

**EFFECT OF AUDIT COMMITTEE COMPOSITION ON EARNINGS  
MANAGEMENT AMONG LISTED MANUFACTURING FIRMS IN KENYA**

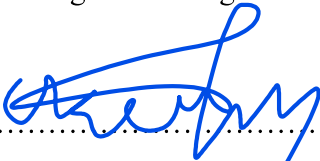
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REQUIREMENTS FOR THE AWARD OF THE DEGREE OF A MASTER OF  
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**DECLARATION**

This project is my original work and has not been submitted to any other university or institution of higher learning for academic award purposes.

Signed.....

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The project has been submitted with my approval as university supervisor.

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## **ACKNOWLEDGEMENT**

I want to sincerely recognise the contribution of my supervisor Dr. Winnie Nyamute for. You were a pillar in this work. Your tremendous support, guidance and many hour hours of support enabled me to complete this project. May God bless and guide you always Daktari.

## **DEDICATION**

I wish to dedicate this project to my wife, children and siblings. You people were with me morally in my high and low moments of carrying out this study. You forever remain inked in my heart.

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## **ABBREVIATION AND ACRONYMS**

<b>AC</b>	:	Audit Committee
<b>ANOVA</b>	:	Analysis of Variance
<b>EM</b>	:	Earnings Management
<b>FEM</b>	:	Fixed Effect Model
<b>KAM</b>	:	Kenya Association of Manufacturers
<b>NSE</b>	:	Nairobi Securities Exchange
<b>REM</b>	:	Random Effect Model
<b>VIF</b>	:	Variance Inflation Factor

## ABSTRACT

The main aim of this project was to examine the effect of AC composition on EM among manufacturing firms listed in Kenya. The components of AC targeted included independence, gender diversity, expertise, age and size. The study relied on agency, stewardship and stakeholder theories. The project was based on descriptive design where all the nine manufacturing firms listed at the NSE were used in the study. The research adopted annual secondary data extracted from annual reports of the manufacturing firms. The data covered the period from eight years from 2013 to 2020 and was recorded on data collection sheets. The data in the data collection sheets were entered into Microsoft excel sheet. The data was panel in nature covering seven years and nine firms giving rise to 72 observations. The prepared data was exported to STATA version 15 before analysis was carried out. Measures of central tendency and dispersal including standard deviation, mean, kurtosis and skewness were generated to identify outliers and general distribution of data. Test of OLS regression assumptions were carried out to enable choice of the most suitable model of analysis. Finally, panel data regression was adopted. The coefficient of determination was 0.7531 implying that Audit committee composition explains 75.31% of the total variation in earnings management. The study further revealed that AC Independence, gender diversity and expertise had a significant inverse effect on EM. AC size had a direct and significant effect on EM. The effect of AC age diversity on EM was direct and significant. The study concluded that AC composition had a critical role in minimising EM among the firms studied. The study recommended to listed manufacturing firms to ensure that their AC have more independent non-executive directors to help in encouraging objective review of internal controls and financial reports with a view of presenting fair and true financial status of the firm. The Nairobi Securities exchange should also ensure that listed manufacturing firms have well constituted audit committees in terms of independence to minimise EM. The study also suggests to listed manufacturing firms to incorporate more female directors in their AC to minimise EM. Female directors tends to be conservative as regards to application of accounting principles and practises hence lowering chances of manipulation of accounting information system of the firms. The study suggest to listed manufacturing firms to ensure that each AC has an expert in finance or accounting or auditing or a combination of any or all. The study recommends to listed manufacturing firms not to elect directors who are advanced in age to be in charge of the committee. The committee needs a blend with younger and relatively experienced directors who are energetic and can rigorously monitors the accounting information system of the firms and internal controls.

## CHAPTER ONE: INTRODUCTION

### 1.1 Background of the Study

Globally, in an effort towards improving board governance, sub-board committees are established and delegated with various functions. A key sub committee charged with ensuring quality of books of accounts is the Audit Committee (Raimo, Vitolla, Marrone & Rubino, 2021). The link between Audit Committee (AC) composition and Earnings Management (EM) has been examined in the empirical literature with aspects of AC composition examined including Audit Committee independence, gender diversity, experience, size and age diversity. The link subsisting between AC independence and EM has often been inverse in most studies (Abubakar, Usman. Anuforo, Alhaji, 2021). Additionally, the link between gender diversity of the AC and EM has been inverse in various studies (Sudarman & Hidayat, 2019). Literature has also tended to establish an inverse link subsisting between AC experience and EM (Kapkiyai, Cheboi & Komen, 2020). Finally, the causal effect link between AC size and EM has tended to be positive in various studies (Isa & Farouk, 2018).

The causal effect link between AC composition and EM among was underpinned by various theories. The agency proposed by Mitnick (1975) holds to minimise agency conflict the principal (shareholders) might incur agency cost such as AC to minimise conflict of interest like EM. The stakeholder theory theorised by Freeman (1984) underpins corporate governance where the company is expected to balance the different divergent views and interests of firm's stakeholders under the dictates of the corporate governance principles suggest that a company should have directors serving in the AC to

ensure that managers do not manipulate cooks of accounts. Stewardship theory places the goals of the firm above the individual's goals of the managers since when a firm achieves its overall goal; the individual goals of the various stakeholders including directors are also met. The mangers are expected not to participate in unethical practices such as EM (Donaldson & Davis, 1991)

### **1.1.1 Audit Committee (AC) Composition**

AC composition is a collective term that refers to AC independence, gender diversity, expertise, size and age (Moses, 2019). AC independence is the conditions that enables the committee to perform their duties in an objective manner (Isa & Farouk, 2018). AC gender diversity is number of male or female directors within the committee as a proportion of the AC size (Chijoke-Mgbame, Boateng & Mgbame, 2020). AC expertise is relevant auditing, accounting and financial technical skills possessed by the members of the AC (Zalata, Taurigana & Tingbani, 2018). AC size is the enumeration of the directors serving in the AC. Finally, AC age diversity represents the average age of the directors serving in the AC (Juhmani, 2017).

The composition of the AC determines its effectiveness (Juhmani, 2017). It is paramount that the AC members be qualified and have adequate academic and work experience especially in the area of finance, auditing and accounts. Their ought to be diversity in the AC so as to improve the quality of output and decisions arrived at the AC meetings (Waweru, 2018). So as to enhance accountability and objectivity, the firm should ensure that the AC is properly constituted in terms of independence, experience, leadership and overall business knowledge (Hastuti, Setiawan & Widagdo, 2020). An effective AC is critical in assuring that financial reports are not compromised in terms of

manipulation of books of accounts in what is referred to as EM (Al-Absy, Ismail & Chandren, 2018).

There are various measures that have been adopted by scholars, practitioners and professional bodies in measuring various aspects of AC composition. The enumeration of independent non-executive directors as a ratio the AC size is often used a measures of AC independence (Neville, Byron, Post & Ward, 2019). The average number of years of auditing, accounting and finance experience of directors in the AC is often used as proxy of AC expertise and experience (Muda et al., 2018). AC gender diversity is quantified by the female directors as a ratio AC size (Velte, 2018). The complete enumeration of the directors serving in AC quantifies AC size (Asiriuwa et al., 2018). Finally, age diversity of the AC is quantified by the average age of the directors serving in the AC (Mustafa, Che-Ahmad & Chandren, 2018).

### **1.1.2 Earnings Management (EM)**

Various authorities have defined EM; however, there is no single definition of the concept that is generally adopted. El Diri (2017) defined EM as a management discretion action with the goals of reporting financial statements that depicts a picture of stable financial performance. In a related definition, Kim, Kim and Zhou (2017) defined EM as conscious decisions taken by those preparing financial statements and reports according to generally accepted accounting principles (GAAPs) to present an acceptable financial performance to users of accounting information. In addition, Moratis and van Egmond (2018) defines EM as the manipulation of actual financial records by taking advantage of loopholes in the GAAPs.

The minimization of EM is very critical given that the executive in most cases make decisions that are contrary to what shareholder would wish (Kjærland, Haugdal, Søndergaard & Vågslid, 2020). Managers often takes advantage of the managerial discretion in earnings reporting especially where controls are not adequate leading to EM. Such actions of EM leads to financial reports that are misleading the users of accounting information (Harris, Karl & Lawrence, 2019). EM result from differing and contrasting interests of the executive and the common stock holders. Therefore, it has become necessary for shareholders to incur monitoring costs by employing directors who sit in the AC to ensure that the financial reports are a true reflection of the status of books of accounts (Jordaan, De Klerk & De Villiers, 2018).

Even though there are various measures of EM, most studies have tended to use discretionary accruals. Literature has tended to adopt modified-Jones model in estimating discretionary accruals (Guo & Zhang, 2021). The net accruals after deducting Nondiscretionary accruals from total accruals is used to estimate discretionary accruals as shown by formulae  $[DAC_{it} = (TAC_{it} - NDAC_{it})]$ . Where  $DAC_{it}$  is discretionary accruals. TAC is total accruals, TA is the total assets and NDAC is the non-discretionary accruals. TAC is estimated by deducting operating cash flows (OCFO) from operating incomes (OI) extracted from the statement of cash flows and income statement respectively.

### **1.1.3 Audit Committee Composition and Earnings Management**

The association between AC Composition and EM has been a subject of debate and intense analysis academic literature. Kapkiyai, Cheboi, Komen (2020) noted that effective AC aids in reducing managerial discretionary accruals. Abubakar, Usman, Anuforo and Alhaji (2021) revealed that AC size prevents managers' activities in

earnings manipulations. Siagian and Siregar (2018) were of the opinion that AC expertise had a minor inverse influence on EM. Moreover, Sudarman and Hidayat (2019) noted that AC gender diversity contributed in minimising EM. Setiawan, Phua, Chee and Trinugroho (2020) showed that AC attributes had a major impact on EM practice. Further, AC gender diversity had an inverse influence on EM. However, expertise and AC meetings frequency had a direct effect on EM.

Ghaleb, Al-Duais and Hashed (2021) noted that AC chairs with legal skills are significantly and positively associated with Real EM practices. The results are inconsistent with those other studies and another study ought to be done clear out the inconsistency. Isa and Farouk (2018) were of the opinion that board diversity especially at the AC resulted to reduced EM among firms that had floated shares at the stock exchange market. Mardessi and Fourati (2020) noted that the possibility of the AC to reduce real EM was based on AC gender diversity. Dakhlallah, Rashid, Abdullah and Shehab (2021) showed that the board structure affects the decisions of companies to manipulate reported earnings. Board independence exaggerates the incidence of all Real EM. Kariuki and Aluoch (2020) argued that there was a direct influence of AC size on quality of financial reporting.

#### **1.1.4 Listed Manufacturing Firms in Kenya**

Kenya has large-scale manufacturing sector that serves both local and East African Community Market. Affiliates of Multinational Corporation and indigenous manufacturing firms are operating in Kenya such as East African cables. Approximately twenty five percent of the Gross National output of Kenya was contributed by manufacturing in 2020 (KNBS, 2020). 17% of formal employment was contributed by



manufacturing together with 15% of total export in Kenya in 2013. There are seven hundred registered manufacturing firms in registered by Kenya Association of Manufacturers (KNBS, 2020). Basing on the annual average returns, manufacturing firms are classified into three categories including small, medium and large scale. The output of the manufacturing firms differ with major output including processed horticultural products, iron sheets, Soda ash, processed coffee and tea and processed fish products among others.

Manufacturing firms often import some of their raw materials including machines, motor vehicles, plastics, petroleum products and iron ore, chemical fertilizers, medicinal and pharmaceutical products, animal and vegetable fats and oils. Out of the over 700 manufacturing firms operating under Kenya Association of Manufacturers (KAM, 2020), 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, Kenya Orchards Ltd, Mumias Sugar, British American Tobacco Kenya, Unga Group Ltd, Eveready East Africa Ltd, Flame Tree Group Holdings Ltd, East African Breweries Ltd and B.O.C Kenya Limited (NSE, 2020).

The listed manufacturing firms in Kenya are also publishing audited financial reports every year just like other PLC companies as directed by the companies ACT cap 486. The manufacturing firms just like their counter parts in other segments of the Nairobi Securities exchange have the pressure to post good financial returns to attract investors and show that managers are performing well. Such pressures could push managers of listed manufacturing firms to manipulate books of accounts to present an image of good

financial performance leading to EM. To minimise EM by executive that result from agency problem between shareholders and managers, listed manufacturing companies, guided by corporate governance principles, have put in place AC to evaluate and ensure that the financial reports are of required quality. The composition of the ACs in listed manufacturing firms is critical to aid in minimizing the problem of earning management by the executive.

## **1.2 Research Problem**

The composition of AC among the boards of listed manufacturing firms is very essential in minimization of EM. The empirical literature existing globally has consistently established that EM among listed companies hinges on some critical aspects of AC composition including independence, expertise, gender diversity, size and age. The link existing between AC independence and EM has often been inverse in most studies (Abubakar, Usman. Anuforo & Alhaji, 2021). Additionally, the causal effect link between AC gender diversity and EM has been inverse in various studies (Sudarman & Hidayat, 2019). Literature has also tended to establish an inverse causal effect link between AC experience and EM (Kapkiyai, Cheboi & Komen, 2020). Finally, the causal effect link between EM and AC size has tended to be positive in various studies (Isa & Farouk, 2018).

There are nine listed manufacturing and allied companies in Kenya including: Carbacid Investments Ltd, East African Breweries Ltd, Mumias Sugar, British American Tobacco Kenya, Flame Tree Group Holdings Ltd, Unga Group Ltd, B.O.C Kenya Limited, Eveready East Africa Ltd and Kenya Orchards Ltd (NSE, 2020). The firms have AC of varying composition including independence, gender diversity, size, and expertise and

age diversity. In the list of the listed manufacturing companies, Mumias Sugar halted most its operations after a series of loss making that could have been concealed by EM carried out before 2013 where the company was reporting profitability (Birgen & Bogonko, 2018). Eveready East Africa Ltd too has been reporting loss making. The government has significant shareholding in the two companies hence their failure in the recent time is partly because of systematic failures by the Board of management especially the AC leading to concealment of poor performance for some time before their poor performance became known (Sanghani, 2014).

Globally, in Indonesian firm, Siagian and Siregar (2018) evaluated the influence of AC financial skills on EM. The study revealed that AC financial expertise had a minor effect on EM. In Malaysia, Ghaleb, Al-Duais and Hashed (2021) evaluated the contribution of AC chairs' legal expertise to Real EM in energy and utilities companies. The study revealed that AC chairs with legal expertise was directly associated with Real EM practices. In Netherlands, Mardessi and Fourati (2020) examined the association between quality of financial reporting and AC for companies with stock floated at the Amsterdam stock exchange from 2010 to 2017. The study revealed that the possibility of the AC to lower real EM was based on AC gender diversity. In Nigeria, Abubakar, Usman, Anuforo, Alhaji (2021) evaluated the influence of AC attributes on EM. The finding shows that AC size prevents managers' activities in earnings manipulations. In addition, AC financial expertise was useful in curtailing earnings manipulation practice.

Locally in Kenya, Kariuki and Aluoch (2020) evaluated the contribution of AC size on the financial reporting quality in firms listed at the NSE. The study concluded that there was a direct impact of AC size on quality of financial reports. Kapkiyai, Cheboi, Komen

(2020) examined the causal effect link between effectiveness of audits committees and EM practices in listed firm at Nairobi Securities Exchange (NSE). The study used panel regression model with results showing that an effective AC aids in reducing EM. Further, having more meeting, more directors that are independent and AC with adequate financial skills reduces EM. Kapkiyai, Cheboi and Komen (2020) excluded AC characteristics like AC gender diversity and age. The current study went a step further by seeking answer to the research question, what is the effect of AC composition on earning management among listed manufacturing firms in Kenya.

### **1.3 Objective of the Study**

To examine the effect of AC composition on EM among listed manufacturing firms in Kenya.

### **1.4 Value of the Study**

The study will be critical for various practice, theory and policy. The findings of the study hereto add to the existing knowledge on the contribution of AC composition to EM in developing countries like Kenya. As a result, this informs on how composition of AC can help in minimizing EM in listed manufacturing firms. The study will also be critical to future scholars in the area of AC composition and EM especially as source of empirical literature. The study will so suggest areas of further studies that can be of help to researchers when identifying areas of research and in refining their own research topics.

The study will also be critical for the purpose of practice. Managers of listed manufacturing firms may find this study useful in identifying the importance of well-

composed AC especially regarding improving the quality of financial reporting. Consequently, this study's results would be beneficial both local and foreign investors especially when making investment decisions by providing more insights on the best listed manufacturing companies to invest in especially those companies that have minimal EM. The study findings might also be resourceful to the shareholders of listed manufacturing 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 Capital Market Authority (CMA). It might be used to provide guidance on promoting policies that uphold good corporate governance. The report will generate information that would be useful to the capital market authority in formulation and refining of policies regarding quality of financial reporting. The study will can report can act as guidance to CMA in appreciating the impact of EM to the fairness and truthfulness of financial reports for the benefit of various stakeholders.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

The chapter expounds on the relevant literature concerning the association between AC compositions and EM. The chapter specifically present the theoretical review, determinants of EM, empirical review, summary and research gap and conceptual framework.

### **2.2 Theoretical Foundations**

Their area various theories underpinning the relationship between AC characteristics and EM. The study was specifically based on Agency, stakeholder and stewardship theories.

#### **2.2.1 Agency Theory**

Mitnick (1973) advanced and Jensen and Meckling (1976) through the theory the advanced explains that agency relationship exist where one party (principal) contracts the services of another party (agent) to represent it in a business transaction for some fees such that the principal delegates some authority and responsibility to the agent (Jensen & Meckling, 1976). In addition, agency conflict emerges when principal' (Shareholder) and agent' (Executive) interests conflicts hence the managers take actions that may not be in congruence with shareholders worth (Dalton et al., 2007). To minimise agency conflict, the principal (shareholders) may take certain actions that involves putting in place control mechanisms. Such control mechanism are often called agency costs (Jensen & Meckling, 1976).

The major agency costs includes the cost of employing directors to serve in the board and monitors the work of the executive. The cost of contracting external auditor to examine books of accounts and ensure they are true reflection of financial status of the firm.

Notwithstanding its strengths, agency cost are an added cost in the operation of the firm hence eating into the profits of the shareholders (Wiseman, Cuevas-Rodríguez & Gomez-Mejia, 2012). In addition, always acting in bests interest of the shareholders ignores other stakeholders who have a stake in the firm like the government, employees, customers, the competitors, suppliers and the public (Bosse & Phillips, 2016). The adherence to shareholders interests may also distort and interfere with other equally important affairs like strategic focus, investment plans hence minimising commitment to creation of economic value (Eisenhardt, 1989).

The theory is applicable in the study as it informs the variable AC composition and EM. In an effort to minimise the managers discretionary accruals where managers manipulate books of accounts to present an acceptable financial performance. Listed firms employ directors to serve in the board of directors of which some are expected to serve in the AC to help in evaluating books of accounts and control within the organization to minimise EM by the executive. The AC is expected to monitor the work of the executive and ensure financial reports represent the true and fair view of status of the firm.

### **2.2.2 Stakeholder Theory**

The theory proposed by Freeman (1984) posits that firms exist to meet the interests of those having an interest in the operations and future of the organization and not just the shareholders. The attention of the theory is to those stakeholders that can hinder or improve the chances of the business to survive and thrive in the business environment (Phillips et al., 2003). The stakeholder theory also focuses on the responsibility of the executive to take care of the interests of all key stakeholders. Post, Preston and Sachs (2002), stated that stakeholders are individuals or groups or other organizations that have

direct interest in the operation of the firm are affected and can affect the operation, actions, goals and policies of the firm in question. Major stakeholders may include creditors, owners, directors, employees, government, unions, suppliers and the local community where the firm gets inputs and sell output (Kaczmarek, Kimino & Pye, 2014).

In an effort to meet the concerns and interest that are often competing as well as conflicting, the firm needs to find the right balance where the critical segment of the stakeholders are considered first before the other less important stakeholders (Bridoux & Stoelhorst, 2014). Nonetheless, the theory has received its share of criticism especially regarding the act that it is not practical to meet the needs of all stakeholders without endangering the shareholders worth (Blattberg (2004). In addition, the theory has been criticised for not fitting the capitalist world where the interest of the owners of capital (shareholders) comes first (Mansell, 2013).

In summary, the theory supports agency theory in that it extends the boundary of agency theory from just focusing on shareholders to looking into other stakeholder's interest too. The theory underpins corporate governance where the company is expected to balance the different divergent interests of various stakeholders of the firm. The company is expected to operate under the dictates of the corporate governance principles suggest that a company should have directors serving in the AC to ensure that managers do not manipulate cooks of accounts. This is done to ensure that financial reports are of high quality and presents fair and true economic status of the firm such that different stakeholders can rely on them for various purposes and decisions.



### **2.2.3 Stewardship Theory**

The theory proposed by Donaldson and Davis (1991) posits that the primary goal of the executive is firm's performance given that when a firm performs well, their personal goals like salaries can be well taken care off. The theory places the goals of the firm above the individual's goals of the managers since when a firm achieves its overall goal, the individual goals of the various stakeholders including directors are also met (Davis, Schoorman, & Donaldson, 2018). The theory posits that managers are stewards over firms' resources and are expected to always put the interest of the firm before their own individual interests. They are expected not to misuse firm's resources at their disposal (Donaldson & Davis, 1991).

The theory is a sharp divergence from agency theory that suggest for incurring agency costs to ensure managers act in best interest. On the contrary, stewardship theory places trust on managers and that the managers are ethical people who will always do things in the interest of the firm (Glinkowska & Kaczmarek, 2015). The theory further holds that managers respect authority delegated to them by the shareholders. The executive are also preoccupied with preserving their reputation and career growth aspirations by not engaging in interest that conflict with that of the overall goal of the firm hence agency costs are minimised in the process (Donaldson & Davis, 1991).

The stewardship theory has been critiqued in various grounds. Pastoriza and Ariño (2008) holds that the theory is unrealistic given that there are psychological and situational variables may make a person to qualify as a stewards or not. Further, stewardship theory believes that stewardship is merely an output of a rational process, however in reality; there are many factors that may make an individual to be a steward or

not (Nakpodia, Shrives & Sorour, 2020). Notwithstanding the criticisms, the theory complements the stakeholder theory by capturing managers as a key stakeholder in addition to other stakeholders. The theory informs that managers who are adequately compensated will always act for the best of the organization's overall goals up to not manipulating books of accounts to present an acceptable performance through EM.

### **2.3 Determinants of Earnings Management**

The section presents and elaborates on factors that influence earning management in firm. The Factors are hereby referred to as determinants of earning management. The factors considered includes: Firm size, managerial ownership, Audit quality, Firms Financial Performance, Industry and Financial Leverage. The discussion of the factors are discussed in following sub sections.

#### **2.3.1 Audit Committee Composition**

The influence of AC composition on EM has been extensively studied. Majority of empirical reveals that AC composition has a major effect on EM. Kariuki and Aluoch (2020) noted a positive contribution of AC size to quality of financial reports of firms listed at NSE. Mollik et al (2020) showed that improved quality audits reduced EM. Siagian and Siregar (2018) were of the opinion that financial expertise of the AC had a minor inverse influence on EM. Moreover, Sudarman and Hidayat (2019) noted that AC gender diversity contributed in minimising EM. Setiawan, Phua, Chee and Trinugroho (2020) noted that AC characteristics had a major impact on EM practice.

### **2.3.2 Audit Quality**

Yasser and Soliman (2018) established that high level audit quality leads to reduced EM. Almarayeh, Aibar-Guzmán and Abdullatif (2020) noted that higher the degree of external auditor independence lowers the chances of EM and corporate fraud. The purpose of external audit is to ensure financial report present true and fair view of financial health of the firm. Mustafa, Che-Ahmad and Chandren (2018) noted that audit quality is dependent on detection of deficiencies and errors in books of accounts. The quality of audits also depends on the independence of external auditors in an effort to avoid biased and influences judgments of the auditors. Laily (2017) revealed that the probability of discretionary accruals was high in firms that were never audited by established and experienced auditors. Defond and Jiambalvo (2011) revealed a close link between reduction of errors and fraud in books of accounts with audit quality.

### **2.3.3 Firm Size**

Larger firms with more transactions have greater incidences of manipulation of books of accounts (Kalbuana et al, 2021) Large firms also tends to have numerous transactions making it easier for managers to manipulate some transactions since they know it not easily come out during the external audit. Small firm on the other hand has few transactions making it slightly difficult to manipulate books of accounts without raising suspicion during external audits. Heninger (2011) showed that the size of the firm and EM were directly related among US firms where managers chose accounting procedures that magnified earnings of the respective firms.

#### **2.3.4 Managerial Ownership**

Agency theory shows that competing interest of the shareholders and management leads to EM to present increased earnings and receive performance based remuneration. Wahyuningrum & Rizqi (2019) holds that one way of reducing agency conflict where managers manipulate financial reports is to offer shares to the executive through management stock ownership plans. When managers receive shares, they become part of the ownership and would want to receive high dividend income hence they would reduce behaviours that are not in line with the interest of the owners and the overall firm objectives like EM. Suartama and Sukartha (2020) established an inverse association between stock ownership by managers and discretionary accruals that captures EM.

#### **2.4 Empirical Review**

Kapkiyai, Cheboi, Komen (2020) examined the causal effect link between effectiveness of audit committees on EM practices in listed firms at the NSE. The study adopted longitudinal data for 13 years from 2004 to 2017. The research adopted panel regression with results showing that an effective AC aids in reducing EM. Further, having more meetings, more directors that are independent and AC with adequate financial expertise reduces EM. Kapkiyai, Cheboi and Komen (2020) excluded other AC attributes such as gender diversity of the AC as well as age of the AC. The current study goes a step further by examining the role of AC gender and age diversity on EM.

In a study in Nigeria, Abubakar, Usman, Anuforo and Alhaji (2021) evaluated the causal effect link subsisting between EM and AC attributes. The sample size was seventy-two firms that were listed at the securities exchange market studied from 2014 to 2018. The study adopted PCSEs model. The finding shows that AC size prevents managers'

activities in earnings manipulations. In addition, the result establishes that AC independence presence on the AC control managers' opportunistic behaviour. Abubakar, Usman, Anuforo and Alhaji (2021) was carried out in Nigeria hence may not be wholesomely be adopted in Kenyan firms due to different operating environment.

In an examination of Indonesian firm, Siagian and Siregar (2018) evaluated the relationship existing between financial expertise of AC and EM. The sample size consisted three hundred and eighty four observations for the period 2012- 2014. The research used Random Effect Model (REM) regression with results revealing that financial expertise of AC had a minor inverse influence on EM. Siagian and Siregar (2018) did not establish any major impact of AC financial expertise on EM contrary to general expectation. Besides, the study concentrated on one aspect AC composition and a study examining other aspects of AC composition will expand the applicability of the study.

Sudarman and Hidayat (2019) evaluated the causal effect link subsisting between gender diversity in the AC and EM among Indonesia firms that had floated shares. The study covered all the listed firms with data collected between 2013 and 2017. The study adopted multivariate regression analysis. The findings revealed that AC gender diversity contributed in minimising EM. Sudarman and Hidayat (2019) focused on gender diversity as an aspect of AC composition while ignoring other aspects. Another study comprehensively examining aspects of AC composition on EM is therefore critical.

Setiawan, Phua, Chee and Trinugroho (2020) evaluated the causal effect link between EM AC characteristics among firms. The research examined three hundred and ninety

three Indonesian organization that had listed their common stock at the stock exchange market. Data was collected between 2006 and 2010 period. The research used REM and FEM where results showed that AC attributes had a major impact on EM practice. Further, AC gender diversity had an inverse influence on EM. However, AC meetings frequency and expertise had a direct influence on EM. In addition, AC size and independence did not show significant effect EM. However, Setiawan, Phua, Chee and Trinugroho (2020) finds direct effect of financial skills and meetings frequency on EM contrary to theoretical expectation.

Ghaleb, Al-Duais and Hashed (2021) analysed the causal effect link between AC chairs' legal expertise and Real EM in Malaysian energy and utilities companies between 2013 and 2018. The study was a sample of two hundred and twenty nine companies. The study find that AC chairs with legal skills are significantly and positively associated with Real EM practices. The findings are inconsistent with those other studies and another study ought to be done clear out the inconsistency.

In Netherlands, among firms listed at the Amsterdam stock exchange, Mardessi and Fourati (2020) examined the relationship between quality of financial reporting and AC for the period 2010 to 2017. The research used panel regression model. The findings showed that capability of AC to reduce real EM was based on AC gender diversity. However, Mardessi and Fourati (2020) was limited to gender diversity and another ought to be carried out AC attributes such as financial experience of the AC.

Dakhlallah, Rashid, Abdullah, Shehab (2021) examined the influence of board structure on Real EM and moderator influence of AC independence on their link. Using panel data

from public companies in Jordan from 2009 to 2018, the study showed that the structure of the board affects the decisions of companies to manipulate reported earnings. Board independence exaggerates the incidence of all Real EM. CEO duality only exaggerates Real EM. AC independence weakens the influence of the board size to curb all real EM proxies and that the AC independence enhances the ability of board to curb all real EM. AC independence enhances the impact of CEO duality on curbing real EM. Dakhllalh, Rashid, Abdullah and Shehab (2021) adopted AC independence as moderating variable. Therefore, a study examining direct influence of AC independence on EM is necessary.

Kariuki and Aluoch (2020) evaluated the contribution of AC size to quality of financial reporting among firms listed at the NSE. The study was census of all the 62 listed firms used as unit of analysis. Annual data spanning 5 years from 2014 to 2018 was used in the study. The research concluded financial expertise of the AC had a direct influence on quality of financial reports for listed firms at the NSE. The study focused on only one aspect of AC composition.

In a study of Australian firms, Mollik, Mir, Monir, McIver and Bepari (2020) evaluated the direction of causation between EM and effectiveness' of AC. The data was collected from 2006 to 2009 considered as the GFC period. The research adopted FEM where the findings showed that improved audit quality reduced EM in the PCP; however, during GFC AC did not influence EM. Moreover, expertise of AC did not influence EM. Mollik, Mir, Monir, McIver and Bepari (2020) reported future research examine the effects the effect of other AC characteristics during and before global shocks.

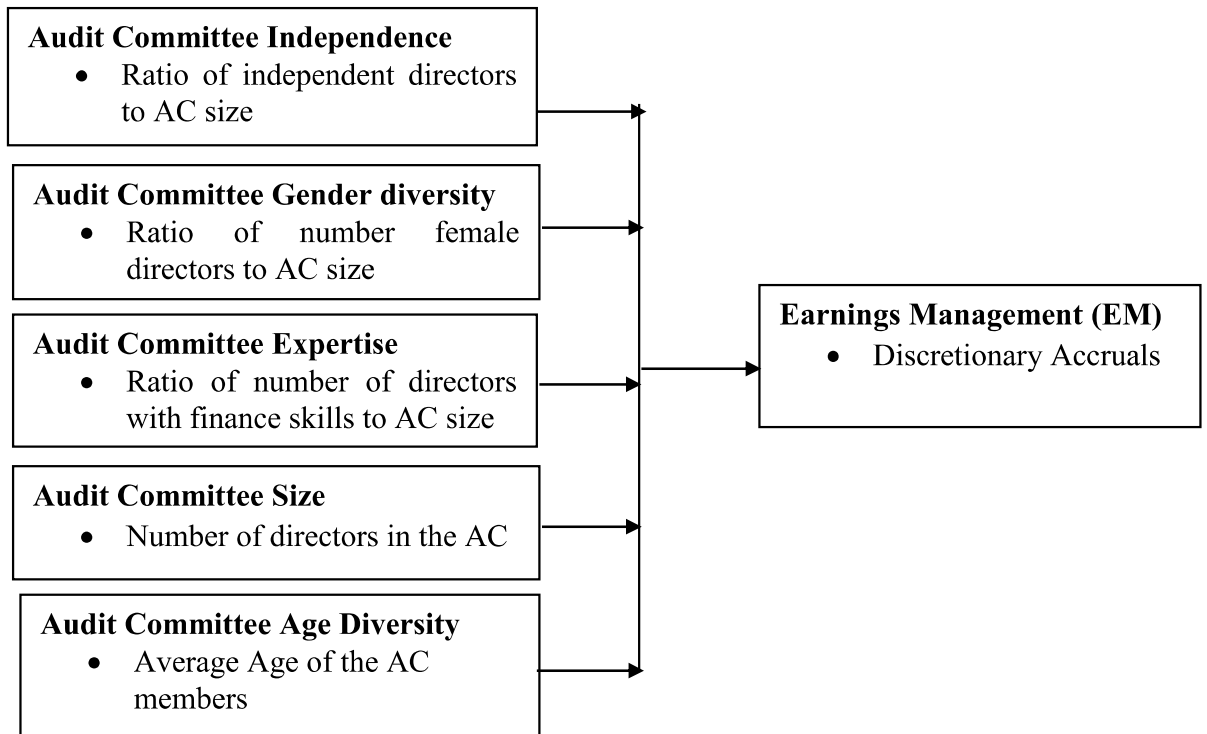
## **2.5 Summary and Gaps**

Kapkiyai, Cheboi and Komen (2020) showed that an effective AC aids in reducing managerial discretionary accruals. Kapkiyai, Cheboi, Komen (2020) excluded AC attributes such as AC gender diversity and age. Abubakar, Usman, Anuforo and Alhaji (2021) showed that AC size prevents managers' activities in earnings manipulations. In addition, the result establishes that the AC independence controls managers' opportunistic behaviour while AC financial expertise monitors in curtailing earnings manipulation practice. Abubakar, Usman, Anuforo and Alhaji (2021) was carried out in Nigeria hence may not be wholly adopted in Kenyan firms due to different operating environment.

## **2.6 Conceptual Framework**

The model presented in figure 2.1 gives the expected relationship between study variables. The conceptual model hypothesises the effect of AC composition on EM. The AC composition is the independent variable while EM is the dependent variable. The study expected an inverse relationship between AC independence, gender diversity, expertise and EM. Such that an improvement in the AC independence, gender diversity, and expertise should contribute to reduced EM. Additionally, the study expected a direct relationship between AC age, size and EM. Such that an improvement in the AC composition in terms of AC age, size should lead to increasing chances of EM.





**Independent Variable**

**Dependent Variable.**

**Figure 2. 1: Conceptual Model**

## **CHAPTER THREE: METHODOLOGY**

### **3.1 Introduction**

The chapter presents the methodology that was employed in collecting and analysing data. Specifically, the chapter elaborated on research design, target population, data collection and data analysis.

### **3.2 Research Design**

Descriptive research design was adopted in this study. Descriptive designs are used in studies that do not influence the environment in which the variables are interacting but rather reports on ex post facto relationship after variables have interacted in their natural environment (Kothari, 2004). Descriptive design is also concerned with establishing the causal effect relationship after collection and analysis of relevant data using scientific methods. The design enabled the researcher to collect secondary annual data regarding AC compositions and EM to evaluate the causal effect link between AC compositions and EM.

### **3.3 Study Population**

The research targeted all manufacturing firms listed at the NSE as of 31 December 2020. There were nine (9) listed manufacturing firms in NSE ([www.nse.co.ke](http://www.nse.co.ke)). The study was a census of all listed manufacturing firm at the NSE therefore no sampling was not carried with data covering the period of eight years from 2013-2020. Listed manufacturing firms were targeted since most EM happens in firms that have major inventory and manufacturing firms are a classic example of firms with majority of resources tied in receivables and inventory. Additionally, listed manufacturing firms do publish audited financial statements hence they have ready secondary data.

### 3.4 Data Collection

The research adopted panel data extracted from annual reports of the manufacturing firms. The data was specifically be extracted from the financial statements and statement of corporate governance. Regarding AC composition, the specific data collected included the number of members in the AC, the number of independent non-executive directors in the AC, number of female members of the AC, number of AC members with finance/accounts/auditing experience and qualification. Regarding the EM, the specific data collected included net income from total assets, operations, cash flow from operating activities, debtors and net property, plant and equipment of all listed manufacturing companies. The data covered the period from eight years from 2013 to 2020 and was recorded on data collection sheets (see appendix I).

### 3.5 Data Analysis

The data in the data collection sheets will be entered into Microsoft excel sheet. The data in the excel sheet were examined for completeness before study variables are computed. The data was panel in nature covering seven years and nine firms giving rise to 72 observations. The prepared data was exported to STATA version 15 before analysis where measures of central tendency and dispersion such as standard deviation, mean, Kurtosis and skewness were generated to identify outliers and general distribution of data. Diagnostic tests were carried out to enable choice of the most suitable model of analysis. Finally, panel data regression was adopted. The panel data regression model adopted is presented in equation (1).

$$EM_{it} = \beta_0 + \beta_1 Ind_{1it} + \beta_2 GD_{2it} + \beta_3 Expertise_{3it} + \beta_4 size_{4it} + \beta_5 Age_{5it} + \epsilon_{it} \dots\dots\dots(1)$$

Where:

**EM** = Earnings Management is measured by discretionary accruals (difference between total accruals and non-discretionary accruals).

**Ind** = Audit committee independence is measured by ratio of independent non-executive directors in the committee to size of audit committee.

**GD** = Gender diversity is measured by the ratio of female directors in the audit committee to total membership of the Audit Committee.

**Expertise** = Audit committee expertise is measured by ratio of membership of the committee having finance/accounts and auditing training and experience to total membership of the audit committee.

**size** = Audit committee size is measured as the number of members of the audit committee.

**Age** = Audit committee age diversity measured as the average age of the members of the Audit Committee.

$\beta_0$  is the intercept term,  $\beta_1$ -  $\beta_5$  are the coefficient of independent variables ( $X_1$   $X_2$   $X_3$   $X_4$  and  $X_5$ ) respectively

$\varepsilon$  =Error term,  $i$ = firm 1, 2, 3...9 and  $t$  = Time period 2012, 2013, 2014.....2020

### 3.6 Diagnostic Test

Diagnostic test was carried out before inferential analysis to examine the robustness of the regression model. The diagnostic were carried to ensure classical least squares assumptions are not violated. The test included heteroscedasticity, autocorrelation, normality, multicollinearity and unit root diagnostic tests.

### **3.6.1 Normality Test**

Normality test is carried to ensure data points are normally distributed as given by mean equaling to median (Kothari, 2004). The study adopted Kurtosis and skewness to examine normality of data such that when skewness statistic is zero and Kurtosis is 3 then the data is perfectly normal. Further, Shapiro-Wilk test was adopted to test normality of the data where non-normal data have p-value less than .05 level of significance.

### **3.6.2 Heteroscedasticity Test**

According to Gujarati (2003), data is said to be homoscedastic if the error term depicts constant variance and mean. This means that the residuals are dispersed evenly around the mean with constant variance on either sides of the mean. The absence of homoscedasticity is referred to as heteroscedasticity where the error terms are non-constant. Heteroscedasticity results to spurious regression where the standard errors are over identified and misleading. The study used Modified Wald test for presence of group heteroscedasticity. The study concluded presence of homoscedasticity if the p-value generated are greater than 0.05 level of significance. In the presence of heteroscedasticity alone, the study can use robust standard errors.

### **3.6.3 Multicollinearity**

According to Kothari (2004), multicollinearity exist where the explanatory variables used in the study are highly correlated among themselves and with the error terms. Cooper and Schindler (2006) noted that presence of multicollinearity results to inflated parameter estimates. The research adopted variance Inflation Factor (VIF) to examine the presence of multicollinearity. VIF values greater than 5 signify presence multicollinearity (Kothari, 2004).

### **3.6.4 Serial Correlation**

Auto correlation is said to exist only if residuals in one period are highly correlated with error terms in successive periods (Gujarati, 2008). The study adopted Wooldridge's Durbin test to evaluate the presence of autocorrelation where a probability value greater than 0.05 will be taken to imply absence of autocorrelation. In case the researcher establishes the presence of autocorrelation of order one alone, the researcher will adopt Panel correlated standard errors (PCSEs) (Wooldridge, 2013).

### **3.6.5 Random or Fixed Effects**

The research employed Hausman test to decide on the suitability of random effects and fixed effects models. Wooldridge (2013) asserts that Random effects model is preferred since fixed effects model is only efficient in producing acceptable estimates when the data being analyzed suffers from correlation issues. Further, fixed effects model may not be most appropriate if there is little variability of variables across time (Allison, 2009). If P-Value is greater than 5% level of significance, random effects model should be used.

### **3.7 Test of Significance**

To confirm the significance of the effect of AC composition on EM, the study used F-test where p-value less than 5% level of significance signifies a significant effect. The p-values associated with the coefficients of the independent variables were used to test the significance of the effect of each explanatory variable on EM. The p-values less than 5% level of significance show a significant effect of the individual explanatory variable on the dependent variable.

## CHAPTER FOUR: DATA ANALYSIS AND DISCUSSION

### 4.1 Introduction

The chapter presents data analysis and discussions. The chapter specifically examines the descriptive analysis, diagnostic tests, regression analysis and discussion of findings.

### 4.2 Descriptive Analysis

The study examined the distribution of the explanatory and outcome variables in terms of standard deviation, mean, minimum and maximum. The purpose of descriptive analysis was to establish the general nature of the data to be used for inferential analysis.

The findings are presented in Table 4.1.

**Table 4. 1: Summary of Descriptive Statistics**

	GD	Age	Ind	Expertise	size	EM
Mean	0.44505	54.5435	0.67116	0.1861	3.8254	2,530,681
Standard Deviation	0.16957	4.11494	0.17237	0.19333	0.63601	231,924
Kurtosis	3.16686	4.79457	3.2825	3.1374	2.83586	3.639546592
Skewness	0.16059	0.77472	-0.5155	0.44661	0.16007	0.121889848
Minimum	0.1806	44	0.23	0.1	3	83,635
Maximum	0.8412	63	0.9	0.63636	7	13,274,959
Count	72	72	72	72	72	72

*Note:* Gender Diversity (GD), Age diversity (Age), independence (Ind), Expertise (Expertise), size (size) and Earnings Management (EM).

Table 4.1 presents the descriptive statistical analysis. AC gender diversity was measured by the ratio of female directors in the audit committee to total number members of the audit committee. The mean gender diversity was 0.44 implying that there were an average of 44% of the directors in the audit committee being female. The standard deviation showed that AC diversity of individual firms was spread around the mean with about 0.16 points. Minimum of 0.18 gives the firm that had the lowest AC gender

diversity while maximum of 0.84 gives the firm that had the highest AC gender diversity.

Audit committee age diversity was measured by the average age of the directors in the AC. The mean age was 54.5 with a standard deviation of 4.1 around the mean age. The minimum of 44 shows the firm that had the youngest audit committee while the maximum of 63 shows the firm that had the oldest AC. AC independence was measured by the ratio independent non-executive directors in the AC to total audit committee size. The mean audit committee independence was 0.67 implying that about 67.1% of the audit committee of listed manufacturing firms in Kenya were comprised of independent non-executive directors. The minimum captured the firm that had the lowest audit committee independence at 23% and the maximum presents the firm that had the highest Audit committee independence at 90%.

Audit committee expertise was measured by the ratio of members of the AC possessing finance, accounting and auditing training and experience to the total audit committee size. The mean AC expertise was 0.18 implying that about 18% of the AC membership were those directors that possessed finance, accounting and auditing training and experience. The standard deviation showed that the audit committee expertise on individual firms were spread around the overall mean by about 19%. The minimum expertise presents the firm that had the lowest number of experts in finance, accounting and auditing at 10% while the maximum presents the firm that had the highest number of experts in finance, accounting and auditing in its audit committee at 0.63%.



Audit committee size was measured by the number of directors in the AC. The mean audit committee was 3.82 implying most audit committees had about 4 directors. The standard deviation showed that the AC sizes of individual firms was spread around the mean by about 0.63. The minimum showed that the firm with the smallest size audit committee had three (3) members while maximum shows that that the firm with the biggest size of audit committee had seven (7) members. Finally, EM was measured by discretionary accruals. The mean EM was about Ksh. 2.53 million with a standard deviation of Ksh.231 thousand. The minimum EM was Ksh.83.6 thousand while the maximum EM was Ksh.13.2 million. The Kurtosis values for all variables were around three (3) and the skewness were around zero (0) hence the variables were normally distributed.

### **4.3 Diagnostic Tests**

#### **4.3.1 Normality Test**

The study adopted Kurtosis and skewness to examine normality of data such that when skewness statistic is zero and Kurtosis is 3 then the data is perfectly normal. Further, Shapiro-Wilk test was adopted to test normality of the data where non-normal data have p-value less than .05 level of significance. The finding presented in Table 4.2 revealed almost all variables depicted normal distribution with only age being slightly skewed but generally normal.

**Table 4. 2: Shapiro-Wilk W test for Normality**

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
GD	72	0.98055	0.374	3.214	0.85000
Age	72	0.95849	1.839	5.017	0.04800
Ind	72	0.96478	0.807	4.077	0.06105
Expertise	72	0.98274	0.344	3.198	0.95000
size	72	0.99589	0.259	2.944	0.99838
EM	72	0.97580	0.315	4.156	0.07100

*Note:* AC Gender Diversity (GD), AC Age diversity (Age), AC independence (Ind), AC Expertise (Expertise), AC size (size) and Earnings Management (EM).

### 4.3.2 Heteroscedasticity Test

The study used Modified Wald test for presence of group heteroscedasticity. The study would conclude presence of homoscedasticity if the p-value generated are greater than 0.05 level of significance. In the presence of heteroscedasticity alone, the study can use robust standard errors. The findings is presented in Table 4.3 where the p-value was greater than 0.05 (p= 0.0551) implying homoscedasticity.

**Table 4. 3: Modified Wald test for group heteroscedasticity**

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**\*\*\* Panel Data Heteroscedasticity Wald Test**

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**Ho: Panel Homoscedasticity - Ha: Panel Heteroscedasticity**

Wald Test:            LogE2 = X                            = 3.5268    P-Value > Chi2(1) 0.0551

---

### 4.3.3 Multicollinearity

The research adopted and variance Inflation Factor (VIF) to examine the presence of multicollinearity. VIF values greater than 5 signify presence multicollinearity (Kothari, 2004). The results presented in Table 4.4 revealed that there was no problem of

multicollinearity given that all the VIF values were less than 5 and mean VIF was also less than 5.

**Table 4. 4: Variance Inflation Factor Test for Multicollinearity**

Variable	VIF	1/VIF
Expertise	1.31	0.764014
Ind	1.26	0.792526
GD	1.26	0.793979
size	1.15	0.871036
Age	1.06	0.939169
Mean VIF	1.21	

#### 4.3.4 Serial Correlation

The study adopted Wooldridge Drukker test to evaluate the presence of autocorrelation where a probability value greater than 0.05 is taken to imply absence of autocorrelation.

The study revealed that there was no problem of serial correlation given the p-value was greater than 0.05 level of significance.

```
.xtserial EM GD Age size Expertise
```

```
Wooldridge test for autocorrelation in panel data
```

```
H0: no first order autocorrelation
```

```
F( 1, 8) = 2.680
```

```
Prob > F = 0.1500
```

#### 4.3.5 Random or Fixed Effects

The research also employed Hausman test to decide on the suitability of random effects and fixed effects models. Wooldridge (2013) asserts that Random effects model is preferred since fixed effects model is only efficient in producing acceptable estimates when the data being analyzed suffers from correlation issues. If P-Value is greater than 5% level of significance, random effects model should be used. The results presented in

Table 4.5 showed that fixed effect model (FEM) was more appropriate given the p-value was less than 0.05 level of significance.

**Table 4. 5: Hausman Test**

	Coefficients		(b-B) Difference	sqrt (diag (V_b-V_B) ) S.E.
	(b) FEM	(B) REM		
GD	-1.276986	-1.2918675	.0148815	.7919426
Age	.516822	.3554252	.1613968	.0393375
Ind	-1.633233	-1.256125	-.3771081	.4271232
Expertise	-1.083274	-1.789258	-.7059840	.5096419
size	.153982	.2103236	-.0563416	.0206538

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)  
 = 55.62  
 Prob>chi2 = 0.00344  
 (V\_b-V\_B is not positive definite)

#### 4.4 Regression Analysis

The study adopted fixed effect model to examine the effect of AC composition on EM among listed manufacturing firms in Kenya. The study adopted fixed effect model given that the Hausman test showed that FEM was more efficient over the REM given that the p-value was less than 0.05. The regression output consisted of coefficient of determination, F-test and t-test as presented in in Table 4.6.

**Table 4. 6: Fixed Effect Model**

```

Fixed-effects (within) regression      Number of obs      =      72
Group variable: ID                    Number of groups   =      9

R-sq:                                 Obs per group:
  within = 0.5612                      min =              8
  between = 0.8222                      avg =              8.0
  overall = 0.7531                      max =              8

corr(u_i, Xb) = -0.0417                F(5,58)            =      70.81
                                          Prob > F            =      0.000

```

EM	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
GD	-1.276986	.387749	-3.29	0.005	-4.114673	4.668645
Age	.516822	.136835	3.78	0.002	0.100421	1.566777
Ind	-1.633233	.334666	-4.88	0.000	-1.948878	4.315344
Expertise	-1.083274	.413216	-2.62	0.047	-2.757463	3.924015
size	.153982	.186811	0.82	0.414	-.2214302	.5293943
_cons	.3556423	4.687305	0.08	0.940	-3.063851	9.775135
sigma_u	1.1794627					
sigma_e	.80386545					
rho	.68282062	(fraction of variance due to u_i)				

F test that all u\_i=0: F(8, 58) = 6.18 Prob > F = 0.0000

The Table 4.6 presented the fixed effect model where the overall coefficient of determination ( $R^2$ ) was 0.7531 implying that AC composition explains 75.31% of the total variation in EM. The remaining variation of 24.69% being explained by variables that were not part of the study. The p-value associated with F-test was less than 0.05 implying that the AC composition had a significant effect on EM among the listed manufacturing firms in Kenya.

Further, the study sought to examine the effect of individual components of AC composition on EM. The effect of AC Independence had a significant inverse effect on

EM ( $\beta_1 = -1.633$ ,  $t = -4.88$ ,  $p = 0.000 < 0.05$ ). The study revealed that the effect of AC gender diversity on EM was inverse and statistically significant ( $\beta_2 = -1.27$ ,  $t = 3.29$ ,  $p = 0.005 < 0.05$ ). AC expertise had a significant inverse effect on EM ( $\beta_3 = -1.083$ ,  $t = -2.62$ ,  $p = 0.047 < 0.05$ ). The study also revealed that AC size had a direct but not statistically significant effect on EM ( $\beta_4 = .1539$ ,  $t = 0.82$ ,  $p = 0.414 > 0.05$ ). The effect of AC age diversity on EM was direct and statistically significant ( $\beta_5 = 0.5168$ ,  $t = 3.78$ ,  $p = 0.002 < 0.05$ ). Finally the intercept term had a coefficient of  $\beta_0 = .3556$  implying that when the explanatory variables are held constant at zero (0), EM was .3556. The model was thus estimated as:

$$EM_{it} = .3556 - 1.633Ind_{it} - 1.27GD_{it} - 1.083 Expertise_{it} + .1539 size_{it} + .5168Age_{it}$$

#### 4.5 Discussion of Findings

The study had sought to establish the effect of Audit committee composition on earnings management among listed manufacturing firms in Kenya. The overall coefficient of determination ( $R^2$ ) was 0.7531 implying that AC composition explains 75.31% of the total variation in EM. The remaining variation of 24.69% being explained by other variables not within the scope of this study. Further, the p-value associated with F-test was less than 0.05 implying that the AC composition had a significant effect on EM among the listed manufacturing firms in Kenya. The finding agrees with Setiawan, Phua, Chee and Trinugroho (2020) who showed that AC attributes had a major impact on EM practice.

Regarding the effect of each aspect of AC composition on EM, the study had adopted the t-test. The study established AC Independence had a significant inverse effect on EM

( $\beta_1 = -1.633$ ,  $t = -4.88$ ,  $p = 0.000 < 0.05$ ). The study showed that for every one unit increase in AC independence, EM reduced by 1.633 units. The inverse relationship implies that AC independence is responsible for reduced earnings management among the firms. Having more independent non-executive directors in the AC means that they will be objective in monitoring the accounting controls in place to reduce the chances of manipulation of books of accounts by the executive and employees working under them. The findings are in agreement with Kapkiyai, Cheboi, Komen (2020) who showed that having more independent AC reduces EM. Abubakar, Usman, Anuforo and Alhaji (2021) revealed that AC independence controls managers' opportunistic behaviour of manipulation of books of accounts.

The study also revealed that the effect of AC gender diversity on EM was inverse and statistically significant ( $\beta_2 = -1.27$ ,  $t = 3.29$ ,  $p = 0.005 < 0.05$ ). A one unit increase in gender diversity leads to 1.27 units decrease in EM. Having more female directors in the AC is associated with improved stewardship over the resources of the firm. Female directors are more conservative hence they tend to encourage adoption of conservative accounting concepts and principles that is associated with tight controls over resources hence reduced earnings management opportunities. The finding is supported by Sudarman and Hidayat (2019) who revealed that AC gender diversity contributed in minimising EM. Mardessi and Fourati (2020) also showed that capability of AC to reduce real EM was based on AC gender diversity.

The study also revealed that AC expertise had a significant inverse effect on EM ( $\beta_3 = -1.083$ ,  $t = -2.62$ ,  $p = 0.047 < 0.05$ ). A one unit increase in AC expertise was associated with 1.083 reduction in EM. Having more AC members with expertise in finance, accounting,

auditing was advantageous to the committee as they could review audit reports with knowledge. Experienced AC members are able to review various controls in place in the firm to identify weakness with a view for making recommendation for their strengthening. The strengthened controls reduces the loopholes that are exploited by executive and employees working under them in manipulating books of accounts. The findings agrees with Siagian and Siregar (2018) revealed that financial expertise of AC had an inverse influence on EM. Kariuki and Aluoch (2020) also revealed that financial expertise of the AC had a direct influence on quality of financial reports for listed firms at the Nairobi Securities Exchange. However, Mollik, Mir, Monir, McIver and Bepari (2020) had contrary findings showing that expertise of AC did not influence EM.

The study also revealed that AC size had a direct but not statistically significant effect on EM ( $\beta_4 = .1539$ ,  $t = 0.82$ ,  $p = 0.414 > 0.05$ ). A one unit increase in AC size was associated with increase in EM by .1539. The direct effect implies that having larger than necessary AC size is associated with poor deliberations at the audit committee hence encouraging. However, the effect was not significant implying that the size of the AC was not a major factors when other aspects of AC composition were as expected. The finding are in conflict with Kapkiyai, Cheboi, Komen (2020) who showed that having more directors reduces EM. Abubakar, Usman, Anuforo and Alhaji (2021) also showed that AC size prevents managers' activities in earnings manipulations.

The research showed that the effect of AC age diversity on EM was direct and statistically significant ( $\beta_5 = 0.5168$ ,  $t = 3.78$ ,  $p = 0.002 < 0.05$ ). A one unit increase in AC average age results to increased earnings management. The positive relationship could imply that increased average age of the AC beyond a given point hinders their ability to



minimise EM. Having very old directors may lead to increased chances of EM management by the executive as the directors in AC with advanced age may not manage to rigorously monitor internal controls as well as books of accounts.

## **CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS**

### **5.1 Introduction**

The chapter presents the summary of findings, conclusion, recommendations, limitations and areas for further studies. The study had examined the effect of AC composition on EM by listed manufacturing firms in Kenya.

### **5.2 Summary**

The study had sought to examine the effect of AC composition on earnings management by listed manufacturing firms in Kenya. The coefficient of determination ( $R^2$ ) was 0.7531 implying that AC composition explains 75.31% of the total variation in earnings management. The remaining proportion of 24.69% is explained by other unobserved variables that were not part of the current study. The ANOVA confirmed that AC composition had a significant effect on EM among the listed manufacturing firms in Kenya.

The study examined the contribution of individual components of AC composition on EM among the listed manufacturing firms in Kenya. The study revealed that AC Independence, gender diversity and expertise had a significant inverse effect on EM. The study also revealed that AC size had a direct but not statistically significant effect on EM. The effect of AC age diversity on EM was direct and statistically significant.

### **5.3 Conclusion**

The study noted that AC composition had a critical role in minimising EM among the listed manufacturing firms in Kenya. Further, the research noted that having more independent non-executive directors in the AC means that they will be objective in

monitoring the accounting controls in place to reduce the chances of manipulation of books of accounts by the executive and employees working under them. The study also held that having more female directors in the AC is associated with improved stewardship over the resources of the firm. Female directors are more conservative hence they tend to encourage adoption of conservative accounting concepts and principles that is associated with tight controls over resources hence reduced earning management opportunities.

The study also noted that having more AC members with expertise in finance, accounting, auditing was advantageous to the committee as they could review audit reports and various internal controls in place at the firm to identify weakness with a view for making recommendation for their strengthening. The strengthened controls reduce the loopholes that are exploited by executive and employees working under them in manipulating books of accounts. The study also of the view that having larger than necessary AC is associated with poor deliberations at the audit committee hence encouraging EM. Finally, the researcher was of the opinion that having very old directors may lead to increased EM management by the executive as the directors of advanced age may not manage to rigorously monitor internal controls as well as books of accounts.

#### **5.4 Recommendations**

Given the inverse effect of AC independence on EM, the study recommends to listed manufacturing firms to ensure that their AC have more independent non-executive directors to help in encouraging objective review of internal controls and financial reports with a view of presenting fair and true financial status of the firm. The Nairobi Securities

exchange should also ensure that listed manufacturing firms have well constituted audit committees in terms of independence to minimise EM.

Based on the inverse relationship between gender diversity and EM, the study suggests to listed manufacturing firms to incorporate more female directors in their AC to minimise EM. Female directors tends to be conservative as regards to application of accounting principles and practises hence lowering chances of manipulation of accounting information system of the firms. The NSE should also closely monitor election of board of directors to ensure more female directors are incorporated by various firms.

The study also revealed an inverse effect of AC expertise on EM therefore necessitating the need for listed manufacturing firms to ensure that each AC has an expert in finance or accounting or auditing or a combination of any or all. Audit committees having relevant expertise who be critical in minimising the chances of manipulation of books of accounts by the executive and employees working under them. The NSE should also ensure that listed firms have relevant experts in their boards to minimise EM and ensure stability of listed manufacturing firms.

Further, the positive effect of Audit committee size on EM makes it critical that listed manufacturing firms have right number of AC members. Having too many members in the AC may not necessarily translate to reduction in EM. Optimal AC sizes may help improve the quality of deliberations at the committees and policy recommendations thereof. The NSE ought also to ensure that committees of the whole board for listed firms are of the right size to improve the quality of corporate governance among firms.

Finally, given the positive effect of average of the AC members on EM, the study recommends to listed manufacturing firms not to elect directors who are advanced in age to be in charge of the committee. The committee needs a blend with younger and relatively experienced directors who are energetic and can rigorously monitors the accounting information system of the firms and internal controls. The NSE should also consider setting age limits for members servicing in critical committees of the board.

### **5.5 Limitations**

The study was limited to the 9 listed manufacturing firms at the NSE hence the findings are more relevant for adoption by listed manufacturing firms. The findings may not be useful for non-manufacturing firms that possess different operating environment. Non listed manufacturing firms should apply the findings for policy purposes with caution.

The study was also limited to five aspects of audit committees including AC independence, gender diversity, expertise, size and age diversity. Other aspects of AC composition such as audit AC nationality; experience diversity were not within the scope of the study hence the parameter estimates may differ when excluded elements of AC are added in the model. The parameter estimates should thus be applied with caution by firms making decisions.

The study also adopted discretionary accruals as the measure of EM that was suggested by Guo and Zhang, (2021). Even though widely used in various empirical studies, it may not capture all aspects of EM management. The study was also limited to secondary data that may not capture all aspects of AC composition and EM especially the qualitative aspects that need a composite of measures both quantitative and qualitative.

## **5.6 Areas for Further Studies**

The breath of the current study can be improved through various recommendations to future researchers. The current study was limited to the 9 listed manufacturing firms in Kenya. The study recommends to future researchers to extend the study to non manufacturing firms listed at the NSE. This will enhance the usefulness of the findings across listed firms regardless of their operating environment.

The current study was also limited to aspects of AC composition including AC independence, gender diversity, expertise, size and age diversity. The study therefore recommends that future studies should study other aspects of AC composition that were not within the scope of the current study such as AC nationality, experience diversity among others. This would help in generating parameter estimates that are more accurate and have added value to the current study.

The study had adopted discretionary accruals as the measure of EM even though widely used in various empirical studies, it may not capture all aspects of EM management. The study thus recommends that future researchers should adopt other proxies of EM management to with a view of improving the dearth of empirical studies in EM. The study also recommends that future studies should adopt primary tools of data collection for measuring AC composition and EM in addition to quantitative secondary data.

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## APPENDICES

### Appendix I: Data Collection Sheet

	2013	2014	2015	2016	2017	2018	2019	2020
Independent non-executive directors in the Audit Committee								
Number female directors in the audit committee								
Audit committee Size								
No of members of the audit committee having finance/accounts and auditing training and experience								
Average age of the members of the Audit Committee.								
total assets								
operating income								
operating cash flows								
Sales								
Debtors								
Gross property, Plant and equipment								

## Appendix II: Data

FIRM	YEAR	FIRM ID	GD	LnAGE	IND	Expertise	Size	InEM
BAT	2020	1	0.4	4.0	0.7	0.3	5	8.13
BAT	2019	1	0.3	4.0	0.7	0.3	5	8.79
BAT	2018	1	0.3	4.0	0.7	0.3	4	6.69
BAT	2017	1	0.3	4.0	0.7	0.3	4	8.09
BAT	2016	1	0.3	4.1	0.6	0.3	4	7.62
BAT	2015	1	0.2	4.1	0.7	0.2	4	7.62
BAT	2014	1	0.2	4.0	0.6	0.2	4	7.76
BAT	2013	1	0.3	4.0	0.7	0.3	4	7.82
EVEREADY	2020	2	0.7	3.8	0.5	0.4	4	7.22
EVEREADY	2019	2	0.7	4.0	0.5	0.3	4	7.41
EVEREADY	2018	2	0.5	4.1	0.4	0.3	4	7.46
EVEREADY	2017	2	0.5	4.0	0.4	0.3	4	7.18
EVEREADY	2016	2	0.5	4.0	0.4	0.3	4	7.33
EVEREADY	2015	2	0.5	4.0	0.4	0.4	4	7.41
EVEREADY	2014	2	0.7	4.0	0.3	0.4	4	7.46
EVEREADY	2013	2	0.6	4.0	0.4	0.4	4	7.35
EBL	2020	3	0.3	4.0	0.7	0.6	5	11.07
EBL	2019	3	0.3	3.9	0.6	0.6	5	9.59
EBL	2018	3	0.3	3.9	0.6	0.6	4	10.40
EBL	2017	3	0.3	4.1	0.8	0.6	4	11.03
EBL	2016	3	0.4	3.9	0.6	0.6	4	10.76
EBL	2015	3	0.3	4.2	0.6	0.6	3	9.59
EBL	2014	3	0.2	4.5	0.7	0.6	3	10.40
EBL	2013	3	0.3	4.1	0.7	0.6	4	10.41
MUMIAS	2020	4	0.3	4.0	0.7	0.5	5	10.10
MUMIAS	2019	4	0.3	4.0	0.7	0.4	5	8.61
MUMIAS	2018	4	0.2	4.0	0.7	0.4	7	5.57
MUMIAS	2017	4	0.2	4.0	0.7	0.4	4	10.06
MUMIAS	2016	4	0.2	4.0	0.7	0.3	3	9.38
MUMIAS	2015	4	0.2	4.0	0.7	0.3	3	8.61
MUMIAS	2014	4	0.2	4.0	0.7	0.5	3	5.57
MUMIAS	2013	4	0.2	4.0	0.7	0.4	3	8.27
CABACID	2020	5	0.5	4.0	0.9	0.2	4	8.16
CABACID	2019	5	0.5	4.0	0.9	0.2	4	8.30
CABACID	2018	5	0.5	4.0	0.9	0.2	3	2.24

CABACID	2017	5	0.5	4.0	0.9	0.4	3	8.12
CABACID	2016	5	0.5	4.0	0.9	0.3	3	7.43
CABACID	2015	5	0.5	4.0	0.9	0.2	3	8.30
CABACID	2014	5	0.5	4.0	0.9	0.2	4	2.24
CABACID	2013	5	0.5	4.0	0.9	0.2	3	6.40
UNGA	2020	6	0.5	4.0	0.9	0.3	4	7.49
UNGA	2019	6	0.5	4.1	0.9	0.2	4	7.90
UNGA	2018	6	0.5	4.0	0.9	0.2	4	7.22
UNGA	2017	6	0.5	4.2	0.9	0.5	3	7.45
UNGA	2016	6	0.5	4.0	0.9	0.2	3	7.34
UNGA	2015	6	0.5	4.0	0.9	0.2	3	7.90
UNGA	2014	6	0.5	3.5	0.9	0.2	3	7.22
UNGA	2013	6	0.5	4.0	0.9	0.3	3	7.50
ORCHARD	2020	7	0.3	4.0	0.8	0.4	4	9.68
ORCHARD	2019	7	0.3	4.1	0.8	0.1	4	7.22
ORCHARD	2018	7	0.3	4.0	0.7	0.1	4	7.22
ORCHARD	2017	7	0.3	4.0	0.7	0.2	3	9.63
ORCHARD	2016	7	0.3	4.0	0.7	0.2	4	9.03
ORCHARD	2015	7	0.3	4.0	0.7	0.2	4	7.22
ORCHARD	2014	7	0.3	3.9	0.7	0.1	4	7.22
ORCHARD	2013	7	0.3	4.0	0.7	0.2	4	8.17
FLAME TRI	2020	8	0.7	4.0	0.6	0.2	3	7.13
FLAME TRI	2019	8	0.7	4.1	0.7	0.3	4	8.33
FLAME TRI	2018	8	0.7	4.0	0.6	0.2	4	4.35
FLAME TRI	2017	8	0.7	4.0	0.6	0.4	5	7.09
FLAME TRI	2016	8	0.7	4.0	0.6	0.2	5	6.46
FLAME TRI	2015	8	0.7	4.0	0.6	0.2	3	8.33
FLAME TRI	2014	8	0.7	4.0	0.6	0.2	4	4.35
FLAME TRI	2013	8	0.7	4.0	0.6	0.2	4	6.58
BOC	2020	9	0.2	4.0	0.9	0.3	4	8.37
BOC	2019	9	0.6	4.0	0.8	0.2	4	6.81
BOC	2018	9	0.6	4.0	0.4	0.2	4	1.84
BOO	2017	9	0.8	4.0	0.5	0.5	3	8.33
BOC	2016	9	0.6	4.0	0.2	0.2	3	7.63
BOC	2015	9	0.6	4.0	0.3	0.2	3	6.81
BOC	2014	9	0.6	3.9	0.4	0.2	4	1.84
BOC	2013	9	0.6	4.0	0.5	0.3	4	5.95

### **Appendix III: Listed Manufacturing Firms 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 (2020)