

**CEO CHARACTERISTICS, AUDIT COMMITTEE FINANCIAL EXPERTISE  
AND FRAUDULENT FINANCIAL REPORTING AMONG LISTED  
MANUFACTURING FIRMS IN EAST AFRICA**

**BY**

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**A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF BUSINESS AND  
ECONOMICS IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR  
THE AWARD OF MASTER OF BUSINESS ADMINISTRATION DEGREE IN  
AUDITING AND FORENSIC ACCOUNTING OF MOI UNIVERSITY**

**2022**

## DECLARATION

### Declaration by Candidate

This research project is my original work and has not been presented for a degree in any other University. No part of this research project may be reproduced without the prior written permission of the author and/or Moi University.

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This research project has been submitted for examination with our approval as University Supervisors.

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## **DEDICATION**

This study is dedicated first and foremost to my lovely family members, who have provided invaluable advice and financial support, as well as always believing in me and unwaveringly supporting my endeavours. Second, to my late parents, Margaret and Ronald Makini, for providing me with the foundation for something they both valued: education. Since then, I've realized the importance of reading and lifelong learning. It is unfortunate that you were unable to witness my success because death defeated you. I adore each and every one of you.

## **ACKNOWLEDGEMENT**

I am grateful to Almighty God for allowing me to complete the arduous task of preparing this research project. I also express my sincere gratitude to my supervisors, Dr. Naomi Koske and Dr. Patrick Limo, for their inspiration, valuable guidance, and unwavering encouragement in ensuring that this research work met the expected standards. Despite their hectic schedules, I appreciate the sacrifice they made. My gratitude goes to my fellow MBA Students class of 2018 for their moral and spiritual support throughout the development of this research project. Most importantly, I want to record my profound sense of gratitude to my family, specifically my loving husband Mr. Yabesh Kongo and our lovely daughters Margaret-Ida and Maliwaza-Ivana, for their moral, financial, and social support throughout the entire process of my education and research project preparation. They provided me with numerous reasons to work even harder. None of this would have been possible without them. I cannot express how grateful I am to them, and they will always have my respect and love. To my faithful brothers and sisters; who have always helped me and believed that I could do it; thank you for being there for me. Finally, my heartfelt gratitude goes to Mr. and Mrs. John Makori Ayega for being a father and mother figure to me when I needed it the most. You have both motivated and inspired me throughout my life and educational journey.

## ABSTRACT

Fraud-related losses affect both small businesses and large corporations. According to the 2020 PwC Kenya Global Economic Crime and Fraud Survey, Kenyan firms have lost a total of Ksh.5.5 billion in the last 24 months due to fraudulent financial reporting. Therefore, this study sought to evaluate the effect of CEO's characteristics on fraudulent financial reporting and the moderating role of audit committee financial expertise on the relationship between CEO's characteristics and fraudulent financial reporting of listed manufacturing firms in East Africa. Specifically, the study assessed the effect of CEOs; tenure, age, compensation and shareholding on fraudulent financial reporting and the moderating role of audit committee financial expertise on the relationship between CEO's characteristics and fraudulent financial reporting. The study was anchored on the Fraud Pentagon, upper echelon and agency theories. Explanatory research design and longitudinal research design was employed in this study where secondary panel data was obtained through content analysis from audited financial statements spanning from 2007 to 2021. The study targeted listed manufacturing firms in East Africa during the study period and only firms that met the inclusion and exclusion criteria were retained. After applying the inclusion/exclusion criteria only 15 manufacturing firms formed the study population. Data was analysed using descriptive and inferential statistics with the significance of each independent variable being tested at 95% confidence level. The random effect regression results showed that CEO age ( $\beta_1 = -.433, p=.004<.05$ ) and CEO shareholding ( $\beta_4 = .171, p=.002<.05$ ) had negative and significant effect on fraudulent financial reporting in manufacturing firms in East Africa. However, CEO compensation ( $\beta_3 = .892, p=.000<.05$ ) had positive and significant effect on fraudulent financial reporting. Audit committee financial expertise had a buffering interaction effect on the relationship between CEO age ( $\beta=-.079; p=.000<.05$ ), CEO compensation ( $\beta=-.149; p=.000<.05$ ) and fraudulent financial reporting, while audit committee financial expertise had enhancing interaction effect on the relationship between CEO shareholding ( $\beta= .020; p=.026<.05$ ) and fraudulent financial reporting. Thus, the study concluded that manufacturing firms with CEOs with older age and higher CEO shareholding have low probability of engaging in fraudulent financial reporting, while firms with CEO with higher compensation have high probability of engaging in fraudulent financial reporting. Based on the findings, the study recommends that manufacturing firms should have older CEOs as compared to young CEOs, should increase CEOs shareholding in the company, should ensure that the audit committee has financial expertise and should reduce CEOs compensation in order to alleviate fraudulent financial reporting in manufacturing firms in East Africa. Since the study focused on listed manufacturing firms in East Africa only; hence, future studies could incorporate other companies such as banks, agricultural allied listed firms and construction allied firms so that the findings provide an overview status of adoption and application of CEO characteristics to fraudulent financial reporting. The study used Beneish M-Score model of examining the fraudulent financial reporting. Future research could employ different measure for fraudulent financial reporting such as the F-score model.

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**LIST OF ACRONYMS AND ABBREVIATIONS**

<b>ACFE</b>	Association of Certified Fraud Examination.
<b>CEO</b>	Chief Executive Officer
<b>DAC</b>	Discretionary Accruals
<b>FFR</b>	Fraudulent Financial Reporting
<b>FRQ</b>	Financial Reporting Quality
<b>GAAPs</b>	Generally Accepted Accounting Principles
<b>IAASB</b>	International Auditing and Assurance Standards Board
<b>IASB</b>	International Accounting Standards Board
<b>IFAC</b>	International Federation of Accountants
<b>ISA</b>	International Standards on Auditing
<b>POCAMLA</b>	Proceeds of Crime and Anti-Money Laundering Act
<b>PCAOB</b>	Public Company Accounting Oversight Board
<b>PWC</b>	PricewaterhouseCoopers
<b>RPTs</b>	Related party transactions
<b>UET</b>	Upper Echelons Theory

## OPERATIONAL DEFINITION OF TERMS

**Audit Committee Financial Expertise:** these are skills possessed by individuals of any accounting qualifications or prior experience working in any accounting-related position, including but not limited to those of auditor, chief financial officer, controller, certified public accountant, or any other accounting-related position, therefore audit committee financial expert is a person who has an understanding of international financial reporting standards and generally accepted accounting principles in financial statements. (M. L. DeFond, Hann, & Hu, 2005).

**CEO characteristics:** CEOs come from a variety of backgrounds and demographics, which can lead to differences in cognitive orientation and, as a result, strategic decision-making. The characteristics that have been analysed in the literature regarding their role on CEOs influence on fraudulent financial reporting include; tenure, age, compensation and shareholding (Shen, 2021).

**CEO Age:** This is a numeric variable that expresses an executive's age adjusted for the year. This is in line with (Wei, Ouyang, & Chen, 2018).

**CEO Compensation:** It refers both to financial compensation (executive pay) and non-financial advantages obtained by an executive from their employer are included in CEO compensation. It is usually a combination of a set salary, variable performance-based bonuses (cash, shares, or call options on the business stock), plus benefits and other perquisites (Akanfe & Oladipo, 2017).

**CEO Shareholding:** the total number of company shares that are owned by a given organization's Chief Executive Officer (Fang, Lee, Chung, Lee, & Wang, 2020).

**CEO Tenure:** The number of years a CEO has held that position in a publicly traded company is referred to as CEO tenure. This CEO tenure measure is consistent with previous research such as (Hazarika, Karpoff, & Nahata, 2012; Zhang & Wiersema, 2009).

**Fraudulent financial reporting:** Is the intentional misrepresentation of a firm's financial statements with the aim to give investors a mistaken impression about the firm's operating performance and profitability (Ozcelik, 2020). Financial reporting fraud is caused by a weak corporate structure, intense internal and external pressure, and a weak internal control structure.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Overview**

This chapter presents the background of the study, the statement of the problem, the study general and specific objectives, study hypotheses, significance of the study and scope of the study.

#### **1.2 Background of the Study**

Fraud is one of the latent dangers that threaten the world, and it has been on the rise in recent years (Abdullah, Yusof, & Nor, 2010). According to (Bekiaris & Papachristou, 2017), corporate financial accounting scandals have recently rocked the global financial sector. WorldCom, Enron, Tyco, and Global Crossing are just a few of the well-known companies that have suffered the devastating effects of financial fraud. As of 2007, 347 alleged cases of public firm fraudulent financial reporting were reported, up from 294 cases from 1987-1997. Financial reporting fraud has increased dramatically in recent years, as evidenced by high-profile examples such as Enron, WorldCom, and others. Over the previous decade, more than \$120 billion has been misstated or misappropriated in more than 300 fraud cases for which information is accessible. In COSO's 1999 study, the average sample fraud was \$25 million. While the biggest frauds of the early 2000s pulled the 1998-2007 total and mean cumulative misrepresentation or misappropriation upward, the median fraud of \$12.05 million in the present analysis was also approximately three times larger than the median fraud of \$4.1 million in the 1999 COSO study.

The failure of high-profile corporations such as those described above has, without a shadow of a doubt, caused severe worries among investors regarding the efficiency of financial reporting quality, corporate governance, and the reliability of audit functions in the companies that were impacted. These controversies have been linked to a wide range of different causes and contributors. There is a lack of rigorous board monitoring, management that is self-serving, unethical business activities by senior executives, poor internal audit operations, loose rules, insufficient financial disclosures, and inattention on the part of shareholders are all examples of these problems (Sahiti & Bektashi, 2015). These costly scandals have made companies around the world more concerned about fraud than ever before, eroding investors' trust in financial markets.

Many recent accounting scandals and financial crises in prestigious firms have eroded investors' trust in financial reports, prompting a number of criticisms of financial reporting quality (FRQ)(Akeju & Babatunde, 2017). The primary cause of these financial crises is widely acknowledged to be fraudulent financial reporting and insufficient governance practices (Fung, 2014).

The usefulness of financial statements for decision making is an indication of high accounting statement quality meaning less or lack of fraudulent financial reporting because it reflects the intent of the standard setters, particularly when it adequately reflects the true and fair view or reality of the firm, whereas low quality financial reporting statements may not be useful for decision making. Additionally, the primary goal of financial information is to inform investors about where the company has been, where it is, and where it is going (Bushman, Chen, Engel, & Smith, 2004).

As a result, determining the quality of audit statements through financial fraud reporting of firms has become a very important area of interest in financial accounting (Herly, 2015). Further, manipulated financial statements result in significant losses for investors, who do not receive a return on their investment. According to the Association of Certified Fraud Examiners (ACFE, 2016), the perpetrators of fraudulent financial reporting at the company were the owner or executives, followed by managers and employees.

According to PwC's Global Economic Crime and Fraud Survey (2020), six costliest frauds in Kenya are procurement Fraud at 15%, Bribery & Corruption 14%, Financial Statement fraud 14%, Asset Misappropriation 12%, Customer fraud 12% and Money laundering & sanctions at 12%.

A few questions still remain as to whether Kenya is doing enough to address the issues of fraudulent financial reporting within various sectors of the economy, whether Kenya is keeping up with economic criminals as they innovate and improve in their fraudulent activities, whether Kenya is prepared to not only embrace the increasingly sophisticated technology designed to deliver much-desired efficiencies and a great customer experience, but also to deal with the threats posed by tech-enabled economic crime (Onyango, 2018).

Financial reporting fraud is a widespread issue in many countries. It is always assumed that external auditors will detect and report fraudulent reporting. For a long time, users of financial reports have relied on published financial statements for decision-making, assuming that the reports are prepared in strict accordance with prevailing accounting standards and thus automatically translate into quality reporting. (Abuya, 2016). Financial statements, for example, are the primary source of material information in capital markets.



It is argued that high audit quality will increase the perceptions of reliability for the users of this information, primarily investors and shareholders.

Studies in Kenya have attempted to investigate the determinants of fraudulent financial reporting, with varying results. (Ojilong'Omukaga, 2020) investigated the impact of the fraud diamond theory elements on detecting fraudulent financial reporting among non-financial firms in Kenya. His findings strongly suggested that all four elements of the fraud diamond triangle had an impact on financial statement fraud in Kenya. They also suggested that a new model for detecting fraudulent financial reporting in Kenya be developed. According to this study, including other variables will increase the explanatory power in detecting fraudulent financial reporting by non-financial firms listed in Kenya to a greater extent.

Examination of financial statements of Kenyan automaker CMC Motors, Deloitte revealed that the financial statements failed to recognize losses from damaged CMC assets, failed to disclose the company's South Sudan-based affiliate to investors, encouraged the recording of unfulfilled vehicle sales as revenues, and failed to capture interest payments for vehicles sold on credit (Kamau & Kariuki, 2012). It was found that directors and management signed false financial statements and the accounts were not prepared in accordance with the International Financial Reporting Standards, putting the company's business model on shaky ground. With such information, it remains unclear how much audit firms are complicit in the failure to discover misrepresentation, and whether shareholders' interests will be protected going ahead to prevent a repeat of such situations. PwC's inquiry into the near-collapse of Uchumi Supermarket was the first time a Big Four audit company in Kenya had its reputation tarnished due to an audit report inaccuracy.

Recent CMC events have put the attention on audit risk in the detection of misstatement since auditors failed to detect the alleged inflating of invoices and diverting monies from the company's coffers by its directors.

With the use of financial ratios being prioritized, fraudulent financial reporting has emerged as a source of concern among policymakers and key stakeholders. One of the primary functions of external auditors is to provide credibility to financial reports by independently assessing the accuracy and fairness of the information presented in the reports (Oroud, Islam, Ahmad, & Ghazalat, 2019).

The audit quality of the financial reports determines the realistic presentation of financial reports. When audit quality is compromised, it seems natural to expect dishonesty to be common in the financial reporting system. (Balsam, Krishnan, & Yang, 2003; Khurana & Raman, 2004; Krishnan, 2003) provide evidence that improved audit quality increases the perceived reliability of financial statements. Other studies, such as Doyle, Ge, and McVay (2007) and Drake, Myers, and Myers (2009), provide additional evidence that financial reporting quality affects accruals and that a low-quality audit indicates a high level of mispricing.

Several financial scandals, fraud, and manipulation have been observed in various business entities in recent years. These types of financial scandals are typically committed by the directors or chief executives of large corporations. They use various types of financial information manipulation and provide misleading information to commit these types of misdeeds. Because of such practices, the quality of financial information has become such a critical issue (Rahman and Hasan (2019)).

A combination of human, fiscal, and organizational factors, including governing board decisions and actions, can have an impact on effective financial reporting. The financial statements should contain information that is relevant, reliable, comparable, and understandable (IASB, 2008). These are also regarded as the primary characteristics of financial information. The qualities of financial information are critical because external users rely on it to make investment and financing decisions. Accounting quality is influenced by a variety of factors, including firm size, company indebtedness, market competition, firm compensation, capital market regulation, and the taxation system (Susanto, 2015).

As a result, the importance of financial report reliability cannot be overstated. Preventing fraudulent financial reporting is critical for increasing trust in the credibility and integrity of financial statements, which is required for improved firm financial performance (Farouk & Hassan, 2014). Furthermore, financial statement quality ensures users' trust in the audit report, which they rely on when making investment decisions. Fraud is a feature of every organized culture in the world, according to (Okoye & Ndah, 2019). It has an impact on a wide range of organizations, regardless of size, location, or industry. Amahalu (2017) as well as Enofe, Olorunnuho, and Okporua (2016) confirmed that the situation is similar in Nigeria, where they observed an alarming increase in frauds and fraudulent practices in both public and private organizations.

The efficacy financial reporting is based on the IASB framework, which emphasizes relevance, dependability, understandability, and comparability (IFRS, 2006). Instances of fraud can have an impact on an organization's financial performance and, as a result, jeopardize the quality of financial reporting. Accounting quality is simply defined by Chen,

Tang, Jiang, and Lin (2010) as the extent to which financial statement information reflects the underlying economic situation. Improper revenue recognition, overstatement of assets, and understatement of liabilities are all examples of fraudulent financial reporting.

As a result of the widespread failure in financial disclosure, investors, regulators, and other stakeholders have demanded that adequate governance structures be put in place to improve financial information quality and strengthen manager control (Klai & Omri, 2011). This will enable boards of directors to assess management's effectiveness and, when necessary, take timely corrective actions to address failures in firms' financial condition (Fung, 2014).

According to (Sun, Kent, Qi, & Wang, 2019), CEO characteristics, values, and perceptions are significantly associated with fraudulent financial reporting when measured by age, gender, and tenure. Firms with younger CEOs are more likely to issue fraudulent financial reports, according to their research, which is consistent with the theory that younger people are less conservative and risk averse. Male CEOs are also more likely than female CEOs to engage in fraudulent financial reporting.

According to previous research, fraudulent financial reporting scandals are frequently preceded by entrenched lenient attitudes toward fraudulent behaviour by management (Leung & Cooper, 2003; Tan, Chapple, & Walsh, 2017).

Individuals make intentional misstatements because individuals (rather than firms as a whole) make decisions, and these decisions are shaped by the personalities of those involved in decision-making (Kachelmeier, 2010). Executives for instance, typically encompass a collection of traits, and their decision-making processes reflect the

combination of multiple traits rather than individual ones in isolation (Carpenter, Geletkanycz, & Sanders, 2004).

Previous research has found conflicting results regarding the effect of CEO tenure on fraudulent financial reporting. For example, Ashafoke, Dabor, and Ilaboya (2021) used upper echelon theory insights to investigate the effect of CEO characteristics on financial reporting quality. Their findings indicate that CEO tenure has a positive and significant relationship with financial reporting quality.

However, Borgi, Ghardallou, and Alzeer (2021) report that a long-tenured CEO is associated with timely financial reports. Companies with a long-tenured CEO, according to this study, reduce the time it takes to prepare and disclose financial reports during the IFRS transition period. According to Cohen and Dean (2005), CEO tenure is associated with higher quality financial statements.

The findings are similar to those of Bishop, DeZoort, and Hermanson (2017), Adams, Almeida, and Ferreira (2005) who discovered that CEOs have distinct management styles that are influenced by their prior financial experiences, and that this has a significant impact on firm financial disclosures and performance.

Bamber, Jiang, and Wang (2010) investigated CEO age and voluntary choice of financial disclosure; Li, Low, and Makhija (2017) and Serfling (2014) investigated CEO age and investment decisions. Their research found a link between their specific variables and age.

Sun et al. (2019) investigated whether management characteristics, values, and perceptions are related to fraud. According to their findings, the likelihood of fraudulent financial reporting increases when CFOs are younger, male, and have a lower level of education.

Further, according to the general argument, more educated top executives have greater cognitive complexity, the ability to absorb new ideas, and the ability to implement more effective strategies (Naranjo-Gil, Maas, & Hartmann, 2009).

Fraud prevention, according to Ball, Robin, and Wu (2003), can have an impact on effective financial reporting. Effective financial reporting is directly proportional to audit quality, which can be classified into two approaches: the likelihood that auditors detect and report misstatements, and the level of compliance with auditing standards (M. DeFond & Zhang, 2014; Tritzschler, 2013). Audit quality, according to (Al-Thuneibat, Al Issa, & Baker, 2011), is a critical factor influencing the dependability of financial information. Audit quality, according to the PCAOB (2013), is defined as meeting investors' needs for JMUK independent and reliable audits, as well as robust audit committee communications on financial statements, including related disclosures, assurance about internal control, and going concern warnings.

According to Kallamu and Saat (2015), audit committee efficiency is conditional and is attributable to committee financial expertise rather than the audit committee's existence. Furthermore, the more financial expertise on the audit committee there are, the greater the level of management oversight (Helland & Sykuta, 2005).

Studies by (Toumeh, Yahya, & Amran, 2020) revealed that the relationship between client importance and fraudulent financial reporting is dependent on inside ownership, growth, leverage, and firm size, all of which are moderated by the independent audit committee. Their study revealed that audit committee financial expertise can mitigate threats to auditor independence, thereby protecting the quality of financial reporting.

Further, (Bala, 2019; Kantudu & Samaila, 2015; Kusnadi, Leong, Suwardy, & Wang, 2016) have all found that having a financial expert audit committee results in higher quality financial statements thereby mitigating the likelihood of fraudulent financial reporting.

This explains why this study considered the choice of audit committee financial expertise as a moderating variable between CEOs characteristics as proposed by Fraud pentagon and Upper Echelons theories and fraudulent financial reporting relationship. According to (Dewi & Anisykurlillah, 2021) the audit committee financial expertise significantly mitigated the effect of company growth, supervision effectiveness, and CEO's experience on fraudulent financial statements.

Previous studies on fraud have been dominated by just investigating the fraud triangle model which include studies by (Iqbal, 2016; Sabatian & Hutabarat, 2020; Sihombing & Rahardjo, 2014), while (Khamainy, Ali, & Setiawan, 2021; Ojilong'Omukaga, 2020; Ozcelik, 2020; Santoso, 2018) investigate the validity of Fraud diamond. All these studies have ignored the role of different CEOs characteristics and how those characteristics influence their decision making including fraudulent financial reporting.

As a result, there is still little research analyzing fraud using upper echelons theory, Crowe's fraud pentagon theory, F-score as a proxy for fraudulent financial reporting, and CEO characteristics as moderated by audit committee financial expertise.

This study adds to the body of knowledge by providing indicators for auditors to use in detecting fraudulent financial reporting. Auditors must constantly question management's honesty and integrity and consider whether fraudulent financial reporting exists (ASA 240, 2016; Kemp, 2016).

Further, identifying demographic characteristics of CEOs associated with fraud and fraudulent financial reporting adds a new dimension to fraud detection (Gepp, 2016). Therefore demographic characteristics of CEOs linked to fraudulent financial reporting provide auditors with a clear set of signals to investigate.

The purpose of this study is therefore to examine the role of CEOs characteristics of tenure, compensation, age, shareholding and evaluate the moderating effect of audit committee financial expertise on the relationship between CEOs characteristics and fraudulent financial reporting.

### **1.3 Statement of the Problem**

Organizational management should focus on International Standards on Auditing (ISAs) and International Financial Reporting Standards (IFRS) to ensure a country's financial system is sound and stable, as they are essential in ensuring financial reporting quality, and audit efficiency is more observable when the audit is conducted using ISAs. ISAs encourage auditor behaviour that leads to more effective audits and financial reports that may not mislead investors in their decision making (Boolaky & Soobaroyen, 2017).

The primary responsibility for preventing and detecting fraud rests with those in charge of the entity's governance and management. It is critical that management, with the oversight of those charged with governance, places a strong emphasis on fraud prevention, which may reduce opportunities for fraud, and fraud deterrence, which may persuade individuals not to commit fraud due to the possibility of detection and punishment (ASA 240, 2019).

This entails a commitment to fostering a culture of honesty and ethical behaviour, which can be reinforced through active oversight by those in positions of governance. Oversight



by those charged with governance includes considering the possibility of control override or other inappropriate influence over the financial reporting process, such as management's efforts to manage earnings in order to influence analysts' perceptions of the entity's performance and profitability (ASA 240, 2019).

Revenue losses caused by fraud can harm economies, businesses, and individuals, resulting in inflation, lower profits, reputational issues, and higher corporate costs. Fraud-related losses affect both small businesses and large corporations. Individual needs are frequently used by fraudsters to justify fraudulent activity; additionally, employees can be forced into collusion by the corporation's external and internal needs. Individual needs that are fraudulent include abuse of position, theft, bribery, and misconduct (ACFE, 2018).

The sustainability of many investment firms in any economy is highly dependent on the financial and accounting operations that relay the transparency, accountability, and profitability, which attracts investors (Bradford *et al.*, 2016). The agency conflicts between managers and principals such as shareholders and creditors may affect the quality of reported information. Managers may provide financial information dishonestly to protect their own interests while the principals cannot directly observe managers' behaviour (Ramadan, 2015; Williams, 1988).

On many occasions, organizations incur significant financial failure, lawsuits, and bankruptcy following manipulation of financial statements to imply excessive profitability. Despite the possible short-term economic benefits derived from audit manipulation, the outcomes for culpable firms involve a decline in financial performance, massive fines, and bankruptcy. The failure of the organizations to instil measures to ensure financial fraud

reporting has posed serious threat to investors, government, and general public. Stakeholders of most financial institutions are worried over the unqualified audit report being certified by external auditors and few weeks after such reports have been certified such companies are found to be in serious financial crisis leading to bankruptcy and most of the times liquidation, thereby impoverishing the investors and affecting the economy (Welc, 2020).

OGW, Kiragu, and Riro (2019) conducted a study on how financial misrepresentation and corruption affected the risk of fraud among state firms in Kenya's Mombasa County. The study concluded that indeed fraudulent financial reporting exists among state firms in Mombasa and it is causing serious problems to the employees. The study cited CEO and management characteristics as one of the areas that require further investigation. A study by Birgen and Bogonko (2018) concluded that fraudulent financial reporting is among the factors which led to the collapse Mumias Sugar Company.

Such studies have confirmed that CEOs play important roles in their firms' effectiveness because they are at the highest level of management and are in charge of formulating and implementing strategies to ensure their firms' success (Liu, Fisher, & Chen, 2018).

The aim of this study therefore was to assess the moderating role of audit committee financial expertise on the relationship between CEOs specific characteristics on fraudulent financial reporting among NSE listed firms in Kenya unlike other studies which have focused on audit firm characteristics and other variables on fraudulent financial reporting. Because the CEO is one of the most important players in the corporate sector, as well as sitting in the top positions of management teams in firms, they are able to guide the firms

to actively pursue opportunities and control the structures and strategies of the firms. Further, CEOs make critical and strategic decisions that affect the performance of their companies. As a result, this study will endeavour to determine the extent to which CEO characteristics influence the firm's fraudulent financial reporting as moderated by the audit committee financial expertise.

## **1.4 Objectives of the Study**

### **1.4.1 General Objective of the Study**

The general objective of this study was to evaluate the effect of CEOs characteristics on fraudulent financial reporting and the moderating role of audit committee financial expertise on this relationship among manufacturing firms listed in east Africa.

### **1.4.2 Research Objectives**

1. To evaluate the effect of CEO's age on fraudulent financial reporting among listed manufacturing firms in east Africa.
2. To investigate the effect of CEO's tenure on fraudulent financial reporting among listed manufacturing firms in east Africa.
3. To determine the effect of CEO's compensation on fraudulent financial reporting among listed manufacturing firms in east Africa.
4. To establish the effect of CEO's shareholding on fraudulent financial reporting among listed manufacturing firms listed in east Africa.

5. (a) To examine the moderating role of audit committee financial expertise on the relationship between, CEO's age and fraudulent financial reporting among listed manufacturing firms in east Africa.
- (b) To evaluate the moderating role of audit committee financial expertise on the relationship between, CEO's tenure and fraudulent financial reporting among listed manufacturing firms in east Africa.
- (c) To determine the moderating role of audit committee financial expertise on the relationship between, CEO's compensation and fraudulent financial reporting among listed manufacturing firms in east Africa.
- (d) To establish the moderating role of audit committee financial expertise on the relationship between, CEO's shareholding and fraudulent financial reporting among listed manufacturing firms in east Africa.

### **1.5 Research hypothesis**

**H<sub>01</sub>:** CEO's age has no significant effect on Fraudulent Financial Reporting among listed manufacturing firms in east Africa.

**H<sub>02</sub>:** CEO's tenure has no significant effect on Fraudulent Financial Reporting among listed manufacturing firms in east Africa.

**H<sub>03</sub>:** CEO's compensation has no significant effect on Fraudulent Financial Reporting among listed manufacturing firms in east Africa.

**H<sub>04</sub>:** CEO's shareholding has no significant effect on Fraudulent Financial Reporting among listed manufacturing firms in east Africa.

**H<sub>05a</sub>:** There is no statistically significant moderating effect of audit committee financial expertise on the relationship between CEO's age and Fraudulent Financial Reporting among listed manufacturing firms in east Africa.

**H<sub>05b</sub>:** There is no statistically significant moderating effect of audit committee financial expertise on the relationship between CEO's tenure and Fraudulent Financial Reporting among listed manufacturing firms in east Africa.

**H<sub>05c</sub>:** There is no statistically significant moderating effect of audit committee financial expertise on the relationship between CEO's compensation and Fraudulent Financial Reporting among listed manufacturing firms in east Africa.

**H<sub>05d</sub>:** There is no statistically significant moderating role of audit committee financial expertise on the relationship between CEO's shareholding and Fraudulent Financial Reporting among listed manufacturing firms in east Africa.

### **1.6 Significance of the Study**

This study's main objective was to evaluate the moderating role of audit committee financial expertise on the relationship between CEOs characteristics and fraudulent financial reporting among manufacturing firms listed in east Africa. As a result, the study's findings will be helpful to diverse stakeholders considering the upsurge of fraudulent financial reporting cases in different firms within the economy and globally.

First, the findings of this study will be critical to policy makers and regulatory bodies to come up with accounting and audit standards that will address the influence of CEOs characteristics on fraudulent activities within their organizations. Secondly, to internal and external auditors and other senior managers in various organizations, the findings will be

of great importance to predict fraud incidents occurring within their organizations in order to provide the public and investors with the necessary indicators of fraudulent financial reporting, which will then provide an increased understanding of trends in fraudulent financial reporting and thus decrease fraud related losses incurred in various organizations throughout Kenya and beyond. Thus, the findings will inform future causes of fraudulent financial reporting within organizations and measures to address the same. Finally, the study findings will add to existing knowledge and literature on fraudulent financial reporting, the role of CEO characteristics, and the moderating role of audit committee financial expertise, with a view to resolving the inconsistency especially in understanding the influence of CEOs characteristics on fraudulent financial reporting as opposed to determinants in fraud triangle, fraud diamond and fraud pentagon theory that many other studies have applied, potentially paving the way for future research.

### **1.7 Scope of the study**

The research was carried out among the manufacturing firms that were listed in east Africa. Currently manufacturing companies that are listed in east Africa are 20 in total. For the purposes of this study, the companies that have been in business between the years 2007 and 2021 and met the inclusion and exclusion criteria were sampled. This resulted into 15 companies that were sampled for meeting the criteria. The total number of observations should have been 225, but due to an imbalanced data set, the total number of observations was 211. The years 2007-2021 are appropriate for this time frame because it was during this time frame that the manufacturing firms listed in east Africa went through a significant amount of regulatory and policy enactment that required listed firms to adhere to the continuous listing obligations. These obligations included the publication of financial

statements and other provisions. On the other hand, this time period was also marked by significant financial scandals both locally and internationally. This was attributed to the necessity to promote good corporate governance for the firms listed in the securities exchange due to the increase in corporate failures among the listed firms, enhance Economic Recovery Strategies, and meet the nation's aspiration to be industrialized through its vision 2030 blueprint. In addition, this was attributed to the fact that there was a need to meet the nations' aspiration to be industrialized through the vision 2030 blueprint. Listed companies who fail to comply with these duties in addition to other rules are subject to being placed under statutory management.

### **1.8 Limitations of the study**

The study findings were limited on a panel data consisting of time series and cross-section data on specific CEO characteristics, audit committee financial expertise and fraudulent financial reporting for a period of 15 years spanning from 2007 to 2021. The study was also limited to information that was available and extracted from the data sources identified in this study which include audited financial reports from websites of listed manufacturing firms in East Africa. In case of missing data for some specific years for some variables, the researcher addressed this by employing and estimating unbalanced panel. However, these limitations did not significantly affect the results of this research project.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Overview

The first section of this chapter introduces the concepts under CEOs characteristics and audit committee financial expertise. The second section presents the different theoretical foundations that elucidate the various determinants of fraudulent financial reporting. The third section captures the empirical literatures that have been done. The chapter ends with a critique of the reviewed literature and the presentation of a conceptual framework.

#### 2.2 Concept of Fraudulent Financial Reporting

Accounting is normally described as an art because it is the process of recording, categorizing, and reporting a company's economic events to interested parties (Carnegie, Parker, & Tsahuridu, 2021). In this globalization era, the role of accounting is becoming increasingly important, with reports generated by accounting data serving as the foundation for investment decisions. Unfortunately, the information generated by accounting has flaws that can lead to biased information being presented. This is normally referred to as fraud. Fraud can be defined as a misstatement action which is intentionally done (Sangkala & Safitri, 2022). This process is then commonly referred to as fraudulent financial reporting, in which management uses judgment in financial reporting and transaction settlement to mislead financial report readers about the company's economic performance (Menicucci, 2020).

A fraudulent financial reporting is an act of financial reporting fraud (FFR). The Association of Certified Fraud Examiners (ACFE, 2018) defines the FFR as a deliberate



misstatement regarding the reporting of a company's economic condition by misstating or eliminating financial information or disclosure of financial information in order to obscure the users of financial statements in making decisions.

Many studies have been conducted to investigate fraudulent acts such as FFR and their causes. The progression of fraud from the triangle theory to the diamond theory and, finally, the pentagon theory refines research on fraudulent financial reporting. Some studies that looked into the causes of fraudulent financial reporting yielded inconclusive results. When it comes to fraudulent financial reporting, there has been some debate about who is responsible for detecting and preventing fraud (Murdock, 2018).

The Auditing Standards include an escape clause in which auditors indicate in their letter of engagement that it is not the auditors' responsibility to detect fraud and that it is the responsibility of management to detect and prevent fraud (Crawford & Weirich, 2011).

It is critical to detect fraud at an early stage. In terms of accountability in the use of the resources provided to it, management is required to prepare and publish the company's financial statements. As a result, managers are able to provide information to financial statement users that is correct, relevant, and free of fraudulent misappropriation in decision-making processes (Supri, Rura, & Pontoh, 2018).

According to Dechow, Hutton, Kim, and Sloan (2012), companies with poor corporate governance and a board of directors dominated by insiders have the highest incidence of fraud. This viewpoint is supported by Rasha and Andrew (2012), who concluded that when power is concentrated in the hands of insiders, fraud is more likely to occur. Fraudulent financial reporting is measured using the fraud score model developed by Dechow in 2009.

The F-Score model is a combination of two variables: accrual quality and financial performance (Skousen & Twedt, 2009).

### **2.3 Concept of CEO Characteristics**

According to the upper echelons theory, managerial personalities, background, and experience, such as age, socioeconomic background, formal education and functional track, can partially influence managers' interpretations of the situations and problems they must deal with and, as a result, influence their decision-making (Hambrick, 2007; Hambrick & Mason, 1984).

Several studies have confirmed that CEOs play important roles in their firms' effectiveness because they are at the highest level of management and are in charge of formulating and implementing strategies to ensure their firms' success (Carmeli & Halevi, 2009; Carmeli, Sheaffer, & Halevi, 2009; Liu et al., 2018).

Empirical studies have also documented the impact of various managerial characteristics on accounting decisions. According to Bamber et al. (2010), managers' idiosyncratic differences play a significant role in firms' voluntary financial disclosure choices.

Kaplan, Klebanov, and Sorensen (2012) in their study found that subsequent performance is positively related to general ability and execution skills of CEOs. Their findings expanded their view of CEO characteristics and types that is relative to previous studies.

Accounting research also shows that individual executives have a significant influence on a variety of firms' accounting policy decisions and outcomes (Bertrand & Schoar, 2003; Ge, Matsumoto, & Zhang, 2011).

Beaudoin, Cianci, and Tsakumis (2015) conduct an experimental study and discovered that personal financial incentives and earnings management ethics influence CFOs' fraudulent financial reporting decisions. Wang and Fargher (2017) discovered that when senior management's attitude towards ethics and integrity is relatively poor, internal auditors' assessed fraud risk is higher.

According to Dyreng, Hanlon, and Maydew (2010) , individual executives play a significant role in explaining the level of corporate tax avoidance. According to Bamber et al. (2010), individual characteristics of executives are significantly related to management forecasts. Furthermore, Yang (2012) claims that manager-specific forecasting style and credibility are related to the strength of market reactions to management earnings forecast releases.

Bamber et al. (2010) conducted a comprehensive review of the literature in strategic management, career counseling, sociology, psychology, and business education in order to identify demographic characteristics that operationalize managers' values, perceptions, and cognitive biases. Age, gender, and educational background were identified in their review as characteristics that credibly represent managers' values, perceptions, and cognitive biases as referred to in upper echelons theory. This explains why some of these variables were chosen in this study.

Through the past literature it is evident that an organization's senior management (the CEO and his or her chosen team) is in charge of strategic development and implementation. When it comes to strategy and interpreting strategic possibilities, members of the organization's upper echelons are inevitably influenced by their personal experiences,

values, personalities, and other similar human factors. This clearly explains why the theory of upper Echelons undoubtedly applies to this study because since it suggests that the CEO's characteristics such as age, education level, gender, financial expertise, and tenure may influence their implementation and decision-making style including fraudulent financial reporting.

According to Ling (2016), the chief executive officer (CEO) is the highest executive in a corporation that report to the chairman. In the annual proxy statements of most corporations, salary information is included for the chief executive officer. This is done for reporting purposes. The information contained in the proxy statement is investigated to determine whether or not a pattern exists in terms of how compensation is related to fraud. According to Ling, there are two distinct types of fraud that can take place within the financial reports of an organization. The first kind of fraud is known as the misappropriation of assets, and it takes place when an employee of a company steals company property and uses it for personal gain outside the scope of their employment. Misrepresentation of financial statements is the second category of fraudulent activity. This is typically done to make the company's financial position appear to be in a better state, even though in reality, this may not be the case.

According to another study that was carried out by Richards (2008), there are a variety of factors that could motivate a person to commit fraud. Mainly the goal is to improve one's own financial circumstances in order to feel more secure. According Laksmana, Pham, and Dao (2020) timeliness with which financial data is reported is a significant component that plays a role in the successful operation of an economy. The study showed that report lag is influenced by the level of executive remuneration, the level of stock-based compensation

in comparison to cash-based compensation, and the degree of executive compensation that is above the expected compensation level. Their research showed that a higher level of CEO compensation is associated with a shorter report lag for a company. In addition, their research shows that companies that offer greater stock-based compensation also have more timely financial reports. Lastly, companies where the amount of executive compensation is higher than the expected level of executive compensation are more likely to have shorter report lags. Their research highlights the importance of both the type of pay and the level of remuneration as important factors of firms' earnings reporting delays.

According to the findings of Ling (2016), there is sufficient evidence to imply that executives who are compensated more are more likely to engage in fraudulent activities. These findings revealed that there is enough evidence to show that this correlation exists. Because of the increased compensation at stake, the Chief Executive Officers had a more compelling reason to engage in fraudulent activity. It is important for modern businesses to pay closer attention to the ways in which CEO compensation could influence unethical business practices. Ling thinks that it could be a good idea to limit the salary given to CEOs in order to reduce the possibility that executives will act on their own self-interests. It is the obligation of the Chief Executive Officer to always operate in a manner that is in the best interest of the company's shareholders and other stakeholders. Not only does the act of fraudulently reporting annual statement facts violate the accepted ethical norm, but it also causes investors to get incorrect information. This kind of behavior poses a significant risk to the long-term prosperity of the organization, and it needs to be avoided at all costs. Keeping this in mind, compensation for the CEO should be doled out in a manner that eliminates the possibility of unethical activity on the part of the executive. As may be

deduced from the aforementioned data, having an excessive amount of money may actually be detrimental to one's well-being.

#### **2.4 Concept of Audit Committee Financial Expertise**

Individuals are classified as financial experts if they have received education and experience in accounting and auditing. The audit committee member with financial expertise should have an understanding of GAAP and financial statements; experience in preparing or auditing financial statements of generally comparable issuers; and application of such principles in connection with accounting for estimates, accruals, and reserves; experience with internal accounting controls; and understanding of audit committee functions (Iyer, Bamber, & Griffin, 2013).

Financial experts on audit committees, according to corporate governance regulators and scholars, have a significant impact on the committee's ability to critically analyze accounting policies and financial statements, monitor the implementation of accounting practices (e.g., conservative policies), develop plans to correct errors or problems, and identify accounting issues. Researchers feel that an audit committee with financial competence is required to ensure that the audit committee accomplishes its principal statutorily mandated role of supervising a firm's financial reporting process and assuring the high quality of reported earnings (Agrawal & Chadha, 2005; Xie, Davidson III, & DaDalt, 2003).

Prior studies further indicate that financial specialists' ability to monitor corporate executives improves audit committees' monitoring role (Abbott, Parker, & Peters, 2004). Given the audit committees' involvement in assessing and discussing the MD&A section's

content (Carcello & Neal, 2003; Keinath & Walo, 2008), financial professionals on audit committees are likely to improve the quality of reporting in the MD&A section by limiting opportunistic upward management of tone. Financial professionals are frequently expected to achieve greater standards than non-experts, raising worries about reputation and legal risk (Krishnan & Visvanathan, 2007). This also implies that audit committee members with financial competence have an incentive to limit the rise in deceptive financial reporting in order to protect their reputation and avoid the danger of financial loss, lawsuit, and deceiving investors. As a result, this study hypothesizes that financial knowledge on the audit committee moderates the association between CEO attributes and fraudulent financial reporting.

## **2.5 Theoretical Review**

The theoretical framework serves as the theoretical foundation for the entire research investigation. It serves as a guide for designing and carrying out a research study, as well as a framework for defining how the researcher will approach the research as a whole from a philosophical, epistemological, methodological, and analytical standpoint. A theoretical framework is a lens through which a researcher sees the world, and the lens must be relevant to the field of study (Grant & Osanloo, 2014).

Upper Echelons theory is one of the most well-established main theories underlying CEO characteristics and fraudulent financial reporting. Other theories include the Agency and Fraud Pentagon theories. Each theory is discussed in detail in the section that follows. The theories represent various hypotheses about CEO characteristics and fraudulent financial reporting.

### 2.5.1 Fraud Pentagon Theory

The Fraud Pentagon Theory is a concept that depicts the factors that lead to fraudulent occurrences. Outside of the three important variables in the fraud triangle theory, two additional important variables, competence and arrogance, are added in this pentagon fraud theory. Fraud triangle theory can be expanded into fraud pentagon theory, in which employee competence and arrogance are factors considered in the three general conditions that existed prior to the occurrence of fraud (Sarikhani & Ebrahimi, 2021).



**Figure 2. 1: Fraud Pentagon Theory**

Source: Crowe Horwath (2012)

Horwarth's (2011) theory, which is a refinement of Cressey's (1953) theory, which was later developed into a fraud diamond, adds capability. Wolfe & Hermanson made the addition in 2004. Horwath (2011) developed a new theory seven years later by adding arrogance as a refinement of the theory. The combination of these two elements is thought to have a significant impact. Pressure, opportunity, rationalization, competence or capability, and arrogance are the five elements of fraud pentagon theory (Pamungkas, Ghozali, Achmad, Khaddafi, & Hidayah, 2018).



The pressure is an impulse that arises in a person as a result of factors that persuade him to do something in order to meet his needs. The possibility of fraud occurs not only when someone is depressed, but also when an opportunity exists for someone who is not under pressure. Someone who rationalizes does not believe he made a mistake. Because of one's rational sense, this element is difficult to quantify. Competence is someone's ability to use the position he has; he can be arbitrary in breaking the rules and policies that have been established. Arrogance is when a person believes that the rules of the company do not apply to him (Padayachee, 2021).

### **2.5.2 Upper Echelons Theory (UET)**

Upper Echelons Theory (UET) was founded on the premise that the knowledge, experiences, and expertise of those individuals in prominent managerial roles in the organization have a direct impact on organizational outcomes (Hambrick & Mason, 1984). These authors proposed a model in which managers address situations that arise in the context of organizational life, and strategic decisions are made based on the unique characteristics that these individuals possess. It is argued that the choices made by these individuals have a direct impact on organizational performance.

According to (Hambrick, 2007), the best way to understand a specific firm's performance is to consider the fundamental dispositions and biases of its powerful actors, who are the top executives. These assumptions are founded on Hambrick and Mason's upper echelons theory (1984). According to the theory, managerial characteristics can be useful in predicting firm outcomes. According to the theory, executives' cognitive bases and values influence the basis of their personalized interpretations of strategic situations they face. It

demonstrates a person's knowledge base, skills, values, and ability to process information, all of which influence the decision-making process (Hambrick, 2007).

According to upper echelons theory, managers are not all the same, and specific differences in managers' experiences are associated with differences in essential personal values and cognitive styles such as honesty and ethics. Because of these differences in personal values and cognitive styles, different managers make different decisions, especially in complex situations with no clear and quantifiable solutions (Hambrick and Mason, 1984). Management's beliefs, values, and perceptions can predict organizational outcomes such as strategic decisions and fraudulent financial reporting (Hambrick and Mason, 1984; Carpenter *et al.*, 2004).

Top executives' demographic characteristics have a significant impact on organizational outcomes (Hambrick and Mason, 1984). To reconcile the impact of these 'upper echelons' on organizational performance and decisions, Hambrick and Mason (1984) argued that attention should be directed towards data that is readily observable and reflecting individual characteristics of prominent managers in organizational contexts with respect to their educational, professional, and social backgrounds.

This theory is relevant to this study because it explains how managers' demographic characteristics, experience, expertise, and knowledge influence the decisions they make about various organizational issues including fraudulent financial reporting. The researcher's goal in this study is to determine the relationship between top management characteristics and fraudulent financial reporting.

### **2.5.3 The Agency Theory**

The relationship between shareholders and management as agents is referred to as agency theory. This relationship begins with the establishment of a corporation that clearly distinguishes between company ownership and management. Management is a party that shareholders have hired to work in their best interests. According to Jensen and Meckling in (Ahmad, 2017), an agency relationship develops as a result of a contract between the principal and agent that delegated some decision-making authority to the agent. The contractual relationship between principal and agent is explained by agency theory. The agent and principal are linked because they have a relationship based on the interests that each party expects. As an agent, management is accountable to the principal for what the principal has given in the form of a flow of funds for the sustainability of the company's operations, and vice versa, the principal expects a reward as a reward for contributions made to the company.

According to the agency theory, a firm consists of a nexus of contracts between the owners of economic resources (the principals) and managers (the agents) who are charged with using and controlling those resources (Jensen & Meckling, 1976). The theory posits that agents have more information than principals and that this information asymmetry adversely affects the principals' ability to monitor whether or not their interests are being properly served by agents. As such, the theory describes firms as necessary structures to maintain contracts, and through firms, it is possible to exercise control which minimizes opportunistic behaviour of agents (Jensen and Meckling, 1976).

According to the theory, in order to harmonize the interests of the agent and the principal, a comprehensive contract is written to address the interest of both the agent and the

principal. The agent-principal relationship is strengthened more by the principal employing an expert and systems (auditors and control systems) to monitor the agent (Nikkinen & Sahlström, 2004). Further the theory recognizes that any incomplete information about the relationship, interests or work performance of the agent described could be adverse and a moral hazard. Moral hazard and adverse selection impact on the output of the agent in two ways; not possessing the requisite knowledge about what should be done and not doing exactly what the agent is appointed to do. The agency theory therefore works on the assumption that principals and agents act rationally and use contracting to maximize their wealth (Jensen & Meckling, 1976).

This theory is applicable to this study simply because internal control is one of many mechanisms used in business to address the agency problem by reducing agency costs that affects the overall performance of the relationship as well as the benefits of the principal (Payne & Petrenko, 2019). Internal control enhances the provision of additional information to the principal (shareholder) about the behaviour of the agent (management) reduces information asymmetry and lowers investor risk and low performance. The theory will further reveal the relevance of the nexus of contracts between the owners of economic resources (the principals) and managers (the agents) who are charged with using and controlling those resources.

## **2.6 Empirical Literature Review**

The study reviewed empirical literature regarding CEO tenure and fraudulent financial reporting, CEO's total compensation and fraudulent financial reporting, CEO's age and fraudulent financial reporting, CEO's shareholding and fraudulent financial reporting,

audit committee financial expertise and fraudulent financial reporting and moderating effect of audit committee financial expertise and fraudulent financial reporting.

### **2.6.1 The Influence of CEO age on Fraudulent Financial Reporting**

Bamber et al. (2010) conducted a comprehensive review of the literature in strategic management, career counselling, sociology, psychology, and business education in order to identify demographic characteristics that operationalize managers' values, perceptions, and cognitive biases. Age, gender, and educational background were identified in their review as characteristics that credibly represent managers' values, perceptions, and cognitive biases as referred to in upper echelons theory and were chosen for this study.

According to Rashad Abdel-Khalik (2014), older executives are more risk averse and a manager's age can also be interpreted as a proxy for their level of experience as well as a signal of their resistance to risk and change. In a survey of 2196 business school students, Ruegger and King (1992) discovered that older participants are more ethical than younger participants. Deshpande (1997) obtains comparable results with 252 managers as respondents.

According to Herrmann and Datta (2002), older top executives are more conservative and risk averse. According to Sundaram and Yermack (2007), CEOs become more ethical and conservative as they age. CEO age has been found to be inversely related to financial restatements and firms meeting or exceeding analyst earnings forecasts (Huang, Rose-Green, & Lee, 2012).

Bamber *et al.*, (2010) investigated CEO age and voluntary choice of financial disclosure; Li *et al.*, (2017) and Serfling (2014) investigated CEO age and investment decisions; and

Tomak (2013) investigated CEO age and capital structure decisions. Their studies confirmed a significant relationship between their specific variables and age. Furthermore, CEOs have significant influence over their companies reported financial results.

Huang *et al.*, (2012) discovered a positive relationship between CEO age and financial reporting quality in a sample of 3,413 firms from 2005 to 2008. They discovered that CEO age is negatively related to firms meeting or exceeding analyst earnings forecasts and financial restatements. As a result, their research contributes to the literature on corporate governance and financial reporting quality by identifying CEO age as a determinant of financial reporting quality.

Several empirical studies, including those on CEO turnover (Kramarz & Thesmar, 2013) and corporate governance Cheung, Jiang, Limpaphayom, and Lu (2010) and Demerjian *et al.*, 2013), have supported these claims (Brown *et al.*, 2012).

### **2.6.2 The Influence of CEO tenure on Fraudulent Financial Reporting**

Using a sample of 15 firms operating in Nigerian financial institutions from 2008 to 2019, Ashafoke *et al.* (2021) investigated the effect of CEO characteristics on financial reporting quality using insights from the upper echelon theory. According to their findings, CEO tenure has a positive and significant relationship with financial reporting quality.

Borgi *et al.* (2021) report that a long-tenured CEO is associated with timely financial reports when the IFRS transition is taken into account, using a sample of 119 non-financial firms listed on the Tadawul Stock Exchange for a four-year period (2014-2017) and applying a panel regression and two proxies of FRT. As a result, companies with a long-tenured CEO reduce the time it takes to prepare and disclose financial reports during the

IFRS transition period. Studies by Cohen and Dean (2005), has shown that CEO tenure is indicative of a higher quality IPO to the financial markets.

Using market signalling theory, Zhang and Wiersema (2009) discovered that CEO attributes send important signals to the investment community about the credibility of the CEO certification and thus the quality of the firm's financial statements, which in turn influences the stock market reaction to the CEO certification. Their research discovered that a CEO's tenure can serve as a market signal that investors can use to assess the credibility of CEO certification and the quality of the firm's financial statements.

According to Hambrick and Fukutomi (1991), as the CEO's tenure increases, the company's strategy and performance are increasingly shaped by the CEO's knowledge, skills, and prior decision making. Furthermore, the CEO's reputation and image become increasingly entwined with those of the company. As a result of these factors, as a CEO's tenure grows, the costs of certifying fraudulent financial statements are more likely to be shifted to the CEO. As a result, because investor perceptions of the credibility of CEO certification may be proportional to the CEO's costs of certifying false statements, these perceptions will grow as a CEO's tenure grows.

### **2.6.3 The Influence of CEO compensation on Fraudulent Financial Reporting**

According to Ling (2016), the chief executive officer (CEO) is the highest executive in a corporation that report to the chairman. In the annual proxy statements of most corporations, salary information is included for the chief executive officer. This is done for reporting purposes. The information contained in the proxy statement is investigated to determine whether or not a pattern exists in terms of how compensation is related to fraud.

According to Ling (2016), there are two distinct types of fraud that can take place within the financial reports of an organization. The first kind of fraud is known as the misappropriation of assets, and it takes place when an employee of a company steals company property and uses it for personal gain outside the scope of their employment. Misrepresentation of financial statements is the second category of fraudulent activity. This is typically done to make the company's financial position appear to be in a better state, even though in reality, this may not be the case.

According to another study that was carried out by Richards (2008), there are a variety of factors that could motivate a person to commit fraud. The majority of the time, the goal is to improve one's own financial circumstances in order to feel more secure.

According (Laksmana et al., 2020), timeliness with which financial data is reported is a significant component that plays a role in the successful operation of an economy. The study showed that report lag is influenced by the level of executive remuneration, the level of stock-based compensation in comparison to cash-based compensation, and the degree of executive compensation that is above the expected compensation level. Their research showed that a higher level of CEO compensation is associated with a shorter report lag for a company. In addition, their research shows that companies that offer greater stock-based compensation also have more timely financial reports. Lastly, companies where the amount of executive compensation is higher than the expected level of executive compensation are more likely to have shorter report lags. Their research highlights the importance of both the type of pay and the level of remuneration as important factors of firms' earnings reporting delays.



According to the findings of Ling (2016), there is sufficient evidence to imply that executives who are compensated more are more likely to engage in fraudulent activities. These findings revealed that there is enough evidence to show that this correlation exists. Because of the increased compensation at stake, the Chief Executive Officers had a more compelling reason to engage in fraudulent activity. It is important for modern businesses to pay closer attention to the ways in which CEO compensation could influence unethical business practices. Ling thinks that it could be a good idea to limit the salary given to CEOs in order to reduce the possibility that executives will act on their own self-interests. It is the obligation of the Chief Executive Officer to always operate in a manner that is in the best interest of the company's shareholders and other stakeholders. Not only does the act of fraudulently reporting annual statement facts violate the accepted ethical norm, but it also causes investors to get incorrect information. This kind of behavior poses a significant risk to the long-term prosperity of the organization, and it needs to be avoided at all costs. Keeping this in mind, compensation for the CEO should be doled out in a manner that eliminates the possibility of unethical activity on the part of the executive. As may be deduced from the aforementioned data, having an excessive amount of money may actually be detrimental to one's well-being.

#### **2.6.4 The Influence of CEO shareholding on Fraudulent Financial Reporting**

Petrou and Procopiou (2016) examined the relationship between CEO shareholdings and earnings manipulation in light of CEO power. We test this relationship on a sample of 16,873 observations from 2,257 US public firms. Findings show that increasing CEO shareholdings has a negative effect on earnings management, and on re-statements due to irregularities, and that duality positively moderates these relationships. The findings

contribute to the corporate governance practice since they have implications for the design of CEO remuneration packages.

Management should be interested in gaining an understanding of how CEO shareholdings are related to earnings management because this should be of interest to management (Abdel-Meguid, Ahmed, & Duellman, 2013). As a consequence of this, chief executive officers who own a greater percentage of the company's shares may place a greater emphasis on running profitable businesses. This, in turn, deters them from taking actions that are in direct opposition to the interests of shareholders. After all, both groups stand to gain when share prices go up, and both stand to lose when stock prices go down. Furthermore, the sensitivity of the shareholdings to changes in share price is symmetrical, which results in equally substantial positive or negative changes in the wealth of both CEOs and shareholders, harmonizing their interests in this regard. As a consequence of this, chief executive officers (CEOs) may aim to preserve or improve their personal wealth by contributing to the performance of their companies by increasing their level of determination, increasing their level of job focus, and improving their level of ethical behavior. However, agency theory may argue that self-interested CEOs will be lured by the benefits associated with inflating earnings because they perceive shares as conferred wealth which they should maximize. This is because they view earnings as a means by which they can increase their own wealth. However, this course of action carries with it the potential for negative consequences in the event that profits manipulation is discovered. If this occurs, CEOs run the danger of being fired from their jobs and having their reputations damaged.

A study by Zhang et.al.,(2008) was motivated by the concern that CEO shareholdings may increase CEO motivations to deceive shareholders about firm performance. Additionally, their study was motivated by their empirical findings, which indicated that the relationship between CEO shareholding and earnings management is conflicted. Both of these factors contributed to the study's motivation. Their findings, which showed that CEO shareholdings had a detrimental effect on earnings management, provided empirical evidence in support of their theoretical claim. Their findings may have practical implications for the board of directors, who should exercise caution before offering a large number of shares to powerful CEOs. This is because the attention that powerful CEOs pay to potential rewards may lead them to manipulate earnings, which has destructive consequences for shareholder value. In addition, the findings provided boards with pointers on how to design more efficient corporate governance systems. These systems should involve incentive schemes that strike a balance between fixed and variable compensation, as well as governance mechanisms that reduce the power that the CEO has over the board (Petrou & Procopiou, 2016).

### **2.6.5 The Influence of Audit committee financial expertise on Fraudulent Financial Reporting**

Anyone with experience in accounting, supervising financial professionals and overseeing the performance of a company, and who has an understanding of generally accepted accounting principles and financial statements, as well as the ability to evaluate the general application of such principles in connection with the accounting for estimates, is qualified to serve as a financial expert on the audit committee (Mustafa & Youssef, 2010).

According to the DeFond, Hann & Hu (2005), financial expertise required for the audit committee is demonstrated by the individual's possession of any accounting qualifications or their prior experience working in any accounting-related position, including but not limited to those of auditor, chief financial officer, controller, certified public accountant, or any other accounting-related position.

Be´ dard, Chtourou, and Courteau (2004) investigated the impact of audit committee characteristics on discretionary accruals, such as independence, expertise, and activities. They discovered a link between audit committee financial expertise and aggressive earnings management. According to a study conducted by Saleh et al. (2007), a 100% audit committee financial expertise reduced earnings manipulation.

Owens-Jackson, Robinson, and Shelton (2009) investigated the relationship between audit committee characteristics, the contracting process, and the likelihood of fraudulent financial reporting and discovered that the likelihood of fraudulent financial reporting is negatively related to audit committee financial expertise the number of audit committee meetings, and managerial ownership and positively related to firm size and firm growth opportunities.

Kamarudin, Ismail, and Alwi (2014) used data from 2005 to 2010 for 116 fraudulent and non-fraudulent firms listed on the Bursa Malaysia to investigate the relationship between audit committee characteristics (audit committee financial expertise, financial expertise, meeting frequency, gender diversity, and ethnic composition) and the proclivity for fraudulent financial reporting. Their findings show that audit committee financial expertise is positively related to fraudulent financial reporting.

Klein (2002) discovered a negative relationship between audit committee financial expertise and earnings management in a sample of 692 large publicly traded US companies. According to Kallamu and Saat (2015), audit committee effectiveness is conditional and is related to committee characteristics rather than just the presence of the audit committee. Further, the greater the financial expertise of the audit committee, the greater the level of management oversight (Helland & Sykuta, 2005).

According to Abbott et al. (2004), Agrawal and Chadha (2005) observed that the probability of restatement of financial statement is much lower when the audit committee is comprised of financial experts. It is possible that the inclusion of financial professionals on the audit committee will improve the quality of the financial statements and reporting. Accounting firms (PWC, 1999) and regulators (SEC, 2003) argued that financial expertise is essential to ensure that audit committees fulfil their primary responsibility of overseeing the process of financial reporting and enhancing the quality of financial reporting. This argument was based on the belief that audit committees would not be able to perform their duties effectively without it.

#### **2.6.6 CEO characteristics, audit committee financial expertise and fraudulent financial reporting.**

There are some studies that suggest that audit committee financial expertise has a moderating effect in the relationship between CEOs characteristics and fraudulent financial reporting. According to El Haddad and Ez-Zarzari (2017), the audit committee is located at the top of an organization and reports directly to the board of directors. An audit committee is frequently regarded as the most important tool available to the board of directors for improving financial reporting quality (Safari, 2017).

Toumeh *et al.*, (2020) discovered that the relationship between client importance and earnings management is conditional on inside ownership, growth, leverage, and firm size, which are moderated by the audit committee financial expertise.

Their research shows that audit committees can mitigate threats to auditor independence, thereby protecting financial reporting quality. Studies such as Amin, Lukviarman, Suhardjanto, and Setiany (2018) have all revealed that having an independent audit committee result in higher quality financial statements.

Using a sample of 100 listed firms on the Tehran Stock Exchange from 2013 to 2018, Ashrafi, Abbasi, Hosseini, and Poor Etemadi (2020) discovered a negative relationship between RPTs and firm value. The findings also show a positive relationship between the audit committee and the firm value. Furthermore, the findings show that different types of RPTs have varying effects on firm value. Furthermore, the findings show that the audit committee does not moderate the relationship between RPTs and firm value.

Ani, Kusumaningrum, and Tantra (2020) discovered that while the frequency of audit committee meetings did not moderate the relationship between firm size and the level of sustainability reporting disclosure, it did moderate the relationship between liquidity and profitability and the level of sustainability reporting disclosure.

According to DeZoort and Salterio (2001), it is more likely that serious misstatements will be reported to the audit committee and addressed in a timely manner if the audit committee members have financial competence. According to Abbott *et al.* (2004), a greater level of financial reporting quality was associated with the audit committee's financial expertise.

The inclusion of at least one financial specialist on the audit committee has a detrimental impact on the degree of earnings management, according to Choi et al. (2004).

In a sample of 692 big publicly traded companies in the United States, Klein (2002) found that a negative association exists between audit committee financial expertise and earnings management. According to Kallamu and Saat (2015), the effectiveness of an audit committee is conditional and is related to the features of the audit committee. The mere presence of an audit committee is not enough to guarantee effectiveness. In addition, the level of management control is directly proportional to the level of financial competence contained within the audit committee (Helland & Sykuta, 2005).

## **2.7 Summary of Literature and Emerging Issues/Gaps**

The collapse of companies is a common occurrence in east African countries, and the listed manufacturing firms in Africa are no exception. However, the findings of financial fraud that have been committed in previous years are always made after facto. Past researchers have demonstrated the positive effect of pressures, opportunity, rationalization, competence, and arrogance on fraudulent financial reporting, although the previous findings of positive relationships have been incompatible with those of (Khamainy et al., 2021; Kurnia, 2017; Rengganis, Sari, Budiasih, Wirajaya, & Suprasto, 2019).

Reviewed studies have ignored the role of specific differences in a firm's CEO characteristics since experiences are associated with differences in essential personal values and cognitive styles such as honesty and ethics and how these characteristics can influence fraudulent financial reporting.

Furthermore, a CEO's values, perceptions, and cognitive biases are influenced by their observable characteristics of age, gender, and educational background, and as a result, fraudulent financial reporting decisions are linked to these CEO observable characteristics. This study is significant because identifying demographic characteristics of CEOs as associated with fraud adds another dimension to fraud detection (Gepp, 2016).

This study therefore is extremely valuable in terms of contributing to the literature because it has provided indicators for auditors to identify fraudulent financial reporting, as auditors are required to constantly question management's honesty and integrity and consider whether fraudulent financial reporting exists (ASA 240, 2016; Kemp, 2016).

From the reviewed literature, majority of the studies have applied Beneish M-score as the proxy of fraudulent financial reporting and analyzed only the direct effect. As opposed to previous studies, this study therefore endeavoured to fill the existing gaps in literature by evaluating the indirect effect through the introduction of the moderating role of audit committee financial expertise given the upsurge of fraudulent financial reporting cases in this 21<sup>st</sup> century in the relationship between specific selected CEOs characteristics and fraudulent financial reporting using the Beneish M-score as applied by Annisya *et al.*, (2016) which makes this study more current and advanced as opposed to other studies that have ignored this study approach.

## **2.8 Conceptual framework**

A conceptual framework is a pictorial relationship between the dependent and independent variables. It presents the relationship between the dependent and independent variables of the study in a pictorial form. The independent variables of this study was CEO tenure,

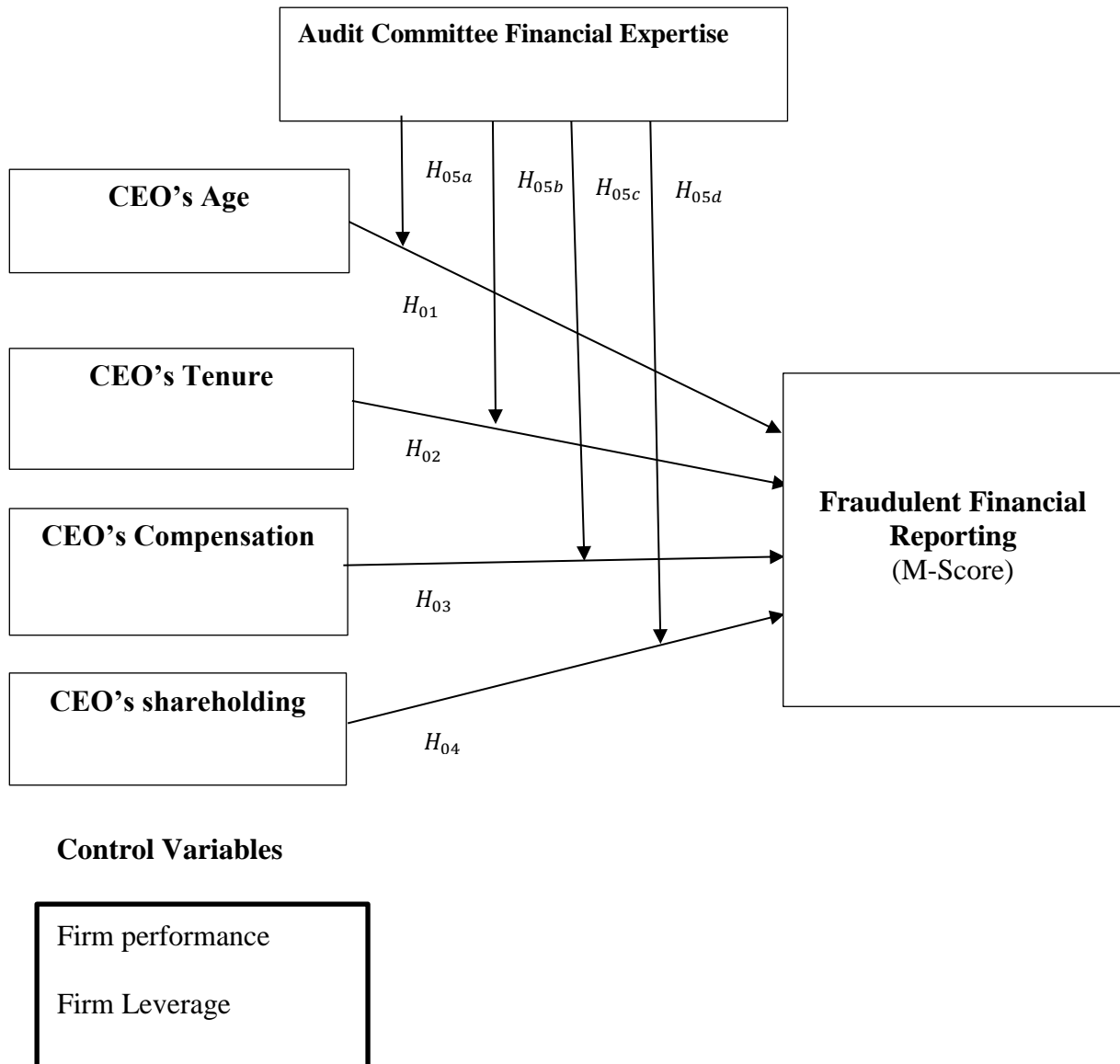


CEO's compensation, CEO's age, CEO's shareholding and audit committee financial expertise while the dependent variable was fraudulent financial reporting. The moderating variable was audit committee financial expertise. The conceptual framework is clearly presented in the figure 2.1 below:

Independent variable

Moderating variable

Dependent variable



**Figure 2. 2: Conceptual Framework**

**Source: Researcher's conceptualization (2022)**

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Overview**

This chapter highlights the methodology that was used in the study. The following sections are explored. Research design, study area, study population, eligibility criteria, measurement of variables, data collection instruments, data collection process, data processing and analysis, and ethical issues are covered in this chapter.

#### **3.2 The Study Area**

The location of this study was East Africa. As of the year 2021, there were 20 manufacturing companies listed and trading on the various security exchanges in the different countries of East Africa. Relevant data for examining the postulated relationships was therefore gathered from the numerous firms listed in the various stock exchanges in East Africa. These countries included Kenya, Uganda, Tanzania, and Rwanda.

#### **3.3 Research Design**

Explanatory research design was employed in this research work. It was an explanatory design in form of panel study which describes information about the same cases at two or more points in time. This is because panel studies are a particular design of longitudinal study in which the unit of analysis is followed at specified intervals over a long period (Hans-Peter et al, 2009). The panel data was used because panel studies give historical information reveal the back and forth shifting behaviour, strong in dealing with the threats of unit heterogeneity. About Explanatory research design, the researcher sought to determine if a cause effect relationship existed between the independent and dependent

variables (Ellis & Levy, 2009), which included CEO's tenure, age, financial compensation, shareholding and audit committee financial expertise. The researcher examined how the independent variable directly affected the dependent variable which was fraudulent financial reporting in a cause-and-effect relationship between the variables because data collected enabled regression analysis.

### **3.4 Target Population**

The population of this study comprised of all the entire manufacturing firms listed in East Africa. Manufacturing firms are particularly vulnerable to fraud because of risk factors including high levels of raw materials and finished work. Population can be described as several things such as individuals or groups, the researcher wants to investigate. Saunders, Lewis, and Thornhill (2009) refer to it as an entire group that allows data to be sourced and investigated while (Mugenda & Mugenda, 2010) sees it as an entire group of individuals, events or objects having common characteristics that conform to a given specification.

According to Koonce and Kelly (2014), it is an entire group of individuals, events, or objects that share common characteristics and conform to a given specification, whereas Sekaran and Bougie (2016) defines it as the entire group of things, events, people, or variables of interest that share observable characteristics and that the researcher wishes to investigate.

### **3.5 Selection Criteria**

The study included all the manufacturing firms listed in east Africa and traded throughout the study period. These are the publicly traded manufacturing companies that have complete financial statements for the time period under consideration. Therefore, the study

included all firms that traded consistently on east Africa stock markets from 2007 to 2021. During the study period, companies whose listing were suspended due to lack of regulatory compliance, listed or delisted and have not been trading during the study period were excluded from the sample. The number of firms that were excluded due to the selection criteria is 5 manufacturing companies. Therefore, the selected manufacturing companies included in the study were 15.

### **3.6 Measurement of variables**

To test hypotheses, make inferences, and draw conclusions, measurable research variables are required. Operationalization of research variables is required for variable measurement. Sekaran and Bougie (2016) define concept operationalization as the process of operationalizing a concept to make it measurable by examining the behavioral dimensions, facets, or properties denoted by the concept.

#### **3.6.1 Dependent Variable**

In this study, the dependent variable is the likelihood of financial statement fraud. Thus, the Beneish M-Score model was used to assess the likelihood of financial statement fraud in this study. The Beneish model is a statistical or mathematical model that uses eight financial measures from corporate accounting data, weighted by a coefficient, to compute the high probability of whether the company's reported earnings have been altered. The Beneish M-Score Model is derived from eight different ratios. The eight variables are then weighted together using the following formulas.

$$\text{Beneish M-Score} = -4.84 + 0.92 \cdot \text{DSRI} + 0.528 \cdot \text{GMI} + 0.404 \cdot \text{AQI} + 0.892 \cdot \text{SGI} + 0.115 \cdot \text{DEPI} - 0.172 \cdot \text{SGAI} + 4.679 \cdot \text{TATA} - 0.327 \cdot \text{LVGI}.$$

Where DSIR = Days Sales in Receivables Index GMI= Gross Margin Index (GMI), AQI= Asset Quality Index, SGI= Sales Growth Index, DEPI = Depreciation Index, SGAI= Sales General and Administrative Expenses Index, TATA = Total Accruals to Total Assets, LVGI= Leverage Index

According to Rezaee and Kedia (2012), a fraudulent financial statement is frequently preceded by a misstatement or earnings management from quarterly financial statements that are initially deemed insignificant but eventually escalate to massive fraud and produce materially misleading annual financial reports. As a result, Beneish, Lee, and Nichols (2012) created a methodology to divide businesses into two categories: those who commit fraud and those that do not. M-Score is a statistical model that analyses eight financial ratios to determine whether a company's financial statements have been manipulated.

Beneish M-score model that was developed by Beneish (1999) is similar to the Altman Z score, but it is optimized to estimate the probability of manipulation rather than bankruptcy. When applying M-score model, if the predictive score is greater than -2.22, it gives way to a red flag, indicating that there is a possibility of manipulation occurring in the organization, or it could also indicate a strong likelihood of the firm being a manipulator. Therefore, using this model, the likelihood of financial statement fraud in an organization could be determined. The score of "1" was given if the companies had red flags indicating that there was a possibility of fraudulent financial reporting and "0" if otherwise.

The Beneish Model, developed by Messod Beneish, is one of the most widely used contemporary methodologies for detecting accounting fraud. The Beneish Model enables forensic accountants to conduct a thorough analysis of a business's financial statements. The Beneish Model's variables are obtained from income statement and balance sheet

accounts. Forensic accountants utilize the Beneish Model to determine a firm's M-score. Firms are classified based on their M-scores. The limit value of the M-score equals to -2.22. If the calculated manipulation score is less than the limit value, an enterprise is unlikely to be a manipulator. And, vice versa, M-Score will be utilized to detect false financial statements in this study if the calculated manipulation score is greater than the limit value, an enterprise is likely to manage earnings. If  $M\text{ Score} > -2.22$  (a positive or less negative value than this), the company is said to commit financial statement fraud; if  $M\text{ Score} < -2.22$  (a negative value more than this), the company is said not to commit financial statement fraud.

Beneish M-score model has been selected for this research because of its usage, applicability and popularity - it is a financial forensic tool often used to detect areas of possible manipulation on the company's financial statements by forensic accountants, auditors, and regulators. The score is determined from an intercept and eight independent variables to detect whether the management has manipulated the company's earnings. These variables are constructed from the data in the organization's financial statements and once computed, they create an M-Score to show the degree in which the gains or earnings have been manipulated (Brickell, 2011). This model assists the potential investors in examining the likelihood of the future collaborations and to improve the reliability of investments. In their articles, Beneish and Nichols (Beneish and Nichols, 2009) aim to determine the probability of financial statement fraud by using two alternative fraud detection models which involve five and eight variables of the Beneish model concluded arguing that the proposed model (Beneish, 1999) allows researchers and investment professionals for detecting manipulation. Moreover, he added that the model is cost-

effectively related to a naive strategy that treats all businesses as if they were no manipulators.

### **3.6.2 Independent Variables**

#### **3.6.2.1 CEOs age**

In this study, the CEO's age was defined as a numeric variable expressing an executive's age adjusted by year. This is consistent with (Huang et al., 2012; Wei et al., 2018).

#### **3.6.2.2 CEO Tenure**

In this study, CEO tenure was defined as the number of years a CEO has held this position in a publicly traded company. This method has been used extensively in previous research (Ali & Zhang, 2015; Zhang & Wiersema, 2009) and yields more reliable results.

#### **3.6.2.3 CEOs compensation**

In this study CEOs compensation was confined to the direct compensation awarded by the firm and received by the CEO in the fiscal year. The compensation components examined in this study are financial compensation (salary and bonus). In addition, compensation was evaluated using the natural log to reduce heteroscedasticity for the regression and other statistical purposes. This was consistent with (Assenso-Okofu, Ali, & Ahmed, 2020, 2021).

#### **3.6.2.4 CEOs shareholding**

The logarithm of the value of the CEO's shares divided by the total number of shares in the company. CEOs may be more sensitive to fluctuations in the share price if this metric has a high value, because it measures the share's contribution to the wealth of the CEO from company compensation (Beatty and Zajac, 1994). This is consistent with studies by (Petrou & Procopiou, 2016).



### **3.6.3 Moderating variable**

#### **3.6.3.1 Audit committee financial Expertise**

Audit committee members are considered financial experts if they have accounting qualifications or prior experience, such as that of an auditor, CFO, or controller. If the members have any accounting credentials or have previously served as an auditor, CFO, controller, or in other accounting-related positions, the audit committee was operationalized as a financial expertise; otherwise, the audit committee was operationalized as zero (non-expert). This is consistent with studies by (Badolato, Donelson, & Ege, 2014; Sultana & Mitchell Van der Zahn, 2015).

### **3.6.4 Control Variables**

In quantitative analysis, control variables are the variables that a study takes into account when determining the true influence of independent variables on the dependent variable (Creswell & Creswell, 2017).

### **Firm Performance**

High performance reflects managerial productivity and efficacy in using the organization's resources, leading to national economic success. Financial performance means how well aims and objectives are met (Al-ahdal, Alsamhi, Tabash, & Farhan, 2020). Financial performance assesses a firm's value to shareholders. It can be measured by profit after tax, ROA, ROE, earnings per share, and any generally accepted market value ratio. In general, banks and other financial institutions' financial performance is measured using ratio analysis, benchmarking, or performance against budget (Tarawneh, 2006).

## **Firm Leverage**

The use of a high leverage ratio discourages opportunistic managerial activities as well as earnings management that is related to those actions. Accounting manipulations that increase revenues are one tactic that opportunistic managers use to conceal acts that do not maximize value (Jelinek, 2007). Jelinek, (2007) postulate that in the event of a takeover scenario, managers who feel threatened by the acquisition offer may strive to conceal their poor behavior, such as income increases. On the other hand, a number of studies suggest that managers may manipulate results for the company so that it appears to prospective shareholders and the general public that it has a reliable income stream. Tarjo (2008), Jao and Pagulung (2011). Financial leverage is measured by taking the total debts of a company divided by the total equity (Abubakar, 2015).

Table 3. 1: Summary of Measurement of Variables

Research Variable		Formula
<b>Fraudulent Reporting</b>	<b>Financial</b>	Beneish M score= $-4.84 + 0.92*DSRI + 0.528*GMI + 0.404*AQI + 0.892*SGI + 0.115*DEPI - 0.172*SGAI + 4.679*TATA - 0.327*LVGI$ .
<b>CEO tenure</b>		It is a numeric variable that expresses the number of years that the CEO retains the title in an examined firm.  (Wei <i>et al.</i> , 2011)
<b>CEOs compensation</b>		Natural log of direct compensation awarded by the firm and received by the CEO in the fiscal year. The compensation components that will be examined in this study will be financial compensation (salary and bonus)(Assenso-Okofu <i>et al.</i> , 2020, 2021).
<b>CEOs age</b>		The CEO's age in years.
<b>CEOs shareholding</b>		The logarithm of the value of the CEO's shares divided by the total number of company shares.
<b>Audit committee expertise</b>	<b>financial</b>	A dummy variable for financial experts if at least one of the audit committee members possesses accounting experience otherwise zero (Chang and Sun, 2009).
<b>Control Variables</b>		
<b>Firm Performance</b>		Return on Asset Ratio. It refers to total revenue divided by total assets (Al-ahdal., <i>et. al</i> , 2020).
<b>Firm Leverage</b>		Measured by taking the total debts of a company divided by the total equity (Abubakar, 2015).

### **3.7 Data types Sources**

There are two types of data collection sources: primary data collection and secondary data collection (Olaogun, 2010). This study utilized secondary method of data collection. The data was obtained by document and content analysis of published materials such as published annual financial reports, special reports, and information on firms' websites. The data of interest included financial and non-financial data. The sample period was 2007-2021. According to Kothari (2014), secondary data is defined as data that is already available or which have already been collected and analysed by someone else while Polit and Beck (2003) sees it as the use of data collected in a prior enquiry to put into test new theories or look into new linkages. The study utilized panel data consisting of time series and cross-section data (Gujarat, 2004).

### **3.8 Data collection Procedures**

In the words of Burns and Grove (2003), data collection is the precise, systematic gathering of information relevant to the research sub-problems. To achieve the set objectives of this study, only secondary data from the audited financial statements of manufacturing companies listed in east Africa was used. The researcher visited the websites of the individual selected companies to download their audited financial statements from which the required figures were extracted and processed for further analysis. As a result, the study utilized secondary data from sampled publicly listed manufacturing companies' financial statements from 2007 to 2021(15 years period).

### **3.9 Data Analysis and Presentation Techniques**

Management of quantitative data involved processing of the data through coding, entering the data into the computer using STATA software version 14 to run the estimation

equations, summarising data using frequency tables to identify errors and editing data to remove errors. Being interval in nature, the data was analysed using descriptive statistics, correlation analysis, and panel multiple regression analysis. Thus Pearson moment correlation coefficients was used to determine the relationship between the dependent variables and independent variables where hierarchical multiple linear regression model was used for direct effects and Hayes model 1 was used to determine the effect of moderating variables on the relationship between CEO characteristics and fraudulent financial reporting.

### **3.10 Regression assumptions**

The diagnostic tests involved tests of normality, linearity, homoscedasticity, autocorrelation, and multicollinearity.

#### **3.10.1 Normality Test**

Normality of data was assessed using the skewness, kurtosis, histogram normality curve and a scatter graph for the data on the dependent and independent variables. If the scatter plot graph is linear and the histogram is normal, the data is suitable for correlation and regression analysis (Ernst & Albers, 2017). As a result, a Jarque-Bera test was used to ensure that the residuals are normally distributed. Skewness is a measure of symmetry, or more precisely, the lack of symmetry. A distribution, or data set, is symmetric if it looks the same to the left and right of the centre point; it could be positive or negative. Kurtosis is a parameter that describes the shape of a random variable's probability distribution; it could be high or low kurtosis. The purpose of testing normality was to define if the distribution of the score on the variables is normal, if not the subsequent results could be unreliable. A distribution is normal if the values of both Skewness and Kurtosis are not far

away from zero (Jayaram & Baker, 2008). Testing linearity and normality of the data was to confirm whether the data was fit for inferential analyses, namely correlation and regression.

In addition, the Jarque-Bera test was used to determine normality in the study. Furthermore, skewness and kurtosis was used for the omnibus test, as proposed by Jarque and Bera (1987). Many authors have discussed improved Jarque-Bera tests. The Jarque-Bera statistic has two degrees of freedom and follows the chi-squares distribution. The expected value of the statistic under the null hypothesis of normality is two.

The study therefore tested the hypothesis;

*H<sub>0</sub>: Distribution was normal.*

*H<sub>1</sub>: Distribution was not normal.*

Decision criteria; If the P-values are less than the level of significance, reject the H<sub>0</sub>

### **3.10.2 Homoscedasticity Assessment**

The homoscedasticity is the equality of variance that is an assessment that seeks to establish whether the variance of the errors is the same for any combination of values of the independent variables (Ernst & Albers, 2017). The assumption of homoscedasticity helps to confirm how the values of the data are spread out among the variables in a study. If the assumption of homoscedasticity is not realised, the data is not appropriate for conducting a test of differences like regression. Homoscedasticity assumption suggests that there should be similar amounts of variance between dependent variable across a range of independent variables that can either be continuous or categorical. Violation of

homoscedasticity assumption in a multivariate analysis is known as heteroscedasticity, and it can lead to overestimation of the relationship between predictors and the outcome variables, thereby seriously affecting substantive conclusions (Nimon, 2012). Heteroscedasticity occurs when the F-statistic p-value is not significant ( $p > 0.05$ ) (Greenland et al., 2016). Therefore, the results of F-statistics was to be significant critical values below 0.05 in the different regression models.

### **3.10.3 Testing for Autocorrelation**

The assumption of independence of observations (autocorrelation) was tested using the Durbin–Watson statistic (Durbin, J., & Watson, G. S., 1971). This is a problem that affects the efficiency of the estimators, causing the standard errors to be distorted, resulting in invalid significance tests and conclusions (Gujarati, 2003). Durbin-Watson statistic ranges from 0 to 4, but a value close to 2 indicates independence of residuals and hence independence in observations.

### **3.10.4 Multicollinearity**

Multicollinearity refers to a perfect or exact linear relationship among all or some of the explanatory variables in a regression model that is unacceptably high correlation making it very difficult to determine the individual contribution of independent variables because their effects run afoul on the dependent variable (Schofield, 2015). The occurrence of multicollinearity among the exogenous latent constructs can potentially affect the estimates of regression coefficients and the statistical significance tests. Specifically, multicollinearity upturns the standard errors of the coefficients, which leads to decrease in the predictive power of the independent variables on the dependent variables. This is due to the reason that the variables cancel out each other (Won, Wan & Sharif, 2017). Before

regressing independent variables on the dependent variable, the collinearity of the independent variables will be examined by applying the collinearity diagnostics tools of tolerance limit, variance inflation factor and the correlation matrix of the exogenous latent constructs (Schofield, 2015). Multicollinearity was screened using VIF (variance inflation factors)

### **3.11 Panel Unit Root Test**

The stationary existence of the data is analysed in the unit root examination. The data is said to be stationary if its mean and variance are constant over time and the magnitude of the covariance between the two time periods depends on lag between the two time periods (Gujarati & Porter, 2010). The use of a unit root test for a panel data can significantly increase the power of the test (Levin, *et al.*, 2002). It was necessary to test for unit root because regressing panel data that are not stationary leads to meaningless regression and the interpretation will not give substantial information needed. If the series are nonstationary, they are differenced until they become integrated. Therefore, this study utilized one-unit roots tests. This is Fisher type unit root test. Before starting regression analysis, Panel unit root test is tested on each individual series (variables).

### **3.12 Model Estimation**

Panel data regression models are particularly beneficial when it is hypothesized that the result variable is dependent on unobservable explanatory factors that are associated with the observed explanatory variables (Schmidheiny & Basel, 2011). If such omitted variables are constant over time, panel data estimators allow to consistently be estimating the effect of the observed explanatory variables. Therefore, the equation from which the estimation



model was developed was as follows; the model considered a multiple linear regression for individual  $i = 1 \dots N$  which is observed at several time periods  $i = 1 \dots T$

$$y_{it} = \alpha + x'_{it}\beta + c_i + u_{it} \dots \dots \dots 3.3$$

Where  $y_{it}$  is the dependent variable,  $x'_{it}$  is a  $k$ -dimensional row vector of time – varying explanatory variables,  $\alpha$  is the intercept,  $\beta$  is a  $k$ -dimensional column vector of parameters,  $c_i$  is an individual-specific effect and  $u_{it}$  is an idiosyncratic error term. It is assumed that each individual  $i$  was observed in all time periods  $t$ .

### 3.13 Model Specifications

The study utilized panel data for the period between 2007 and 2021, multiple regression was applied for testing the hypothesis, hierarchical multiple regression model was used for direct and moderating effects. The following model parameters and regression equations were used to analyze panel data.

$$FFR_{it} = \alpha_0 + \alpha_{1t}CA_{it} + \alpha_{2t}CT_{it} + \alpha_{3t}CC_{it} + \alpha_{4t}CS_{it} + \varepsilon_{it} \dots \dots \dots 3.4$$

Where  $FFR_{it}$  was the fraudulent financial reporting for firm  $i$  and time  $t$ ,  $CA_{it}$  was the CEO's age,  $CT_{it}$  CEO's tenure,  $CC_{it}$  was the CEO's compensation,  $CS_{it}$  the CEO's Shareholding, while  $\varepsilon_{it}$  was the random errors.

The test to determine the influence of control variables on dependent variables attempted to establish how the control variables affected the dependent variable in comparison to the direct effects (Tabachnick & Fidell, 2013). To demonstrate that the control variable was a significant predictor of fraudulent financial reporting, the P-value should be less than 0.05 (Unwin, 2013). The analysis of control variables on dependent variables was guided by the following equation:

$$Y_{it} = \beta_0 + \beta_{1t}FP_{it} + \beta_{2t}FL_{it} + \varepsilon_{it} \dots \dots \dots 3.5$$

Where;

$Y_{it}$  Represented the dependent variable (fraudulent financial reporting)

$\beta_0$  Represented a constant

$\beta_{1t}$  and  $\beta_{2t}$  represented regression coefficients

$\varepsilon_{it}$  Represented the error term

The direct effect analysis attempted to determine the effect of the CEO's characteristics on fraudulent financial reporting as well as the effect of the audit committee financial expertise on fraudulent financial reporting. To test the hypotheses, the study employed hierarchical regression. In a series of blocks, hierarchical regression is one of the data analysis methods used to manipulate the effect of a predictor variable on the dependent variable while holding other predictor variables constant (Allison, 1999). The control variables were the first block, followed by the independent variable (CEOs characteristics). The third section included control variables, independent variables (CEO characteristics), and moderator variables (audit committee financial expertise).

The test statistics computed and derived included the coefficient of determination (R<sup>2</sup>) and the (P-values). To reveal a significant relationship between the predictor and the dependent variable, the P-value for each of the study variables should be less than 0.05 (Unwin, 2013).

Model specification for direct effect hypotheses was specified as follows;

$$FFR_{it} = \beta_0 + C + \beta_{1t}CA_{it} + \beta_{2t}CT_{it} + \beta_{3t}CC_{it} + \beta_{4t}CS_{it} + \varepsilon_{it} \dots \dots \dots 3.6$$

Where; C was the control variables; Firm Performance and firm leverage.  $FFR_{it}$  was the fraudulent financial reporting for firm  $i$  and time  $t$ ,  $CA_{it}$  was the CEO's age,  $CT_{it}$  the

CEO's tenure,  $CC_{it}$  the CEO's compensation,  $CS_{it}$  the CEO's Shareholding, while  $\varepsilon_{it}$  was the random error.

### 3.1 Testing Moderating Effects

According to Baron and Kenny (1986), moderating variable is a third variable which could affect the amount of correlation and or change the direction of the dependent and the independent variable. Testing for moderating effect of audit committee financial expertise, the following general model was used;

$$FFR_{it} = \beta_0 + C + \beta_{1t}CA_{it} + \beta_{2t}CT_{it} + \beta_{3t}CC_{it} + \beta_{4t}CS_{it} + \beta_{5t}ACFE_{it} + \varepsilon_{it} \dots 3.7$$

The effect of a moderator can further be shown via the interaction of independent X and the moderating variable Z (Kang, Chiang, Huangthanapan, & Downing, 2015; Pivato, Misani, & Tencati, 2008) and (Wu & Ko, 2013). The model for interaction was represented as follows;

$$Y_{it} = \beta_0 + C + \beta_{1t}X_{it} + \beta_{2t}Z_{it} + \beta_{3t}X_{it}Z_{it} + \varepsilon_{it} \dots 3.8$$

Where  $Y_{it}$  was the fraudulent financial reporting,  $X_{it}$  was one of the independent variables,  $Z_{it}$  was the moderating variable (audit committee financial expertise),  $\beta_0$  was the intercept from regression and  $\varepsilon_{it}$  the error terms. Fitting each of independent variables, the following equations was used to answer objective five.

$$FFR_{it} = \beta_0 + C_1FP_{it} + C_2FL_{it} + \beta_{1t}CA_{it} + \beta_{2t}CT_{it} + \beta_{3t}CC_{it} + \beta_{4t}CS_{it} + \beta_{5t}ACFE_{it} + \beta_{6t}CA_{it} * ACFE_{it} + \varepsilon_{it} \dots 3.9$$

$$FFR_{it} = \beta_0 + C_1FP_{it} + C_2FL_{it} + \beta_{1t}CA_{it} + \beta_{2t}CT_{it} + \beta_{3t}CC_{it} + \beta_{4t}CS_{it} + \beta_{5t}ACFE_{it} + \beta_{6t}CA_{it} * ACFE_{it} + \beta_{7t}CT * ACFE_{it} + \varepsilon_{it} \dots \dots \dots 3.10$$

$$FFR_{it} = \beta_0 + C_1FP_{it} + C_2FL_{it} + \beta_{1t}CA_{it} + \beta_{2t}CT_{it} + \beta_{3t}CC_{it} + \beta_{4t}CS_{it} + \beta_{5t}ACFE_{it} + \beta_{6t}CA_{it} * ACFE_{it} + \beta_{7t}CT * ACFE_{it} + \beta_{8t}CC_{it} * ACFE_{it} + \varepsilon_{it} \dots \dots \dots 3.11$$

$$FFR_{it} = \beta_0 + C_1FP_{it} + C_2FL_{it} + \beta_{1t}CA_{it} + \beta_{2t}CT_{it} + \beta_{3t}CC_{it} + \beta_{4t}CS_{it} + \beta_{5t}ACFE_{it} + \beta_{6t}CA_{it} * ACFE_{it} + \beta_{7t}CT * ACFE_{it} + \beta_{8t}CC_{it} * ACFE_{it} + \beta_{9t}CS * ACFE_{it} \varepsilon_{it} \dots \dots \dots 3.12$$

Where  $FFR_{it}$  was the fraudulent financial reporting for firm  $i$  and time  $t$ ,  $CA_{it}$  was the CEO's age,  $CT_{it}$  the CEO's tenure,  $CC_{it}$  the CEO's compensation,  $CS_{it}$  the CEO's Shareholding,  $ACFE_{it}$  the audit committee financial expertise (moderating variable) while  $\varepsilon_{it}$  was the random error.

### 3.14 Data Presentation

Data presentation was done at descriptive and inferential level. At descriptive level, analysis involved computing descriptive statistics that included central tendency measures such as means, medians, maximum and minimum values, standard deviations, skewness, kurtosis. In descriptive, there was numerical and graphical methods that were used to present descriptive statistics. At inferential level, there was model formulation and estimation.

### 3.15 Ethical Considerations

Throughout the study, the researcher was ethical by respecting the rights of others and remaining honest. The researcher maintained objectivity by ensuring that data presentation, analysis, and interpretation were based solely on the data collected. Moi University's School of Graduate Studies reviewed the proposal for ethical approval.

After obtaining these approvals, the researcher applied to the National Commission for Science, Technology, and Innovation (NACOSTI) for permission to collect and analyse data. The study's findings will be disseminated to relevant stakeholders via conferences and peer-reviewed journal publications. The researcher was responsible for only collecting and analysing data that was required to fulfil/achieve the study's objectives.

## CHAPTER FOUR

### RESEARCH FINDINGS AND DISCUSSION

#### 4.1 Overview

This chapter discusses the data analysis and the study's conclusions based on its goals. Tables were used to organize and present the data. The study objective informed the analysis and interpretation of the data that had been gathered. Stata was used in the study's data analysis along with a variety of statistical approaches. The data analysis, presentation, and interpretation of the results are also covered in this chapter. The conclusions are relevant to the goals that drove the study.

#### 4.2 Summary Descriptive Statistics

The research variables under study for the years 2007 to 2021 are shown in Table 4.1's raw summary descriptive statistics. There were 211 total observations. Ideally, the total number of observations should have been 225 (15 years multiply by 15 panels). The variance is 14 observations. This is due to the lack of data for Flame tree from 2007 to 2012, Eveready from 2007 to 2010, and Braliwa from 2007 to 2008 and 2020-2021. From the table the mean m score was 0.289 (standard deviation =0.454; Minimum=0; Maximum=1). Considering that a 1 value of M-score is an indicator of 100 percent fraudulent financial reporting while a 0 value indicates no fraudulent financial reporting, therefore, it was concluded that the selected manufacturing firms reported relatively few cases of fraudulent financial reporting. Further, the gap between the minimum value and the maximum value implied that the level of fraudulent financial reporting varied considerably among manufacturing firms of which was also supported by a higher value of standard deviation.

The mean of CEO age was 53.37 (standard deviation =9.738; Minimum=31; Maximum=82). This indicates that the firms have relatively old-age CEOs. The deviation from this age was relatively smaller as supported by a standard deviation of 9.738. The mean of CEO tenure is 4.180 (standard deviation =3.096; Minimum=1.000; Maximum=15.000). This shows that the lowest number of year tenured by a CEO in manufacturing companies was 1 and a maximum number of years tenured were 15 years. There was a big variation in years tenured by different CEOs in manufacturing companies as supported by a large standard deviation of 3.096.

The mean of CEO compensation was Kshs. 14.4 million (standard deviation = Kshs. 21.8 million; Minimum = 0; Maximum = Kshs. 87.1 million). Considering that the mean value 14.4 million and huge standard deviation of 21.8 million indicates that more number of CEO's are compensated a total of Kshs14.4 million and above (above the mean value). It was concluded that the selected manufacturing firms reported relatively lower number of CEOs that were compensated below the mean value as shown by the higher value of standard deviation. The variation between the CEOs that were compensated and those that were not compensated among manufacturing firms was lower as supported by lower value of standard deviation

The mean of CEO shareholding was 6.345 (standard deviation =17.180; Minimum = 0.000; Maximum = 84.000). Considering that the value of 84 percent was an indicator of CEOs that acquired highest shares in the manufacturing companies and the value of 0 was an indicator of CEOs that did not acquire shares, therefore, it was concluded that the selected manufacturing firms reported relatively lower number of CEOs that acquired

shares as shown by the lower value of mean of 6.345 percent. The variation between the CEOs that acquired shares and those that did not among manufacturing firms was higher as supported by a relatively higher value of standard deviation.

Moreover, Table 4.1 showed that the mean of Audit Committee Financial Expertise was .59(standard deviation =0.012; Minimum = 0.000; Maximum = 1.000). Considering that the value of 1 was an indicator of Audit Committee that has financial expertise in the manufacturing companies and the value of 0 was an indicator of Audit Committee that did not have financial expertise, therefore, it was concluded that the selected manufacturing firms reported relatively higher number of Audit committee that had financial expertise as shown by the higher value of mean. The variation between the Audit Committee that had financial expertise and those that did not among manufacturing firms was higher as supported by a relatively higher value of standard deviation.



**Table 4. 1: Descriptive Statistics Results**

Variables	Obs.	Mean	Std. dev.	Minimum	Maximum
M-SCORE	211	0.289	0.454	0	1
CA	211	53.370	9.738	31	82
CT	211	4.180	3.096	1	15
CC	211	1.44*10 <sup>07</sup>	2.18*10 <sup>7</sup>	0	8.71*10 <sup>7</sup>
CS	211	6.345	17.180	0	84.01
ACFE	211	.59	0.012	0	1
FP	211	0.594	0.348	0.97	1.983
FL	211	1.075	0.536	0	2.563

Key; CA=Ceo Age, CT= Ceo Tenure, CC= Ceo Compensation, CS= Ceo Shareholding. ACFE= Audit Committee Financial Expertise, FP= Firm Performance, FL= Firm Leverage

Source: (Filed data, 2022)

The mean value of firm performance was 0.594 taking 2007 and 2021 as the reference points (standard deviation = 0.594; Minimum= 0.097; Maximum= 1.983). This means that on average, a number of manufacturing firms were performing relatively well. The mean firm leverage is 1.075 taking 2007 and 2021 as the reference points (standard deviation = 0.536; Minimum = 0; Maximum = 2.563). This implies that on average, the selected manufacturing firms financial their operations through debts.

### 4.3. Stationarity Results

Econometric models may produce spurious results if the data used is not tested for unit root. A data is said to have unit root if the data does not have a constant mean and variance overtime. Data series with a unit root is not stationary. Although unit root is mainly

conducted in time series data sets, it has recently become increasingly important to test to unit root in panel data sets. This is because structural breaks in one period may affect another period. This study employed Fisher type unit root test. Fisher type unit root is mainly employed in random effect for unbalanced panel.

The null hypothesis that the panel data contains unit root was tested against an alternative hypothesis that the panel data does not contain unit root. The results of unit root as shown in Table 4.2 below indicated that there were no unit roots since the null hypotheses were rejected at 5 percent level of significance. This means that data sets were stationary over time and therefore the interpretation of the results obtained are meaningful.

**Table 4. 2: Unit Root Test Results**

	<b>Fisher-Type Unit root</b>	
	<b>Statistic</b>	<b>p-value</b>
Fraudulent Financial reporting	179.7850	0.000
CEO Age	-26.393	0.000
CEO Tenure	-10.078	0.000
CEO Compensation	-13.689	0.000
CEO Shareholding	-11.100	0.000
Audit Committee Financial Expertise	-14.799	0.000
Firm Performance	-8.008	0.000
Firm Leverage	-14.891	0.000

Source (Field data, 2022)

#### **4.4 Pearson Correlation**

Table 4.3 offers a summary of the correlation findings. The correlation between the various independent variables is examined because even though they have a high R-squared, they could still result in very large standard errors, low t-statistics, and unexpected changes in

the signs or magnitudes of the coefficients. According to the pair-wise correlation matrix of the independent variables as shown in Table 4.3, there are no pair of variables that indicate very high correlation. As a result, multicollinearity is not an issue because the empirical model is made to ensure that the pairs are not employed in the same equation.

Results in Table 4.3 indicate that CEO age is negatively related with fraudulent financial reporting ( $r = -0.1410$ ,  $p < 0.05$ ). Consequently the older the CEO, the less likely a CEO will engage in fraudulent financial reporting. Results further show that CEO compensation is positively related with fraudulent financial reporting ( $r = 0.1817$ ,  $p < 0.05$ ). Therefore, the higher the CEO compensation in a firm, the higher the possibility of fraudulent financial reporting. Additionally, the correlation results indicate that firm leverage is negatively related to fraudulent financial reporting ( $r = -0.1378$ ,  $p < 0.05$ ). As a result, the greater the firm's leverage in terms of debt acquisition, the lower the potential of fraudulent financial reporting.

**Table 4. 3: Correlation Test Results**

	M-SCORE	CA	CT	CC	CS	ACFE	FP	FL
M-SCORE	1.0000							
CA	-0.1410*	1.0000						
CT	-0.1015	0.3996*	1.0000					
CC	0.1817*	-0.0149	-0.1074	1.0000				
CS	0.1040	-0.2186*	0.1463*	0.5070*	1.0000			
ACFE	0.0494	-0.1796*	-0.0758	-0.1609*	-0.0657	1.0000		
FP	0.0459	-0.0784	-0.0688	-0.0272	0.0218	0.3103*	1.0000	
FL	-0.1378*	0.1053	0.1381*	-0.2032*	-0.2686*	0.0137	0.50655	1.0000

Key; CA=CEO Age, CT= CEO Tenure, CC= CEO Compensation, CS= CEO Shareholding. ACFE= Audit Committee Financial Expertise, FP= Firm Performance, FL= Firm Leverage

Note: \* 5% significance level

Source (Field data, 2022).

#### 4.5 Hausman test

Panel data is normally analysed by using the random effect regression model or the fixed effect regression model in order to obtain the results of the model. However, to determine whether to employ the fixed effect regression model or the random effect regression model, hausman test is usually employed. Hausman test examines whether the unique error are correlated or not with the regressors. The hausmann test null hypothesis states that the random regression model is sufficient while the fixed effect model states that the fixed effect regression model is sufficient. When the null hypothesis is rejected ( $p < 0.05$ ), it implies that fixed effect regression model is most efficient and when the null hypothesis is accepted ( $p > 0.05$ ), it implies that random effect regression model is most preferred. Table 4.4 below shows that the study employed a random effect regression model. This is supported by p value Of 0.7634 which is greater than 0.05 meaning that the null hypothesis was accepted.

**Table 4. 4: Hausman Test Results**

Mscore	(b) Fe	(B) Re	(b-B) Difference	Sqrt(diag(V_b-V_B))
CA	-.4162916	-.4329044	.0166128	.0227868
CT	-.0087069	.0069107	-.0156175	.0042907
CC	.8525749	.8923023	-.0397275	.0181921
CS	-.1298619	-.1713392	.0414773	.0063047
FP	.0163555	.0482084	-.0318529	.0022242
FL	-.0246662	-.0591511	.0344849	.0054714

b= consistent under H0 and Ha; obtained from xtreg

B= inconsistent under Ha, efficient under H0; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$$\text{Ch2}(7) = (b-B)' \{ (V_b - V_B)^{-1} \} (b-B) \\ = 4.14$$

$$\text{Prob} > \chi^2 = 0.7634$$

---

Source (Field data, 2022)

## 4.6 Robustness and Diagnostic Tests

In order to eliminate the possibilities of spurious regression problems, various robustness tests were carried. These tests include normality test, autocorrelation test, heteroscedasticity test, and multi-collinearity test.

### 4.6.1 Normality Test

In order to determine whether the residuals were normally distributed, the Jarque-Bera test was performed; if the p-value was less than the Chi (2) value, the null hypothesis cannot be disproved. "Residuals of variables were normally distributed" was the Jarque-Bera test's null hypothesis (Ho). As opposed to alternative hypothesis (H0), this claimed that "residuals are not normally distributed". Table 4.5 demonstrates that the chi (2) p value is 0.083, which was greater than 0.05 and indicates that the null hypothesis was not ruled out. The implication was that the premise of normal distribution was not broken.

**Table 4. 5: Normality Results**

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<b>Jarque Bera normality test</b>
Jarque-Bera test for H0: normality
Jarque-Bera test: 4.979 Chi(2) = 0.083

---

**Source (Field data, 2022)**

### 4.6.2 Autocorrelation

The residuals' autocorrelation was investigated using the Breusch-Godfrey Lm test. At the 5% level of significance, the alternative hypothesis of serial correlation was contrasted with the null hypothesis of no serial correlation. According to Breusch (1978) and Godfrey (1978), if the chi-square test statistic p value is less than the level of significance of 5%,

the null hypothesis of no serial correlation is rejected, and if it is greater than the level of significance of 5%, the null hypothesis of no autocorrelation is accepted. Additionally, the results of this inquiry were supported by the Durbin Watson test of serial correlation.

The results of the Breusch Godfrey Lm test and the DW test for serial correlation are shown in Table 4.6. The null hypothesis that there is no serial autocorrelation is accepted since the chi-square p value in the aforementioned table, which is 0.272, is higher than the level of significance of 5%. (0.05). There is no serial association, which is further supported by the Durbin-Watson test result of 1.4567. When the test statistic results are between 1.5 and 2.5, it is generally accepted that there is no serial correlation.

**Table 4. 6: Autocorrelation Results**

	<b>Chi(2)</b>	<b>Df</b>	<b>Prob&gt;chi(2)</b>
Breusch Godfrey LM test for Autocorrelation	396	0.361	0.272
Durbin Watson Test d statistic:			1.4567

Source (Field data, 2022)

### **4.6.3 Multi-collinearity**

When two or more explanatory variables employed in a regression model are significantly correlated, this is referred to as multicollinearity. When these predictor variables have a high degree of correlation, it causes uncertainty in the estimation of the regression coefficients in a multiple regression model. When attempting to determine the extent to which independent variables account for changes in the dependent variable, this produces unexpected results. Inflated standard errors of the betas' evaluations, which result from multicollinearity may lower reliability, quality, and may give false results.

The presence of a high correlation between one or more study variables and one or more of the other independent variables was examined using the multicollinearity test. The Variance Inflation Factor (VIF) calculated the inflated variances due to linear dependence with other explanatory factors and assessed the correlation between the predictor variables. Multi-collinearity is indicated by VIFs of 10 or greater. The VIF test yielded scores ranging from 1.02 to 1.39 as shown by table 4.7. The mean VIF value of 1.23 which smaller than the generally accepted thumb rule of 10, indicates that there is no multicollinearity among the independent variables.

**Table 4. 7: Multi-Collinearity Results**

<b>Variable</b>	<b>VIF</b>	<b>Tolerance (1/VIF)</b>
CEO Age	1.33	.752
CEO Tenure	1.35	.741
CEO Compensation	1.16	.862
CEO Shareholding	1.39	.719
Firm Performance	1.02	.980
Firm Leverage	1.13	.885
<b>Mean VIF</b>	<b>1.23</b>	

Source (Field data, 2022)

#### **4.6.4 Homoscedasticity**

To check whether the residuals were heteroscedastic, the White test was applied. The null hypothesis of homoscedasticity was contrasted with the alternative hypothesis of heteroscedasticity. According to Breusch and Pagan (1979), the homoscedasticity null hypothesis is accepted if the chi-square test statistic's corresponding p value is greater than the 5% level of significance and rejected if it is lower than that mark. Table 4.8 shows the outcomes of heteroscedasticity test which demonstrate that the residuals of the model are homoscedastic. This is validated by the chi-square test findings, which have p values larger

than the 5% level of significance and a p value of 0.0891. This shows that the model variance is constant.

**Table 4. 8: Homoscedasticity Test Results**

Source	Chi(2)	Df	Prob>chi(2)
White test for heteroscedasticity	21.47	14	0.0891

Source (Field data, 2022)

#### 4.7 Model Estimation

The study tested seven models hierarchically. The first model tests the effect of control variables: firm performance and firm leverage. Model 2 and model 3(inclusion of moderator) tests direct effects whereas, model 4-7 tests interaction effects. Table 4.9 shows the regression findings for the random effect. The firm leverage among listed manufacturing firm in East Africa had a significant negative relationship with fraudulent financial reporting ( $\beta = -.115$ ,  $p < 0.05$ ). These results imply that listed manufacturing firms that finance their activities through acquisition of debt facilities are less likely to engage in fraudulent financial activities. The results also indicated that there was a positive insignificant relationship between firm performance with fraudulent financial reporting ( $\beta = 0.073$ ,  $p > 0.05$ ). These results imply that there was no evidence that link listed manufacturing firms which performs well engages in fraudulent financial reporting.



**Table 4. 9: Moderating Role of Audit Committee Financial Expertise**

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Constant	.368***	1.962***	.068	.609	.593	.275	.350
FP	.073	.048	-.082	-.082	-.085	-.044	-.046
FL	-.115**	-.059	-.042	-.042	-.042	-.009	-.011
CA		-.433***	-.109	-.104	-.098	-.050	-.066
CT		.007	-.001	-.001	-.002	-.003	-.003
CC		.892***	.474***	.474***	.475***	.972***	.994***
CS		-.171***	-.074**	-.074**	-.075**	-.010	-.030
ACFE			.087***	.096	.122	.114	-.178**
CA*ACFE				-.002	-.010	.062***	-.079***
CT*ACFE					.001	.000	-.001
CC*ACFE						-.133***	-.149***
CS*ACFE							.020**
$R^2$	.0220	.4499	.7677	.7677	.7679	.9207	.9228
$\Delta R^2$		.4279	.3178	.0000	.0002	.1528	.0021
Wald chi2	4.50	166.84	670.70	.667.44	664.97	2304.67	2350.89
Prob > Wald chi2	.105	.000	.000	.000	.000	.000	.000

Note: FP-Firm performance, FL-Firm Leverage, CA=CEO Age, CT= CEO Tenure, CC= CEO Compensation, CS= CEO Shareholding. ACFE= Audit Committee Financial Expertise, \* 10%, \*\*5%, \*\*\*1% significance level.

Source: (Field data, 2022)

In Model 2, all the four independent variables were included: CEO age, CEO tenure, CEO compensation, and CEO shareholding. Table 4.9 shows the regression findings for the random effect. Results CEO age among listed manufacturing firm in East Africa has a significant negative relationship with fraudulent financial reporting ( $\beta = -0.433$ ,  $p < 0.05$ ). These results are in agreement with those done by Ruegger and King (1992) which postulated that older CEOs are more ethical than younger CEO. The table further indicates that CEO tenure has a positive insignificant relationship with fraudulent financial reporting ( $\beta = 0.007$ ,  $p > 0.05$ ). These results contradict with the findings of Borgi et al. (2021) that indicated that long-tenured CEOs are associated with timely financial reports. Additionally, CEO compensation among listed manufacturing firm in East Africa has a significant positive relationship with fraudulent financial reporting ( $\beta = 0.892$ ,  $p < 0.05$ ).

These results are in agreement with those done by Ling (2016) which indicated that CEOs that are compensated more are likely to engage in fraudulent financial activities. This is because with increased compensation at stake, CEOs have more compelling reasons to engage in fraudulent activities. CEO shareholding among listed manufacturing firm in East Africa has a significant negative relationship with fraudulent financial reporting ( $\beta = -0.171$ ,  $p < 0.05$ ). These results are in agreement with those done by Petrou and Procopiou (2016) which indicated that increasing CEO shareholdings has a negative effect on fraudulent financial reporting.

Table 4.9 also shows the results of the moderator variable (model 3). The study used audit committee financial expertise as the moderator of the study. There was significant

interaction between the various variables of study and the moderator variable. The results of the audit committee financial expertise were significantly positively related to fraudulent financial reporting among the listed manufacturing firms in East Africa ( $\beta = 0.087, p < 0.05$ ). These results agreed with those done by Kamarudin, Ismail and Alwi (2014) that showed that audit committee characteristics such as audit committee financial expertise, gender diversity, ethnic composition and meeting frequency has a positive relationship with fraudulent financial reporting.

There was a significant moderating effect ( $\beta = -.079, p < 0.05$ ) implying that the moderating variable which is the audit committee financial expertise does have an effect on CEO age on fraudulent financial reporting (dependent variable). This means that increasing the moderator (audit committee financial expertise) would have a negative effect on fraudulent financial reporting.

Moreover, results from Table 4.9 shows an insignificant moderating effect ( $\beta = .001, p > 0.05$ ) implying that the audit committee financial expertise does not have any effect on CEO tenure on fraudulent financial reporting (dependent variable). The interaction between CEO compensation and audit committee financial expertise showed a negative and significant moderating effect ( $\beta = -.133, p < 0.05$ ) implying that the audit committee financial expertise does have effect on CEO compensation on fraudulent financial reporting (dependent variable). This means that any member of the audit committee with financial expertise would not likely to influence CEO compensation to engage in fraudulent financial reporting.

There was a positive significant moderating effect ( $\beta = .020, p < 0.05$ ) implying that the audit committee financial expertise does have effect on CEO shareholding on fraudulent

financial reporting (dependent variable). This means that increasing the moderator (Audit committee financial expertise ) would increase fraudulent financial reporting.

#### **4.8 Testing of Hypotheses**

*H<sub>01</sub>: CEO age has no significant effect on fraudulent financial reporting among listed manufacturing firms in east Africa.*

Based on the findings on model 2 table 4.9 ( $\beta_1 = -.433$ ,  $p = .004 < 0.05$ ), hypothesis 1 was rejected; and the study concluded that CEO age reduces the likelihood of fraudulent financial reporting among listed manufacturing firms in East Africa. The findings are supported by previous studies (Rashad Abdel-Khalik, 2014; Ruegger and King, 1992; Yermack, 2007) who found a negative relationship and concluded that older CEO age are more conservative and behave ethically compared to their counterparts younger CEOs.

*H<sub>02</sub>: CEO tenure has no significant effect on fraudulent financial reporting among listed manufacturing firms in east Africa.*

The above hypothesis was accepted based on the findings from random effect model which showed that CEO tenure has a positive and insignificant effect on fraudulent financial reporting ( $\beta_2 = .007$ ,  $p = .436 > 0.05$ ), and the study concluded that CEO tenure does not have any effect on the likelihood of fraudulent financial reporting among listed manufacturing firms in East Africa. The findings are in contradiction with previous study by Hambrick and Fukutomi, 1991 who found a positive relationship and concluded that when CEO tenure increases, company's strategy, performance and fraudulent activities reduces.

*H<sub>03</sub>: CEO compensation has no significant effect on fraudulent financial reporting among listed manufacturing firms in east Africa.*

Based on the findings ( $\beta_3 = .892$ ,  $p = .000 < 0.05$ ), hypothesis 3 was rejected; and the study concluded that CEO compensation increases the likelihood of fraudulent financial reporting among listed manufacturing firms in East Africa. The findings are supported by previous studies (Richards, 2008) who found a positive relationship and concluded that higher CEO compensation are more likely to induce a person to commit fraud.

*H<sub>04</sub>: CEO shareholding has no significant effect on fraudulent financial reporting among listed manufacturing firms in east Africa.*

Based on the findings ( $\beta_3 = -.171$ ,  $p = .002 < 0.05$ ), hypothesis 4 was rejected; and the study concluded that CEO shareholding decreases the likelihood of fraudulent financial reporting among listed manufacturing firms in East Africa. The findings are in contradiction with the previous studies (Zhang et al, 2008; Petrou and Procopiou, 2016) who found a positive relationship and concluded that higher CEO shareholding are more likely to induce a person to commit fraud.

*H<sub>05a</sub>: Audit committee financial expertise does not significantly moderate the relationship between CEO age and fraudulent financial reporting among listed manufacturing in East Africa.*

Table 4.9, the final model 7 revealed that audit committee financial expertise significantly moderates the relationship between CEO age and fraudulent financial reporting among listed manufacturing firms in East Africa ( $\beta = -.079$ ;  $p = .000 < .05$ ) and R-square change of

.0021). Therefore, H<sub>05a</sub> was rejected. Audit committee with financial expertise does has a negative impact on CEO age to influence fraudulent financial reporting among listed manufacturing firms in East Africa.

*H<sub>05b</sub>: Audit committee financial expertise does not significantly moderate the relationship between CEO tenure and fraudulent financial reporting among listed manufacturing in East Africa.*

Results further revealed that audit committee financial expertise insignificantly moderates the relationship between CEO tenure and fraudulent financial reporting among listed manufacturing firms in East Africa ( $\beta=-.001$ ;  $p=.386>.05$ ). Therefore, H<sub>05b</sub> was accepted. An audit committee with financial expertise does not impact fraudulent financial reporting among listed manufacturing firms in East Africa.

*H<sub>05c</sub>: Audit committee financial expertise does not significantly moderate the relationship between CEO compensation and fraudulent financial reporting among listed manufacturing in East Africa.*

Table 4.9 model 7 revealed that audit committee financial expertise significantly moderates the relationship between CEO compensation and fraudulent financial reporting among listed manufacturing firms in East Africa ( $\beta=-.149$ ;  $p=.000<0.05$ ). Therefore, H<sub>05c</sub> was rejected. An audit committee with financial expertise has an impact on CEO compensation to influence fraudulent financial reporting among manufacturing firms in East Africa.

*H<sub>05d</sub>: Audit committee financial expertise does not significantly moderate the relationship between CEO shareholding and fraudulent financial reporting among listed manufacturing in East Africa.*

Also Table 4.9 revealed that Audit committee financial expertise significantly moderates the relationship between CEO shareholding and fraudulent financial reporting among listed manufacturing firms in East Africa ( $\beta=.020$ ;  $p=.026<0.05$ ). Therefore, H<sub>05a</sub> was rejected. An audit committee with financial expertise does have significant impact on CEO shareholding thereby causing fraudulent financial reporting among manufacturing firms in East Africa.

#### **4.9 Discussion of Findings**

Being the first specific objective, CEO age was measured as by the natural logarithm of the CEO obtained age. The random regression results showed that CEO age had a negative and statistically significant effect on fraudulent financial reporting. These study findings are similar to those of Ruegger and King (1992) and Rashad Abdel-Khalik (2014).

According to Rashad Abdel-Khalik (2014), older executives are more risk averse, and a manager's age can be read as a proxy for their amount of experience as well as an indication of their reluctance to risk and engage in fraudulent financial reporting.

CEO tenure was measured as the numerical value of the number of years CEOs have been in charge and retained the title of CEO in the listed manufacturing company. The random effect regression results showed that CEO tenure had a positive and statistically insignificant effect on fraudulent financial reporting. These study findings are in

contradiction to those of Borgi et al (2021) and Cohen and Dean (2005). When the IFRS changeover is taken into consideration, Borgi et al. (2021) indicate that a long-tenured CEO is connected with timely financial reports. As a result, businesses with a long-serving CEO spend less time during the IFRS transition phase to prepare and disclose financial reports. A higher quality initial public offering (IPO) to the financial markets is predicted by a CEO's tenure, according to studies by Cohen and Dean (2005).

CEO compensation was measured as a natural log of direct compensation awarded by the firm and received by the CEO in an accounting period. Findings from random effect regression results indicate a statistically positive and significant relationship between the CEO compensation and fraudulent financial reporting. This relationship suggests that the higher the CEO compensation in listed manufacturing firms in East Africa the greater the likelihood of fraudulent financial reporting. These findings are supported by previous literature by Ling (2016).

Ling (2016) found adequate evidence to suggest that CEOs who are paid more are more likely to engage in fraudulent actions. These results demonstrated that there is sufficient proof for this association to exist. The Chief Executive Officers have a more strong incentive to commit fraud given the higher salary at risk.

The fourth objective sought to determine the effect of CEO shareholding on fraudulent financial reporting. The study operationalized CEO shareholding as the logarithm of the value of the CEO's shares in the listed manufacturing companies divided by the overall remuneration package. From this study, the findings of CEO shareholding effect on



fraudulent financial reporting are negative and significant. Empirical literature supports these findings are those done by Petrou and Procopiou, (2016).

According to the findings of Petrou and Procopiou, (2016), increasing CEO shareholdings has a detrimental influence on earnings management and re-statements due to anomalies, and that duality positively moderates these connections. The findings contribute to corporate governance practice since they have consequences for the structuring of CEO remuneration packages.

The moderator of the study was the Audit Committee's financial expertise. There was a substantial interaction between the different research variables and the moderator variable. The audit committee financial expertise was significantly positively connected to fraudulent financial reporting among East African listed manufacturing firms. These findings corresponded with those of Kamarudin, Ismail, and Alwi (2014), who discovered that audit committee attributes such as financial expertise, gender diversity, ethnic makeup, and meeting frequency have a favorable link with fraudulent financial reporting. There was a substantial interaction between the different research variables and the moderator variable. The audit committee financial expertise was significantly positively connected to fraudulent financial reporting among East African listed manufacturing firms. These findings corresponded with those of Kamarudin, Ismail, and Alwi (2014), who discovered that audit committee attributes such as financial expertise, gender diversity, ethnic makeup, and meeting frequency have a favourable link with fraudulent financial reporting.

The results of the random regression model shows a significant moderating effect of audit committee financial expertise on the relationship between CEO age and fraudulent

financial reporting implying that the moderating variable which is the audit committee financial expertise does have an effect on CEO age on fraudulent financial reporting (dependent variable). Further, results of the random regression model shows a significant moderating effect of audit committee financial expertise on the relationship between CEO compensation and fraudulent financial reporting, indicating that audit committee financial knowledge has effect on CEO compensation for misleading financial reporting (dependent variable). This suggests that raising the moderator (financial expertise of the Audit Committee) would have a greater impact on misleading financial reporting.

Results also demonstrated a substantial positive moderating effect indicating that audit committee financial expertise has an effect on CEO shareholding on false financial reporting (dependent variable). This suggests that raising the moderator (financial expertise of the Audit Committee) would have a greater impact on misleading financial reporting.

These results confirm studies by Abott et al. (2004), Agrawal and Chadha (2005), who state that the likelihood of financial statement restatement is substantially lower when the audit committee is composed of financial professionals. The addition of financial professionals to the audit committee may improve the quality of financial statements and reporting. Accounting firms (PWC, 1999) and regulators (SEC, 2003) have claimed that financial expertise is required to ensure that audit committees fulfil their primary function of regulating the financial reporting process and improving financial reporting quality. This argument was founded on the notion that audit committees would be unable to adequately carry out their tasks without it.

**Table 4. 10: Summary of Hypothesis Test Results**

Hypotheses	Model	B	P<5%	Decision
H <sub>01</sub> :CEO age has no significant effect on fraudulent financial reporting	Model 2	-.433	0.004	Rejected
H <sub>02</sub> :CEO tenure has no significant effect on fraudulent financial reporting	Model 2	.007	0.436	Accepted
H <sub>03</sub> :CEO compensation expertise has no significant effect on fraudulent financial reporting	Model 2	.892	0.000	Rejected
H <sub>04</sub> :CEO shareholding frequency has no significant effect on fraudulent financial reporting	Model 2	-.171	0.002	Rejected
H <sub>05a</sub> :Audit committee financial expertise does not significantly moderate the relationship between CEO age and fraudulent financial reporting	Model 7	-.079	0.000	Rejected
H <sub>05b</sub> : Audit committee financial expertise does not significantly moderate the relationship between CEO tenure and fraudulent financial reporting	Model 7	-.001	0.386	Accepted
H <sub>05c</sub> : Audit committee financial expertise does not significantly moderate the relationship between CEO compensation and fraudulent financial reporting	Model 7	-.149	0.000	Rejected
H <sub>05d</sub> : Audit committee financial expertise does not significantly moderate the relationship between CEO shareholding and fraudulent financial reporting	Model 7	.020	0.026	Rejected

Source (Field Data, 2022)

## CHAPTER FIVE

### SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

#### 5.1 Overview

The findings from the preceding chapter are summarized in this chapter along with the conclusion, recommendation, and areas for further research.

#### 5.2 Summary of the Findings

In summary, the study found that the M-score was 0.289. When M-score is 1 indicates 100 percent fraudulent financial reporting while a 0 value indicates no fraudulent financial reporting, therefore, it was concluded that the selected manufacturing firms reported relatively few cases of fraudulent financial reporting (mean value of 0.289). Further, the gap between the minimum value and the maximum value implied that the level of fraudulent financial reporting varied considerably among manufacturing firms of which was also supported by a higher value of standard deviation.

The mean of CEO age was 53.37. This indicates that the firms have relatively mid-age CEOs. The mean of CEO tenure was 4.180 years; CEO compensation was Kshs. 14.4 million. The mean of CEO shareholding was 6.345 (standard deviation = 17.180; Minimum = 0.000; Maximum = 84.000). Considering that the value of 84 percent was an indicator of CEOs that acquired highest shares in the manufacturing companies and the value of 0 was an indicator of CEOs that did not acquire shares, therefore, it was concluded that the selected manufacturing firms reported relatively lower number of CEOs that acquired shares as shown by the lower value of mean of 6.345 percent. The variation between the CEOs that acquired shares and those that did not among manufacturing firms was higher

as supported by a relatively higher value of standard deviation. The mean of audit Committee Financial Expertise was .59 (standard deviation = 0.012; Minimum = 0.000; Maximum = 1.000). Considering that the value of 1 was an indicator of Audit Committee that has financial expertise in the manufacturing companies and the value of 0 was an indicator of Audit Committee that did not have financial expertise, therefore, it was concluded that the selected manufacturing firms reported relatively higher number of Audit committee that had financial expertise as shown by the higher value of mean. The nature of manufacturing fraudulent financial reporting and how CEO characteristics affects it aroused interest in studying this relationship and how audit committee financial expertise could moderate it.

The random regression results showed that CEO age had a negative and statistically significant effect on fraudulent financial reporting ( $\beta = -.433$   $p < 0.05$ ). CEO tenure was measured as the numerical value of the number of years CEOs have been in charge and retained the title of CEO in the listed manufacturing company. The random effect regression results showed that CEO tenure had a positive and statistically insignificant effect on fraudulent financial reporting ( $\beta = .007$   $p > 0.05$ ). CEO compensation was measured as a natural log of direct compensation awarded by the firm and received by the CEO in an accounting period. Findings from random effect regression results indicate a statistically positive and significant relationship between the CEO compensation and fraudulent financial reporting ( $\beta = 0.892$   $p < 0.05$ ). This relationship suggests that the higher the CEO compensation in listed manufacturing firms in East Africa the greater the likelihood of fraudulent financial reporting.

The fourth objective sought to determine the effect of CEO shareholding on fraudulent financial reporting. The study operationalized CEO shareholding as the logarithm of the value of the CEO's shares in the listed manufacturing companies divided by the overall remuneration package. From this study, the findings of CEO shareholding effect on fraudulent financial reporting is negative and significant ( $\beta = -.171$ ,  $p < 0.05$ ).

The moderator of the study was the Audit Committee's financial expertise. There was a substantial interaction between the different research variables and the moderator variable. The audit committee financial expertise moderated CEO age ( $\beta = -.079$ ,  $p = .000$ ), compensation and shareholding with respective coefficient  $\beta = -.149$ , ( $p = .000$ ), and ( $\beta = .020$ ,  $p = .026$ ,

### **5.3 Conclusion**

The findings of the study indicated that CEO age negatively and significantly influenced fraudulent financial reporting. In contrast, CEO tenure positively and insignificantly impacted the fraudulent financial reporting. The random effect model projected that 44.99% variation in fraudulent financial reporting is explained by CEO age, CEO tenure, CEO compensation, CEO shareholding, firm performance, and firm leverage. Additionally, the findings show that audit committee financial expertise had a moderating effect on the relationship between two CEO characteristics (age, compensation and shareholding) and fraudulent financial reporting. These results suggest that audit committee with financial expertise impacts the CEO age, CEO compensation and shareholding in relation to matters related to fraudulent financial reporting. In conclusion, this study finding proved the moderating effect of audit committee financial expertise and

empirically supported studies on CEO characteristics (CEO compensation, tenure, age and CEO shareholding) and fraudulent financial reporting relationship.

#### **5.4 Recommendations of the Study**

The older the CEO age the lesser the likelihood of fraudulent financial reporting in listed manufacturing firms in East. Findings show that there is less fraudulent financial reporting when the CEO is older or advanced in years, implying that CEO age determines the likelihood of fraudulent financial reporting. Therefore, this study recommends that older CEOs should be given the responsibilities of running the affairs of the company at the apex level because their likelihood of engaging in fraudulent financial behaviors is minimal compared to younger CEOs.

The higher the CEO compensation the higher the likelihood of fraudulent financial reporting in listed manufacturing firms in East. Findings show that there is more fraudulent financial reporting when the CEO are compensated highly, implying that CEO compensation determines the likelihood of fraudulent financial reporting. Therefore, this study recommends that CEOs compensation should be regulated because CEO compensation tends to give CEOs higher appetite and incentives to engage in fraudulent financial reporting. Proper internal controls should be in place to regulate the extent and levels of compensations in companies. These internal controls will minimize the likelihood of fraudulent financial reporting as a result of CEO compensation.

Financial solid expertise among audit committee reduces the likelihood of fraudulent financial reporting in listed manufacturing firms. Poor or lack of financial knowledge by

audit committee is often a reason behind the fraudulent financial cases reported in many companies East Africa. These findings give more insight into manufacturing firms in ensuring audit committee members are well qualified in financial matters, which would reduce the likelihood of manufacturing companies engaging in fraudulent financial reporting. This study recommends that manufacturing companies should have financially knowledgeable members of the audit committee since this will enable the audit committee to understand better the complexity of certain financial transactions and their associated fraudulent financial reporting, thus reducing the possibilities of manufacturing firms engaging in fraudulent financial reporting.

The study recommends that companies Act set CEOs characteristics measures that would lessen excessive fraudulent financial reporting. First, there is a need to standard CEO compensation guidelines that would limit CEOs into engaging in fraudulent financial activities due to the incentives that come with higher compensation. Second, the study recommends that there should be a proper mechanism established by manufacturing companies that would ensure CEOs have a certain proportion of shares in the company. This would reduce CEOs incentives of engaging in fraudulent financial reporting since they are already part of owners of the company.

## **5.5 Recommendations for Further Research**

The study focused on listed manufacturing firms in East Africa only; hence, future studies could incorporate other companies such as banks, agricultural allied listed firms and construction allied firms so that the findings provide an overview status of adoption and application of CEO characteristics to fraudulent financial reporting. Literature shows that



other measures of fraudulent financial reporting exists different from the one used in this study. The study employed Beneish model of examining the fraudulent financial reporting. Future research could employ different measure for fraudulent financial reporting such as the F-score. It could be interesting to find out the similarity or contradiction of results of this study using the F score measure. Finally, future studies could incorporate different dimensions of CEO characteristics, such as CEO financial expertise, and CEO diversity and different dimension of the moderator such as audit quality in studying CEO characteristics and fraudulent financial reporting relationships.

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## APPENDICES

## APPENDIX I: MANUFACTURING LISTED FIRMS IN EAST AFRICA

No.	Company	Sector	Year listed
1	B.O.C Kenya Limited	Manufacturing and allied	1969
2	British American Tobacco Kenya Limited	Manufacturing and allied	1969
3	Carbacid Investments Limited	Manufacturing and allied	1972
4	East African Breweries Limited Kenya	Manufacturing and allied	1972
5	Eveready East Africa Limited	Manufacturing and allied	2006
6	Flame Tree Group Holdings Limited	Manufacturing and allied	2015
7	Kenya Orchards Limited	Manufacturing and allied	1959
8	Mumias Sugar Company Limited	Manufacturing and allied	2001
9	Sony Sugar Company limited	Manufacturing and allied	1976
10	Unga Group Limited	Manufacturing and allied	1971
11	East African Breweries Limited Uganda	Manufacturing and allied	1972
12	British American Tobacco Uganda Limited	Manufacturing and allied	1969
13	Uchumi Kenya	Manufacturing and allied	1975
14	Uchumi Rwanda	Manufacturing and allied	1975
15	Braliwa	Manufacturing and allied	2001
16	Baumann Company limited	Manufacturing and allied	1976
17	Tanzania cigarette	Manufacturing and allied	1971
18	East African Breweries Limited Tanzania	Manufacturing and allied	1972
19	Tanzania Breweries	Manufacturing and allied	1970
20	TATEPA	Manufacturing and allied	1971

## APPENDIX II: STATA OUTPUT

```
. xtreg mscore firmperformance firmleverage
```

```
Random-effects GLS regression      Number of obs   =      211
Group variable: years              Number of groups =      15
```

```
R-sq:                               Obs per group:
    within = 0.0197                    min =      12
    between = 0.1481                   avg  =     14.1
    overall = 0.0220                    max  =      15
```

```
Wald chi2(2) =      4.50
corr(u_i, X) = 0 (assumed)           Prob > chi2    =     0.1053
```

```
-----
--
      mscore |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-----+-----
--
firmperformance |   .0734477   .0882974     0.83   0.406   -0.0996121   .2465075
  firmleverage |  -0.1145598   .0571998    -2.00   0.045   -0.2266694  -0.0024502
      _cons |   .3677451   .0874631     4.20   0.000   .1963206   .5391697
-----+-----
--
      sigma_u |   .09614507
      sigma_e |   .44137804
      rho |   .04530013   (fraction of variance due to u_i)
-----
--
```

```
. xtreg mscore firmperformance firmleverage age tenure ceocompensation
shareholding
```

```
Random-effects GLS regression      Number of obs   =      211
```





```

R-sq:
    within = 0.7475
    between = 0.9358
    overall = 0.7677

Obs per group:
    min = 12
    avg = 14.1
    max = 15

Wald chi2(7) = 670.70
Prob > chi2 = 0.0000

corr(u_i, X) = 0 (assumed)

-----
--
      mscore |      Coef.   Std. Err.      z    P>|z|    [95% Conf. Interval]
-----+-----
--
firmperformance |  -.0817645   .0452449   -1.81   0.071   -0.1704429   .0069138
  firmleverage |  -.0419973   .0305109   -1.38   0.169   -0.1017976   .017803
      age |  -.1085355   .1007532   -1.08   0.281   -0.3060081   .0889371
      tenure |  -.0007165   .0057941   -0.12   0.902   -0.0120728   .0106397
ceocompensation |  .4736471   .0535072    8.85   0.000    .3687749   .5785193
  shareholding |  -.0738143   .0367484   -2.01   0.045   -0.14584   -0.0017887
      acfe |  .0871272   .005229    16.66   0.000    .0768785   .0973759
      _cons |  .6283782   .3987388    1.58   0.115   -0.1531356   1.409892
-----+-----
--
      sigma_u |          0
      sigma_e |  .22629258
      rho |          0   (fraction of variance due to u_i)
-----
--

. xtreg mscore firmperformance firmleverage age tenure ceocompensation
shareholding acfe ageacfe2

Random-effects GLS regression           Number of obs   =       211
Group variable: years                   Number of groups =       15

```

```

R-sq:
    within = 0.7475
    between = 0.9356
    overall = 0.7677

Obs per group:
    min = 12
    avg = 14.1
    max = 15

Wald chi2(8) = 667.44
Prob > chi2 = 0.0000

corr(u_i, X) = 0 (assumed)

-----
--
      mscore |      Coef.   Std. Err.      z    P>|z|    [95% Conf. Interval]
-----+-----
--
firmperformance | -.0823147   .0457276   -1.80   0.072   -0.1719392   0.0073097
  firmleverage | -.0420282   .0305874   -1.37   0.169   -0.1019784   0.017922
      age | -.1036242   .113578   -0.91   0.362   -0.3262329   0.1189846
      tenure | -.0007142   .0058084   -0.12   0.902   -0.0120984   0.0106699
ceocompensation |  .4744703   .0543405    8.73   0.000    0.3679649   0.5809756
  shareholding | -.0735509   .0369437   -1.99   0.046   -0.1459593  -0.0011426
      acfe |  .096367   .0978785    0.98   0.325   -0.0954713   0.2882054
  ageacfe2 | -.0023708   .0250777   -0.09   0.925   -0.0515222   0.0467807
      _cons |  .6090753   .4488473    1.36   0.175   -0.2706492    1.4888

-----+-----
--
      sigma_u |          0
      sigma_e |  .22686506
      rho |          0   (fraction of variance due to u_i)

-----
--

. xtreg mscore firmperformance firmleverage age tenure ceocompensation
shareholding acfe ageacfe2 ceotenureacfe

Random-effects GLS regression           Number of obs   =           211

```



```

Random-effects GLS regression           Number of obs   =       211
Group variable: years                  Number of groups =       15

R-sq:                                  Obs per group:
    within = 0.9194                      min =          12
    between = 0.9399                     avg  =         14.1
    overall = 0.9207                      max  =          15

                                           Wald chi2(10)   =    2304.67
corr(u_i, X) = 0 (assumed)              Prob > chi2     =     0.0000

```

```

-----+-----
--
      mscore |      Coef.   Std. Err.      z    P>|z|    [95% Conf. Interval]
-----+-----
--
firmperformance |  -.0436469   .0268588   -1.63   0.104   - .0962892   .0089953
  firmleverage |  -.0085349   .0178424   -0.48   0.632   - .0435053   .0264355
         age |  -.0496892   .0660592   -0.75   0.452   - .1791629   .0797846
        tenure |  -.0031819   .0036723   -0.87   0.386   - .0103794   .0040157
ceocompensation |   .9716082   .0400684   24.25   0.000   .8930756   1.050141
  shareholding |  -.0103472   .0216604   -0.48   0.633   - .0528007   .0321064
         acfe |  -.1143494   .0671705   -1.70   0.089   - .2460012   .0173024
    ageacfe2 |   .062393   .0179546    3.48   0.001   .0272026   .0975834
 ceotenureacfe |   .0001286   .0012324    0.10   0.917   - .0022868   .002544
    ceocomp |  -.1325778   .0066251  -20.01   0.000   - .1455629  - .1195928
        _cons |   .2746046   .2608783    1.05   0.293   - .2367074   .7859167
-----+-----
--

sigma_u |   .02945437
sigma_e |   .12890419
      rho |   .04962064   (fraction of variance due to u_i)

```

```

-----
--
. xtreg mscore firmperformance firmleverage age tenure ceocompensation
shareholding acfe ageacfe2 ceotenureacfe ceocomp ce

```

```
> oshareh
```

```
Random-effects GLS regression           Number of obs   =       211
```

```
Group variable: years                   Number of groups =       15
```

```
R-sq:                                     Obs per group:
    within = 0.9211                        min =          12
    between = 0.9421                       avg =         14.1
    overall = 0.9228                       max =          15
```

```
Wald chi2(11) = 2350.89
```

```
corr(u_i, X) = 0 (assumed)               Prob > chi2     = 0.0000
```

```

-----
--
      mscore |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-----+-----
--
firmperformance | -.0462333   .0265298   -1.74   0.081   -0.0982306   .0057641
  firmleverage | -.0107843   .0176852   -0.61   0.542   -0.0454466   .0238779
         age | -.0662717   .0655996   -1.01   0.312   -0.1948445   .0623011
        tenure | -.0027154   .0036906   -0.74   0.462   -0.0099488   .0045179
ceocompensation | .9936814   .0407183   24.40   0.000   .9138749     1.073488
  shareholding | -.0299689   .0232983   -1.29   0.198   -0.0756328   .015695
         acfe | -.177692    .0724039   -2.45   0.014   -0.319601    -0.0357829
    ageacfe2 | .0787698    .019275    4.09   0.000   .0409915     .1165481
ceotenureacfe | -.0011851   .001366    -0.87   0.386   -0.0038624   .0014921
        ceocomp | -.1487406   .0097639  -15.23   0.000   -0.1678774   -0.1296038
    ceoshareh | .019612     .0088366    2.22   0.026   .0022927     .0369314

```

```

      _cons |   .3502041   .2596012    1.35   0.177   -.1586049   .8590131
-----+-----
--
      sigma_u |   .03595187
      sigma_e |   .12795619
      rho |   .07316801   (fraction of variance due to u_i)
-----+-----
--

```

```
. pwcorr mscore age tenure compensation shareholding acfe , obs sig
```

```

      |   mscore      age   tenure compen~n shareh~g      acfe
-----+-----
mscore |   1.0000
      |
      |       211
      |
      |
      |   age |  -0.1410   1.0000
      |       |   0.0408
      |       |       211   211
      |       |
      |   tenure | -0.1015   0.3996   1.0000
      |       |   0.1418   0.0000
      |       |       211   211   211
      |       |
      | compensation |  0.1817  -0.0149  -0.1074   1.0000
      |       |   0.0082   0.8297   0.1198
      |       |       211   211   211   211
      |       |
      | shareholding |  0.1040  -0.2186   0.1463   0.5070   1.0000
      |       |   0.1322   0.0014   0.0336   0.0000
      |       |       211   211   211   211   211
      |       |
      | acfe |  0.8127  -0.1574  -0.0665   0.0939   0.0660   1.0000

```

	0.0000	0.0222	0.3366	0.1741	0.3403	
	211	211	211	211	211	211

```
. summarize mscore firmperformance firmleverage age tenure ceocompensation
shareholding acfe, detail
```

## M score

```
-----
```

	Percentiles	Smallest		
1%	0	0		
5%	0	0		
10%	0	0	Obs	211
25%	0	0	Sum of Wgt.	211
50%	0		Mean	.2890995
		Largest	Std. Dev.	.4544223
75%	1	1		
90%	1	1	Variance	.2064997
95%	1	1	Skewness	.9304209
99%	1	1	Kurtosis	1.865683

## Firm performance

```
-----
```

	Percentiles	Smallest		
1%	.1073238	.0970028		
5%	.1529991	.1035701		
10%	.2373731	.1073238	Obs	211
25%	.3108195	.109824	Sum of Wgt.	211
50%	.5336863		Mean	.5943403
		Largest	Std. Dev.	.3477023
75%	.8345516	1.666734		
90%	.9934019	1.813168	Variance	.1208969

95%	1.238993	1.965469	Skewness	1.125115
99%	1.813168	1.98309	Kurtosis	4.892684

Firm Leverage

---

	Percentiles	Smallest		
1%	.1334033	0		
5%	.2727496	.1127988		
10%	.4100628	.1334033	Obs	211
25%	.7392522	.1799628	Sum of Wgt.	211
50%	1.006728		Mean	1.075457
		Largest	Std. Dev.	.5359357
75%	1.30807	2.31471		
90%	1.867453	2.325907	Variance	.2872271
95%	2.11825	2.492374	Skewness	.5516041
99%	2.325907	2.563432	Kurtosis	2.920952

Age

---

	Percentiles	Smallest		
1%	3.496508	3.433987		
5%	3.688879	3.465736		
10%	3.7612	3.496508	Obs	211
25%	3.850147	3.526361	Sum of Wgt.	211
50%	3.951244		Mean	3.961122
		Largest	Std. Dev.	.1795781
75%	4.060443	4.369448		
90%	4.189655	4.382027	Variance	.0322483
95%	4.29046	4.394449	Skewness	.0619244
99%	4.382027	4.406719	Kurtosis	3.350426



## Tenure

---

	Percentiles	Smallest		
1%	1	1		
5%	1	1		
10%	1	1	Obs	211
25%	2	1	Sum of Wgt.	211
50%	3		Mean	4.180095
		Largest	Std. Dev.	3.096201
75%	6	13		
90%	9	13	Variance	9.586459
95%	10	14	Skewness	1.119122
99%	13	15	Kurtosis	3.674114

## ceocompensation

---

	Percentiles	Smallest		
1%	0	0		
5%	0	0		
10%	0	0	Obs	211
25%	0	0	Sum of Wgt.	211
50%	0		Mean	.1421801
		Largest	Std. Dev.	.3500653
75%	0	1		
90%	1	1	Variance	.1225457
95%	1	1	Skewness	2.049165
99%	1	1	Kurtosis	5.199079

## Shareholding

---

	Percentiles	Smallest		
1%	0	0		
5%	0	0		
10%	0	0	Obs	211
25%	0	0	Sum of Wgt.	211
50%	0		Mean	.4597156
		Largest	Std. Dev.	.4995597
75%	1	1		
90%	1	1	Variance	.2495599
95%	1	1	Skewness	.161663
99%	1	1	Kurtosis	1.026135

acfe

---

	Percentiles	Smallest		
1%	-.1818182	-.2987013		
5%	0	-.2402597		
10%	0	-.1818182	Obs	211
25%	0	0	Sum of Wgt.	211
50%	0		Mean	1.767434
		Largest	Std. Dev.	3.418405
75%	1.045455	11.03896		
90%	8.701299	11.21429	Variance	11.68549
95%	9.987013	11.33117	Skewness	1.70924
99%	11.21429	11.74026	Kurtosis	4.364264

. pwcrr mscore age tenure compensation shareholding acfe , star(0.05) sig

| mscore age tenure compen~n shareh~g acfe

```

-----+-----
mscore | 1.0000
      |
      |
      age | -0.1410* 1.0000
      | 0.0408
      |
      tenure | -0.1015 0.3996* 1.0000
      | 0.1418 0.0000
      |
compensation | 0.1817* -0.0149 -0.1074 1.0000
      | 0.0082 0.8297 0.1198
      |
shareholding | 0.1040 -0.2186* 0.1463* 0.5070* 1.0000
      | 0.1322 0.0014 0.0336 0.0000
      |
      acfe | 0.8127* -0.1574* -0.0665 0.0939 0.0660 1.0000
      | 0.0000 0.0222 0.3366 0.1741 0.3403
      |

```

```
. estat vif
```

```

Variable |      VIF      1/VIF
-----+-----
shareholding |      1.39      0.719551
      tenure |      1.35      0.738998
      age |      1.33      0.749990
ceocompens~n |      1.16      0.864214
firmleverage |      1.13      0.884940
firmperfor~e |      1.02      0.984250
-----+-----
Mean VIF |      1.23

```

```
. jb resid
```

```
Jarque-Bera normality test: 128.1 Chi(2) 1.5e-28
```

```
Jarque-Bera test for Ho: normality:
```

```
. gen reisdualsquare= resid* resid
```

```
. regress reisdualsquare firmperformance firmleverage age tenure ceocompensation
shareholding
```

Source	SS	df	MS	Number of obs	=	211
-----+-----				F(6, 204)	=	2212.29
Model	24.5250053	6	4.08750088	Prob > F	=	0.0000
Residual	.376917858	204	.001847637	R-squared	=	0.9849
-----+-----				Adj R-squared	=	0.9844
Total	24.9019231	210	.118580586	Root MSE	=	.04298

	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
-----+-----						
reisdualsquare						
-----+-----						
firmperformance	.0158788	.0085988	1.85	0.066	-.0010751	.0328327
firmleverage	-.0286651	.0058834	-4.87	0.000	-.0402652	-.017065
age	-.2349143	.0190729	-12.32	0.000	-.2725197	-.1973089
tenure	.0041642	.0011144	3.74	0.000	.0019669	.0063614
ceocompensation	1.001846	.0091146	109.92	0.000	.9838752	1.019817
shareholding	-.0937024	.0069997	-13.39	0.000	-.1075034	-.0799013
_cons	1.011184	.0753669	13.42	0.000	.8625858	1.159782

```
. regress reisdualsquare fp fl agesq tensq compsq sharecomp
```

Source	SS	df	MS	Number of obs	=	211
-----+-----				F(6, 204)	=	2133.44
Model	24.5112948	6	4.08521579	Prob > F	=	0.0000
Residual	.390628386	204	.001914845	R-squared	=	0.9843

```
-----+-----
Total | 24.9019231      210 .118580586  Adj R-squared = 0.9839
Root MSE = .04376
```

```
-----+-----
reisdualsq~e |      Coef.   Std. Err.      t    P>|t|    [95% Conf. Interval]
-----+-----
      fp |   .0085244   .0052075     1.64   0.103   - .0017431   .0187919
      fl |  -.0102803   .0023933    -4.30   0.000   - .014999   -.0055615
     agesq |  -.028157   .0024103   -11.68   0.000   - .0329092  -.0234048
     tensq |   .0002836   .0000897     3.16   0.002   .0001067   .0004604
     compsq |  1.002905   .0092932   107.92   0.000   .9845822   1.021228
sharecomp |  -.0925698   .007103    -13.03   0.000  - .1065746  -.078565
      _cons |   .5218369   .03818     13.67   0.000   .4465589   .5971148
-----+-----
```

```
. sktest resid
```

Skewness/Kurtosis tests for Normality

```
----- joint -----
Variable |      Obs   Pr(Skewness)   Pr(Kurtosis)   adj chi2(2)   Prob>chi2
-----+-----
      resid |      211     0.0000     0.0014     51.41     0.0000
```

```
. xtcsd, pesaran abs
```

```
Pesaran's test of cross sectional independence =      5.601, Pr = 0.0000
```

```
Average absolute value of the off-diagonal elements =      0.330
```

```
. hireg mscore (firmperformance firmleverage) (age tenure ceocompensation
shareholding) ( acfe)( ageacfe2)( ceotenureacfe)
```

```
> ( ceocomp)( ceoshareh)
```

Model 1:

Variables in Model:

Adding : firmperformance firmleverage

Source	SS	df	MS	Number of obs	=	
				F(2, 208)	=	2.34
Model	.954795402	2	.477397701	Prob > F	=	0.0987
Residual	42.4101335	208	.203894873	R-squared	=	0.0220
				Adj R-squared	=	0.0126
Total	43.3649289	210	.206499661	Root MSE	=	.45155

	mscore	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
firmperformance		.0721365	.0898091	0.80	0.423	-.1049163 .2491894
firmleverage		-.1198941	.058266	-2.06	0.041	-.2347617 -.0050264
_cons		.3751668	.0854615	4.39	0.000	.206685 .5436486

Model 2:

Variables in Model: firmperformance firmleverage

Adding : age tenure ceocompensation shareholding

Source	SS	df	MS	Number of obs	=	
				F(6, 204)	=	27.81
Model	19.509734	6	3.25162234	Prob > F	=	0.0000
Residual	23.8551949	204	.11693723	R-squared	=	0.4499
				Adj R-squared	=	0.4337
Total	43.3649289	210	.206499661	Root MSE	=	.34196

```

-----
--
      mscore |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-----+-----
--
firmperformance |   .0482084   .0684079     0.70   0.482   - .0866689   .1830857
  firmleverage |  -.0591511   .0468055    -1.26   0.208   - .1514357   .0331335
      age |    -.4329044   .151735    -2.85   0.005   - .7320744  - .1337344
      tenure |    .0069107   .0088658     0.78   0.437   - .0105696   .0243909
ceocompensation |   .8923023   .0725115    12.31   0.000   .7493341    1.03527
  shareholding |  -.1713392   .0556863    -3.08   0.002   - .2811337  - .0615446
      _cons |    1.961862   .5995827     3.27   0.001   .7796881    3.144035
-----

```

R-Square Diff. Model 2 - Model 1 = 0.428    F(4,204) = 39.669    p = 0.000

Model 3:

Variables in Model: firmperformance firmleverage age tenure ceocompensation shareholding

Adding                    : acfe

```

Source |      SS          df       MS      Number of obs   =      211
-----+-----
Model |  33.2893404         7   4.75562006   F(7, 203)       =      95.81
Prob > F      =      0.0000
Residual |  10.0755885       203   .049633441   R-squared        =      0.7677
-----+-----
Adj R-squared  =      0.7596
Total |  43.3649289       210   .206499661   Root MSE        =      .22279
-----

```

```

-----
--
      mscore |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-----+-----
--
firmperformance |  -.0817645   .0452449    -1.81   0.072   - .1709748   .0074457
  firmleverage |  -.0419973   .0305109    -1.38   0.170   - .1021563   .0181616
-----

```

age		-.1085355	.1007532	-1.08	0.283	-.3071924	.0901214
tenure		-.0007165	.0057941	-0.12	0.902	-.0121409	.0107078
ceocompensation		.4736471	.0535072	8.85	0.000	.3681459	.5791483
shareholding		-.0738143	.0367484	-2.01	0.046	-.1462719	-.0013568
acfe		.0871272	.005229	16.66	0.000	.076817	.0974374
_cons		.6283782	.3987388	1.58	0.117	-.1578227	1.414579

-----  
--

R-Square Diff. Model 3 - Model 2 = 0.318    F(1,203) = 277.627    p = 0.000

Model 4:

Variables in Model: firmperformance firmleverage age tenure ceocompensation  
shareholding acfe

Adding                    : ageacfe2

Source		SS	df	MS	Number of obs	=	211
-----+-----					F(8, 202)	=	83.43
Model		33.2897862	8	4.16122327	Prob > F	=	0.0000
Residual		10.0751427	202	.049876944	R-squared	=	0.7677
-----+-----					Adj R-squared	=	0.7585
Total		43.3649289	210	.206499661	Root MSE	=	.22333

-----  
--

mscore		Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
-----+-----						
--						
firmperformance		-.0823147	.0457276	-1.80	0.073	-.1724794    .0078499
firmleverage		-.0420282	.0305874	-1.37	0.171	-.1023398    .0182834
age		-.1036242	.113578	-0.91	0.363	-.3275746    .1203263
tenure		-.0007142	.0058084	-0.12	0.902	-.012167    .0107385
ceocompensation		.4744703	.0543405	8.73	0.000	.3673229    .5816176
shareholding		-.0735509	.0369437	-1.99	0.048	-.1463957    -.0007062
acfe		.096367	.0978785	0.98	0.326	-.0966276    .2893617



```

ageacfe2 | -.0023708 .0250777 -0.09 0.925 -.0518185 .0470769
_cons | .6090753 .4488473 1.36 0.176 -.2759516 1.494102

```

```

-----
--
R-Square Diff. Model 4 - Model 3 = 0.000 F(1,202) = 0.009 p = 0.925

```

Model 5:

```

Variables in Model: firmperformance firmleverage age tenure ceocompensation
shareholding acfe ageacfe2

```

```

Adding          : ceotenureacfe

```

```

Source |      SS      df      MS      Number of obs      =      211
-----+-----
Model | 33.2994534      9 3.69993927      F(9, 201)      =      73.89
Residual | 10.0654755     201 .050076993      Prob > F      =      0.0000
-----+-----
Total | 43.3649289     210 .206499661      R-squared      =      0.7679
Adj R-squared =      0.7575
Root MSE =      .22378

```

```

-----
--
mscore |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-----+-----
firmperformance | -.0851651   .0462762    -1.84  0.067    -0.1764142    .006084
firmleverage | -.0415099   .0306714    -1.35  0.177    -0.1019888    .0189691
age | -.0984185   .1144206    -0.86  0.391    -0.3240372    .1272001
tenure | -.001536    .0061131    -0.25  0.802    -0.01359     .0105181
ceocompensation | .475467    .0544966     8.72  0.000     0.3680087    .5829254
shareholding | -.0745315   .0370849    -2.01  0.046    -0.147657    -0.0014061
acfe | .1215575    .1136032     1.07  0.286    -0.1024495    .3455645
ageacfe2 | -.0097342   .0302039    -0.32  0.748    -0.0692914    .049823
ceotenureacfe | .0009344    .0021267     0.44  0.661    -0.0032591    .0051279
_cons | .5934078    .4511579     1.32  0.190    -0.2962018    1.483017

```

R-Square Diff. Model 5 - Model 4 = 0.000 F(1,201) = 0.193 p = 0.661

Model 6:

Variables in Model: firmperformance firmleverage age tenure ceocompensation  
shareholding acfe ageacfe2 ceotenureacfe

Adding : ceocomp

Source	SS	df	MS	Number of obs	=	211
-----+-----				F(10, 200)	=	232.59
Model	39.9313289	10	3.99313289	Prob > F	=	0.0000
Residual	3.43359997	200	.017168	R-squared	=	0.9208
-----+-----				Adj R-squared	=	0.9169
Total	43.3649289	210	.206499661	Root MSE	=	.13103

	mscore	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
-----+-----						
--						
firmperformance		-.0419183	.0271848	-1.54	0.125	-.0955238 .0116872
firmleverage		-.0118044	.0180222	-0.65	0.513	-.0473422 .0237334
age		-.0504423	.0670398	-0.75	0.453	-.1826379 .0817533
tenure		-.0014472	.0035793	-0.40	0.686	-.0085052 .0056109
ceocompensation		.9696764	.0406256	23.87	0.000	.8895668 1.049786
shareholding		-.0133893	.0219356	-0.61	0.542	-.0566441 .0298655
acfe		-.1171888	.0676169	-1.73	0.085	-.2505223 .0161446
ageacfe2		.0635544	.0180738	3.52	0.001	.0279147 .0991941
ceotenureacfe		-.0001123	.0012463	-0.09	0.928	-.0025699 .0023454
ceocomp		-.1323163	.0067322	-19.65	0.000	-.1455915 -.1190412
_cons		.2733002	.264663	1.03	0.303	-.2485878 .7951881

R-Square Diff. Model 6 - Model 5 = 0.153 F(1,200) = 386.293 p = 0.000

Model 7:

Variables in Model: firmperformance firmleverage age tenure ceocompensation  
shareholding acfe ageacfe2 ceotenureacfe

> ceocomp

Adding : ceoshareh

Source	SS	df	MS	Number of obs	=	211
-----+-----				F(11, 199)	=	216.89
Model	40.0263473	11	3.63875885	Prob > F	=	0.0000
Residual	3.33858158	199	.016776792	R-squared	=	0.9230
-----+-----				Adj R-squared	=	0.9188
Total	43.3649289	210	.206499661	Root MSE	=	.12953


  

mscore	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
firmperformance	-.0439727	.0268871	-1.64	0.104	-.096993	.0090475
firmleverage	-.0149729	.0178653	-0.84	0.403	-.0502025	.0202567
age	-.0679884	.0666805	-1.02	0.309	-.1994794	.0635026
tenure	-.0005539	.0035582	-0.16	0.876	-.0075704	.0064627
ceocompensation	.9926028	.0412994	24.03	0.000	.9111622	1.074043
shareholding	-.0351414	.0235319	-1.49	0.137	-.0815453	.0112624
acfe	-.1856829	.072775	-2.55	0.011	-.329192	-.0421739
ageacfe2	.0813215	.0193637	4.20	0.000	.043137	.1195059
ceotenureacfe	-.0015788	.0013776	-1.15	0.253	-.0042954	.0011377
ceocomp	-.1497382	.0098934	-15.14	0.000	-.1692476	-.1302288
ceoshareh	.0212664	.008936	2.38	0.018	.0036449	.0388879
_cons	.3525765	.2637423	1.34	0.183	-.1675119	.8726648

R-Square Diff. Model 7 - Model 6 = 0.002 F(1,199) = 5.664 p = 0.018

Model	R2	F(df)	p	R2 change	F(df) change	p
1:	0.022	2.341 (2,208)	0.099			
2:	0.450	27.807 (6,204)	0.000	0.428	39.669 (4,204)	0.000
3:	0.768	95.815 (7,203)	0.000	0.318	277.627 (1,203)	0.000
4:	0.768	83.430 (8,202)	0.000	0.000	0.009 (1,202)	0.925
5:	0.768	73.885 (9,201)	0.000	0.000	0.193 (1,201)	0.661
6:	0.921	232.592 (10,200)	0.000	0.153	386.293 (1,200)	0.000
7:	0.923	216.892 (11,199)	0.000	0.002	5.664 (1,199)	0.018

### APPENDIX III: UNIVERSITY AUTHORIZATION LETTER



**MOI UNIVERSITY**  
**POSTGRADUATE OFFICE**  
**SCHOOL OF BUSINESS AND ECONOMICS**

Tel: 0790940508  
 0771336914  
 0736138770  
 Fax No: (053) 43047  
 Telex No. MOIVARSITY 35047

P.O. Box 3900  
 Eldoret,  
 Kenya

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RE: MU/SBE/PGR/ACD/21B

DATE: 2<sup>nd</sup> August, 2022

**TO WHOM IT MAY CONCERN:**

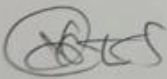
**RE: MAKINI KWAMBOKA RAEI - SBE/PGM/006/18**

The above named is a bonafide student of Moi University, School of Business & Economics. She is undertaking **Masters in Business Administration (MBA)**, specializing in **Forensic Audit & Accounting**.

Ms. Makini has successfully completed coursework, defended her proposal, and is proceeding to the field to collect data for her research titled: *"CEO Characteristics, Audit Committee Financial Expertise and Fraudulent Financial Reporting Among Manufacturing Firms Listed in East Africa"*.

Any assistance accorded to her will be highly appreciated.

Yours faithfully,




SCHOOL OF BUSINESS &  
 ECONOMICS  
 MOI UNIVERSITY  
 P O Box 3900 ELDORET-30100

**DR. RONALD BONUKE**  
**ASSOCIATE DEAN AND CHAIR-POSTGRADUATE STUDIES**

/s/

---



(ISO 9001:2015 Certified Institution)

# APPENDIX IV: NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION LICENSE

Republic of Kenya  
HARAMBEE  
REPUBLIC OF KENYA

**Ref No: 622810**

**NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION**

**Date of Issue: 21/November/2022**

**RESEARCH LICENSE**



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