diversity that is foreign board members and ignored other aspects of board diversity like gender
Overmans (2017) A study about the influence of women in the board of directors and audit committee on earnings quality	The study used Pearson correlation coefficenct to establish association between variables of the study	There is a significant positive relation between women in the board of directors and earnings quality.	The study was on board gender diversity but ignored other aspects of diversity. Study also focused on earning quality rather than earnings management.
Omoro, Aduda & Okiro (2015). Demographic Diversity in Top Management Team and Financial Reporting Quality in Commercial State Corporations in Kenya	The study adopted correlational and longitudinal research design and stepwise regression analysis of FRQ variables on a set of demographic diversity variables in TMT.	Demographic diversity is associated with financial reporting quality.	The study focused on demographic diversity but ignored non-demographic diversity. Study also focused on quality of financial reporting rather than earnings management

Wang (2015), The objective of the thesis is to investigate the relationship between board gender diversity and conditional accounting conservatism in Finnish context	Study utilized the incremental coefficient on bad news in regression model to measure conditional accounting conservatism.	I find no significant effect of board gender diversity on conditional accounting conservatism.	Study focused on gender diversity and ignored other aspects of diversity.Paper also was on effect of gender diversity on accounting practice rather than earning management.
Musyoka (2015). This study sought to determine the effect of board structure on earnings management of companies listed at the Nairobi Securities Exchange.	The study used a descriptive study. The population of study included 64 listed firms in Nairobi securities Exchange as at 31 December 2014. The study used secondary data. The study used a multiple regression model.	The study revealed that the size of the board, board independence, board activity, gender diversity, age diversity, ethnic diversity and financial leverage strongly affect earnings management among firms	The study focused on board structure rather than board diversity.
Mulder, M. (2017). The purpose of this thesis is to investigate the relation between earnings management and gender diversity in the board of directors and audit committee	Both real and accrual-based earnings management investigates earnings management. Running several multiple regressions find a relation between gender diversity in the audit committee and real earnings management.	No support is found for the relation between gender diversity and both real and accrual-based earnings management.	The study majored on gender diversity and ignored other aspect of board diversity.
Wicaksana, Yuniasih and Handayani(2017).This research aims to explore the relation between company's board diversity and earning management in Indonesian Listed Companies.	Board diversity measured by index of variation of the diversity of gender, nationality, age, and educational background. Earning management measured by discretionary accruals.	board diversity has negative effect on earning management Both industrial type and company's size does not affect earning management.	Study used purposive sampling instead of probability sampling hence there could have been bias. he study was global and not based in Kenyan setting. The board diversity elements considered was not exhaustive.
Bala & Gugong (2015). The study 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.	women directorship are positively significantly related to earnings management of listed food and beverages firms in Nigeria.	The study focused on board characteristics rather board diversity.The study employed OLS rather than panel data methodology that was more appropriate.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter shows the methodology that was employed in this study. The chapter consists of research design, collection of data and the analysis of data. Financial statements were used to collect data from the listed targets of manufacturing firms at the NSE

3.2 Research Design

Descriptive design is the design that was adopted by this study. Descriptive design studies are the studies pertaining the description and characteristics of individuals or groups while diagnostic research studies are used in the determination of the frequency for the occurrence of something or its relationship with a different thing (Kothari, 2004).

3.3 Study Population

Study population consisted of nine listed manufacturing firms in Nairobi securities exchange as at 31 December 2017 (www.nse.co.ke). Since the number of the listed manufacturing firms are only nine, sampling was not carried out. The study used a census of all listed manufacturing firms at the Nairobi Securities exchange from where data was extracted from the firm's annual reports.

3.4 Data Collection

This study used secondary data that was retrieved from the annual reports of all the listed manufacturing companies in the NSE. Information about board diversity collected included number of directors, proportion of male to female directors, proportion foreign to local directors, term structure of the board. Collected information included net income, operations cash flow,

accounts receivables and net property of all listed manufacturing companies. Data that was used was collected over a period of seven years, from 2011-2017.

3.5 Diagnostic tests

The data was subjected to diagnostic tests to evaluate conformity with multiple regression model assumptions. This ensures validity of the results. The study employs normality, heteroscedasticity, multicollinearity, serial correlation and unit root diagnostic tests.

3.5.1 Normality Test

The test is conducted to test whether data exhibits a normal distribution. Non-normal distributed data may not display the correct relationships between variables studied (Garson, 2012). Shapiro-Wilk test was employed to test normality. Fifty or less sample size are not suitable for the test. The choice of this test was informed by the small sample size studied. Normal data have p-value greater than the Shapiro Wilk significance value in the statistical test (0.05)

3.5.2 Heteroscedasticity Test

Gujarati (2003) described heteroscedasticity as lack constant error variance. The study used Breusch-Pagan / Cook-Weisberg test by using the regression residual value of the independent variables. There is no heteroskedasticity if the significance values are greater than the P-value statistics test of 0.05.

3.5.3 Multicollinearity

Kothari (2004) postulates that multicollinearity exists if there is an association of independent variables. Therefore, independent variables ought to be linearly independent of each other. Cooper and Schindler (2006) asserts the existence of multicollinearity leads to invalid significance tests due to the distorted regression coefficients. The study employs Variance Inflation Factor (VIF) to test the existence of multicollinearity. If VIF is less than 5, then there is no existence of multicollinearity (Gujarati, 2003).

3.5.4 Serial Correlation

Gujarati (2003) posit that serial correlation exists if an error term of one period is correlated with that of subsequent periods. The study uses Wooldridge Drukker test to test existence of autocorrelation. Data has no serial correlation if P value is greater than the 5% level of significance.

3.6 Data Analysis

The collected data was sorted and classified ready for use. Data was entered into excel and exported to STATA and analyzed using descriptive and regression analysis. The researcher uses regression analysis to examine relationship between study variables. The hypotheses are tested at 95% confidence level while employing student t test.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e$$

Where:

Y = Earnings Management measured by applying discretionary accruals, for a certain company called I in for the period of year t. the difference between total accruals and discretionary accruals was used to estimate discretionary accruals and all accrual variables scaled with reference to the total assets.

X_1 = represents the gender diversity which is the ratio of female directors to total number of directors.

X_2 = represents age diversity which is the percentage of young to total number of directors of the company

X_3 = represents board independence diversity measured by ratio of number of independent directors to total number of directors in the board.

X_4 = represents nationality measured by ratio of foreign directors to total number of directors in the board.
X_5 = Firm size measured by total Assets of the firm.

β_0 is the line intercept

β_1- β_5 is the coefficient of independent variables (X_1 X_2 X_3 X_4 and X_5) respectively

e=Error term

CHAPTER FOUR

RESEARCH FINDINGS AND INTERPRETATION

4.1 Introduction

This chapter presents the findings of the study. The study sought to analyse the effect of board diversity on earning management of listed manufacturing firms in Kenya. The research findings were computed from secondary data collected from Audited financial statements of the firms. A total of 9 listed manufacturing firms were used in the study. The data was analysed using descriptive and inferential statistics.

4.2 Descriptive Analysis

The aim of the descriptive statistics was to describe the general distributional properties of the data, to identify any unusual observations or any unusual patterns of observations that may cause problems for later analyses to be carried out on the data. Thus, initial exploration of the data using simple descriptive tools was provided to describe and summarize the data generated for the study. This section provides the descriptive statistics as per the objective of the study. That is effect of board diversity on non-finance listed firms in Kenya as shown in table 4.1

Table 4. 1: Descriptive Analysis

Variable	Obs	Mean	Std. Dev.	Skewness	Kurtosis	Min	Max
Gender	63	.4450527	.1695665	0.160585888	-1.1668	0.1806	0.8412
Age	63	3.998999	.1087998	0.774724085	14.79457041	3.526361	4.54323
Independence	63	.6711635	.1723698	-0.51553618	-0.28249553	0.23	0.9
Nationality	63	.1860956	.1933337	0.946614297	-0.13739729	0.01	0.636364
Firm size	63	14.67508	2.209985	-0.52041461	-0.03493908	9.371478	18
Earnings Mgt	63	.7439988	1.354166	2.921889848	8.639546592	0.000632	6.40139

The researcher sought to establish the central tendency and distribution of board diversity and earnings management among the 9 listed manufacturing firms in Kenya. Gender diversity was

measured as a ratio of female directors to total directors in the board. Mean Gender diversity was .4450527 suggesting that the average gender diversity for the 9 listed manufacturing firms in Kenya studied was about 0.44 days implying more than a third requirement by capital market authority. The standard deviation for gender diversity was .1695665 demonstrating that out of the 9 listed manufacturing firms, gender diversity was spread around the mean with about 1.6 female board members. The skewness was 0.160585888 implying data about gender diversity was positively skewed with most values bunched to the left. The value of kurtosis was -1.1668 implying that the data about gender diversity was distributed with kurtosis less than 3 hence said to be platykurtic and having few outliers. The minimum gender diversity was 0.1806 and the maximum gender diversity was 0.8412.

Age diversity was measured as a natural logarithm of average director's age. The results are presented in table 4.1. The mean age diversity was 3.998999 suggesting that the average age diversity for the 9 listed manufacturing firms studied was about 4. The standard deviation for the age diversity was .1087998 demonstrating that out of the 9 firms studied, age diversity was spread around the mean with about 0.1. The skewness was 0.774724085 implying data about gender diversity was positively skewed with most values bunched to the left. The kurtosis for age diversity was 14.79457041 that is greater than 3 hence the distribution was leptokurtic distribution or having outliers. The minimum age diversity was 3.526361 and the maximum age diversity was 4.54323.

Board independence was measured as a ratio of number of independent non-executive directors to total directors. The results are presented in table 4.1. The mean board independence was .6711635 suggesting that the average board independence for the 9 listed manufacturing firms

studied was about 0.7, implying the independent directors were more than half of board size. The standard deviation for the board independence was .1723698 demonstrating that out of the 9 listed manufacturing companies in Kenya, board independence was spread around the mean with about 0.2. The skewness for board independence was - 0.51553618 implying that data on board independence was negatively skewed with most values bunched to the right. The kurtosis for board independence was 0.28249553 which is less than 3 hence the data is said to be platykurtic having very few outliers. The minimum board independence was 0.23 implying that the firm with lowest board independence had about 23% independent board members while the maximum board independence was 0.9 meaning that the firm with the highest number of independent board independence had about 90% of the board being compost of independent directors.

Board nationality was measured as a ratio of number of foreigners on the board to the total board size. The mean board diversity was .1860956 suggesting that on average the firms under study had about 20% foreigners on the board. The standard deviation for board nationality was .1933337 demonstrating that out of the 9 listed manufacturing firms studied, board nationality was spread around the mean with about 20%. The skewness for directors' nationality was 0.946614297 implying that data about board nationality was positively skewed with most values bunched to the left. The kurtosis for nationality was -0.13739729 which is less than 3 implying that it was platykurtic with few outliers. The minimum and maximum nationality was 0.01 and 0.636364 respectively implying that the firm with the lowest number of foreign directors on the board had about 1% of the total directors being foreigners while the firm with the highest number of foreign directors on the board had about 63% foreign directors.

Firm size was measured as natural logarithm of total assets of the company. The results are presented in table 4.1. The mean firm size was 14.67508. The standard deviation for firm size was 2.209985 demonstrating that out of the 9 listed manufacturing firms in Kenya, the firm size was spread around the mean with about 2.2 around the mean. The skewness for firm size was -0.52041461 meaning it was negative implying that most values on firm size were bunched to the right. The kurtosis for firm size was -0.03493908 which is less 3 hence it is platykurtic and has few outliers. The minimum firm size was 9.371478 and the maximum was 18.

Finally, Earnings Management which was the dependent variable was measured as the difference between total accruals and residual accruals. The mean earnings management was .7439988. The standard deviation for earnings management was 1.354166. The skewness for earnings management was 2.921889848 implying data on earnings management were skewed to the right hence most values were bunched to the left of the distribution. The kurtosis for earnings management was 8.639546592 that is greater than 3 hence the distribution is said to be leptokurtic hence it may have many outliers. The minimum and maximum nationality was 0.000632 and 6.40139 respectively.

4.3 Diagnostic Test

The study performed tests on statistical assumptions about the regression model to establish the robustness of the model for estimation. This test included test of normality test, heteroscedasticity test, multicollinearity, serial correlation and test of variable and fixed effect model.

4.3.1 Normality Test

Normality was tested using the Shapiro-Wilk test which has power to detect departure from normality due to either skewness or kurtosis or both. Its statistic ranges from zero to one and figures higher than 0.05 indicate the data is normal (Razali & Wah, 2011). Shapiro-Wilk test assesses whether data is normally distributed against hypothesis that: H_0: Sample follows a Normal distribution H_a: Sample does not follow a Normal distribution. When the p-value is greater than the alpha value, then one accepts the null hypothesis and reject the alternative hypothesis. The results are presented in table 4.2

Table 4. 2: Shapiro-Wilk W test of normality

Variable	Obs	W	V	z	Prob>z
Age	63	0.71101	16.336	6.038	0
Gender	63	0.93001	3.957	2.973	0.147
Independence	63	0.93235	3.824	2.899	0.187
Nationality	63	0.82544	9.868	4.948	0
Firm size	63	0.96885	1.761	1.223	0.110
EM	63	0.55396	25.214	6.976	0

From table 4.2, Three variables including gender diversity (p-Value= 0.147), board independence (P-Value= 0.187) and firm size(p-Value= 0.110) were found to be normally distributed since their p-values were greater than 0.05 level of significance hence the test failed to reject the null hypothesis H_0 that gender diversity, board independence and firm size were not normality distributed, however age diversity (P-Value = 0), Nationality (P-Value = 0) and Earnings Management (P-Value = 0) were not normally distributed since their P-values were less than 5% level of significance. Even though not all the variables were normally distributed, this would not pose any problem with estimation since the study is a census and not sampling.

4.3.2 Test of Multicollinearity

Multicollinearity was tested by computing the Variance Inflation Factor (VIF) and its reciprocal, the tolerance. Collinearity diagnostics measure how much regressors are related to other regressors and how this affects the stability and variance of the regression estimates. The existence of multicollinearity is a vital problem in applying multiple time series regression model (Gujarat & Porter, 2009). O 'Brien (2007) suggested that a Variance Inflation Factor (VIF) greater than 10 are a sign of multicollinearity; the higher the value of VIF's, the more severe the problem.

Table 4. 3: Variance Inflation Factor

Variable	VIF	1/VIF
Nationality	1.74	0.575178
Firm size	1.59	0.627466
Independence	1.27	0.786486
Gender	1.25	0.798161
Age	1.06	0.945127
Mean VIF	1.38	

Results in table 4.3 show that all the variables had a variance inflation factors (VIF) of less than 10: Nationality (1.747), Firm size (1.59), Board independence (1.27), Gender diversity (1.25) and Age diversity (1.06). This implies that there was no multicollinearity problem with the variables thus all the variables were maintained in the regression model.

4.3.3 Heteroscedasticity

Gujarati (2003) described heteroscedasticity as lack of constant error variance. The study utilized Glejser test by using the regression residual value of the independent variables. The test null

hypothesis is that the data exhibits homoscedasticity while alternative test hypothesis is that the

data exhibits heteroscedasticity.

Table 4. 4: Test Results for Heteroscedasticity test

Panel Glejser Lagrange Multiplier Heteroscedasticity Test		
Glejser LM Test	=	4.24824
Degrees of Freedom	=	4.00000
P-Value $> Chi^2(4)$	=	0.37345

The results in table 4.4 show that p value was greater than chi^2 hence the null hypothesis that

data has homoscedasticity is not rejected and the alternative hypothesis that the data has

heteroscedasticity is not accepted.

4.3.4 Test for Random and Fixed Effect

To determine which of these two models is appropriate between Random and Fixed effect

Model, Hausman's specification test (1978) was used effect should be used as shown in table 4.5

Table 4. 5: Hausman Test

	Coefficients			
	(b)	(B)	(b-B)	sqrt (diag (V_b-V_B))
	FEM	REM	Difference	S.E.
gender	1.181878	-1.1385592	2.3204372	.9586748
age	-.7990063	-.7016052	-.0974011	.0716557
independence	1.86943	1.203858	.6655726	.6533073
Nationality	1.191383	2.460476	-1.269093	.7679171
Firm size	.0970223	1.010958	-0.9139357	.0587386

b = consistent under Ho and Ha; obtained from xtreg

B =

inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$chi2(5) = (b-B)'[(V\_b-V\_B)^{(-1)}](b-B)$

= 5.51

$Prob > chi^2 = 0.3566$

(V_b-V_B is not positive definite)

Given that the value of P-Value (p = 0.3566) as shown in table 4.5 was greater than 0.05 level of significance, the null hypothesis is rejected and alternative model accepted. This means that the random effects model was the appropriate model to explain the relationship between board diversity and earnings management.

4.4 Correlation Analysis

The researcher carried out correlations to assist explains the relationship between board diversity and earnings management. The researcher used Bivariate Pearson Correlation to establish the relationship as shown in table 4.6.

Table 4. 6: Pairwise Pearson correlation

	gender	age	idepen~e	Nation~y	Firmsize	EM
gender	1.0000					
	63					
age	-0.1887	1.0000				
	0.1385					
	63	63				
idependence	-0.2272	0.0591	1.0000			
	0.0734	0.6455				
	63	63	63			
Nationality	-0.2723*	0.1671	-0.2603*	1.0000		
	0.0309	0.1906	0.0393			
	63	63	63	63		
Firmsize	-0.3415*	0.1573	0.0993	0.5417*	1.0000	
	0.0062	0.2181	0.4389	0.0000		
	63	63	63	63	63	
EM	-0.4003*	0.1238	0.0364	0.6025*	0.4200*	1.0000
	0.0012	0.3337	0.7770	0.0000	0.0006	
	63	63	63	63	63	63

The researcher sought to establish the relationship between board diversity and earnings management of listed manufacturing firms in Kenya. Bivariate Pearson correlation coefficient was calculated at 0.05 level of significance. Pearson's correlation (r) indicated that there was a statistically significant negative correlation between gender diversity and earnings management ($r = -0.4003$, $p = 0.0012$ and $\alpha = 0.05$). The relationship between age diversity and earning was management was positive and statistically insignificant ($r = -0.0.1238$, $p = .3337$ and $\alpha = 0.05$). The correlation between board independence and earnings management was not statistically significant ($r = 0.0364$, $p = 0.7770$ and $\alpha = 0.05$). The relationship between board nationality was positive and statistically significant ($r = .6025$, $p = .0000$ and $\alpha = 0.05$). Finally, the correlation between firm size and earnings management was statistically significant ($r = .4200$, $p = .0006$ and $\alpha = 0.05$).

4.5 Regression Analysis

Regression analysis was multiple in nature as there were five independent variables. The independent variable was board diversity. The dependent variable was earnings management. Multiple regression analysis involved calculation of coefficient of determination, Analysis of Variances (ANOVA) and regression coefficients as presented in table 4.7

Table 4. 7: Random Effect Model

Random-effects GLS regression				Number of obs =	63	
Group variable: id				Number of groups =	9	
R-sq:				Obs per group:		
within = 0.0419				min =	7	
between = 0.6279				avg =	7.0	
overall = 0.3928				max =	7	
				Wald chi2(5) =	63.9	
corr(u_i, X) = 0 (assumed)				Prob > chi2 =	.0027	
EM	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
gender	-1.1385592	0.387025	-2.94	0.020	-2.857079	2.57996
age	-.7016052	1.008202	-0.70	0.486	-2.677645	1.274434
Independence	1.203858	1.148677	1.05	0.295	-1.047508	3.455224
Nationality	2.460476	1.184399	2.08	0.038	.1390972	4.781855
Firm size	1.010958	.0984783	10.26	0.001	-.2039719	.1820558
_cons	2.506325	4.617157	0.54	0.587	-6.543137	11.55579

Tables 4.7 indicate that the model explains only 39.28% of the variations in Earnings Management as shown by the coefficient of determination (R^2) value of 0.3928 hence 60.72 % Variations in earnings management is explained by other factors not included in the model. It is therefore clear that board diversity only explains 39.28 % of variations in earnings management.

According to table 4.7 the overall significance of the model 1 was .0027 with an F value of 63.9. The level of significance was lower than 0.05 and this means that board diversity and firm size do show statistically significant effect on earnings management.

Table 9 further shows the coefficients of independent variables. The model was thus estimated as;

$$Y = \mathbf{2.506325} \ \mathbf{-1.1385592} \ x_1 \ \mathbf{-.7016052} \ x_2 + \mathbf{1.203858} \ x_3 + \mathbf{2.460476} \ x_4 + \mathbf{1.010958x_5} + \boldsymbol{\varepsilon_i}$$

The estimated model above shows the causal effect relationship between the independent variable Board diversity and dependent variable earnings management of listed manufacturing firms in Kenya. The estimated intercept term 2.50 shows the level of earnings management when the independent variables are held constant at zero. The coefficient estimates of the model are explained in details in the following discussion.

The researcher established that Gender diversity had a statistically significant negative effect on earnings management ($\beta_1 = -1.13855$, $p = 0.020 < \alpha = 0.05$). Age diversity had a statistically insignificant effect on earnings management ($\beta_2 = -.7016052$, $p = 0.486 > \alpha = 0.05$). Board independence had a statistically insignificant effect on earnings management ($\beta_3 = 1.2038$, $p = 0.295 > \alpha = 0.05$). Nationality had a statistically significant effect on earnings management ($\beta_4 = 2.460476$, $p = 0.038 < \alpha = 0.05$). Finally, Firm size had a statistically significant effect on earnings management ($\beta_5 = 1.010958$, $p = 0.001 < \alpha = 0.05$).

4.6 Interpretation of Findings

Table 4.7 shows the effect of board diversity and firm size on earnings management of listed manufacturing firms in Kenya. The findings are thus interpreted as follows:

4.6.1 Gender diversity and earnings Management

The study established that Gender diversity had a statistically significant negative effect on earnings management (β_1 = -1.13855, p = 0.020 < α = 0.05). The value β_1 was negative showing that gender diversity has a negative effect on earnings management of listed manufacturing firms in Kenya hence when gender diversity improves by one unit, earnings management falls by 1.13855 units. The negative relationship should be expected since when a board increases the number of women sitting in the board, women tends to be very conservatives hence they tend to follow rules set especially rules concerning financial reporting hence less earnings management is expected through less manipulation of books of accounts (Overmans, 2017).

The study finding is in agreement with Srinidhi, Gul and Tsui (2011) that noted better reporting discipline by managers is exhibited by the firms with female directors. The incorporation of women on the board and audit councils was connected with diminished profit administration in the investigation examination by Ismail and Adullah (2013). Further researches Omoro, Aduda & Okiro (2015) showed that the relationship between gender orientation and the protection of bookkeeping in Finnish setting was positive and strong. However, study by Wang (2015) found conflicting results as the study showed no significant effect of the board gender diversity on the earnings management.

4.6.2 Age Diversity and Earnings Management

Secondly, it was found that Age diversity had a statistically insignificant effect on earnings management (β_2 = -.7016052, p = 0.486 > α = 0.05). The value β_2 was negative showing that age diversity has a negative effect on earnings management of listed manufacturing firms in Kenya hence when gender diversity improves by one unit, earnings management falls by -.7016052 units. The negative relationship should be expected since when a board increases the number of

more experience directors in terms of age and experience sitting in the board, older directors tends to be very conservatives, hence they tend to follow rules set especially rules concerning financial reporting hence less earnings management is expected through less manipulation of books of accounts. Additionally, older directors tend to be more experience in monitoring of operation of firms hence they should be able to identify instances of earnings management well in advance and all its facets (Talbi, 2014)

The findings are in agreement with study by Sundaram and Yermack (2017) that find a positive relationship between age and ethical behaviour on financial reporting quality. Mudrack (2010) in their study about determinant component of ethical behaviour finds older persons are more exposed to traditional customs and culture, hence more ethical. Financial reporting quality is all about ethics of the accounting profession. Talbi (2014) conducts an empirical study on a sample of US listed firms from 2000 to 2009 on the relationship between CEO age and financial reporting quality. Thus, our assumption is that real earnings management increases when the manager is young and decreases when manager is old.

4.6.3 Board Independence and Earnings Management

Thirdly, Board independence had a statistically insignificant effect on earnings management (β_3= 1.2038, p = 0.295 > α = 0.05). The value β_3 was positive showing that board independence has a positive causal effect relationship with earnings management of listed manufacturing firms in Kenya hence when board independence improves by one unit, earnings management increases by 1.2038 units. The positive relationship should be expected since when a board increases the number of independent directors sitting in the board, even though the independent directors ensures objectivity in board deliberations, however since they are not actively involved in day to day operation of the firm, they may not closely monitor issues concerning earnings management

hence earnings management may increase under their watch with increase in the number visa vis executive directors (Wang & Campell, 2012).

The study is in conflict with study Kent et al. (2010) that note that the relationship between independent board and accruals quality is characterized by negative coefficient. In other words, the fact those more non-executive directors appointed on boards is accompanied by shrinking abnormal accruals. Cornett et al. (2008) similarly suggest that board dominated by outside directors is more helpful in monitoring and controlling management's discretionary behavior. Davidson et al. (2015) use sample of 434 listed Australian firms in 2000 to examine the role of internal corporate governance mechanisms to reduce earnings management. They conclude that the presence of non-executive directors on boards has a negative impact on reducing earnings management defined as the absolute level of discretionary accruals.

4.6.4 Nationality and Earnings Management
Fourthly, the study established that Nationality had a statistically significant effect on earnings management ($\beta_4 = 2.460476$, $p = 0.038 < \alpha = 0.05$). The value β_4 was positive showing that nationality has a positive causal effect relationship with earnings management of listed manufacturing firms in Kenya hence when nationality improves by one unit, earnings management increases by 2.460476 units. The positive relationship should be expected since when more foreigners sit on the board of the company compared to local directors, the foreign directors may not understand local operations much, hence their active participation may be relatively limited even though they introduce objectivity in the operations of the companies (Hooghiemstra, Hermes Oxelheim & Randøy, 2018).

The study findings is in congruence with study by Bala & Gugong (2015) on Influence of board characteristics on earnings management of the list of food and beverage firms in Nigeria with result from the study showing that a strong positive association between board nationality and the financial earnings management. In addition, Hooghiemstra, Hermes Oxelheim & Randøy (2018) on impact of Board Internationalization on income Management was analyzed with larger amounts of profit management is connected with the remote chief.

4.6.5 Firm Size and Earnings Management

Finally, the study Firm size had a statistically significant effect on earnings management ($\beta_5 = 1.010958$, $p = 0.001 < \alpha = 0.05$). The value β_5 was positive showing that firm size has a positive causal effect relationship with earnings management of listed manufacturing firms in Kenya hence when firm size improves by one unit, earnings management increases by 1.010958 units. The positive relationship should be expected since the firm increases in its size in terms of assets and number of associated transactions, it becomes possible to manipulate books of accounts since it takes time to identify manipulation of books by management since transactions can easily be hidden without being identified in a short time. It is explained in the political cost that big firms pick on the accounting methods that allows the delay of earning disclosure to future times.

Bigger firms have the higher chances of getting exposed to the pressure of the most influential. This have the managers encouraged when choosing an accounting method that may help in reducing the political cost calculated on the basis of accounting figures (Cornier et al, 2008). A study conducted in the U.S by Jones (2011) on relationship between manipulation of accounting and size of the firm showed that the American managers apply accounting methods that help them in reducing earnings for them to receive reimbursement and show that the company suffered losses due to unfair competition.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

The aim of the study was to evaluate the effect of board diversity on earnings management of listed manufacturing firms in Kenya. The data was analysed inform of descriptive and inferential statistics.

5.2 Summary

The researcher wanted to examine the effect of board diversity on earnings management. The study was able to establish that Gender diversity had a statistically significant negative effect on earnings management. The coefficient of gender diversity was negative hence that gender diversity has a negative effect on earnings management of listed manufacturing firms in Kenya. Any proportionate improvement in gender diversity of the board of directors of listed manufacturing in Kenya leads to reduced earnings management by roughly the same proportion. The finding implies that having more women on the board of listed manufacturing firms leads to reduced chances of manipulation of books of accounts to present a favourable picture of the state of affairs at the company.

Secondly, the study established that Age diversity had a statistically insignificant effect on earnings management. The coefficient of age diversity was negative showing that age diversity has a negative effect on earnings management of listed manufacturing firms in Kenya hence a proportionate increase in age diversity leads to less than proportionate fall in earnings management. The relationship between age diversity and earnings management is negative in that older board members tend to be conservative with application accounting reporting

standards hence they insist on all requirements of financial reporting being followed hence as the average age of the board increases, earnings management.

Thirdly, Board independence had a statistically insignificant effect on earnings management. The coefficient of board independence was positive showing that board independence has a positive causal effect relationship with earnings management of listed manufacturing firms in Kenya hence a proportionate increase in board independence leads to less than proportionate increase in earnings management by management of the listed manufacturing firms in Kenya. The positive relationship could mean that although board independence is supposed to reduce earning management through introduction of objectivity, having many independent board members beyond a given point might just lead to increasing earnings management since the independent directors may be less concerned on progress of the company especially if the compensation for the non-executive directors is poor and not commensurate with their effort in the monitoring of firm's activities.

Fourthly, the study established that Nationality had a statistically significant effect on earnings management. The coefficient of nationality was positive showing that nationality has a positive causal effect relationship with earnings management of listed manufacturing firms in Kenya hence a proportionate improvement in number foreigners serving in the board leads to more than doubled increase in earnings management. Finally, the study Firm size had a statistically significant effect on earnings. The value $\beta 4$ was positive showing that firm size has a positive causal effect relationship with earnings management of listed manufacturing firms in Kenya hence when firm size improves by one unit, earnings management increases by 1.010958 units.

5.3 Conclusions

It was established that Gender diversity had a statistically significant negative effect on earnings management and that gender diversity has a negative effect on earnings management of listed manufacturing firms in Kenya. The negative relationship should be expected since when a board increases the number of women sitting in the board, women tend to be very conservatives hence they tend to follow rules set especially rule concerning financial reporting hence less earnings management is expected through less manipulation of books of accounts. The negative relationship between gender diversity and earnings management is expected as supported by Srinidhi, Gul and Tsui (2011) that noted better reporting discipline by managers is exhibited by the firms with female directors. Further Omoro, Aduda & Okiro (2015) showed that the relationship between gender orientation and the protection of bookkeeping in Finnish setting was positive and strong.

Secondly, the study concluded that Age diversity had a statistically insignificant effect on earnings management. The negative relationship should be expected since when a board increases the number of more experience directors in terms of age and experience sitting in the board, older directors tends to be very conservatives hence they tend to follow rules set especially rules concerning financial reporting hence less earnings management is expected through less manipulation of books of accounts. The study conclusion is in agreement with Sundaram and Yermack (2017) that find a positive relationship between age and ethical behaviour on financial reporting quality. Additionally, Mudrack (2010) finds older persons are more exposed to traditional customs and culture, hence more ethical.

Thirdly, Board independence had a statistically insignificant effect on earnings management. The positive relationship should be expected since when a board increases the number of independent directors sitting in the board, even though the independent directors ensures objectivity in board deliberations, however since they are not actively involved in day to day operation of the firm, they may not closely monitor issues concerning earnings management hence earnings management may increase under their watch with increase in the number visa vis executive directors.

Next, the study concludes that Nationality had a statistically significant effect on earnings management. The positive relationship should be expected since when more foreigners sit on the board of the company visa vis local directors, the foreign directors may not understand local operations much hence their active participation may be relatively limited even though foreign directors introduces objectively in the operations of the companies. However, literature has conflicting conclusion with Bala & Gugong (2015) on Influence of board characteristics on earnings management of the list of food and beverage firms in Nigeria with result from the study showing that a strong positive association between board nationality and the financial earnings management.

Finally, the study concludes that Firm size had a statistically significant effect on earnings management. The positive relationship has been experienced since as the firm increases in its size in terms of assets and number of associated transactions, it becomes possible to manipulate books of accounts since it takes time to identify manipulation of books by management since transactions can easily be hidden without being identified in a short time. The conclusion is supported by Jones (2011) on relationship between manipulation of accounting and size of the

firm showed that the American managers apply accounting methods that help them in reducing earnings for them to receive reimbursement and show that the company suffered losses due to unfair competition.

5.4 Recommendations

Based on the study findings a number of recommendations are made. The study recommends to management of listed manufacturing firms to aggressively adopt more diverse boards especially on gender diversity since it is associated with reduction on earnings management. The companies' shareholders should understand the benefit of having gender diverse board especially in preventing manipulation of books of accounts by management to reflect a given picture. Additionally, management of should regulate the number of foreigners serving on the board as having high number on foreigners on the board might encourage earnings management by local managers of the company.

The study also wishes to recommend to policy makers especially capital market authority to continue enforcing the rules concerning gender diversity especially with gender and nationality to minimise the mass failure of firms. The capital markets should ensure diversity requirements are followed strictly to prevent manipulation of books of accounts as well as prevent mass failure of companies due to long time loss making which becomes hidden due to manipulation of books of accounts to reflect positive performance.

Finally, the study wishes to recommend to researchers and scholars to carry out other studies on effect of board diversity on earnings management since the area of study is not well covered in literature. The study recommend that another study should be carried out that uses both secondary and primary data since there are aspects of board diversity that cannot be exhaustively

examined through use of secondary data. The current study was done entirely in the listed manufacturing firms in Kenya, another study ought to be carried in other manufacturing firms as well as other firms that are not manufacturing to facilitate inter industry comparison.

5.5 Limitations

Even with success in the study, a number of limitations exist in the current study. The study also relied on secondary data that may not adequately capture aspects of board diversity in the firm. For instance, aspects of board diversity like experience diversification may not be easily measured using secondary data. Secondary data are also general and tends to be historical. The study used the most current information on executive compensation to minimise the problem of information being out dated.

The current study has limited applications since it was entirely based on listed manufacturing firms in Kenya hence the findings have limited application in manufacturing sector only. The study also found out that listed manufacturing firms do not apply similar or identical accounting policies hence earnings management figures may be exposed to variances across entities based on the accounting policy being applied by a firm including accrual policy of a firm. The study only relied on published data and made use of notes to the accountant to get additional information not presented exclusively in the financial statements.

In addition, earnings management of a firm is affected by numerous factors that were not part of this study. Although the study examined the effect of board diversity on earnings management of listed manufacturing firms, other factors also affect earnings management. To capture the effect of other variables apart from board diversity, the study introduced one-control variables to

capture the effect of the other variables in the name of firm size that might also affect earnings management.

5.6 Recommendations for Further Research

The current study on effect of board diversity on earnings management was successfully carried out however a number of gaps have been identified. First, the current study was wholly based on secondary data, the study recommends that a number of studies be carried out using both secondary and primary data since there are aspects of board diversity that cannot be exhaustively examined through use of secondary data.

The current study was done entirely in the listed manufacturing firms in Kenya. The study suggests to future researchers to expand the scope of firms considered in their studies by incorporating non-listed firms in their studies so as to enable cross sector comparison. Additionally, the study recommends that model for estimating the effect of board diversity should include lagged value of dependent and independent variables to extinguish the problem of autocorrelation and non-stationarity of variables used the study.

A similar study should be done with improved model covering all aspects of board diversity. There are aspects of board diversity that were left out of this study. The aspects such as board tenure and board experience should be included in future studies to ensure exhaustive understanding of the effect of board diversity on earnings management.

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APPENDICES

Appendix I: Data Collection Sheet

Board Diversity	2011	2012	2013	2014	2015	2016	2017
Number of female board members							
Number of foreign board members							
Total assets							
Majority age of directors							
Dummy variables							
Discretionary accruals							

Appendix II: Listed Manufacturing Firm in Kenya

1. B.O.C Kenya Ltd Ord 5.00

2. British American Tobacco Kenya Ltd Ord 10.00

3. Carbacid Investments Ltd Ord 5.00

4. East African Breweries Ltd Ord 2.00

5. Mumias Sugar Co. Ltd Ord 2.00

6. Unga Group Ltd Ord 5.00

7. Eveready East Africa Ltd Ord.1.00

8. Kenya Orchards Ltd Ord 5.00

9. Flame Tree Group Holdings Ltd Ord 0.825

Source: NSE (2018)

Appendix III: Raw Data

YEAR	FIRM ID	X1	X2	X3	X4	X5	Y
2017	1	0.4	3.970292	0.7	0.3	17	0.34006
2016	1	0.3	4.012773	0.7	0.3	17	0.65636
2015	1	0.3	4.00369	0.7	0.3	17	0.08083
2014	1	0.3	3.992681	0.7	0.3	17	0.32646
2013	1	0.25	4.127134	0.625	0.25	17	0.20365
2012	1	0.181818	4.127134	0.727273	0.181818182	17	0.20445
2011	1	0.23	4.03423	0.643	0.232	16	0.23543
2017	2	0.666667	3.806662	0.5	0.35647	14	0.13649
2016	2	0.666667	3.988984	0.5	0.34523	14	0.1656
2015	2	0.5	4.094345	0.375	0.34254	14	0.17436
2014	2	0.5	3.960813	0.375	0.34645	14	0.13103
2013	2	0.5	3.951244	0.375	0.3453	14	0.1527
2012	2	0.5	3.951244	0.375	0.43536	14	0.1656
2011	2	0.6776	3.95634	0.342	0.35463	14	0.17436
2017	3	0.25	3.951244	0.666667	0.583333333	18	6.40139
2016	3	0.266667	3.943522	0.6	0.6	18	1.46252
2015	3	0.272727	3.937106	0.636364	0.636363636	18	3.29136
2014	3	0.333333	4.053523	0.75	0.583333333	18	6.14533
2013	3	0.352425	3.9	0.64	0.58352	18	4.71835
2012	3	0.284655	4.1543	0.63	0.63425	18	1.46252
2011	3	0.248364	4.54323	0.65	0.563425	18	3.29136
2017	4	0.2606	3.951244	0.67	0.223	17	2.43214
2016	4	0.2606	3.970292	0.67	0.018	17	0.54703
2015	4	0.2006	3.988984	0.67	0.016	17	0.026294
2014	4	0.1806	3.970292	0.67	0.037	15	2.33485
2013	4	0.2306	4.025352	0.67	0.168	15	1.18057
2012	4	0.2405	3.988984	0.67	0.018	15	0.54703
2011	4	0.2475	3.951244	0.67	0.016	15	0.026294
2017	5	0.52	3.988984	0.89	0.223	14	0.35114
2016	5	0.52	3.988984	0.89	0.018	14	0.40146
2015	5	0.52	3.988984	0.89	0.016	16	0.000942
2014	5	0.52	3.970292	0.89	0.037	16	0.33709
2013	5	0.52	3.988984	0.89	0.168	16	0.16902
2012	5	0.53	4.025352	0.89	0.018	15	0.40146
2011	5	0.53	3.988984	0.89	0.016	15	0.000942
2017	6	0.5146	4.025352	0.9	0.297	14	0.17904
2016	6	0.5146	4.060443	0.9	0.024	14	0.27014
2015	6	0.5146	4.025352	0.89	0.022	14	0.136
2014	6	0.5146	4.174387	0.89	0.049	14	0.17188
2013	6	0.5146	3.988984	0.89	0.223	15	0.15394
2012	6	0.52	4.025352	0.89	0.024	14	0.27014
2011	6	0.53	3.526361	0.89	0.022	14	0.136
2017	7	0.325	4.025352	0.83	0.143	10	1.59212
2016	7	0.325	4.060443	0.79	0.012	11	0.136
2015	7	0.325	3.988984	0.71	0.01	10.378659	0.136
2014	7	0.325	3.970292	0.71	0.024	10.080142	1.52843
2013	7	0.325	4.007333	0.66	0.108	9.6501201	0.83222
2012	7	0.325	3.988984	0.66	0.012	9.3714783	0.136
2011	7	0.33	3.89182	0.71	0.01	16	0.136
2017	8	0.6825	4.025352	0.63	0.237	15.678887	0.12495
2016	8	0.6825	4.060443	0.7	0.019	15.370441	0.41262
2015	8	0.6825	4.025352	0.6	0.017	14	0.00777
2014	8	0.6825	3.988984	0.6	0.039	14	0.11995
2013	8	0.6825	3.970292	0.61	0.178	14	0.06386
2012	8	0.6825	4.025352	0.61	0.019	14	0.41262
2011	8	0.6724	4.007333	0.6	0.017	14	0.00777
2017	9	0.249	3.988984	0.86	0.293	13	0.43009
2016	9	0.6043	4.025352	0.8	0.024	13	0.0905
2015	9	0.6043	3.988984	0.4	0.021	12	0.000632
2014	9	0.8412	3.951244	0.45	0.049	12	0.41289
2013	9	0.6043	3.970292	0.23	0.22	13	0.20676
2012	9	0.6143	3.970292	0.343	0.024	13	0.0905
2011	9	0.5886	3.931826	0.4	0.021	13	0.000632