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**Determinants of Occupational Fraud Occurrence in Manufacturing Companies in Kenya:
Moderated by Macroeconomic Factors**

Oguya Jane Adhiambo

**A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of
Commerce at Strathmore University.**



May 2024

DECLARATION

I declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the research thesis contains no material previously published or written by another person except where due reference was made in the thesis itself.

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ABSTRACT

Fraud is a global issue that is pervasive in the manufacturing business. This is despite the fact that the manufacturing industry is critical for any country's economic development because it generates a significant portion of the world's GDP. The goal of this study was to establish the determinants of occupational fraud occurrence in manufacturing companies in Kenya, moderated by macroeconomic factors. The study's specific objectives were to assess the effect of employee attributes on occupational fraud occurrence in manufacturing companies in Kenya; to investigate the effect of firm attributes on occupational fraud occurrence in manufacturing companies in Kenya; to examine the effect of CEO attributes on occupational fraud occurrence in manufacturing companies in Kenya; and finally, to assess the moderating effect of macroeconomic factors on determinants of occupational fraud occurrence in manufacturing companies in Kenya. The study was based on the fraud diamond theory and rational choice theory, all of which describe the three key reasons why individuals commit fraud: pressure, opportunity, and rationalization. In the technique concentrating on positivist philosophy, an explanatory research design method was used. The research population was acquired using probability sampling. The target population consists of 1328 manufacturing enterprises that have registered with the Kenya Association of Manufacturers (KAM). The study used stratified random sampling. To capture the whole sample and collect thorough data, semi-structured questionnaires were delivered to employees via business level survey (enterprise survey). Descriptive statistics were used, as well as component analysis to decrease variables and ordinal regression analysis. The research may be useful to managers in Kenya's manufacturing industry. The study found that employees in financial or procurement roles have increased opportunities to manipulate transactions for personal gain due to their specialized roles and that companies with sound governance structures are better positioned to detect and prevent fraud through effective oversight. In addition, the study found that aligning CEO incentives with the company's long-term success rather than short-term financial gains reduces the temptation for fraudulent activities. The study found that at 5% level of significance and 95% level of confidence, employee attributes, firm attribute, and CEO attributes were significant on occupational fraud occurrence. Finally, the study concluded that macro-economic factors were significant on moderating on determinants of occupational fraud occurrence in manufacturing companies in Kenya.

Keywords: occupational fraud, manufacturing sector in Kenya, macroeconomic factors

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LIST OF DEFINITION OF TERMS

Fraud: Fraud is defined by ISA No. 240, as an intentional act by one or more individuals among management, employees, or third parties, which results in a misrepresentation of financial statements (Akers & Gissel, 2019).

Chief Executive Officer (CEO): is the highest-ranking executive officer in an organization tasked with the overall strategic direction, decision-making, and leadership. In the context of this study, CEO attributes refer to the characteristics, behaviors, and qualities of the CEO that may influence the occurrence of occupational fraud in manufacturing companies (Officer, 2019).

Employee Attributes: encompass the personal characteristics, values, attitudes, and behaviors of individuals working within a manufacturing company. In this study, employee attributes refer to the factors related to employees that may impact their propensity to commit occupational fraud (Oluwatayo & Adetoro, 2020).

Firm Attributes: relate to the characteristics and features of the manufacturing company itself. These attributes can include organizational culture, internal controls, compensation structures, and more. In this study, firm attributes are the organizational factors that may affect the likelihood of occupational fraud occurring (Oluwatayo & Adetoro, 2020).

Occupational Fraud: refers to fraudulent activities committed by individuals within an organization for personal gain. This can include various forms of fraud, such as asset misappropriation, financial statement fraud, and corruption (Akers & Gissel, 2019).

Manufacturing Companies in Kenya: are organizations involved in the production of goods through various processes, such as assembling, processing, or fabricating raw materials. These companies operate within the manufacturing sector in Kenya, contributing to the country's economic growth (Were, 2016).

Attributes: refer to the inherent characteristics, qualities, or features of CEOs, employees, and manufacturing firms that may be relevant to understanding the occurrence of occupational fraud (Oluwatayo & Adetoro, 2020).

Effects: refer to the outcomes, impacts, or consequences of CEO, employee, and firm attributes on the occurrence of occupational fraud. This includes both direct and indirect effects, as well as the extent to which these attributes influence fraud occurrences (Were, 2016).

Occurrence: refers to the instances or events of occupational fraud within manufacturing companies. It includes the actual perpetration of fraudulent activities by employees or insiders (Akers & Gissel, 2019).

Manufacturing Sector: comprises companies and industries engaged in the production of tangible goods. In Kenya, this sector encompasses a range of activities, from food processing to automotive manufacturing (Were, 2016).



ABBREVIATIONS AND ACRONYMS

ACFE - Association of Certified Fraud Examiners

CEO – Chief Executive Officer

CIMA – Chartered Institute of Management Accountants

CMA – Certified Management Accountants

CPI – Corruption Perception Index

CVC - Corporate venture capital

EABC - East African Business Council

GCI – Global Competitive Index

GDP – Gross Domestic Product

GNP – Gross National Product

ISA - International Standards on Auditing

KAM – Kenya Association of Manufacturers

KEMSA – Kenya Medical Supplies Authority

KNBS – Kenya National Bureau of Statistics

NGO – Non-governmental Organization

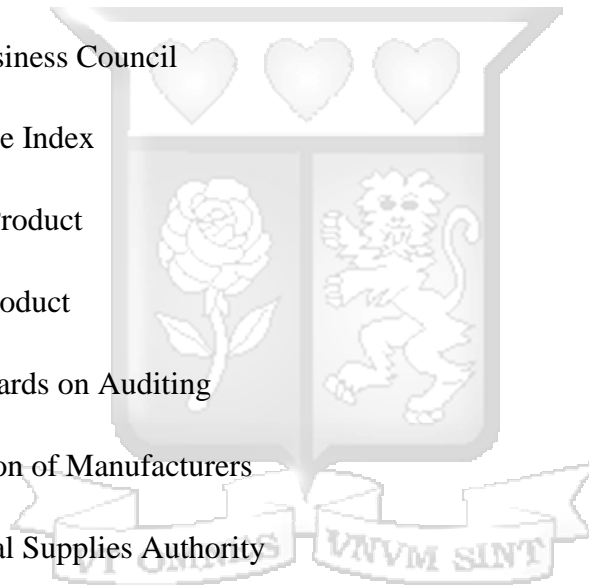
NPA – Non-performing Asset

PSB – Public Sector Board

PwC – Pricewaterhouse Coopers

R&D – Research & Development

USA – United States of America



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DEDICATION

I dedicate this research paper to the memory of my loving mother. Thank you for nurturing my dreams and instilling in me the values you taught me. I am also highly indebted to my family for their unconditional love and support throughout this master's program.

To my loving husband and children, Juana and Karl, thank you for cheering me on during this journey. I am forever grateful for your moral support, encouragement, and dedication to my success.



CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Occupational fraud is a very costly and prevalent form of financial crime globally (ACFE, 2023). Occupational fraud pertains to fraudulent activities carried out by employees against their employers. This leads to substantial financial losses for organizations impacting profitability and potentially leading to business failures. Additionally, organizations lose 5% of their revenues to fraud annually, which can be detrimental in the long term (ACFE, 2023). There are two primary reasons for the widespread occurrence of this type of fraud (Omukaga, 2021). One fundamental requirement for every organization with workers is to grant them a certain level of access or authority over its assets. This may involve tasks like as bookkeeping, bank account management, or safeguarding inventories (Ain et al., 2021). Organizations might be vulnerable to occupational fraud as a result of this trust. Scams are essentially based on the breach of trust. A further factor contributing to the high cost and prevalence of occupational fraud is the abundance of individuals capable of perpetrating such fraudulent activities (Staub, 2022). The worldwide labor force comprises over 3.3 billion people, the overwhelming majority of whom exhibit unwavering integrity and refrain from engaging in theft or breaching their employers' trust (ACFE, 2023). Nevertheless, if even a minuscule fraction of these individuals overstep the boundaries, millions of instances of vocational fraud are executed annually.

Misappropriation, corruption, or fraud are widespread occurrences in today's business environment. However, it appears that the manufacturing sector as a whole is more prone to fraudulent operations than other businesses. Based on data obtained from 2,110 genuine cases of fraud examined in 133 countries, the ACFE estimates that the yearly cost of fraud globally is around \$4.7 trillion, with a total loss of \$3.6 billion and an average loss per case of \$1.78 million. That's a lot of money, but what really matters is how much fraud impacts individual victim organizations. The average damage caused by scams globally was \$117,000. Even more discouraging is the \$177,000 median loss for manufacturers. The median financial loss incurred by firms with less than 100 workers amounted to \$150,000. The most significant financial losses resulting from fraudulent activities were attributed to unscrupulous proprietors and high-ranking officials, amounting to a median loss of \$337,000.

Fraud is a worldwide occurrence, with North America having the highest frequency (36%), followed by Sub-Saharan Africa (23%), the Asian Pacific region (10%), and Western Europe (8%). Fraud and abuse cost US organizations more than \$400 billion every year. The typical loss per instance caused by males is around \$158,000, while females lose approximately \$100,000. The fraud cases are usually caused by fraudsters within the age of 31 years – 50 years, with a tenure of more than 10 years in an organization. Even though the fraud cases by executives are low, compared to by managers and employees, the magnitude of the loss is high at \$ 500,000 followed by managers at \$ 184,000 and lastly employees at \$ 60,000 (ACFE, 2024). The reported crimes included organizations as victims, with the most costly violations occurring in organizations with less than 100 employees. The education business had the lowest median loss, while the real estate financing sector had the largest.

As of December 2022, fake customer fraud was the most commonly reported transfer fraud attempt by firms in France, with nearly four out of ten organizations identifying it. False invoice fraud ranked second, with 37% of respondents reporting it. Furthermore, account number or bogus bank data fraud was the third most prevalent type of transfer fraud, with 36% of respondents reporting it (Petrosyan, 2023). In Australia, companies may incur more damage from conspiracy among the perpetrators than from fraud itself. When analyzing the behavioural indicators of criminals, it was found that 87% of offenders in Australia exhibited one or more of the following traits: extravagant lifestyle, financial troubles, unusually close relationships with customers, marital or familial problems, impatience, suspicion, or defensiveness (ACFE, 2022a).

In India, the incidence of occupational fraud perpetrated by proprietors and executives was relatively lower, although the repercussions were far more severe. Based on the data, it was shown that lesser damage to the organization is done by younger offenders, with a median age of 35 years, compared to older perpetrators, taking into consideration the age of the criminals. When analyzing fraud based on gender, it was found that males were responsible for 71% of the offences, and the median loss caused by male criminals was twice as high as that caused by female offenders (Beemamol, 2023). On the other side, there are several reasons why occupational fraud is so prevalent in Japan, but one crucial fact is the low number of instances convicted. In 2022, just 58% of organizations pursued criminal charges, compared to 65% in 2012. As a result, an individual who committed fraud against a previous employer is unlikely to have that fraud discovered via a

background check. This causes concern among business owners and HR departments globally, since background checks were claimed to have been conducted in 57% of the fraud instances studied, with 79% indicating no red flags.

According to the Chartered Institute of Public Finance and Accountancy (CIPFA) (2022), fraud in the public sector amounts to a minimum of \$40.3 billion annually, with local governments responsible for \$7.8 billion of that total. CIPFA asserts that fraud is a significant concern in the public sector and presents an ongoing financial risk to local governments. Kurfi and Danrimi (2021) define phantom workers as a fraudulent practice in Nigerian towns, when council officials fraudulently include fictitious names and divert the funds allocated for these non-existent individuals into their own accounts. Although fraud comprises several criminal actions including deceit and dishonesty, it is important to emphasize that procurement fraud is one of the most common forms of fraud found in local governments. South Africa has incurred significant financial losses as a result of procurement fraud, with the country's Auditor-General consistently drawing attention to the pervasive problem of fraudulent tendering that severely impacts municipalities (Nokele & Shopola, 2021). Procurement fraud in the public sector has led to inefficient, unauthorised, and irregular spending, as well as mismanagement, and has negatively impacted economic and social initiatives in local government (Mbandlwa et al., 2020).

Based on the Global Competitive Index report (2010-2011), Kenya ranked 102nd out of 142 nations, with an overall score of 3.7 out of a maximum of 7. This places Kenya in the bottom 40 countries in terms of global competitiveness. Economic fraud is a significant factor that contributes to the low competitiveness of the lowest 40 countries. It accounts for 31.5% of the obstacles to global competitiveness, which is higher than the percentages for Uganda (21.5%) and Tanzania (16.8%).

The study on the determinants of occupational fraud occurrence in manufacturing companies in Kenya, moderated by macroeconomic factors is justified by several significant factors. Firstly, occupational fraud poses a substantial threat to the financial integrity and stability of organizations, leading to significant financial losses, damage to reputation, and erosion of trust. Manufacturing companies, like other sectors, are vulnerable to various forms of occupational fraud, including financial statement fraud, asset misappropriation and corruption. Understanding the factors that

moderate the occurrence of fraud within these companies is crucial for developing effective prevention and detection strategies.

Secondly, the role of organizational leadership, particularly that of the CEO, in shaping the ethical climate and culture of a company is well-documented. CEO attributes such as ethical leadership, integrity, and commitment to compliance can significantly influence employee behavior and organizational practices related to fraud prevention and detection. Investigating how CEO attributes moderate the relationship between other organizational factors and fraud occurrence can provide valuable insights into the mechanisms through which leadership impacts fraud risk management. Furthermore, employee characteristics, including their attitudes, values, and perceptions of organizational justice, play a crucial role in shaping their propensity to engage in fraudulent activities. Understanding how employee attributes interact with other organizational factors to influence fraud occurrence can inform the design of targeted training programs, policies, and controls aimed at reducing fraud risk and promoting ethical conduct among employees.

Thirdly, macroeconomic conditions such as inflation, economic downturns, and high interest rates, among others, can influence the occurrence of occupational fraud in manufacturing companies in Kenya. During such economic hardships, there is more pressure and justification to commit fraud in order to make ends meet. Therefore, understanding how these macroeconomic factors moderate the occurrence of occupational fraud in manufacturing firms in Kenya can inform development of policies to be considered by policy makers in breaching fraud.

Lastly, firm-specific factors, such as the strength of internal controls, corporate governance mechanisms, and organizational culture, can either mitigate or exacerbate the risk of occupational fraud within manufacturing companies. Investigating the moderating effects of these firm attributes on the relationship between CEO and employee characteristics and fraud occurrence can provide actionable insights for enhancing fraud prevention efforts and strengthening corporate governance practices.

The topic of compensation package for senior leadership has nearly become inseparable from that of management and corporate governance, given the increasing awareness of the two (Baixauli-Soler, & Sanchez-Marin, 2015). Following the 2008 crisis, a focus concerning global financial institutions on compensation shifted to developing countries like Kenya (Aduda, 2011). The

Capital Markets Authority of Kenya, in pursuit of transparency efforts, have recently revealed total annual compensations that manufacturing executives in top manufacturing firms have been receiving (Capital Markets Authority, 2016). For example, senior management in top manufacturing firms in Kenya spent close to KES 2 billion in remuneration (Juma, 2018).

The results of the PwC (2019) crime survey reveal that for the types of fraud committed, asset misappropriation is more common than accounting and auditing fraud. However, the magnitude of the losses is higher for the latter. This shows that accounting and auditing fraud have more serious repercussions, especially, to capital market participants. Accounting and auditing fraud is also known as fraudulent financial reporting as it relates to companies' financial reports. This type of fraud is a major concern to capital market participants as they rely on financial reports as important sources of information for decision making.

1.1.1 Determinants of occupational fraud

CEOs are critical to successfully leading any organization through crises, environmental dynamics such as the COVID-19 pandemic, and commercial issues and dilemmas (Longenecker & Wittmer, 2022). Global studies on organizational performance have demonstrated that adequacy in business resources does not always lead to outstanding firm performance; it is mostly determined by the CEO's ability and qualities (Hsu et al., 2013; Kumar and Yakhlef, 2014; Santhosh, 2019). Age, problem-solving skills, gender, level of education, social and business networks, as well as self-confidence (Cooper et al., 1994; Stoian et al., 2011; Santhosh, 2019) and international exposure lead to better management of the complications and complexities associated with the diverse business environment. In Nigeria, research suggest that CEO tenure and nationality have a substantial impact on business performance (Ahmad et al., 2022; Yusuf et al., 2023; and Rehman et al., 2021). On the other hand, studies on businesses listed on the Nairobi Stock Exchange in Kenya reveal that CEO age and level of education have a substantial impact on firm performance (Kokeno et al., 2016).

In general, CEOs have unlimited resources at their disposal to conduct and hide occupational fraud, giving them an advantage over lower-level employees in causing immediate harm to the organization. The CEO's fraudulent scheme has a velocity that is more than three times that of an employee, with a median loss of \$600,000 (ACFE, 2020). The research on CEO gender and the prevalence of fraud is equivocal. Studies by (Adams & Ferreira, 2009; Ye et al., 2010; Chiu et al.,

2013; Ye, 2014; Francis et al., 2015; Carter et al., 2017; and Wahyuningtyas et al., 2021) concluded that female CEOs are adversely related with accounting fraud. However, research by (Wairimu, 2014; Heang, 2010; Kyenze, 2014; Manini & Addillahi; 2015, Kirimi, 2015; Harun, 2017) discovered that there is no statistically significant relationship between CEO gender and business performance. As a result, it is clear that more study on the relationship between CEO qualities and the prevalence of fraud is required to close the knowledge gap.

Even though a large number of publicized fraudulent crimes, such as Enron, Satyam, Bernie Madoff, Lehman Brothers, American International Group, Freddie Mac, HealthSouth, Tyco, WorldCom, and Waste Management, have raised global awareness, fraud continues to rise despite measures being put in place. Multiple studies indicate that there has been a significant rise in internally committed fraud, primarily by employees and management, in recent years (Asmah et al., 2019; ACEF, 2018). According to Coenen (2008), individuals who possess high intelligence, a strong sense of self-importance, a curious nature, a willingness to take risks, a tendency to defy rules, a diligent work ethic, and experience stress may also exhibit traits such as greed, financial need, dissatisfaction or a tendency to complain, excessive spending, an intense drive for personal gain, pressure to perform, and tight relationships with vendors or suppliers. Matagaro (2018) concluded that an employee's lifestyle and attitude impact occupational fraud risk. This contradicts Shaw and Allen's (2009) claim that fraudsters in NGOs have certain features with fraudsters in other contexts, such as age and education, but victim characteristics differ. From the above articulated studies, it is evident that there is a contextual gap with regard to the manufacturing sector in Kenya. This study, therefore, seeks to understand the effect of CEO attributes on the occurrence of occupational fraud in manufacturing companies in Kenya.

Firm features include the firm's age, gender makeup of the management team, and management team education attainment, among others (Edmund, Wasike & Zeman, 2020). Age is the number of years a company has been in existence. Claudio and Urs (2010) conducted studies to determine whether organizations, like human bodies, degrade and lose their competitive power over time. They discovered that as a company ages, its profitability appears to fall. According to Hannan (1998), this might be attributable to two factors. To begin, aging might represent the long-term consolidation of organizational rigidities. Costs rise, growth slows, assets become outdated, and investment in R&D activities decreases. Next, aging can hasten the spread of rent-seeking behavior

within the company. This theory is backed by our observations of worse governance, bigger boards, and greater CEO compensation in older organizations.

Equally significant, empirical research and early organizational theory on wrongdoing indicate that organizational risk of fraud increases with organizational scale (Clinard & Yeager, 1980; Saksena, 2001; Linstead et al., 2010). The primary factors contributing to this include variables such as the size of the company, the industry sector it operates in, the kind of organization (public or private), its assets, the presence of existing controls, the organizational structure, and several other factors. In their study, Barnes and Webb (2007) examined the factors that contribute to an organization's vulnerability to theft and fraud. They found that there is a direct correlation between the characteristics of the organization, the type of theft, and the resulting financial losses. These findings have significant implications for the development of strategies to prevent fraud. It would be interesting to investigate how firm attributes influence the incidence of occupational fraud in Kenyan manufacturing enterprises. As a result, the purpose of this study is to fill a knowledge vacuum by examining the effects of firm attributes on occupational fraud in Kenyan manufacturing firms.

1.1.2 Occupational Fraud

The rates of fraud and economic crime continue to be at unprecedented levels, affecting a larger number of firms in a wider range of ways than ever before (PwC, 2020). Occupational fraud, often referred to as employee fraud or white-collar crime, occurs in manufacturing companies just as it can in any other type of organization. According to Maulidi, (2023) occupational fraud involves employees or insiders using their position within the company to engage in fraudulent activities for personal gain. Some common types of occupational fraud occurrences in manufacturing companies include asset misappropriation involving theft of inventory, false invoicing, payroll fraud, and supplier fraud (Kalovya, 2023). Another common occupational fraud is financial statement fraud involving revenue recognition fraud, expense manipulation, and asset valuation fraud. Moreover, corruption is a common occupational fraud that involves bribery and kickbacks, and conflict of interest (Ratmono, & Frendy, 2022).

Furthermore, vendor fraud is also an occupational fraud that involves overbilling, and substandard goods or services delivery. Besides, data theft and intellectual property theft is another form of occupational fraud where employees steal intellectual property rights, classified company data, or

trade secrets, to benefit competitors or sell the information to third parties (Beemamol, 2023). Through occupational collusion employees in different roles collaborate to carry out fraud schemes, making detection more difficult or they may misuse company funds for personal expenses, such as travel, entertainment, or purchases in expense occupational fraud.

Various organizational factors influence the likelihood of fraud occurring within a manufacturing company. An organizational culture that places a high emphasis on ethics, honesty, and integrity serves as a potent deterrent against fraud. When employees think that ethical conduct is highly regarded and incentivized, they are less inclined to participate in fraudulent activities (Schnepf et al., 2022). Implementing strong internal controls, such as dividing responsibilities, conducting frequent audits, and employing monitoring systems, effectively minimizes the chances of fraud. Consequently, workers are less inclined to engage in fraudulent activities when they are aware of the presence of rigorous checks and balances (Li et al., 2022). Establishing anonymous whistleblower reporting mechanism encourages employees to report suspicious activities without fear of retaliation leading to early detection and prevention of fraud. Moreover, effective management oversight and involvement in financial and operational matters reduces the risk of fraud since it sends a message that unethical behavior will not be tolerated (Bakar et al., 2023).

In addition, doing frequent risk assessments to identify possible areas of susceptibility to fraudulent activities enables firms to take proactive measures in addressing these risks (Akbar et al., 2022). On the other hand, the behavior and ethical values of top executives and managers set the tone for the entire organization thus ethical leadership influences employees to uphold ethical standards (Nisak, & Rochayatun, 2023). Besides, adequate allocation of resources, including financial resources, staffing, and technology, to fraud prevention and detection efforts enhances the organization's ability to combat fraud (Bergsma, 2022). Likewise, compliance with relevant laws and regulations reduces the risk of fraud with companies that adhere to legal requirements being less likely to engage in fraudulent activities (Qalbi, 2023). Consequently, organizational attributes that give rise to occupational fraud vary depending on the CEO's attributes, employee attributes, and firm attributes.

The problem of fraud is growing, as preventive controls (such as antifraud processes, internal audit, internal policies) are not strong enough to deter fraud. KPMG's survey of 750 fraudsters worldwide found that in no less than three fifths, the weak internal controls were a contributing

factor of them. The proportion of fraudsters who saw an opportunity was a sizeable jump. The fraudsters override or evade internal controls, despite how strong they are. The checks on powerful executives come in different forms of detection, such as suspicious customers and vendors, whistle-blowers, and any other tip-off mechanisms. Fraud is almost twice as likely to be perpetrated in groups as in solitude. This is partly because collusion to circumvent controls by fraudsters is key. Therefore, collusion is threatening for a company. Larger groups (say, five or more people) have a higher financial median loss than single fraudsters or small groups. Additionally, the male fraudsters outnumbered women five times in collusion, though the proportion of women has risen since 2010. Male fraudsters also tend to be more senior than women in the organization. Groups of fraudsters very often comprise people both inside and outside the company. Sixty-one percent of colluders are either not employees of the company or are employees who work with people who aren't. Some of them are former employees. This highlights the need for better customer due diligence (KPMG, 2015).

Technological advancements help both the fraudster and the company in the war against fraud. Almost a quarter of fraudsters rely on technology. Companies, as well, can invest in technology as a tool to prevent, detect and respond to fraud. Data analytics, a tool that can sieve through millions of transactions, identifying exceptions, is the key antifraud technology. But only 3 percent are using pro-active anti-fraud data analytics in detection of the fraudsters surveyed. Additionally, technology-based fraud, cybercrime, is a growing threat, and many companies are aware of the issue but seem to be doing little about it, in terms of putting up preventive measures. Due to the dynamic business environment, there is constant change in fraud threats, and there's a need for companies to regularly assess the risks to remain abreast in the dynamic business environment by addressing the way they detect and prevent fraud occurrence, as need arises (KPMG, 2015).

1.1.3 Moderating Effect of Macroeconomic Factors

The macroeconomic factors in this study were GDP, interest rates, foreign exchange rates, and inflation growth. Understanding the moderating effect of macroeconomic factors on the relationship between CEO, employee and firm attributes as determinants and occupational fraud provides valuable insights into the factors that influence fraudulent activities within this specific sector (Nyakundi, 2022). Regarding CEO attributes, scholars argue that a CEO with a laissez-faire or autocratic leadership style creates an environment with weak internal controls and ethical

oversight, potentially increasing the likelihood of fraud (Wang et al., 2021). Nevertheless, a Chief Executive Officer (CEO) who possesses robust ethical principles fosters a culture that upholds integrity and ethical conduct inside the organization, hence diminishing the probability of professional fraud. Other scholars (Zainal et al., 2022) observe that a CEO with a high-risk tolerance, especially if it encourages unethical practices to achieve short-term financial gains, contributes to an elevated risk of fraud occurrence. While CEO compensation structures heavily based on financial performance metrics, especially short-term incentives, incentivize fraudulent behavior to meet targets.

As for employee attributes, lower job satisfaction increases the risk of occupational fraud, as dissatisfied employees are more prone to engage in fraudulent activities, such as embezzlement or theft. Additionally, employee ethical values and attitudes play a crucial role in fraud occurrence since employees with lower ethical standards are more likely to commit fraud, especially if they perceive a lack of consequences (Mathenge, 2021). Moreover, financially stressed employees, facing personal debt or financial difficulties, are more likely to be motivated to commit fraud as a means to alleviate their financial burdens. On the other hand, high levels of organizational loyalty and engagement among employees act as a protective factor against fraud, as loyal employees are less likely to engage in unethical behavior (Oringo, 2020).

Concerning firm attributes, a strong ethical culture within a manufacturing company, influenced by leadership and values, deters occupational fraud and encourages ethical behavior (Githaiga, 2022). Additionally, the presence and effectiveness of internal controls and fraud prevention measures, such as regular audits and segregation of duties, significantly reduces the risk of fraud within the organization (Mrefu & Gichure, 2022). Further, robust whistleblower protection mechanisms within the company encourage employees to report unethical behavior, potentially deterring fraudulent activities. Similarly, the extent of monitoring, including internal audits, risk management, and oversight, directly impacts the detection and prevention of fraud within the organization (Yego & Nasieku, 2021).

The impact of organizational characteristics on occupational fraud in the industrial industry is substantial (Anning & Adusei, 2022). Fraud in any firm raises a number of challenges, including the bottom line, profitability, and long-term growth potential. It drains resources, lowers morale and consumer confidence, and undermines shareholder and investor faith. According to the ACFE

(2022) research, the average fraud lasts 12 months before being found, with nearly half committed by staff in accounting, operations, sales, and senior or top management roles. Manufacturing organizations are more prone to fraud due to risk variables such as high raw material levels and finished and work-in-process items, which increase the likelihood of inventory fraud and non-cash theft (Agyemanget et al., 2023). Bribery and corruption can happen when contracts are issued or obtained, and new technology and automation can also be utilized.

1.1.4 Manufacturing Companies in Kenya

The manufacturing sector is critical to every country's economic development. According to the World Bank (2019), the manufacturing sector produces 16.8% of global GDP, whereas it accounts for 8% of Kenya's GDP. Kenya's manufacturing industry is an important sector since it helps the country's economy by creating jobs, increasing national production, and exporting goods. The industry has shown exceptional success, with a significant upward trend. In 2019, the real value added climbed by 3.2%, compared to a revised growth of 4.3% in 2018. Additionally, the volume of output increased by 2.0% in 2019, up from a revised growth of 5.6% in 2018. Technological advancements have enhanced the competitiveness of the manufacturing sector.

The Kenya Association of Manufacturers, Kenya Bureau of Standards, and the Ministry of business, Trade, and Cooperatives serve as the main regulators and facilitators in this business. Based on the membership list of the Kenya Association of Manufacturers (2020), there are a total of 14 sectors, out of which 12 are engaged in the activities of processing and value addition. The sub-sector classification is determined by the specific raw materials that companies import or the specific goods that they manufacture. The Kenyan government, under the Ministry of Industry, promotes manufacturing by bolstering its role in the Vision 2030 and Big 4 Agenda, which aim to enhance the country's global competitiveness and prosperity through job creation and wealth generation (Chege et al., 2016). Despite the implementation of these procedures, the manufacturing sector's contribution to GDP is still fluctuating, with 7.6% reported in 2023 compared to the previous year 2022 at 7.7% (KNBS, 2024).

Additionally, the manufacturing industry confronts a number of issues, including rising raw material costs, shifting customer tastes, inflation, and occupational fraud. Fraud is a serious issue in the manufacturing industry because it may be perpetrated by both junior and senior personnel

who are supposed to protect the company's and investors' interests (Yulistyawati et al., 2019). The Certified Fraud Examiners argue that fraud is a danger to corporate growth and development. The Certified Fraud Examiners underscores that most organizations experience a loss of seven percent of their annual sales as a result of fraudulent activities. According to the analysis, the manufacturing sector was placed second in terms of monetary and financial losses compared to the other twenty-two (22) sectors. The ACFE investigation identified a lack of a dependable and effective control mechanism as the primary cause of fraud. As a result, it is critical that manufacturing organizations work to establish a solid control system.

Manufacturing companies often deal with large inventories of physical goods, making them vulnerable to asset misappropriation schemes such as theft of raw materials, finished products, or equipment. The sheer volume and variety of inventory presents ample opportunities for fraudulent activities to occur, necessitating a thorough examination of the factors that contribute to fraud occurrence within these companies.

Secondly, the complex and decentralized nature of manufacturing operations can create challenges in implementing effective internal controls and oversight mechanisms. With multiple production facilities, supply chain partners, and distribution channels, manufacturing companies face difficulties in maintaining visibility and accountability across their operations, increasing the risk of fraudulent behavior going undetected.

Additionally, the competitive pressures inherent in the manufacturing industry, coupled with tight production deadlines and cost constraints, may incentivize unethical behavior among employees seeking to meet targets or secure personal gain. This competitive environment can create a culture that prioritizes performance over ethical conduct, fostering an environment conducive to fraud.

Moreover, the reliance on technology and automation in modern manufacturing processes introduces new avenues for fraudulent activities, such as cyber fraud and intellectual property theft. As manufacturing companies adopt digital technologies and interconnected systems, they become increasingly vulnerable to sophisticated cyber threats and data breaches, further necessitating research into the factors that influence fraud occurrence and prevention within these companies.

Furthermore, the role of leadership in setting the tone and ethical standards within manufacturing companies cannot be understated. The CEO's commitment to integrity, transparency, and compliance filters down through the organization, influencing employee behavior and shaping the

corporate culture. Understanding how CEO attributes interact with employee and firm characteristics to impact fraud occurrence is essential for strengthening governance practices and mitigating fraud risk in the manufacturing sector.

1.2 Statement of the Problem

The investors' anxiety, fear, and loss of confidence in investing in Kenya are indeed understandable and underscored by the rising cases of fraud and misappropriation of resources within the country. The shutdown of major corporations like Mumias Sugar, ARM Cement, Eveready East Africa, Procter and Gamble, Reckitt Benckiser, Cadbury, Sameer Africa, Uchumi Supermarket, Tuskys Supermarket, Imperial Bank, National Bank, and Chase Bank, among many others, paints a concerning picture of the business environment in Kenya (Mpiana, 2017; Mungai, 2016; Mwangi, 2020). These closures not only signal financial distress but also reflect systemic issues related to governance, transparency, and accountability. The prevalence of fraud and mismanagement erodes investor trust and undermines Kenya's reputation as an attractive destination for investment. The ripple effects are profound, extending beyond the immediate loss of jobs to impacting the country's Gross Domestic Product (GDP) and Gross National Product (GNP). Investors are understandably hesitant to commit capital to an environment as high-risk and plagued by corruption and financial irregularities. Such concerns can deter both domestic and foreign investors, stifling economic growth, hampering job creation, and impeding development initiatives (Mpiana, 2017; Mwangi, 2020). Due to the nature of the manufacturing sector, such as high volume of transactions and complexity of operations, it is vulnerable to occupational fraud occurrence.

While the literature recognizes that fraud can occur from external sources as well as within an organization, multiple studies indicate that internal fraud, primarily perpetrated by employees and management, has become increasingly common in recent years (Buckhoff, 2001; Asmah et al., 2019; Jackson, 2010; and Omar et al., 2016). Moreover, based on a PwC (2020) survey, fraud impacts firms from several angles, with 37% originating from internal sources, 39% from external sources, and 20% resulting from collaboration. Based on a 2018 study conducted by PricewaterhouseCoopers (PwC), there has been a steady rise in economic crimes committed by mid-level managers, with the percentage increasing from 29% in 2016 to 41% in 2018. The fall of Imperial Bank Kenya can be attributed to a fraudulent plan orchestrated by the CEO, leading to a significant loss of 13.62% of its total assets (Mwangi, 2020). This is supported by a survey

conducted by the Kenya National Bureau of Statistics, which revealed a 60% rise in employee-related offences in 2019 compared to the previous year.

Several empirical studies (Duffield & Grabosky, 2001; Baker, 2003; Zahra, 2005; Mustafa & Youssef, 2010) have specifically examined the motivations and incentives behind employee fraud. There were limited studies to assess the effect of employee attributes on occupational fraud occurrence in manufacturing companies in Kenya. As a result, this study sought to address the contextual gap. Additionally, several studies (Alleyne & Howard, 2002; Owusu & Ansah, 2002; Brazel et al, 2007; Bakre, 2007; Hammersley, Bamber & Carpenter, 2007; Lange, 2008) sought to understand the role of external auditors in detecting and preventing fraud but had varying outcomes indicating the need of proper internal controls to deter occupational fraud occurrence. Therefore, this study sought to advance the research of the effect of firm attributes on occupational fraud occurrence in manufacturing companies in Kenya.

Based on the reviewed empirical literature, it becomes evident that there is a notable dearth of empirical research specifically focusing on the influence of CEO, employee, and firm attributes, moderated by macroeconomic variables on occupational fraud incidence within Kenyan manufacturing enterprises. While studies from other contexts offer valuable insights into the broader dynamics of corporate governance and fraud prevention, there is a lack of empirical evidence tailored to the unique context of the Kenyan manufacturing sector. Furthermore, the existing literature highlights the importance of macroeconomic factors, such as inflation, GDP growth, foreign exchange rates, and interest rates, in shaping the overall business environment and potentially influencing fraud occurrence. However, the specific impact of these macroeconomic variables on fraud incidence within the Kenyan manufacturing sector remains relatively underexplored.

1.3 Objectives of the Study

1.3.1 General Objective

To establish the determinants of occupational fraud occurrence in manufacturing companies in Kenya, moderated by macroeconomic factors.

1.3.2 Specific Objectives

The specific objectives of the study were;

- i. To establish the effect of employee attributes on occupational fraud occurrence in manufacturing companies in Kenya.
- ii. To investigate the effect of firm attributes on occupational fraud occurrence in manufacturing companies in Kenya.
- iii. To examine the effect of CEO attributes on occupational fraud occurrence in manufacturing companies in Kenya.
- iv. To assess the moderating effect of macroeconomic factors on determinants of occupational fraud occurrence in manufacturing companies in Kenya.

1.4 Research Questions

- i. What is the effect of employee attributes on occupational fraud occurrence in manufacturing companies in Kenya?
- ii. What is the effect of firm attributes on occupational fraud occurrence in manufacturing companies in Kenya?
- iii. What is the effect of CEO attributes on occupational fraud occurrence in manufacturing companies in Kenya?
- iv. What is the moderating effect of macroeconomic factors on determinants of occupational fraud occurrence in manufacturing companies in Kenya?

1.5 Scope of the Study

The study looked at how the determinants of occupational fraud occurrence moderated by macroeconomic factors affect the Kenyan manufacturing companies. The scope of the study was confined to Kenya's registered manufacturing enterprises, as listed by KAM. The study's specific objectives focused on: assessing the effect of employee attributes on occupational fraud occurrence in manufacturing companies in Kenya; investigating the effect of firm attributes on occupational fraud occurrence in manufacturing companies in Kenya; examining the effect of CEO attributes on occupational fraud occurrence in manufacturing companies in Kenya; and finally assessing the

moderating effect of macroeconomic factors on the relative. The unit of analysis consisted of CEOs, managing directors, head of departments, and other top executives who hold decision-making authority within the manufacturing companies. The research tool for data collection was a semi-structured questionnaire. The investigation spanned the period between February and March 2024.

1.6 Significance of the Study

The significance of the research is discussed in the introduction. It determined who benefited from the study and how the findings were applied to that specific audience. A study's value is determined by its contribution to the advancement of knowledge. This study may be essential for policymakers (governments), practitioners (firm management), and scholars.

1.6.1 Policy Makers and Government

First, the government may require this information to develop policies that safeguard investors while also ensuring that the manufacturing sector's decline does not have an impact on GDP or inflation. The Enron crisis in the manufacturing sector prompted the implementation of SOX rules, and this study may assist give understanding. The sector's management can also utilize this knowledge to develop measures that reduce occupational fraud.

1.6.2 Practitioners

Moreover, this study may help the industry in mitigating fraud risk and formulating policies to reduce operational risk. The stakeholders will have the capability to close the vulnerabilities that the fraudsters are exploiting to commit fraud, even in the presence of preventive measures aimed at detecting and deterring fraud, hence reducing fraudulent activity.

1.6.3 Scholars

Finally, this study may add value to the prevailing body of information as it develops insights of fraud reduction as well as contribute to the existing literature on employee fraud with a focus on the manufacturing industry.

CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

This chapter encompasses the examination of existing theoretical literature, the development of a conceptual framework, and the analysis of empirical literature. Theoretical literature review examined the concepts and theories relevant to the investigation, while the conceptual framework outlined the independent and dependent variables of the study. Empirical review included current works pertaining to the issue. The purpose of conducting a literature review was to understand the existing research gaps and help address how the study was to address the limitations of previous studies, incorporating theories.

2.2 Theoretical Review

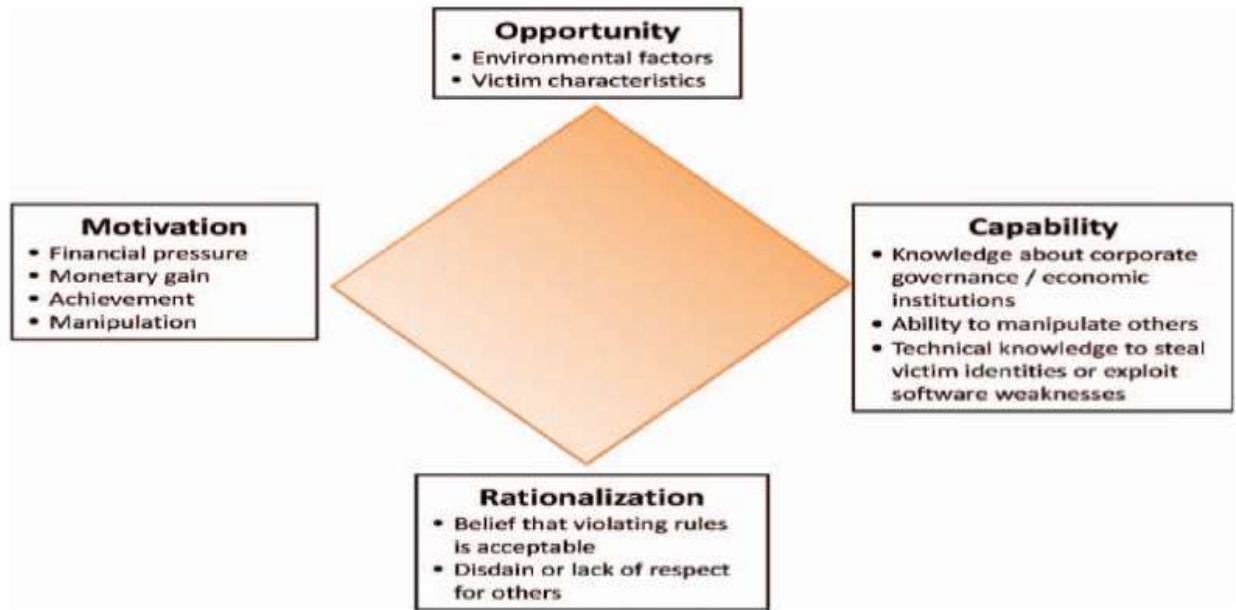
The primary function of theories is to elucidate, forecast, comprehend phenomena, and evaluate current knowledge with the aim of augmenting it. The theoretical framework presents and explains the theory that provides a comprehension for the existence of the research problem. The theory that informs the study is the fraud diamond theory and rational choice theory, which explains the three primary reasons as to which people commit fraud, namely, pressure, opportunity, and rationalization. The theory is applicable to the study as it sheds light on the factors that drive CEOs, employees, and firm attributes moderated by macroeconomic factors to commit fraud.

The choice of a multi-theoretical approach in the study on occupational fraud occurrence in manufacturing companies in Kenya is justified by its potential to provide a comprehensive, contextually relevant, and holistic explanation of the underlying mechanisms driving fraud risk within this sector. By integrating insights from the Fraud Diamond Theory and Rational Choice Theory, the study can offer valuable insights for policymakers, regulatory bodies, and corporate stakeholders seeking to strengthen fraud prevention and detection mechanisms in manufacturing companies.

2.2.1 Fraud Diamond Theory

The Fraud Diamond is an expansion of the Fraud Triangle, a theoretical framework created by Dr. Donald Cressey to comprehend the elements that lead to fraudulent conduct. The Fraud Triangle, which emphasizes three fundamental factors (Pressure, Opportunity, and Rationalization), is

expanded upon by the Fraud Diamond, which introduces a fourth element: capability. Together, these four components provide a more comprehensive framework for understanding and analyzing fraudulent activities (Ruankaew, 2016). The fraud diamond model, including the capability component, is depicted in Figure 2.2.



Source: Wolfe and Hermanson (2004)

Figure 2.1: The Fraud Diamond Model

The Fraud Diamond recognizes that while pressure, opportunity, and rationalization are crucial factors in fraud, an individual must also possess the capability to carry out the fraudulent act (Sorunke, 2016). Ozcelik (2020) argues that in addition to suffering financial or personal constraints, those who engage in fraud must possess the requisite skills and knowledge to successfully carry out their fraudulent activities. Capability, in this context, pertains to an individual's aptitude, expertise, and proficiency in executing fraudulent actions. It encompasses the technical expertise required to exploit weaknesses in a system, manipulate financial records, or execute a fraudulent scheme. Capability represents the "ability" or "know-how" to commit fraud.

CEOs often have a deep understanding of the company's financial systems, reporting processes, and internal controls. Their technical skills and knowledge can enable them to exploit weaknesses or manipulate financial data without raising suspicion (Christian et al., 2019). CEOs also typically

have significant authority and access to critical financial information. This level of access provides them with the capability to override controls, make unauthorized transactions, or conceal fraudulent activities (Omukaga, 2021). Employees who understand the organization's internal control weaknesses, gaps in oversight, or areas lacking proper monitoring can exploit these vulnerabilities. Their capability arises from their knowledge of the system's weaknesses. If a firm has weak internal controls, inadequate segregation of duties, or insufficient oversight, it creates an environment where employees, including CEOs, have the capability to commit fraud without detection (Rustiarini et al., 2019). Moreover, a company with advanced technology may require more technical capability to manipulate systems effectively, while less advanced systems may be vulnerable to manipulation by employees with basic skills (Setyaningsih, 2020).

While the Fraud Diamond incorporates an additional component, "Capability," to provide a more comprehensive framework, it is not immune to criticism. Some critics (Putra et al., 2022) argue that the Fraud Diamond adds complexity to an already simplified model (the Fraud Triangle) without significantly enhancing its explanatory power. The inclusion of "Capability" does not fundamentally change the framework's ability to predict or prevent fraud. The Fraud Diamond is often criticized for being more suitable for explaining why fraud occurred after the fact rather than predicting future fraudulent behavior (Suryandari et al., 2022). Hence, it may not provide clear guidelines for identifying individuals at risk of committing fraud. Lastly, in an era of advanced technology and digital fraud, the Fraud Diamond may not fully account for the complexities of modern fraud schemes, including cybercrimes and data breaches (Houdek, 2020). To address some of these limitations, organizations and researchers often use the Fraud Diamond as part of a broader set of tools and frameworks for understanding and preventing fraud.

Therefore, fraud diamond theory is relevant to this study as it will help in understanding how CEO and employee attributes, such as technical expertise and access to critical systems, determine whether individuals have the requisite knowledge and skills to exploit opportunities for fraud within the organization. Firm attributes, such as the strength of internal controls and information systems, can either enhance or diminish the capability of individuals to commit fraud. Weak controls and systems make it easier for individuals to use their skills effectively. Understanding how capability interacts with these elements and with CEO, employee, and firm attributes provides a more comprehensive view of the factors contributing to fraud within an organization.

2.2.3 Rational Choice Theory

Adam Smith, a philosopher, is credited with originating rational choice theory in his article "An Inquiry into the Nature and Causes of the Wealth of Nations" in 1776. Rational Choice Theory (RCT) is a theoretical framework employed in several social sciences, such as economics, political science, sociology, and criminology, to examine and elucidate the behavior of human decision-making. It operates on the premise that individuals are rational agents that make decisions that optimize their own self-interest or utility, considering the knowledge and limitations at hand (Paternotte, 2020). RCT operates under the assumption that individuals want to optimize their utility, which is a quantification of personal contentment, welfare, or pleasure. Individuals make decisions based on their perception of maximizing benefits or minimizing costs. Furthermore, Rational Choice Theory (RCT) proposes that individuals possess preferences for various outcomes or choices. They can prioritize these alternatives according to their perceived usefulness. Rational Choice Theory (RCT) frequently employs utility functions to quantitatively describe these preferences. RCT presupposes that individuals possess comprehensive knowledge regarding the available alternatives, their repercussions, and the likelihoods linked to each result (Nickerson, 2023).

Furthermore, according to RCT, rational actors are consistent in their choices and adhere to the principles of transitivity. If someone prefers choice A over option B, and a preference for option B over option C, then it logically follows that they should also prefer option A over option C. Rational decisions involve weighing the costs and benefits of different choices. Costs can include financial expenses, time, effort, and risks. Benefits can be monetary gain, personal satisfaction, or other positive outcomes (Ainsworth, 2020). RCT also recognizes that decisions often involve uncertainty. Individuals may assign probabilities to different outcomes and make decisions based on expected utility, considering both the probability and the utility associated with each outcome. In addition, rational choices are subject to constraints, such as budget constraints in economics or legal constraints in criminology. These constraints limit the set of feasible options. Therefore, RCT distinguishes between instrumental rationality (making choices to achieve specific goals) and expressive rationality (making choices to convey social or cultural values, even if they do not maximize utility) (Blodgett, 2022).

Although Rational Choice Theory (RCT) provides vital insights into the behavior of human decision-making, they are not exempt from critiques and limitations. According to several opponents (Kalule, 2023), the argument is that RCT operates under the assumption that individuals are completely rational and make decisions in order to maximize their own satisfaction or benefit. This assumption has faced criticism due to the fact that decision-makers in the actual world typically possess limited cognitive abilities, restricted access to information, cognitive biases, and emotional influences that impact their decision-making process. Critics (Ainsworth, 2020) also argue that RCT provides a simplistic and overly narrow view of human behavior. It reduces complex human motivations, values, and emotions to a utilitarian calculus of costs and benefits, which may not capture the full range of human experiences. The concept of utility, which represents personal satisfaction or well-being, is challenging to measure empirically. Critics (Jubaer et al., 2021) argue that it can be difficult to quantify and compare utility across individuals or situations. Other critics (Ainsworth, 2020) argue that RCT typically does not delve into the historical or contextual factors that shape preferences and choices. It tends to focus on the immediate decision-making process without considering the broader socio-historical context.

Despite these critiques, RCT remains a valuable tool for understanding certain aspects of decision-making behavior, particularly in situations where individuals are making choices under conditions of relative certainty and where self-interest is a primary motivator. However, it is frequently employed in combination with other theories and frameworks to offer a more thorough comprehension of human behavior in many settings. Consequently, RCT will be applied to understand the occurrence of occupational fraud. RCT posits that individuals make rational choices by weighing the perceived costs and rewards of their activities. This theoretical framework helps elucidate why individuals in an organization may opt to participate in fraudulent conduct. The theory recognizes that occurrence of occupational fraud is as a result of certain attributes that collectively contribute to the decision-making process.

2.3 Empirical Literature Review

This section provides a comprehensive summary of previous research on employee attributes, firm attributes, and CEOs attributes, moderated by macroeconomic factors in relation to the prevalence of occupational fraud. It also includes a review of previous studies undertaken and their corresponding research findings, all aligned with the particular objectives of the current study. The

text presents the research methodology used, the formed suggestions, and the grounds that justify the relevance of the studies to the current study.

2.3.1 Effect of employee attribute on occupational fraud occurrence.

In a study conducted by Maina et al. (2019), the primary objective was to evaluate how the characteristics of employees influence the incidence of occupational fraud within manufacturing firms. Employing a quantitative research design, the study sampled 250 employees from various manufacturing companies in Nairobi, Kenya. The findings revealed a significant relationship between specific employee attributes, such as job satisfaction, financial stress, and the propensity to engage in occupational fraud. Specifically, employees who reported higher levels of job satisfaction were less likely to engage in fraudulent activities, while those experiencing financial stress were more inclined towards fraudulent behaviors. This study focused on only one attribute, employees, to underscore the incidence of occupational fraud within Kenyan manufacturing companies. This was expanded on in the doctoral dissertation by Mathenge (2021), undertaking a comprehensive investigation to discern the intricate nexus between strategic leadership and instances of corruption within the gemstone industry of Kenya. This research endeavor espoused a philosophical standpoint rooted in positivism, employing questionnaires as the primary instrument for data acquisition. The meticulously devised research design entailed soliciting responses from a cohort comprising 70 individuals, with the overarching aim of elucidating the multifaceted influence of diverse facets of strategic leadership on the manifold manifestations of corruption within the gemstone supply chain of Kenya. This research delves into the intricate nexus between strategic leadership and corruption within the gemstone sector of Kenya, thereby furnishing a substantive basis for subsequent in-depth investigations and formulating pertinent policy prescriptions.

To add to the research work on the importance of having internal controls in terms of policies in place, in the study conducted by Wanyama et al. (2019), the primary objective entailed exploring the impact of group potency on employees' levels of work satisfaction, particularly within the domain of sugar-producing enterprises. To facilitate this inquiry, a research framework of a descriptive and correlational nature was employed. Their research uncovered severe issues influencing workers' job satisfaction in these companies. The most crucial element was corruption, which was put above bad leadership, mismanagement, and greed. This study emphasizes how

critical it is to solve these problems and promote collaboration within the Human Resource Department to increase employee productivity in Kenya's sugar production industry. Furthermore, it underscores the need for proactive interventions to combat corruption and promote ethical conduct, fostering a more conducive environment for employee satisfaction and overall organizational success.

In a study by Oringo (2020) within the Kenyan context, an analysis was conducted regarding the impact of Generation Z (Gen Z) employees on the operational performance of Kenyan enterprises. The outcomes revealed that Gen Z employees contribute advantages and difficulties to these organizations. On one hand, their strong technology and innovation characteristics contribute positively to firm performance as they possess advanced IT and social media skills, making them innovative and app-friendly. However, the study also revealed that Gen Z employees can contribute to technology-based fraud in Kenyan firms due to their familiarity with online tools, making electronic theft more accessible. Additionally, while fostering creativity and self-direction, their entrepreneurial characteristics may hinder teamwork and job commitment, potentially leading to unfavorable firm performance. This study highlights the complex dynamics of Gen Z employees in Kenyan firms and their impact on performance.

In Mariner's (2020) study, the main goal was to explore how the number of employees relates to instances of occupational fraud in small American businesses. The study employed a quantitative approach without experiments, gathering data from 150 small business owners in the United States. The findings elucidate a salient nexus between the frequency of workplace fraudulent activities and the scale of personnel within small-scale enterprises. Nevertheless, the study yielded inconclusive results in establishing a statistically significant association between workforce size and the gravity of said fraudulent incidents. This suggests that while more employees can lead to more fraud instances, the financial impact of fraud is not necessarily tied to the workforce size (Mariner, 2020). These findings have practical implications for U.S. small businesses, suggesting that implementing measures like dividing employee responsibilities can effectively tackle workplace fraud.

In a study conducted by Macailao (2020) within the internal auditors' domain addressing occupational fraud issues, the researcher employed a descriptive phenomenological methodology. This method was utilized to gain insight into the difficulties faced by internal auditors and their

strategic responses to these challenges. Fifteen internal auditors from various countries were purposively interviewed to gain insights into their experiences. The investigation unveiled a plethora of impediments encountered by internal auditors, encompassing personal and societal jeopardies, stratagems employed by malefactors orchestrating fraudulent activities, and institutional hindrances impeding the execution of internal audit functions. In response to these impediments, internal auditors implemented stratagems, which included augmentation of their personal qualities and professionalism, orchestration and collaboration in audit endeavors, and soliciting backing from upper management and legal personnel.

In a study conducted by Wadesango et al. (2022) in Zimbabwe's cement manufacturing industry, the researchers aimed to assess the impact of internal auditing on fraud detection. They embraced epistemology as their foundational philosophical framework and employed a research paradigm rooted in pragmatism. Employing a quantitative research methodology, they diligently acquired data by administering meticulously crafted questionnaires, effectively implementing a convergent parallel research design. Their inquiry spanned a vast demographic comprising 5,000 individuals, including personnel and laborers, distributed across three preeminent cement manufacturing conglomerates in Zimbabwe. The empirical results illuminated the insufficiency of internal audits, with a pronounced focus on managerial audits in realizing their intended objectives, bolstering organizational efficacy, and averting errors and fraudulent activities. These empirical revelations furnish invaluable insights into the constraints inherent in internal auditing as a mechanism for mitigating and uncovering fraudulent activities within the manufacturing sector.

A study by Bruwer and Petersen (2020) conducted an empirical investigation within the geographical domain of South Africa, focusing their scholarly inquiry on the intricate interconnections existing among the dimensions of occupational fraud risk, economic sustainability, and salient attributes characterizing key personnel in SMMEs. Employing a rigorous quantitative research methodology, the research duo diligently amassed and subjected data from a cohort of 120 managerial figures affiliated with South African SMMEs to rigorous scrutiny and analysis. Their discerning analysis yielded findings of considerable import, revealing the existence of statistically significant linkages both between economic sustainability and key employee attributes and among various facets of occupational fraud risk. By its multifaceted insights, this study augments comprehension of the intricate nexus between fraud risk and economic durability

within the distinctive context of SMMEs, thereby furnishing invaluable foundations for further empirical investigation within this specialized domain.

Based on the literature reviewed, the study shall test the hypothesis that:

HO1: Employee attributes have no significant effect on occupational fraud occurrence in manufacturing companies in Kenya.

HA1: Employee attributes have a significant effect on occupational fraud occurrence in manufacturing companies in Kenya.

2.3.2 Effect of Firm attribute on occupational fraud occurrence

In a recent study by Mrefu and Gichure (2022), the research investigated the intricate relationship between cash management practices and the operational performance of manufacturing enterprises publicly traded on the Nairobi Securities Exchange. Employing a meticulously crafted research design grounded in a correlational framework, the investigators selected cash internal controls and cash/cash equivalents as the focal independent variables while employing the return on assets ratio as the primary metric to gauge performance. The rigorous data analysis unveiled compelling statistical evidence, attesting to the significant impact of these cash management practices on the financial performance of those publicly listed firms. The empirical insights from this study underscore the pivotal role of adept cash management practices in influencing the financial vitality of manufacturing firms operating in Kenya.

The study conducted by Yego and Nasieku (2021) represents a noteworthy contribution to the scholarly discussion on the impact of firm attributes on occupational fraud within the context of manufacturing companies in Kenya. Utilizing a descriptive survey design, the principal aim of this investigation resided in elucidating the impact of the control milieu on the prevalence of fraudulent activity reporting within the purview of manufacturing enterprises domiciled in Nairobi County, Kenya. The research cohort, comprising 174 manufacturing entities affiliated with the Kenya Association of Manufacturers, engendered noteworthy revelations. Conspicuously, this inquiry unveiled a salient correlation, both positively oriented and statistically substantial, between the control milieu and the act of reporting fraudulent activities. Of particular interest was the discernment of a recurrent phenomenon, after that organisation, despite their possession of audit and risk committees, exhibited a marked reluctance to solicit external auditor counsel in instances

of suspected fraudulent conduct. This outcome underscores the critical imperative of fortifying internal control mechanisms to mitigate occupational fraud within Kenyan manufacturing enterprises.

In the relentless pursuit of scrutinizing the influence of corporate characteristics on the manifestation of occupational fraudulent activities within the sphere of manufacturing enterprises in Kenya, the doctoral dissertation authored by Githaiga (2022) furnishes a trove of invaluable elucidations in Nairobi County, renowned for its proliferation of pharmaceutical manufacturing entities. Employing a meticulously crafted descriptive research paradigm, the inquiry meticulously plunges into the intricate web of determinants that wield influence over instances of occupational malfeasance in the pharmaceutical domain. Githaiga's discernments resoundingly underscore the incontrovertible and salient nexus between the ethical fabric ingrained within organizations and the propensity for occupational transgressions, promulgating the proposition that a more robust ethical underpinning within pharmaceutical establishments might culminate in a discernible abatement of occurrences of occupational deception. Furthermore, the research exalts the pivotal role accorded to corporate ethos in the prudent mitigation of the hazards inexorably intertwined with occupational misdemeanors, particularly when it finds steadfast anchorage in ethical moorings.

In their 2020 research conducted in Kenya, Kabogo and Deya explored how strategic leadership influences the effectiveness of insurance companies. They surveyed 55 insurance firms and received feedback from 142 managers. Through statistical analysis, they found that having a clear vision, engaging employees, and effective communication positively impacted how well insurance companies performed in Kenya. However, ethical practices did not seem to affect performance significantly. The authors acclaimed that insurance companies in Kenya should focus on improving their vision by communicating their goals better, involving employees more, and strengthening their communication methods. These findings offer valuable insights into how leadership affects the performance of insurance companies in Kenya.

In a Nigeria-based empirical study conducted by Okoye et al. (2019), the primary objective entailed a meticulous examination of the impact of forensic accounting measures on the management of fraudulent activities within a chosen set of enterprises. Employing a survey methodology, data acquisition was executed by disseminating meticulously constructed

questionnaires to accounting personnel within many Nigerian corporate entities. The sample size, comprising 190 discerning respondents, was meticulously selected. The study duly analyzed and interpreted empirical revelations unequivocally unveil the substantial influence of forensic accounting practices in fraud detection and prevention. This substantiates the contention that a heightened adoption and integration of forensic accounting protocols within organizational frameworks can contribute to a discernible mitigation of fraudulent occurrences. These findings contribute significantly to comprehending forensic accounting's pivotal role in preventing fraudulent activities, accentuating its intrinsic relevance within contemporary corporate practices.

In a study conducted by Abdulrahman (2019) in Nigeria, the primary objective entailed scrutinizing the nexus between forensic accounting methodologies and their efficacy in deterring instances of fraudulent activities within the public sector of Nigeria. The methodological approach adopted in this inquiry was content analysis. The findings of this inquiry unveiled a noteworthy and statistically significant positive relationship between the employment of forensic accounting techniques and the prevention of fraudulent occurrences. This corollary harmoniously aligns with the overarching research objective, which sought to elucidate the impact of organizational attributes on the prevalence of occupational fraud within manufacturing enterprises, thereby underscoring the paramount significance of proactive interventions such as forensic accounting in fraud prevention.

In a South Korean study by Suh and Shim in 2020, the authors examined the impact of an ethical corporate setting on operationalizing anti-fraud mechanisms within financial establishments. Employing path analysis, the researchers sought to elucidate the interconnections between an ethical culture, the establishment of whistleblowing protocols, and the assessment of anti-fraud tactics across diverse financial sectors. The findings of this investigation underscored the pivotal role played by the cultivation of a robust ethical culture, facilitated through top-tier commitment and comprehensive ethics training, in formulating efficacious whistleblowing policies. The research highlighted the importance of proactive managerial efforts in preventing internal fraud. It could be particularly beneficial for smaller financial institutions seeking cost-effective ways to enhance their competitive edge. This study provides valuable insights into the role of ethics and whistleblowing policies in combatting occupational fraud within companies.

In a study by Anning and Adusei (2022) in the U.S, the principal objective was the discernment of the probability of engaging in manipulative practices concerning financial statements among publicly listed manufacturing and trading enterprises. Notably, while distinctly centered within an alternate geographic sphere and about financial impropriety, this study proffers consequential perspicacity into the intricate interplay linking corporate characteristics and fraudulent comportment. The ascertained outcomes of this inquiry unveiled a spectrum of corporate-level variables, encompassing facets like profitability, solvency, financial leverage, alterations in audit service providers, and the overarching economic milieu (as represented by the Z-score) as predictive determinants of the proclivity for financial statement manipulation. Employing the Beneish model as its analytical apparatus, this investigation assumes the guise of a valuable point of reference for the comprehension of financial impropriety in the commercial environment of the African continent (Anning & Adusei, 2022).

Based on the literature reviewed, the study shall test the hypothesis that:

HO2: Firm attributes have no significant effect on occupational fraud occurrence in manufacturing companies in Kenya.

HA2: Firm attributes have a significant effect on occupational fraud occurrence in manufacturing companies in Kenya.

2.3.3 Effect of CEO attribute on occupational fraud occurrence

In a study carried out in Kenya in 2022 by Nyakundi, the main goal was to examine how the personality traits of CEOs affect the financial performance of insurance companies. The research followed a methodological approach based on descriptive correlation research, where data was collected from 34 CEOs and 88 senior-level managers through carefully designed questionnaires. Interestingly, the study found that CEO openness and agreeableness significantly and positively impacted financial success, which differed from the extroverted personality commonly seen in CEOs. In Kenya's insurance industry, this research emphasizes the importance of CEO traits and how they can significantly influence a company's performance. It also highlights the need for effective management development programs and thoughtful CEO evaluation methods to strengthen personality traits contributing to the organization's overall success.

In a recent research study conducted in Kenya by Gacheru (2023), the main objective was to investigate how a leader's ability to consider various perspectives affects the level of commitment among employees in agencies implementing PFMRs. To conduct their study, the researchers employed an approach to describe and understand relationships, allowing them to test their hypotheses. Using a structured questionnaire, they collected data from 260 managers in Kenyan agencies responsible for PFMRs. The study revealed a significant link between a leader's willingness to consider different viewpoints and the commitment level of employees, which confirmed their initial expectations. As a result, the researchers recommend that leaders listen to their employees and involve them in decision-making processes to enhance employee commitment.

In 2020 research conducted by Jonyo in Kenya, the study examined how ethical values impact the success of private universities. Based on strategic leadership theory, this research used a correlational design with a positivist approach. It involved 136 participants from various roles within these academic institutions. The findings showed that ethical values played a significant role in driving the success of these organizations, explaining a substantial part of the differences observed ($R^2 = .599$). Furthermore, the study revealed that ethical values strongly predicted how well the organizations performed ($\beta = .774$, $t(122) = 13.452$, $p = .000$). Therefore, the study's conclusion emphasized the crucial role of an ethical organizational culture in advancing universities' primary goals, including providing quality education, conducting research, fostering innovation, and developing human resources.

In a 2021 study conducted by Onyango in Kenya, the research focused on whistleblowing behaviors within public administration. A qualitative research approach was employed to conduct the study, including in-depth face-to-face interviews with 77 participants. The study's findings revealed that the absence of specific laws addressing whistleblowing or the presence of weak whistleblowing laws, coupled with autocratic bureaucratic authority and centralized decision-making processes in administrative settings, created an environment where whistleblowing was often viewed as contrary to the organization's interests and, in some instances, even as an illegal act. Moreover, the collectivist culture within local-state-level public administration added complexity to whistleblowing, impeding efforts to implement anti-corruption reforms. The study

highlighted the significance of safeguarding potential whistleblowers from legal and cultural repercussions to promote whistleblowing.

Shepherd and Button (2019) conducted a comprehensive analysis to scrutinize the organizational impediments encountered when tackling occupational fraud. The researchers meticulously executed a series of 24 semi-structured interviews involving a diverse cohort encompassing public and private sector executives, professional advisors, and law enforcement representatives. The inquiry unearthed a spectrum of justificatory cognitive mechanisms strategically devised by organizational representatives to rationalize their non-engagement with matters about occupational fraud, demonstrating a marked resemblance to the rationalizations espoused by the perpetrators. Notably, the empirical revelations from this inquiry underscored a compelling revelation, elucidating that the mere prospect of confronting occupational fraud frequently evoked heightened anxiety levels amongst managerial echelons, surpassing even the distress induced by the fraud instances themselves (Shepherd & Button, 2019).

A study conducted in China by Luo et al. (2020) explored how the gender of a CFO affects corporate fraud in listed companies. Building on previous research highlighting women's more vital ethical values and aversion to risk, the study hypothesized that firms led by female CFOs would be less likely to engage in risky or unethical fraud activities than those led by male CFOs. Analyzing data from Chinese listed firms between 2004 and 2014, their findings supported this hypothesis. Furthermore, they discovered that the connection between female CFOs and reduced corporate fraud was even more significant when these female CFOs had higher education levels and external job opportunities. This study provides valuable insights into gender-related aspects of corporate fraud and underscores the significance of CFO characteristics in preventing fraud in the Chinese context.

In a study by Junger et al. (2020), an in-depth analysis was conducted on a dataset encompassing 300 fraudulent activities perpetrated against Dutch enterprises. These nefarious activities were classified into CEO fraud, fraudulent contracts, and ghost invoices. The research methodology devised by the authors entailed an intricate scrutiny of crime scripts, the salient features characterizing the targeted businesses, and a meticulous examination of the intricate interplay between the exertion of criminal effort and the resultant financial gains. Significantly, the empirical findings of this study unearthed a noteworthy distinction in the modus operandi of these

fraudulent acts. CEO fraud, it was discerned, predominantly unfolded within the digital realm, bearing the imprints of an online genesis. Conversely, fraudulent contracts and ghost invoices displayed a predilection for offline execution. These findings offer substantive insights aligning with the primary research objective, assessing the impact of CEO attributes on the incidence of occupational fraud.

The research conducted by Otakefe and Erujaroh (2023) in Nigeria delves into the mediating effect of CEO dominance on the relationship between firm attributes and the likelihood of financial fraud. The authors accentuate the significance of investigating the intricate interplay between firm attributes, including size, leverage, earnings, financial performance, and corporate governance structures, notably the influence of dominant CEOs, in affecting the probability of financial fraud occurrences. The study underscores the paucity of research attention devoted to financial statement fraud within the Nigerian environment, emphasizing the imperative for further exploration. As they contemplate the overarching goal of scrutinizing the impact of CEO attributes on the incidence of occupational fraud in Nigerian manufacturing companies, this study underscores the pertinence of assessing CEO dominance as a potential determinant influencing the likelihood of fraud in such firms.

Based on the literature reviewed, the study shall test the hypothesis that:

HO3: CEO attributes have no significant effect on occupational fraud occurrence in manufacturing companies in Kenya.

HA3: CEO attributes have a significant effect on occupational fraud occurrence in manufacturing companies in Kenya.

2.3.4 The moderating effect of macroeconomic factors on the relationship between occupational fraud occurrence and its determinants in manufacturing companies in Kenya.

In the investigative research undertaken by Kiragu in 2019, the study design adopted was descriptive and strategically chosen for its aptness in examining quantifiable variable relationships. The focal point of this research encompassed 28 general insurance entities situated in Nairobi, with the participation of 84 respondents drawn from the domains of claims processing, risk assessment, and motor evaluation. The discerned outcomes of this inquiry unveiled the noteworthy impact of macroeconomic and individual factors on the susceptibility of motor insurance companies to

fraudulent activities. Institutional factors failed to demonstrate any statistically significant sway over the propensity for fraud-related risks. These findings harmoniously resonate with the overarching research objective, which aimed to scrutinize the moderating influence exerted by inflation and GDP growth rates on the nexus between occurrences of occupational fraud and their root determinants within manufacturing firms.

In a research study undertaken by Memba and Obuba (2023), an empirical exploration was undertaken to elucidate the sway exerted by exogenous variables upon the operational efficacy of plastic tank manufacturing enterprises. This investigative inquiry comprised a sample size of 72 participants, comprising individuals occupying key positions in various departments of these organizations. Employing a methodological synthesis encompassing both descriptive and inferential statistical techniques, the findings unveiled a salient and detrimental influence of energy expenditure on the performance metrics of the companies above. Conversely, the variables of exchange rates, interest rates, and income distribution manifested adverse implications, albeit without attaining statistical significance thresholds. It is noteworthy that transport costs exhibited a statistically inconsequential positive influence. The research elucidated a statistically significant positive correlation between ethical considerations and firm performance.

Sande et al. (2023) conducted a study exploring how practices around budgeting, public participation, and automated systems for revenue collection influence county governments' fiscal performance. Employing a pragmatic methodology and an ex-post facto design, the researchers engaged 45 county governments within the jurisdiction of Kenya. The empirical findings of this inquiry signify that when these factors above are collectively considered, their cumulative effect on fiscal performance surpasses budget practices in isolation. This inquiry has illuminated a robust association, as delineated by an R-squared coefficient of determination value of 0.566, thus positing that the comprehensive amalgamation of budget practices, public participation, and automated revenue collection holds substantial potential for amplifying the fiscal performance of county governments in Kenya. Consequently, the research findings offer invaluable insights for the efficacious administration of public finances at the local level (Sande et al., 2023).

The study by Mustafa and Khan (2020) addresses the overarching objective of evaluating the moderating impact of inflation and GDP growth rates on the intricate relationship between the incidence of occupational fraud and its underlying determinants within manufacturing enterprises.

Although the study's primary focal point revolves around accounting fraud within project-based organizations in the UAE, it contributes notably pertinent insights about the ramifications of economic oscillations, specifically the GDP and inflation, on the occurrence of fraudulent activities. The empirical evidence proffered by this study strongly posits that economic variables, exemplified by GDP and inflation, wield a substantive influence in shaping the frequency of accounting fraud, with a pronounced emphasis on the facet of fraudulent financial reporting. Significantly, the study employs a qualitative research design strategy characterized by in-depth interviews with internal controllers and external auditors.

A study by Ratmono and Frendy (2022), delved into the nuanced dimension of ethical culture as a potential moderating force shaping the intricate nexus between fraud risk factors and the incidence of occupational fraud within the confines of regional development banks (RDBs) situated in Indonesia. The methodological apparatus employed in this inquiry entailed procuring primary data by administering surveys among a substantive sample comprising 355 personnel from the echelons of 15 preeminent RDBs operating within the Indonesian milieu. Employing the rigorous analytical framework of Partial Least Square-Structural Equation Modelling (PLS-SEM), the empirical findings unveiled a discernible linkage between occupational fraud instances in RDBs and two pivotal antecedents: opportunity and pressure. Moreover, it was discerned that a robust ethical culture could attenuate this association.

In the investigation conducted by Kuttu, Mensah, and Attah-Kyei (2023), the primary research objective entailed an examination of the intricate interplay between ICE, SCE and HCE and the prevailing underwriting risk within the Ghanaian insurance domain. Employing a meticulously designed panel data analysis framework encompassing 31 insurance enterprises during the temporal span spanning from 2008 to 2019, with a distinct classification between life and non-life insurance entities, the empirical findings furnished compelling evidence of a conspicuously noteworthy inverse association between HCE and the inherent underwriting risk within the Ghanaian insurance environment. It is worth emphasizing that this pioneering investigation into intellectual capital efficiency in Africa constitutes a substantive contribution to the corpus of knowledge.

In a study with the overarching objective of assessing the moderating influence of inflation and GDP growth rates upon the nexus between the incidence of occupational fraud and its

underpinning determinants within the milieu of manufacturing enterprises, a pertinent investigation undertaken by Oladejo et al. (2021) meticulously scrutinized the repercussions of internal audit practices on the quality of financial reporting in Nigerian companies engaged in the production of comestibles and potables. Their research schema encompassed a sample drawn from four meticulously chosen corporate entities, spanning a temporal ambit of a decade, with a specific focus on variables inclusive of the technical acumen exhibited by the internal audit personnel, corporate dimensions, and the recompense bestowed upon said internal audit cadre. The outcomes discerned in their study unambiguously divulged that these facets of internal audit practice exerted a salutary influence on the caliber of financial reporting.

Based on the literature reviewed, the study shall test the hypothesis that:

HO4: Macroeconomic variables have no significant effect on occupational fraud occurrence in manufacturing companies in Kenya.

HA4: Macroeconomic variables have a significant effect on occupational fraud occurrence in manufacturing companies in Kenya.

2.4 Summary of Literature Review and Research Gap

This chapter represented the fraud diamond theory and rational choice theory, which were linked to the study objectives. Additionally, it presented an empirical review of research done in the past whose purposes were connected to this study objectives. In regard to the studies (Duffield & Grabosky, 2001; Baker, 2003; Zahra, 2005; Mustafa & Youssef, 2010) conducted to examine the motivations and incentives behind employee fraud. There were limited studies to understand the effect of employee attributes on occupational fraud occurrence in manufacturing companies in Kenya. Therefore, this study sought to address the contextual gap.

Additionally, several studies (Alleyne & Howard, 2002; Owusu & Ansah, 2002; Brazel et al, 2007; Bakre, 2007; Hammersley, Bamber & Carpenter, 2007; Lange, 2008) reviewed only the role of external auditors in detecting and preventing fraud, with varying outcomes. Thus, this study sought to address the research gap by understanding the effect of firm attributes on occupational fraud occurrence in manufacturing companies in Kenya. Thus, this study sought to address the research gap by seeking to understand the effect of employee, CEO, and firm attributes on occupational

fraud occurrence in manufacturing companies in Kenya. Table 2.1 below presents the literature review and gaps addressed by the study.



Table 2.1: Literature Matrix

	Articles Title	Author(s)	Findings	Research Gaps	Addressing the Research Gaps
1	The primary objective was to evaluate how the characteristics of employees influence the incidence of occupational fraud within manufacturing firms	Maina et al. (2019)	The findings revealed a significant relationship between specific employee attributes, such as job satisfaction, financial stress, and the propensity to engage in occupational fraud	Jurisdiction, variables	The current study will bridge this gap by focusing on the moderating effect of CEO, employee and firm attributes on occupational fraud occurrence in manufacturing companies in Kenya
2	Strategic Leadership and Corruption: Implications for Kenya's Gemstone Industry	Mathenge (2021)	Investigation was undertaken to discern the intricate nexus between strategic leadership and instances of corruption within the gemstone industry of Kenya	Jurisdiction, variables	The current study will bridge this gap by focusing on the moderating effect of CEO, employee and firm attributes on occupational fraud occurrence in manufacturing companies in Kenya
3	The Relationship Between Occupational Fraud and the Number of Employees in Small Businesses	Mariner's (2020)	The findings elucidate a salient nexus between the frequency of workplace fraudulent activities and the scale of personnel within small-scale enterprises. Nevertheless, the study yielded inconclusive results in establishing a statistically	Jurisdiction, Banking industry,	The current study will bridge this gap by focusing on the moderating effect of CEO, employee and firm attributes on occupational fraud occurrence in

	Articles Title	Author(s)	Findings	Research Gaps	Addressing the Research Gaps
			significant association between workforce size and the gravity of said fraudulent incidents.		manufacturing companies in Kenya
4	The impact of internal auditing on fraud detection	Wadesango et al. (2022)	The empirical results illuminated the insufficiency of internal audits, with a pronounced focus on managerial audits in realizing their intended objectives, bolstering organizational efficacy, and averting errors and fraudulent activities	Jurisdiction, case study, Variables – focus on employee	The current study will bridge this gap by focusing on the moderating effect of CEO, employee and firm attributes on occupational fraud occurrence in manufacturing companies in Kenya
5	The intricate relationship between cash management practices and the operational performance of manufacturing enterprises publicly traded on the Nairobi Securities Exchange	Mrefu and Gichure (2022)	The rigorous data analysis unveiled compelling statistical evidence, attesting to the significant impact of these cash management practices on the financial performance of those publicly listed firms.	General, Jurisdiction, use of one bank for the case study analysis,	The current study will bridge this gap by focusing on the moderating effect of CEO, employee and firm attributes on occupational fraud occurrence in manufacturing companies in Kenya
6	Fraud Risk Prevention Strategies and Fraud Occurrence in Large and Medium Sized Commercial Banks in Kenya.	Yego and Nasieku (2021)	Conspicuously, this inquiry unveiled a salient correlation, both positively oriented and statistically substantial, between the control milieu and the act of reporting fraudulent activities.	Banking industry, variables (Internal controls & employees)	The current study will bridge this gap by focusing on the moderating effect of CEO, employee and firm attributes on occupational fraud

	Articles Title	Author(s)	Findings	Research Gaps	Addressing the Research Gaps
					occurrence in manufacturing companies in Kenya
7	The influence of corporate characteristics on the manifestation of occupational fraudulent activities within the sphere of manufacturing enterprises in Kenya	Githaiga (2022)	Githaiga's discernments resoundingly underscore the incontrovertible and salient nexus between the ethical fabric ingrained within organizations and the propensity for occupational transgressions, promulgating the proposition that a more robust ethical underpinning within pharmaceutical establishments might culminate in a discernible abatement of occurrences of occupational deception.	Jurisdiction, Banking Industry, generalization of the findings	The current study will bridge this gap by focusing on the moderating effect of CEO, employee and firm attributes on occupational fraud occurrence in manufacturing companies in Kenya
8	The mediating effect of CEO dominance on the relationship between firm attributes and the likelihood of financial fraud	Otakefe and Erujaroh (2023)	The study underscores the paucity of research attention devoted to financial statement fraud within the Nigerian environment, emphasizing the imperative for further exploration.	Based on perceptions of the respondents, which can be biased. Incorporation of both qualitative and empirical methodologies. Sector focused on is Kenyan listed companies.	The current study will bridge this gap by focusing on the moderating effect of CEO, employee and firm attributes on occupational fraud occurrence in manufacturing companies in Kenya
9	The moderating influence exerted by the external	Fred et al. (2022)	Their discerning inquiry divulged that the external milieu, characterized by GDP	General; SMEs	The current study will bridge this gap by focusing on the

	Articles Title	Author(s)	Findings	Research Gaps	Addressing the Research Gaps
	environment upon the nexus between corporate governance and firm valuation		growth, interest rates, and inflation rates, indeed wielded a significant moderating effect on the relationship between corporate governance and the market value of non-financial firms featured on the exchange.		moderating effect of CEO, employee and firm attributes on occupational fraud occurrence in manufacturing companies in Kenya
10	The Effect of CEO personality traits on the financial performance of insurance companies in Kenya	Nyakundi, M. (2022)	Based on perceptions of the respondents, CEO personality traits factors (CEO's Openness, CEO's Conscientiousness, CEO's Extroversion, CEO's Agreeableness and CEO's Emotional Stability) had significant positive or negative affect while some had insignificant positive or negative effect on firms' performance.	Insurance industry: Based on perceptions of the respondents, which can be biased;	The current study will bridge this gap by focusing on the moderating effect of CEO, employee and firm attributes on occupational fraud occurrence in manufacturing companies in Kenya
11	The sway exerted by exogenous variables upon the operational efficacy of plastic tank manufacturing enterprises	Memba and Obuba (2023)	The findings unveiled a salient and detrimental influence of energy expenditure on the performance metrics of the companies above.	Jurisdiction: only 1 firm examined in the study; Telecommunication industry;	The current study will bridge this gap by focusing on the moderating effect of CEO, employee and firm attributes on occupational fraud occurrence in manufacturing companies in Kenya

	Articles Title	Author(s)	Findings	Research Gaps	Addressing the Research Gaps
12	The intricate interplay between ICE, SCE and HCE and the prevailing underwriting risk within the Ghanaian insurance domain	Kuttu et al., (2023)	The empirical findings furnished compelling evidence of a conspicuously noteworthy inverse association between HCE and the inherent underwriting risk within the Ghanaian insurance environment.	Jurisdiction: only 1 firm examined in the study; Automotive industry	The current study will bridge this gap by focusing on the moderating effect of CEO, employee and firm attributes on occupational fraud occurrence in manufacturing companies in Kenya
13	The influence of fraud investigation on organizational performance of Thai listed companies through mediating effects of internal audit quality, accounting information transparency and financial effectiveness, and moderating effect of corporate governance	Jannopat, and Phornlaphatrachakorn, (2022)	The results of this study show that fraud investigation has a significant influence on internal audit quality, accounting information transparency, and financial effectiveness. Internal audit quality significantly influences accounting information transparency, financial effectiveness, and organizational performance while financial effectiveness significantly influences organizational performance.	General	The current study will bridge this gap by focusing on the moderating effect of CEO, employee and firm attributes on occupational fraud occurrence in manufacturing companies in Kenya
14	The predictors of fraud in state-owned enterprises: an application of the fraud triangle theory	Owusu et al., (2022)	The results from the structural analysis showed that pressure, rationalization and opportunity are important in explaining why employees	The data from the study were obtained only from investigators, hence not possible to identify offenders' motivations.	The current study will bridge this gap by focusing on the moderating effect of CEO, employee and firm attributes on

	Articles Title	Author(s)	Findings	Research Gaps	Addressing the Research Gaps
			engage in fraudulent activities at the workplace.		occupational fraud occurrence in manufacturing companies in Kenya

Source: Researcher (2024)



2.5 Conceptual Framework

The objective of the study was to assess the effect of CEO, employee, and firm attributes, moderated by macroeconomic factors on occupational fraud occurrence in manufacturing companies in Kenya. Figure 2.2 below presents the relationship between the variables that the study sought to assess. To facilitate the examination and achievement of the study's objectives, the number of frauds and the amount of frauds, such as corruption, financial statement fraud, and asset misappropriation, were the dependent variables. The inclusion of these types of fraud ensured that the study covered the costliest fraud risks which have a significant impact on the manufacturing sector. Additionally, since these types of occupational fraud are well documented data and there are existing methodologies, the study gave accurate data and analysis, ensuring reliability and validity. The independent variables were employee attributes, firm attributes, and CEO attributes on occupational fraud occurrence in manufacturing companies in Kenya. The inclusion of employee attributes gave an in-depth understanding of the potential risk factors since employees are often the primary perpetrators of occupational fraud. Firm attributes such as governance, operational, and structural aspects can influence the risk and detection of occupational fraud occurrence. Finally, understanding the role CEO plays in an organization in terms of influencing the overall ethos and control environment is key. In line with the fraud diamond theory and rational choice theory, the study sought to agree with the theoretical proposition of the models that employee, CEO, and firm attributes (independent variables), lead to occupational fraud occurrence in manufacturing firms in Kenya.

Finally, a moderating variable was introduced to assess the moderating effect of macroeconomic variables, inflation, interest rates, foreign exchange rates, and GDP growth rates on the relationship between occupational fraud occurrence and its determinants in manufacturing companies in Kenya. The macroeconomic factors were employed as moderating variables to establish whether they strengthened, negated, or changed the relationship between the dependent and independent variables.

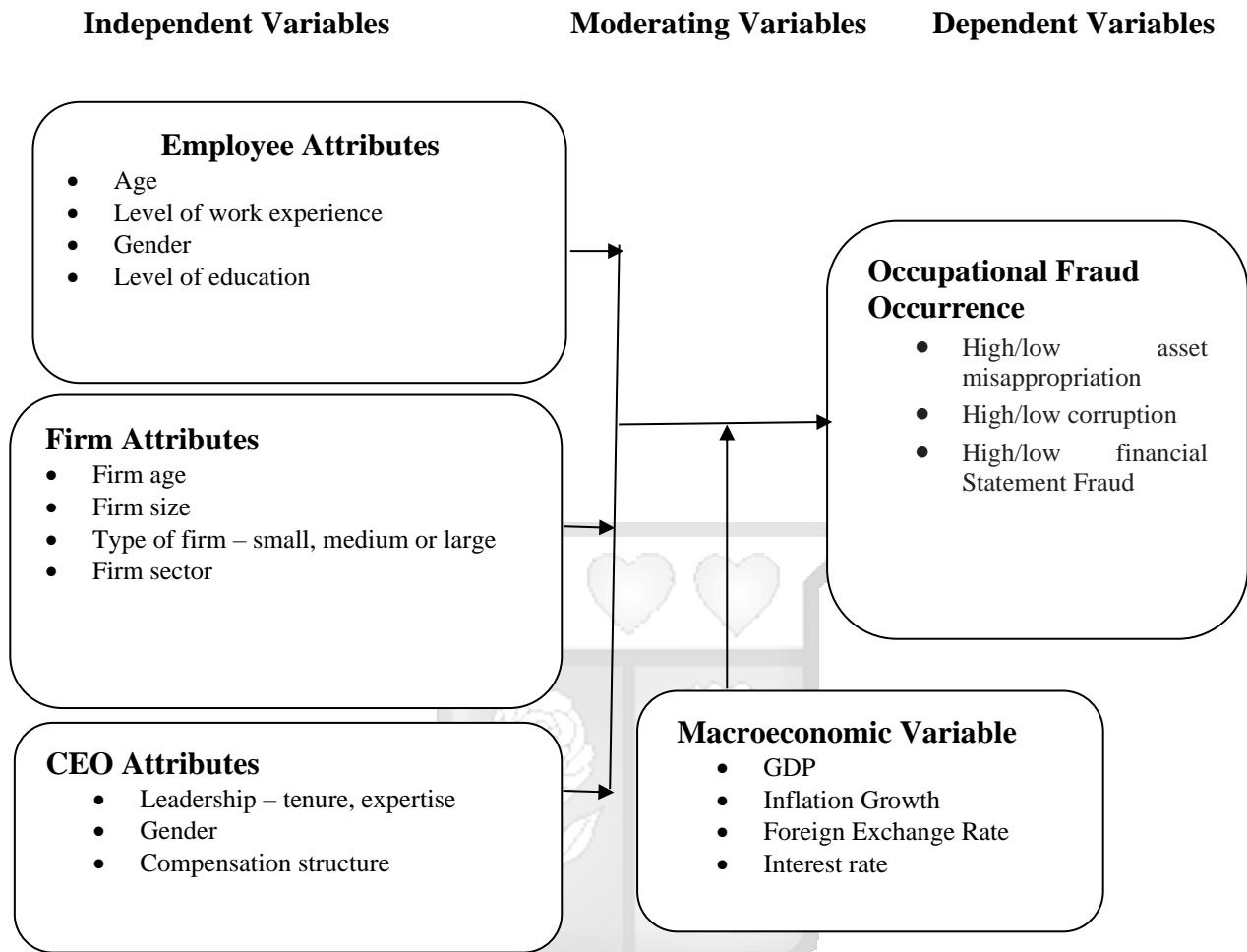


Figure 2.2: Conceptual Framework

Source: Researcher (2024)

2.6 Operationalization of Variables

The operationalization of variables defines how each variable in the study will be measured and quantified, outlining the key variables, constructs, measures, and scales of measurement. The instrument's applied measurement was a semi-structured questionnaire using the 5-Likert scale. Table 2.2 below represents how the study variables will be operationalized.

Table 2.2 Operationalization of variable

Variable	Variable Constructs	Variable Measure	Scale of Measurement	Supporting Literature	Supporting Theory
Independent Variable					
Employee Attributes	Age Level of work experience Gender Level of education	A 5-point Likert scale	Ordinal scale	Avortri, C. and Agbanyo, R., (2020)	Rational Choice Theory and The Fraud Diamond Theory
Firm Attributes	Firm age Firm size Type of firm – small, medium or large Firm sector	A 5-point Likert scale	Ordinal scale	Said et al, (2018);	Fraud Diamond Theory
CEO Attributes	Leadership – tenure, expertise Gender Compensation structure	A 5-point Likert scale	Ordinal scale	Ain et al, (2021);	Rational Choice Theory and The Fraud Diamond Theory
Dependent Variable (Fraud Occurrence)					
Extent of occupational fraud	High/low asset misappropriation High/low corruption High/low financial Statement Fraud	A 5-point Likert scale	Ordinal scale	Said et al, (2018); ACFE (2018); Kamaliah et al. (2018); Kangogo, S., (2020);	Rational Choice Theory

Variable	Variable Constructs	Variable Measure	Scale of Measurement	Supporting Literature	Supporting Theory
Moderating Variable					
Macroeconomic Factors	Inflation rate Foreign Exchange Rate GDP growth rate Interest rate	A 5-point Likert scale	Ordinal scale	Fred et al. (2022), Memba and Obuba (2023), Sande et al. (2023),	Rational Choice Theory

Source: Researcher (2024)



CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The chapter encompassed the topics of research design, target population, sampling tactics (including sample design and sample size), and data collection instruments (such as questionnaires and documentary reviews). The scope of this study encompassed several aspects, such as data collecting techniques, data analysis procedures, the credibility and accuracy of the instruments used, and ethical considerations.

3.2 Research Philosophy

Research philosophy is a fundamental element of research methodology (May & Williams, 2002). The three categories of study philosophy are ontology, epistemology, and axiology. These philosophical methods enable researchers to ascertain the most suitable technique and its rationale, considering research concerns (Saunders, Lewis, & Thornhill, 2009). The key assumptions in research philosophy delineate the researcher's viewpoint on the world. Research philosophy, as defined by Saunders (2012), is a systematic approach used to investigate social phenomena and provide explanations based on the acquired insights.

Positivism, realism, and interpretivism are the three main research philosophies. The Positivism research philosophy is based on the collection of evidence and the formulation of hypotheses (Von, Bernstein, & Newton, 1951). The positivist researcher utilizes a meticulously structured methodology to facilitate the development of hypotheses. In addition, positivism emphasizes the use of quantitative data that may be subjected to statistical analysis. The main essence of realism is to uncover the veracity or actuality of objects as they exist autonomously in the human psyche (Dean, Joseph, Roberts, & Wight, 2006). Realism may be categorized into two distinct types: direct realism and critical realism. Direct realism pertains to the correspondence between our sensory perception and the findings of the researcher. Conversely, critical realism presents the perception of our senses as representations of the actual world, rather than absolute reality. According to Willis (1995), interpretivist philosophy is a branch of epistemology that investigates the differences among individuals as social actors.

The study adopted a positivistic philosophical approach, where relevant concepts provided the basis for the research hypotheses. The hypotheses underwent evaluation and validation or rejection through the use of quantitative or statistical methods. This enabled the study objectives to be addressed and the research purpose to be fulfilled. The research philosophy adopted for this study was positivism, since it asserted that information derived from this study relied on careful observation and measurement of an objective reality. Furthermore, the issues being investigated were viewed as distinct and separate entities (Cooper & Schindler, 2014). Due to its rational and unbiased characteristics, it permitted the use of both qualitative and quantitative data to assess hypotheses derived from the theoretical conceptual framework.

A positivist methodology enables a researcher to systematically observe and analyze phenomena. This involves employing deductive reasoning, formulating hypotheses, operationalizing study variables based on established theories, and using observations to determine the validity or falsity of the hypotheses (Albert & Yue, 2011). In addition, positivism assesses research based on its validity, which refers to how well the research methods measure the underlying concept they are intended to analyse. Positivism is a research approach that examines hypotheses and relationships between several variables (Sekeran & Bougie, 2010).

The positivistic approach emphasizes the objective understanding of reality through empirical observation and measurement. Given the complexity of occupational fraud occurrence, particularly within the manufacturing sector, it is crucial to employ a methodological framework that allows for systematic data collection and analysis. By utilizing quantitative methods, researchers can objectively examine the relationships between various factors and fraud incidence, providing valuable insights into the underlying mechanisms driving fraud risk within manufacturing companies. A positivistic approach facilitates quantitative analysis and generalizability, allowing researchers to draw statistically valid conclusions that can be applied beyond the specific context of the study. By collecting quantitative data on CEO attributes, employee characteristics, firm-specific factors, and fraud occurrences, researchers employed statistical techniques to test hypotheses, identified patterns, and assessed the significance of moderating effects. This enabled the findings to be generalized to other manufacturing companies in Kenya and potentially inform broader policy and practice.

3.3. Research Design

Yin (2010) defines research design as a precise blue point utilized by researchers to guide their studies. In other words, it is the conceptual framework within which research is administered or carried out. According to Shah (2019), research design is a series of study decisions that create the master plan, including the techniques and processes for gathering and analyzing data in a study. This study used an explanatory research strategy to evaluate the research objectives and draw suitable findings. The discovered variables included predictors of employee fraud, which included asset, organization size, CEO qualities, organization sector, controls put in place, and moderating factors in manufacturing companies in Kenya. This study used semi-structured questionnaires applying 5-Likert scales on question items to retrieve the numerical data from the sample of respondents. Analysis of data was done using the regression analysis model to assess the effect of employee, CEO, and firm attributed, moderated by macroeconomic factors on occupational fraud occurrence in manufacturing companies in Kenya.

3.4 Target Population

Kothari (2004) defines a population as a collective of persons, organizations, or events that a researcher aims to draw conclusions about. Population refers to the whole set of goods or individuals that satisfy the criteria established by a researcher (Mbalwa, 2015). In contrast, a target population refers to a specific group that a researcher picks for data collection in order to derive findings that may be generalized to the larger population. The population for this study comprised all manufacturing enterprises in Kenya, as identified by the Kenya Association of Manufacturers. Currently, there are 1328 organizations, as indicated in Table 3.1. The unit of analysis consisted of CEOs, managing directors, head of departments, and other top executives who hold decision-making authority within the manufacturing companies. Given that they have influence in organizational culture, accountable to the shareholders, as well as give a holistic view of the organization, it was justified to have them as the unit of analysis.

Table 3.1: Target Population of the Manufacturing Industry Sector

Sector (Strata)	Target Population (companies)
Building, Mining, and Construction	58
Chemical and allied	115
Energy, Electrical & Electronics	67
Food and Beverages	272
Fresh produce	21
Leather and Footwear	19
Metal and Allied Automotive	113
Motor Vehicle Assemblers & Accessories	77
Paper and board	89
Pharmaceutical & Medical Equipment	36
Plastics & Rubber	106
Services and Consultancy	230
Textile and Apparel	85
Timber, Wood & Furniture	40
Total	1328

Data source: (KAM, 2022)

3.5 Sampling and Sampling Techniques.

Sampling approaches, as defined by Crotty (2008), are processes that allow researchers to restrict the amount of data analyzed by focusing solely on data obtained from a subgroup rather than the entire population. The study employed a probabilistic sampling methodology.

3.5.1 Sample Size

A researcher selects a subset of the population to be used as a representative sample in their study (Kothari, 2005). This study aimed to utilize the Yamane (1973) formula and a sampling approach to estimate the sample size and choose firms from various sectors, given the abundance of companies, that is: $n = \frac{N}{1 + N*(e)^2}$

Where: n - sample size

N - population size

e - sampling error

Therefore,

$$n = (1,328) / (1 + 1,328(0.05)^2) = 307$$

Each strata's sample size was determined using the proportionate sampling approach. Proportionate sampling is a statistical sampling method used for survey research and data processing. It entails selecting a sample from a population in such a way that the proportions of distinct subgroups or categories in the sample reflect the proportions of those subgroups in the overall population. This strategy assures that the sample is reflective of the population's makeup, resulting in more accurate and relevant analysis and inference. Proportionate sampling is often carried out using the following formula: The sample size for a subgroup was calculated by multiplying the proportion of that subgroup in the population by the total sample size.

Table 3.2 Sample Size

Sector (Strata)	Target Population (companies)	Target Sample (respondents)
Building, Mining and Construction	58	13
Chemical and allied	115	27
Energy, Electrical & Electronics	67	16
Food and Beverages	272	63
Fresh produce	21	5
Leather and Footwear	19	4
Metal and Allied Automotive	113	26
Motor Vehicle Assemblers & Accessories	77	18
Paper and board	89	21
Pharmaceutical & Medical Equipment	36	8
Plastics & Rubber	106	24
Services and Consultancy	230	53
Textile and Apparel	85	20
Timber, Wood & Furniture	40	9
Total	1328	307

3.5.2 Sampling Techniques

A design encompasses any systematic scientific activity. Crotty (2008) states that sample design plays a crucial role in determining the direction and organization of a research. A framework or

roadmap that establishes the basis for survey sample selection and significantly influences many other crucial aspects of a survey, such as sample design. Cohen (2005) states that researchers are motivated to collect data by conducting surveys targeted at certain groups. To do this, the researcher must construct a roadmap or framework that accurately portrays the specific population of interest from which a sample will be selected. Moreover, it decreases the size of the population being studied to a feasible level, resulting in substantial savings in terms of time and expenses.

3.6 Data Collection Methods

The investigation collected data directly from targeted senior managers using a semi-structured questionnaire survey to assess their perceptions on the variables of interest. This instrument was selected because it is a widely used data-gathering strategy in qualitative and mixed-method research (Amin, 2005). It combined components of structured (closed-ended) and unstructured (open-ended) surveys, resulting in a versatile framework for obtaining extensive information from participants. Unlike fully structured questionnaires, which are generally made up of fixed-choice questions, semi-structured questionnaires allow researchers to adapt and change questions throughout an interview or survey based on participant replies. This flexibility allows for more in-depth investigation of certain subjects or situations.

Semi-structured interviews allow interviewers to delve further into participants' replies. If a participant's answer is fascinating or ambiguous, the interviewer might ask clarifying questions to acquire a deeper understanding. They also strive to preserve some kind of standardization and uniformity between interviews or surveys. The questionnaire utilized 5-point Likert scales on question items, which assisted in obtaining quantitative data from the sample respondents for statistical analysis and interpretation. All participants were asked core questions about the study's aims. The questionnaire (Appendix 2) contained a series of predetermined themes (sections) based on the study's objectives, which the researcher wished to investigate. These themes steered the interview or survey, ensuring that relevant topics of interest were addressed. The first section (Section A) collected the demographic information of the targeted respondent and firm such as gender, age, marital status, sector of operation, job title, experience in the sector, education level, certification, average firm's revenue, asset size and firm employee size. The information was used

to establish employee determinants, and firm determinants on occupational fraud occurrence in manufacturing firms in Kenya.

Sections B, C, and D retrieved data on the effects CEO, Employee, and Firm determinants on occupational fraud occurrence in manufacturing companies in Kenya that helped address the first, second, and third specific objectives of this study. The effect of determinants was assessed by a 5-point Likert scale of the extent of agreement. Section E retrieved data on the level of fraud occurrence that assisted in addressing the first, second, and third specific objectives of this study. A 5-point Likert scale of the extent of agreement was employed to establish the level of form of occupational fraud occurrence of asset misappropriation, corruption, and financial statement manipulation cases.

3.7 Research Quality

The viability and reliability of the research equipment impacted the caliber of the investigation. Crewsell (2014) defines reliability as the degree to which an evaluation tool produces dependable and consistent results. The researcher employed the retest methodology to evaluate the reliability of the instruments by providing tests to a specific group of respondents. This was achieved by posing certain inquiries in a subtly altered fashion on a subsequent instance or in an alternative segment of the survey. Cronbach's alpha was employed to evaluate the dependability and internal coherence of the data items. Cronbach's alpha is a statistical measure that quantifies the internal consistency and average correlation of a set of variables. It is derived using a coefficient that ranges from 0 to 1 (Kipkebut, 2010). Greater alpha coefficient values suggest higher levels of scale reliability. Alpha values equal to or greater than 0.70 are typically deemed acceptable. Cronbach's alpha is an extended version of the Kuder-Richardson (K - R) 20 formula.

The formula is as follows:

$$KR_{20} = \frac{(K) (S^2 - \sum S^2)}{(S^2) (K - 1)}$$

Where;

KR_{20} = Reliability coefficient of internal consistency

K = Number of items used to measure the concept

ΣS^2 = Variance of all scores

S^2 = Variance of individual items

$K - 1$ = degrees of freedom

The degree to which an instrument measures what it is designed to measure determines its validity. According to Mugenda (2003), validity is defined as the correctness and meaning of conclusions drawn from study findings. It is the degree to which the outcomes of data analysis accurately represent the study's variables. Before beginning the research, the questionnaire was discussed with supervisors and specialists. Feedback from supervisors and experts assisted refining the questions.

3.8 Data Analysis

A quantitative approach was utilized in analyzing the data. Firstly, cross-checking for errors and blank responses was done on the data collected, after which it was coded and imported in the Statistical Package for Social Sciences (SPSS – V29.0) software. The analysis sought correlation and regression analysis and presented using tables and figures for ease of interpretation and explanation. Cooper and Schindler (2006) define data processing as the conversion of data into a format that is both usable and desired. They stated that this conversion/processing can be performed either manually or mechanically by utilizing a predetermined sequence of activities. The data obtained from the surveys was organized, categorized, manipulated, and examined using the Statistical Package for Social Science (SPSS - V29.0) software. The study findings were presented in a statistical manner, utilizing measures such as average scores, variance, and standard deviation. These statistical analyses offered a descriptive overview of the research objectives. The study underwent thematic analysis to define and analyze participant responses, identifying various themes.

The influence of CEO, employee, and firm characteristics on occupational fraud incidence in manufacturing enterprises in Kenya where CEO, employee, and firm attributes (independent variables) and the dependent variable, occupational fraud occurrence, is Occfr. The ordinal regression model equation adopted was;

$$\text{Occfr} = \beta_0 + \beta_1\text{Empl} + \beta_2\text{CEO} + \beta_3\text{Firm} + e$$

Where;

Occfr = Occupational fraud occurrence (Dependent Variable)

β_0 = Constant

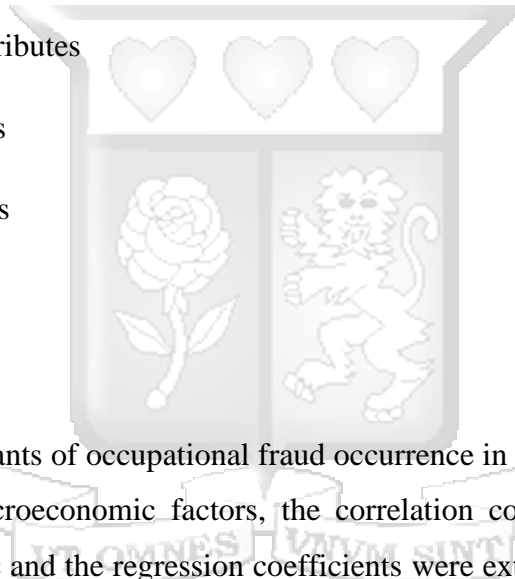
Empl = Employee attributes

Firm = Firm attributes

CEO = CEO attributes

$\beta_1 - \beta_3$ = Constant

e = Error term



In order to test the determinants of occupational fraud occurrence in manufacturing companies in Kenya, moderated by macroeconomic factors, the correlation coefficient, the coefficient of determination, the F-statistic and the regression coefficients were extracted and explained. The F statistic and the regression coefficients were assessed for significance using p values. The critical p value is set at 0.05. The multicollinearity test was conducted in order to establish whether there are high inter-correlations among the independent variables which may make it difficult for the researcher to determine the importance of a given predictor. Descriptive statistics on the study were also extracted. Analysis of the data collected was undertaken using frequencies and percentages. Normally, descriptive statistics are conducted to provide simple summaries about a population or sample (Cooper & Schindler, 2014).

3.8.1 Moderation Model

The model investigates the variation in the prediction of a dependent variable, P, from an independent variable across different values of a third variable, L (Baron & Kenny, 1986). A moderating variable has the ability to affect both the strength and direction of the relationship between predictors and an outcome. This means that it may either enhance, diminish, or alter the impact of the predictor variable. Moderation involves the interplay of several factors. Therefore, the test involves assessing the statistical significance of the interaction term (Whisman & McClelland 2005). The study used the multiple regression model:

$$\text{Occfr} = \beta_0 + \beta_1\text{Empl} + \beta_2\text{CEO} + \beta_3\text{Firm} + \beta_4\text{M} + \beta_5 \text{Empl}*\text{M} + \beta_6\text{CEO}*\text{M} + \beta_7\text{Firm}*\text{M} + e$$

Where;

OccFr = Occupational fraud occurrence (Dependent Variable)

β_0 = Constant

Empl= Employee attributes

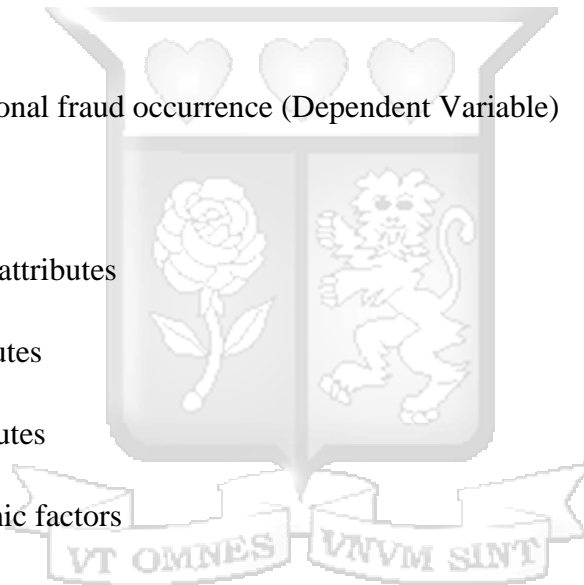
Firm= Firm attributes

CEO= CEO attributes

M= Macroeconomic factors

$\beta_1 - \beta_7$ = Constant

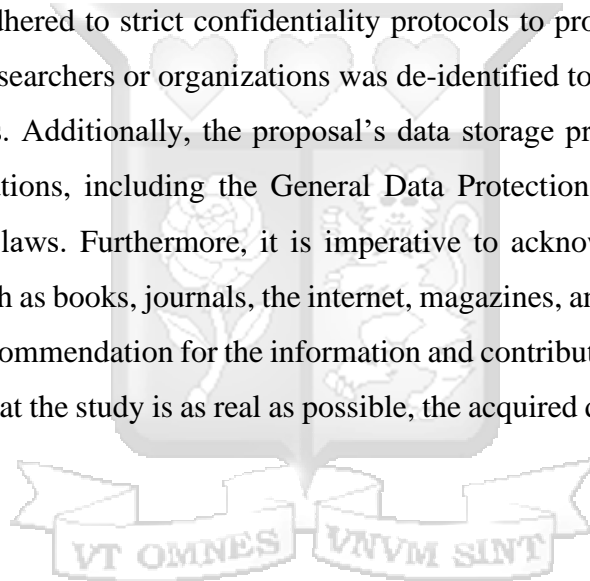
e = Error term



Prior to starting the regression analysis, different diagnostic tests were run to determine the assumptions behind the multiple regression model. Assumption testing is required to ensure that an analysis meets key assumptions while also avoiding Type I and Type II mistakes (Gunst, 2018). As a result, testing for assumptions typically assures that findings are suitable for decision making. The diagnostic tests applicable to this study included normality, linearity, homoscedasticity, and multicollinearity.

3.9 Ethical Considerations

According to Yin (2010), when undertaking an activity (research), moral rules that regulate a person's behavior are referred to as ethics. In other words, ethics refers to the norms/standards of behavior used to discern between right and bad actions. Respondents in research should be allowed to express themselves and provide information about their choices. The study was undertaken in conformance with Strathmore University's research regulations, following ethical rules and principles with honesty and integrity as the guiding ideals. A research permit letter from NACOSTI was sought, which assisted with the collection of data from the sample respondents in order to show the credibility of the research investigation. This is all information received was kept secret, with the names of responders remaining anonymous. Furthermore, any plans for sharing or disseminating the data adhered to strict confidentiality protocols to protect participants' privacy. Data shared with other researchers or organizations was de-identified to prevent the identification of individual participants. Additionally, the proposal's data storage practices complied with all relevant laws and regulations, including the General Data Protection Regulation (GDPR) and Kenya's data protection laws. Furthermore, it is imperative to acknowledge and document all forms of information, such as books, journals, the internet, magazines, and dissertations. Likewise, all participants received commendation for the information and contributions they provided during the research. To ensure that the study is as real as possible, the acquired data was managed without any alteration.



CHAPTER FOUR: PRESENTATION OF FINDINGS

4.1 Introduction

This chapter presents findings on the moderating effect of CEO, employee, and firm attributes on occupational fraud occurrence in manufacturing companies in Kenya. First, it starts by looking at the response rate and provides quick demographic information of the sample respondents to arrive at a conclusion. In addition, the chapter presents the findings based on the study objectives.

4.2 Response Rate

There were 307 respondents in the research, and 166 respondents completed the questionnaires satisfactorily. As shown in Table 4.2 the response rate for the survey was 54%. According to (Baruch, 1999 and Bryman, 2012), a sufficient response rate range from 50% to 60%.

Table 4.2 Response Rate

Sector (Strata)	Target Sample (Respondents)	Response (Questionnaire Returned)	Response Rate (%)
Building, Mining, and Construction	13	10	3.2
Chemical and allied	27	17	5.5
Energy, Electrical & Electronics	16	9	2.9
Food and Beverages	63	46	15.0
Fresh Produce	5	0	0
Leather and Footwear	4	4	1.3
Metal and Allied Automotive	26	20	6.5
Motor Vehicle Assemblers & Accessories	18	0	0
Paper and Board	21	15	4.9
Pharmaceutical & Medical Equipment	8	0	0
Plastics & Rubber	24	0	0
Services and Consultancy	53	30	9.8
Textile and Apparel	20	15	4.9
Timber, Wood & Furniture	9	0	0
Total	307	166	54%

Source: Field Data (2024)

4.3 Demographic Information

The respondents' demographic information comprised their gender, age group, marital status, sector in which they operate, job title, work experience in the sector, education level, certificate qualification, and their firm's average revenue, asset size, and employee size. The findings are presented in Table 4.3.

Table 4.3 Demographic Characteristics

Demographic Information of the Management	Frequency	Percentage
Gender		
Male	91	54.8
Female	75	45.2
Age		
21-30 years	38	22.9
31-40 years	41	24.7
41-50 years	52	31.3
Over 50 years	35	21.1
Marital status		
Single	46	27.7
Married	65	39.2
Divorced	55	33.1
Sector which the Firm Operates		
Chemical and allied	17	10.2
Building, Mining and Construction	10	6.0
Energy, Electrical and Electronics	9	5.4
Leather and Footwear	4	2.4
Food and Beverages	46	27.7
Metal and Allied	20	1.8
Services and Consultancy	30	18.1
Paper and Board	15	9.0

Textiles and Apparel	15	9.0
Job Title		
CEO	33	19.9
Finance Manager	42	25.3
Supply Chain Manager	37	22.3
Internal Audit and Risk Manager	27	16.3
Non-Executive Director	27	16.3
Working Experience in the Sector		
Less than 1 year	118	71.1
1-5 years	34	20.5
5-10 years	10	6.0
Over 10 years	4	2.4
Education Level		
Bachelor's degree	61	36.7
Higher Diploma	53	31.9
Master's degree	26	15.7
PhD/doctorate	26	15.7
Certificate Qualification		
CPA	68	41
ACCA	42	25.3
CIA	18	10.8
CFA	10	6
CIFA	16	9.6
CISA	12	7.2
Average Firm's Revenue		
Less than Kshs. 250 million	29	17.5
Kshs. 251-500 million	51	30.7
Kshs. 501-750 million	46	27.7
Kshs. 751-1000 million	24	14.5

More than Kshs. 1001 million	16	9.6
Average Firm's Asset Size		
Less than Kshs. 250 million	47	28.3
Kshs. 251-500 million	34	20.5
Kshs. 501-750 million	49	29.5
Kshs. 751-1000 million	10	6
More than Kshs. 1001 million	26	15.7
Firm's Employee Size		
Less than 100	38	22.9
101-500	31	18.7
501-700	64	38.6
701-1000	17	10.2
More than 1001	16	9.6

Source: Field Data (2024)

From the findings, males were the dominant gender (54.8%), as most of the responses emanated from the male respondents compared to the female respondent at 45.2%. Most of the respondents were of age (age bracket of 31-40 years; 24.7%) and could give adequate information with regard to moderating effect of CEO, employee and firm attributes on occupational fraud occurrence in manufacturing companies in Kenya. Further the findings indicated that most of the respondents were married (39.2%), most of the firms operated in food and beverages (27.7%) and that most of the respondents were finance managers (25.3%).

From the findings, the majority of the respondents had worked in the sector for a duration of less than a year (71.1%); the respondents were knowledgeable with majority having bachelor's degree (36.7%) and thus could give adequate information with regard to the effect of CEO, employee, and firm attributes on occupational fraud occurrence in manufacturing companies in Kenya and that most of the respondents were CPA certified (41%). Additionally, the findings indicated that most of the firms had an average firm revenue which was kshs. 251-500 million (30.7%); most of the firms had an average firm assets size of kshs. 501-750 million (29.5%), and most of the firms had a range between 500-700 employees (38.6%).

The above findings are in line with the profile of a fraudster (ACFE, 2024). The report noted that most frauds are committed by men (74% of cases), at the managerial level (41%), in the age group of 31 – 50 years (69%), with a university degree (67%) and a tenure of more than 10 years.

4.4 Employee Attributes and Occupational Fraud Occurrence

The first objective was to establish the effect of employee attributes on occupational fraud occurrence in manufacturing companies in Kenya. The findings with regard to the objective are presented in the following subsections.

4.4.1 Extent of Agreement on Employee Attributes

The respondents were requested to indicate the extent to which they agreed with statements on employee attributes. The responses were placed on a 5-Likert scale where 0-1.49=strongly disagree, 1.5-2.49-disagree, 2.5-3.49-moderate, 3.5-4.49=agree, while 4.5-5=strongly agree. The findings are shown in Table 4.4.

Table 4.4 Extent of Agreement on Employee Attributes

Employee Attributes	N	Mean	Median	Std. Dev
Younger employees are more technologically savvy and could exploit vulnerabilities in digital systems	166	3.633	4.000	0.869
Higher-ranking employees with greater authority and access are in a position to commit more significant and sophisticated fraud.	166	3.717	4.000	0.845
Employees in financial or procurement roles have increased opportunities to manipulate transactions for personal gain due to their specialized roles.	166	3.801	4.000	0.840
Employees with lower salaries may be motivated to engage in fraudulent activities to supplement their income.	166	3.633	4.000	0.974

Disgruntled or dissatisfied employees are more prone to committing fraud as a form of retaliation or to improve their personal situation.	166	3.476	4.000	0.995
Employees with a history of engaging in fraudulent activities are more likely to repeat such behaviours.	166	3.729	4.000	0.636
Employee training and awareness of anti-fraud training programs influences their commitment to ethical conduct.	166	3.542	4.000	0.938
The behaviour and values exhibited by organizational leaders significantly influence employee behaviour and attitudes toward fraud.	166	3.753	4.000	0.700
Aggregate Score		3.661	4.000	0.850

Source: Field Data (2024)

From the findings in Table 4.4, the composite mean, median, and standard deviation are 3.661, 4.000, and 0.850, respectively, showing that the respondents agreed that employee attributes affect occupational fraud occurrence in manufacturing companies in Kenya. In addition the respondents agreed that employees in financial or procurement roles have increased opportunities to manipulate transactions for personal gain due to their specialized roles (mean=3.801), followed by the behavior and values exhibited by organizational leaders significantly influence employee behavior and attitudes toward fraud (mean=3.753), employees with a history of engaging in fraudulent activities are more likely to repeat such behaviors (mean=3.729), higher-ranking employees with greater authority and access are in a position to commit more significant and sophisticated fraud (mean=3.717), younger employees are more technologically savvy and could exploit vulnerabilities in digital systems (mean=3.633), employees with lower salaries may be motivated to engage in fraudulent activities to supplement their income (mean=3.633), employee training and awareness of anti-fraud training programs influences their commitment to ethical conduct (mean=3.542), and that disgruntled or dissatisfied employees are more prone to committing fraud as a form of retaliation or to improve their personal situation (mean=3.476). The findings of the study meant that employees in financial or procurement roles have increased opportunities to manipulate transactions for personal gain due to their specialized roles (Maina et al., 2019).

4.5 Firm Attributes and Occupational Fraud Occurrence

The second objective was to investigate the effect of firm attributes on occupational fraud occurrence in manufacturing companies in Kenya. The findings with regard to the objective are presented in the following subsections.

4.5.1 Extent of Agreement on Firm Attributes

The respondents were requested to indicate the extent to which they agreed with statements on firm attributes. The responses were placed on a 5-Likert scale where 0-1.49=strongly disagree, 1.5-2.49-disagree, 2.5-3.49-moderate, 3.5-4.49=agree, while 4.5-5=strongly agree. The findings are shown in Table 4.5.

Table 4.5 Extent of Agreement on Firm Attributes

Firm Attributes	N	Mean	Median	Std. Dev
Larger and more complex manufacturing firms have more extensive operations and numerous transactions, providing increased opportunities for fraud.	165	2.236	4.000	1.388
Financially distressed firms are more susceptible to fraudulent activities as employees seek to mitigate financial challenges.	166	3.343	4.000	1.179
Companies with sound governance structures are better positioned to detect and prevent fraud through effective oversight.	166	3.651	4.000	0.659
Firms that prioritize ethical conduct and integrity, actively comply with industry standards and regulations are less likely to experience occupational fraud.	166	3.494	4.000	0.569
Outdated or inadequately protected technology create vulnerabilities that fraudsters can exploit.	166	3.536	4.000	0.524
Firms with robust risk management processes can proactively address vulnerabilities and reduce the likelihood of fraud.	165	3.467	4.000	0.649

Companies that actively protect whistleblowers encourage employees to report potential fraud without fear of reprisal.	166	3.265	4.000	0.634
Aggregate Score		3.285	4.000	0.800

Source: Field Data (2024)

From the findings in Table 4.5, the composite mean, median, and standard deviation are 3.285, 4.000, and 0.800, respectively, showing that the respondents were moderate that firm attributes affect occupational fraud occurrence in manufacturing companies in Kenya. Additionally, the respondents agreed that companies with sound governance structures are better positioned to detect and prevent fraud through effective oversight (mean=3.651), followed by outdated or inadequately protected technology create vulnerabilities that fraudsters can exploit (mean=3.536), firms that prioritize ethical conduct and integrity, actively comply with industry standards and regulations are less likely to experience occupational fraud (mean=3.494), firms with robust risk management processes can proactively address vulnerabilities and reduce the likelihood of fraud (mean=3.467), financially distressed firms are more susceptible to fraudulent activities as employees seek to mitigate financial challenges (mean=3.343), companies that actively protect whistleblowers encourage employees to report potential fraud without fear of reprisal (mean=3.265), and that larger and more complex manufacturing firms have more extensive operations and numerous transactions, providing increased opportunities for fraud (mean=2.236). This depicts that companies with sound governance structures are better positioned to detect and prevent fraud through effective oversight (ACFE, 2024).

4.6 CEO Attributes and Occupational Fraud Occurrence

The third objective was to examine the effect of CEO attributes on occupational fraud occurrence in manufacturing companies in Kenya. The findings with regard to the objective are presented in the following subsections.

4.6.1 Extent of Agreement on CEO Attributes

The respondents were requested to indicate the extent to which they agreed with statements on CEO attributes. The responses were placed on a five Likert scale where 0-1.49=strongly disagree, 1.5-2.49-disagree, 2.5-3.49-moderate, 3.5-4.49=agree, while 4.5-5=strongly agree. The findings are as shown in Table 4.6.

Table 4.6 Extent of Agreement on CEO Attributes

CEO Attributes	N	Mean	Median	Std. Dev
An ethically strong CEO is likely to create a culture of integrity and discourage fraudulent behavior among employees.	166	3.783	4.000	0.604
A CEO who prioritizes honesty and transparency creates an environment where fraudulent activities are less likely to occur.	166	3.765	4.000	0.660
A CEO who emphasizes the importance of robust internal controls and risk management measures reduces opportunities for fraud.	166	3.747	4.000	0.658
A CEO who communicates openly and transparently fosters a culture where employees feel comfortable reporting potential fraud.	166	3.843	4.000	0.550
Aligning CEO incentives with the company's long-term success rather than short-term financial gains reduces the temptation for fraudulent activities.	166	3.855	4.000	0.564
A CEO with a deep understanding of the manufacturing industry is better equipped to identify potential fraud risks unique to the sector.	166	3.819	4.000	0.565
CEOs with experience in crisis management are more likely to respond effectively to fraud incidents, mitigating their impact.	166	3.837	4.000	0.575
A CEO who actively supports and protects whistleblowers creates an environment where employees are more likely to report suspicious activities.	166	3.639	4.000	0.889
Aggregated Score		3.786	4.000	0.633

Source: Field Data (2024)

From the findings in Table 4.6, the composite mean, median, and standard deviation are 3.786, 4.000, and 0.633, respectively, showing that the respondents agreed that CEO attributes affect occupational fraud occurrence in manufacturing companies in Kenya. Additionally, the respondents agreed that aligning CEO incentives with the company's long-term success rather than short-term financial gains reduces the temptation for fraudulent activities (mean=3.855), followed by a CEO who communicates openly and transparently fosters a culture where employees feel comfortable reporting potential fraud (mean=3.843), CEOs with experience in crisis management are more likely to respond effectively to fraud incidents, mitigating their impact (mean=3.837), a CEO with a deep understanding of the manufacturing industry is better equipped to identify potential fraud risks unique to the sector (mean=3.819), an ethically strong CEO is likely to create a culture of integrity and discourage fraudulent behavior among employees (mean=3.783), a CEO who prioritizes honesty and transparency creates an environment where fraudulent activities are less likely to occur (mean=3.765), a CEO who emphasizes the importance of robust internal controls and risk management measures reduces opportunities for fraud (mean=3.747), and a CEO who actively supports and protects whistleblowers creates an environment where employees are more likely to report suspicious activities (mean=3.639). This depicts that aligning CEO incentives with the company's long-term success rather than short-term financial gains reduces the temptation for fraudulent activities (Nyakundi, 2022).

4.7 Occupational Fraud Occurrence

This section presents the findings on occupational fraud occurrence in manufacturing companies in Kenya. The findings are presented in the following subsection.

4.7.1 High/Low Asset Misappropriation

The respondents were requested to indicate the extent to which they agreed with statements on high/low asset misappropriation. The responses were placed on a five Likert scale where 0-1.49=strongly disagree, 1.5-2.49-disagree, 2.5-3.49-moderate, 3.5-4.49=agree, while 4.5-5=strongly agree. The findings are shown in Table 4.7.

Table 4.7 Extent of Agreement on High/Low Asset Misappropriation

Extent of Agreement on High/Low Asset Misappropriation	N	Mean	Median	Std. Dev
Embezzlement of the company's funds	165	3.285	4.000	0.582
An employee exploits their position within the company to generate costs for personal or improper purposes.	166	3.331	4.000	0.532
Embezzlement of monetary earnings.	166	3.313	4.000	0.549
Utilization of corporate resources for personal benefit.	166	2.283	2.000	1.205
Deceptive practices involving the sale and transportation of goods in stock	166	2.602	2.000	1.422
Aggregate Score		2.963	4.000	0.858

Source: Field Data (2024)

From the findings in Table 4.7, the composite mean, median, and standard deviation is 2.963, 4.000, and 0.858, respectively, showing that the respondents were moderate that high/low asset misappropriation led to occupational fraud occurrence. Additionally, the respondents were moderate that an employee exploits their position within the company to generate costs for personal or improper purposes commits high-level asset misappropriation (mean=3.331), followed embezzlement of monetary earnings (mean=3.313), embezzlement of the company's funds (mean=3.285), deceptive practices involving the sale and transportation of goods in stock (mean=2.602), and that utilization of corporate resources for personal benefit (mean=2.283). This depicts that an employee exploits their position within the company to generate costs for personal or improper purposes and commits high-level asset misappropriation.

4.7.2 High/Low Corruption

The respondents were requested to indicate the extent to which they agreed with statements on high/low corruption. The responses were placed on a 5-Likert scale where 0-1.49=strongly disagree, 1.5-2.49-disagree, 2.5-3.49-moderate, 3.5-4.49=agree, while 4.5-5=strongly agree. The findings are as shown in Table 4.8.

Table 4.8 Extent of Agreement on High/Low Corruption

Extent of Agreement on High/Low Corruption	N	Mean	Median	Std. Dev
Bribery	166	2.392	2.000	1.365
Companies engage in bribery to get contracts at favorable pricing through the winning party.	166	4.000	4.000	0.000
An employee aiding in the facilitation of a payment related to an exaggerated invoice.	166	4.398	4.000	0.491
Engaging in the act of providing fraudulent or unlawful gratuity in order to get personal benefits.	166	3.765	4.000	0.632
A conflict of interest arises when items are sold to a close relation at a discounted price below the market value.	166	3.440	4.000	0.627
The purchasing plan involved showing preference towards a supplier who had a financial stake in the purchase transactions due to their connection with an employee.	166	4.000	4.000	0.000
Aggregate Score		3.666	4.000	0.519

Source: Field Data (2024)

From the findings in Table 4.8, the composite mean, median, and standard deviation is 3.666, 4.000 and 0.519 respectively showing that the respondents agreed that high/low corruption led to occupational fraud occurrence. Additionally, the respondents agreed that an employee aiding in the facilitation of a payment related to an exaggerated invoice commits high-level corruption (mean=4.398), followed by companies engaging in bribery to get contracts at favorable pricing through the winning party and the purchasing plan involved showing preference towards a supplier who had a financial stake in the purchase transactions due to their connection with an employee (mean=4.000) respectively, engaging in the act of providing fraudulent or unlawful gratuity in order to get personal benefits (mean=3.765), a conflict of interest arises when items are sold to a close relation at a discounted price below the market value (mean=3.440) and bribery (mean=2.392). This depicts that an employee aiding in the facilitation of a payment related to an exaggerated invoice commits high-level corruption.

4.7.3 High/Low Financial Statement Fraud

The respondents were requested to indicate the extent to which they agreed with statements on high/low financial statement fraud. The responses were placed on a 5-Likert scale where 0-1.49=strongly disagree, 1.5-2.49-disagree, 2.5-3.49-moderate, 3.5-4.49=agree, while 4.5-5=strongly agree. The findings are as shown in Table 4.9.

Table 4.9 Extent of Agreement on High/Low Financial Statement Fraud

Extent of Agreement on High/Low Financial Statement Fraud	N	Mean	Median	Std. Dev
Companies manipulate financial accounts by reporting inflated revenues in order to enhance their top-line results.	166	4.398	4.000	0.491
Companies inflate their obligations and costs by utilizing accruals.	166	2.970	2.000	0.627
Assets are inaccurately assessed to provide the illusion of a robust balance sheet.	166	4.000	4.000	0.000
Financial disclosures that are intentionally deceptive are used to present a financially struggling company in a positive light, particularly in relation to transfer pricing.	166	4.398	4.000	0.491
Aggregate Score		3.942	4.000	0.402

Source: Field Data (2024)

From the findings in Table 4.9, the composite mean, median and standard deviation is 3.942, 4.000 and 0.402, respectively, showing that the respondents agreed that high/low financial statement fraud led to occupational fraud occurrence. Additionally, the respondents agreed that companies manipulate financial accounts by reporting inflated revenues in order to enhance their top-line results and that financial disclosures that are intentionally deceptive are used to present a financially struggling company in a positive light, particularly in relation to transfer pricing and hence commit high financial statement fraud (mean=4.398) respectively, followed by assets are inaccurately assessed to provide the illusion of a robust balance sheet (mean=4.000) and that companies inflate their obligations and costs by utilizing accruals (mean=2.970). This depicts that

companies manipulate financial accounts by reporting inflated revenues in order to enhance their top-line results and that financial disclosures that are intentionally deceptive are used to present a financially struggling company in a positive light, particularly in relation to transfer pricing, and hence commit high financial statement fraud.

4.8 Moderating Effect of Macroeconomic Factors

The fourth objective was to assess the moderating effect of macroeconomic factors on the relationship between occupational fraud occurrence and its attributes in manufacturing companies in Kenya. The findings with regard to the objective are presented in the following subsections.

4.8.1 Moderating Effect of Macroeconomic Factors

The respondents were requested to indicate the extent to which they agreed with statements on the moderating effect of macroeconomic factors. The responses were placed on a 5-Likert scale where 0-1.49=strongly disagree, 1.5-2.49=disagree, 2.5-3.49=moderate, 3.5-4.49=agree, while 4.5-5=strongly agree. The findings are as shown in Table 4.10.

Table 4.40 Moderating Effect of Macroeconomic Factors

Effect of Macroeconomic Factors	N	Mean	Median	Std. Dev
High-interest rates may exacerbate financial difficulties potentially increasing the temptation for fraudulent activities.	166	4.000	4.000	0.000
Economic shifts affecting the manufacturing sector can impact the financial health of companies potentially influencing fraud occurrence.	166	4.398	4.000	0.491
Stringent regulations during economic downturns may act as a deterrent while regulatory laxity could increase fraud risks.	166	3.374	4.000	0.691
Global economic factors such as trade tensions or geopolitical events can create both opportunities and challenges for fraud prevention.	166	4.000	4.000	0.000

Tighter credit conditions may increase financial stress potentially elevating the risk of fraudulent activities.	166	4.398	4.000	0.491
Exchange rate volatility may introduce financial uncertainties potentially influencing fraud occurrence.	166	4.398	4.000	0.491
The presence of government stimulus programs during economic crises may influence fraud risks potentially mitigating or exacerbating fraud risks.	166	2.970	2.000	0.627
Inflationary pressures may affect the cost of living purchasing power and corporate expenses and increase financial stress for individuals.	166	2.602	2.000	1.422
Aggregate Score		3.768	4.000	0.527

Source: Field Data (2024)

From the findings in Table 4.10, the composite mean, median, and standard deviation is 3.768, 4.000, and 0.527, respectively, showing that the respondents agreed that macroeconomic factors had a moderating effect on the relationship between occupational fraud occurrence and its determinants in manufacturing companies in Kenya. Additionally, the respondents agreed that economic shifts affecting the manufacturing sector can impact the financial health of companies, potentially, influencing fraud occurrence, tighter credit conditions may increase financial stress, potentially elevating the risk of fraudulent activities, and that exchange rate volatility may introduce financial uncertainties potentially influencing fraud occurrence (mean=4.398) respectively. This was followed by high-interest rates may exacerbate financial difficulties potentially increasing the temptation for fraudulent activities and that global economic factors such as trade tensions or geopolitical events can create both opportunities and challenges for fraud prevention (mean=4.000) respectively. Stringent regulations during economic downturns may act as a deterrent while regulatory laxity could increase fraud risks (mean=3.374), the presence of government stimulus programs during economic crises may influence fraud risks potentially mitigating or exacerbating fraud risks (mean=2.970), and that inflationary pressures may affect the cost of living purchasing power and corporate expenses and increase financial stress for individuals (mean=2.602). This depicts that economic shifts affecting the manufacturing sector can impact the financial health of companies potentially influencing fraud occurrence, tighter credit conditions may increase financial stress, potentially elevating the risk of fraudulent activities, and that

exchange rate volatility may introduce financial uncertainties, potentially influencing fraud occurrence.

4.9 Regression Analysis

The study utilized simple regression analysis to find out the moderating effect of macroeconomic factors on the relationship between occupational fraud occurrence and its determinants in manufacturing companies in Kenya. The researcher utilized the SPSS version 29 to code the data and produce the output of the regression analysis. The coefficient of determination was used to explain how the change in the dependent variable can be explained by the change in the independent variables. The dependent variable was occupational fraud occurrence, while the independent variables were employee attributes, firm attributes, CEO attributes, and macroeconomic factors. Two sets of analyses were undertaken, one without the moderating variable and the other with the moderating variable.

4.9.1 Regression Analysis without the Moderating Variable

4.9.1.1. Model Summary

The table below provides a model summary of the relationship between the predictor variables and occupational fraud occurrence. The findings are shown in Table 4.11.

Table 4.5 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.321a	.103	.087	.28369

a. Predictors: (Constant), Firm Attributes, Employee Attributes and CEO attributes.

b. Dependent Variable: Occupational Fraud Occurrence

The results in Table 4.11 illustrates the strength of the relationship between occupational fraud occurrence and independent variables. From the determination coefficients, there is a positive relationship between dependent and independent variables given an R^2 values of 0.103 and adjusted to 0.0877. This shows that the independent variables (firm attributes, employee attributes and CEO attributes) accounts for 10.3% of the variations in occupational fraud occurrence.

4.9.1.2 ANOVA Results

The table below provides the ANOVA results of the relationship between the predictor variables and occupational fraud occurrence. The findings are as shown in Table 4.12.

Table 4.6 ANOVA of the Regression

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1.499	3	.500	6.208	.001 ^b
Residual	13.038	162	.080		
Total	14.537	165			

a. Predictors: (Constant), Firm Attributes, Employee Attributes and CEO attributes.

b. Dependent Variable: Occupational Fraud Occurrence

Analysis of Variance (ANOVA) was used to test possible significant relationships between variables (dependent and independent variables). This helps in assessing the significance of the regression model. The one-way analysis of variance (ANOVA) was used to determine whether there were any statistically significant differences between the means of independent (unrelated) groups. The ANOVA results presented in Table 4.12 shows that the regression model has a margin of error of $p = .001$. This indicates that the model has a probability of 0.001 of giving false prediction thus it was appropriate.

4.9.1.3 Regression Coefficients

The table below provides the regression coefficients on the relationship between the predictor variables and occupational fraud occurrence. The findings are as shown in Table 4.13.

Table 4.13 Regression Coefficients

	Unstandardized		Standardized		
	Coefficients		Coefficients		
	B	Std. Error	Beta	T	Sig.
Model 1(Constant)	4.146	.257		16.112	.000

Employee Attributes	.169	.047	.400	3.568	.000
CEO attributes	-.207	.064	-.367	-3.257	.001
Firm Attributes	-.135	.068	-.149	-1.982	.049

a. **Dependent Variable:** Occupational Fraud Occurrence

Simple regression analysis was conducted to determine the occupational fraud occurrence. As per the SPSS generated table below, regression equation.

$$(\text{OccFr} = \beta_0 X_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon)$$

Becomes:

$$(\text{OccFr} = 4.146 + 0.169X_1 - 0.207X_2 - 0.135 X_3 + \epsilon)$$

From the finding in Table 4.13, the study found that holding all factors constant, occupational fraud occurrence was 4.146. Additionally, a unit increase in employee attributes will lead to a 0.169 increase in occupational fraud occurrence. Further, a unit increase in CEO attributes will lead to a 0.207 decrease in occupational fraud occurrence, and a unit increase in firm attributes will lead to a 0.135 decrease in occupational fraud occurrence. This infers that employee attributes contribute the most to occupational fraud occurrence. At a 5% level of significance and 95% level of confidence, employee attributes, firm attributes, and CEO attributes were significant in occupational fraud occurrence.

4.9.2 Regression Analysis with the Moderating Variable

4.9.2.1. Model Summary

The table below provides a model summary of the relationship between the predictor variables and occupational fraud occurrence when moderated by macroeconomic factors. The findings are as shown in Table 4.14.

Table 4.14 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.809a	.655	.647	.17647

a. Predictors: (Constant), Macroeconomic Factors, CEO attributes, Firm Attributes, and Employee Attributes.

b. Dependent Variable: Occupational Fraud Occurrence

The results in Table 4.14, $R^2=0.655$, which, is a 65.5% disparity in occupational fraud occurrence in manufacturing companies in Kenya, are explained by the independent and moderating variables in the model. However, other unrepresented predictors in the regression model account for 34.5% of the unexplained variation in occupational fraud frequency in Kenyan manufacturing enterprises. It is clear from the results in the above table that the model is reliable and suitable for use in estimating. Based on the data in the table, a significant relationship was found between the independent variables and the incidence of occupational fraud in Kenyan manufacturing companies.

As per Table 4.14 with the introduction of the moderating variable of macroeconomic variables, the prediction power of the regression model greatly improved with R square change being 0.552 (0.655 R square with moderating variable less 0.103 R square without moderating variable).

4.9.2.2 ANOVA Results

The table below provides the ANOVA results of the relationship between the predictor variables and occupational fraud occurrence. The findings are shown in Table 4.15.

Table 4.15 ANOVA of the Regression

	Sum of Squares	df	Mean Square	F	Sig.
Regression	9.523	4	2.381	76.450	.000b
Residual	5.014	161	.031		

Total 14.537 165

a. Predictors: (Constant), Macroeconomic Factors, CEO attributes, Firm Attributes, and Employee Attributes.

b. Dependent Variable: Occupational Fraud Occurrence

As per Table 4.15 on ANOVA findings p-value was 0.000, which is less than 0.05. Thus, the model is statistically significant in predicting how the factors (macroeconomic factors, CEO-related determinants, firm-related determinants, and employee-related determinants) influence occupational fraud occurrence in manufacturing companies in Kenya.

4.9.2.3 Regression Coefficients

The table below provides the regression coefficient on the moderating effect of macroeconomic variables on the relationship between the predictor variables and occupational fraud occurrence. The findings are shown in Table 4.16.

Table 4.16 Regression Coefficients

	Unstandardized		Standardized		
	Coefficients		Coefficients		
	B	Std. Error	Beta	T	Sig.
Model 1 (Constant)	.452	.280		1.611	.109
Employee Attributes	.169	.047	.400	3.568	.000
CEO Attributes	-.207	.064	-.367	-3.257	.001
Firm Attributes	-.135	.068	-.149	-1.982	.049
Macroeconomic Factors	.872	.054	.813	16.052	.000

Employee Attributes*M	-0.019	.032	-0.046	-.612	.541
CEO Attributes*M	-0.024	.041	-0.042	-.574	.566
Firm Attributes*M	-0.013	.043	-0.014	-.293	.770

a. **Dependent Variable:** Occupational Fraud Occurrence

Simple regression analysis was conducted to determine the occupational fraud occurrence. As per the SPSS generated table below, regression equation.

$$(\text{OccFr} = \beta_0 X_0 + \beta_1 \text{Empl} + \beta_2 \text{CEO} + \beta_3 \text{Firm} + \beta_4 M + \beta_5 \text{Empl} * M + \beta_6 \text{CEO} * M + \beta_7 \text{Firm} * M + \epsilon)$$

Becomes:

$$(\text{OccFr} = 0.452 + 0.169X_1 - 0.207X_2 - 0.135X_3 + 0.872X_4 - 0.019X_1 - 0.024X_2 - 0.013X_3 + \epsilon)$$

From the finding in Table 4.16, upon the inclusion of the moderating variable of macroeconomic moderating variable in the regression, the study found that employee attributes had a significant and positive effect on occupational fraud occurrence ($\beta = 0.169$, p-value = 0.000). This finding implied that a unit change in employee attributes was associated with an increase in occupational fraud occurrence by 0.169 or 16.9% units. Table 4.16 on regression coefficients also indicated that CEO attributes had a significant and negative effect on occupational fraud occurrence ($\beta = -0.207$, p-value = 0.001). This finding implied that a unit change in CEO attributes was associated with a decrease in occupational fraud occurrence by 0.207 or 20.7% units. As per Table 4.16, firm attributes had a significant and negative effect on occupational fraud occurrence ($\beta = -0.135$, p-value = 0.049). This finding implied that a unit change in firm attributes was associated with a decrease in occupational fraud occurrence by 0.135 or 13.5% units. As per Table 4.16, macroeconomic variables as a moderating variable had a significant and positive effect on occupational fraud occurrence ($\beta = 0.872$, p-value = 0.000). This finding implied that a unit change in macroeconomic factors was associated with an increase in occupational fraud occurrence by 0.872 or 87.2% units.

4.10 Summary of the Chapter

In this chapter, findings related to the research objectives were provided. Discussions concerning the employee demographics and how some of their characteristics, as guided by the profile of a fraudster framework, were assessed. Also in-depth analysis of determinants of occupational fraud occurrence in Kenya, moderated by macroeconomic factors were presented, through regression analysis. The results have also been discussed in detail in the latter section of this chapter.



CHAPTER FIVE: DISCUSSION OF FINDINGS, CONCLUSION, AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the study's limitations, findings, conclusion, recommendations, and suggestions for further research. The study's main purpose was to determine the moderating effect of CEO, employee, and firm attributes on occupational fraud occurrence in manufacturing companies in Kenya.

5.2 Summary of the Findings

The study found that the respondents agreed on the fact that employee and CEO determinants affect occupational fraud occurrence in manufacturing companies in Kenya. The study found that the respondents were neutral that firm determinants affect occupational fraud occurrence in manufacturing companies in Kenya. Upon introduction of macroeconomic factors, the study found that the respondents agreed that macroeconomic factors had an effect on occupational fraud occurrence in manufacturing companies in Kenya. The study also found that macro-economic factors were significant in occupational fraud occurrence.

5.3 Discussion of the Findings

5.3.1 Employee-Related Determinants and Occupational Fraud Occurrence

The study found that the respondents agreed on the fact that employee determinants affect occupational fraud occurrence in manufacturing companies in Kenya. Maina et al. (2019) evaluated how the characteristics of employees influence the incidence of occupational fraud within manufacturing firms. He found that a significant relationship between specific employee determinants, such as job satisfaction, financial stress, and the propensity to engage in occupational fraud. His findings contradict the study findings where the respondents were neutral on the fact that employee determinants affect occupational fraud occurrence in manufacturing companies in Kenya.

5.3.2 Firm-Related Determinants and Occupational Fraud Occurrence

The study found that the respondents were neutral that firm determinants affect occupational fraud occurrence in manufacturing companies in Kenya. Yego and Nasieku (2021) on his study on impact of firm determinants on occupational fraud within the context of manufacturing companies in Kenya found that there was no critical imperative of fortifying internal control mechanisms to mitigate occupational fraud within Kenyan manufacturing enterprises. The findings agree with the study findings where the respondents were neutral that firm determinants affect occupational fraud occurrence in manufacturing companies in Kenya.

5.3.3 CEO-related Determinants and Occupational Fraud Occurrence

The study found that the respondents agreed that CEO determinants affect occupational fraud occurrence in manufacturing companies in Kenya. The findings agree with a study by Nyakundi, (2022) who stated that CEO openness and agreeableness significantly and positively impacted financial success. Nyakundi study aim was to examine how the personality traits of CEOs affect the financial performance of insurance companies. The study found that CEO openness and agreeableness significantly and positively impacted financial success, which differed from the extroverted personality commonly seen in CEOs.

5.3.4 The Moderating Effect of Macroeconomic Factors and Occupational Fraud Occurrence

The study found that the respondents agreed that macroeconomic factors had an effect on occupational fraud occurrence in manufacturing companies in Kenya. The findings agree with a study by Kiragu (2019) who found a noteworthy impact of macroeconomic and individual factors on the susceptibility of motor insurance companies to fraudulent activities. These findings harmoniously resonate with the study objective, which aimed to scrutinize the influence exerted by macroeconomic factors on the nexus between occurrences of occupational fraud and their root determinants within manufacturing firms.

The study also found that macro-economic factors were significant in occupational fraud occurrence. The findings contradict a study by Kiragu (2019) who found that institutional factors failed to demonstrate any statistically significant sway over the propensity for fraud-related risks.

According to the fraud diamond theory, a buildup of fraud triangle theory, removing or mitigating any one of the components can significantly reduce the likelihood of fraud. This thus indicates that macroeconomic factors can create pressure on employees who would then, in the presence of an opportunity, rationalize committing fraud in their organization. This thus agrees with the findings that macro-economic factors as moderating effect were significant in occupational fraud occurrence.

5.4 Conclusion of the Study

The study concluded that employees in financial or procurement roles have increased opportunities to manipulate transactions for personal gain due to their specialized roles and that companies with sound governance structures are better positioned to detect and prevent fraud through effective oversight. The study further concluded that economic shifts affecting the manufacturing sector can impact the financial health of companies, potentially influencing fraud occurrence, tighter credit conditions may increase financial stress potentially elevating the risk of fraudulent activities, and that exchange rate volatility may introduce financial uncertainties potentially influencing fraud occurrence. The study concluded that an employee exploits their position within the company to generate costs for personal or improper purposes and commits high-level asset misappropriation and that an employee aiding in the facilitation of a payment related to an exaggerated invoice commits high-level corruption. The study concluded that the study concluded that employee attributes, firm attributes, and CEO attributes were significant in occupational fraud occurrence. This validates the fraud diamond theory, building up on the fraud triangle theory, confirming that for fraud to occur, all three elements, pressure, opportunity, and rationalization, must exist. Finally, the study concluded that macro-economic factors were significant on moderating the determinants of occupational fraud occurrence in manufacturing companies in Kenya.

5.5 Recommendations of the Study

5.5.1 Managerial Recommendations

The researcher recommends that management should refrain from having subjective reward systems and not only encourage but also establish mechanisms where employees are able to report all wrongdoing to them. Management should also seek to have an ideal combination of

particularistic and universalistic attributes in their organizations that tend to deter fraud from occurring. The management of organizations seek to find the perfect balance between internal and external control attributes of culture that tend to reduce fraud in their organization. Learning should be done to embrace more attributes of the internal control cultural attributes than the external control cultural attributes.

5.5.2 Policy Recommendations

The study recommends that manufacturing companies policy makers and management should be concerned with the volatility of the macroeconomic factors such as adverse movements in these factors in the form of inflation rate, interest rate, economic cycles, foreign exchange rates, credit rates as they are likely to enhance occupational fraud occurrence. The management of manufacturing firms should consider enhancing fraud monitoring techniques and even increase the pay of employees in case of adverse macroeconomic conditions.

5.5.3 Contribution to Knowledge

The researcher, therefore, recommends further studies to be carried out and incorporate internal auditors and other stakeholders within various institutions. Due to the diverse nature of operating environments in various industries, a dissection of the institutions needs to be done to be able to evaluate the causative factors of fraud in a particular industry more accurately. The researcher also recommends further studies to be done in the form of case studies to find out which particular attributes of culture promote or reduces fraud in particular organizations.

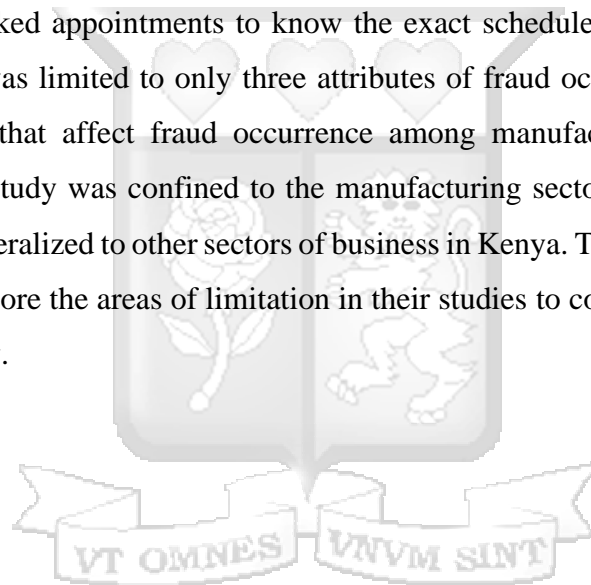
5.6 Suggestion for Further Research

Based on the outcome of the review, clearly, studies on occupational fraud have not received the expected research attention in the Kenyan environment despite the topical nature of the issue. What is known about how CEO dominance affects occupational fraud is still very inadequate and conflicting and hence necessitating the need for more studies in this regard. The evidence in the Kenyan environment is largely elusive and demands for more thorough research in this regard. The study recommends the need for more studies to look into how firm determinants and employee

determinants drive financial statement fraud likelihood in Kenyan firms and how dominant CEO's either accelerate or decelerate this process via their mediating influence.

5.7 Limitation of the Study

The research only included a small sample. However, because additional firms were not included in the sample, there may be a limit to how broadly the results may be applied. The study findings may not be applicable outside of the study's original area due to contextual variations. Top management accessibility was a challenge since it was not easy to speculate the exact time they were in the office, and some had a tight schedule during the data outsourcing process. To avoid such, the researcher booked appointments to know the exact schedule and time when they had time. Lastly, the study was limited to only three attributes of fraud occurrence as well as a few macroeconomic factors that affect fraud occurrence among manufacturing firms in Nairobi, Kenya. In addition, the study was confined to the manufacturing sector only, and therefore, the findings could not be generalized to other sectors of business in Kenya. The study, however, invites future researchers to explore the areas of limitation in their studies to compare their findings with those of the current study.



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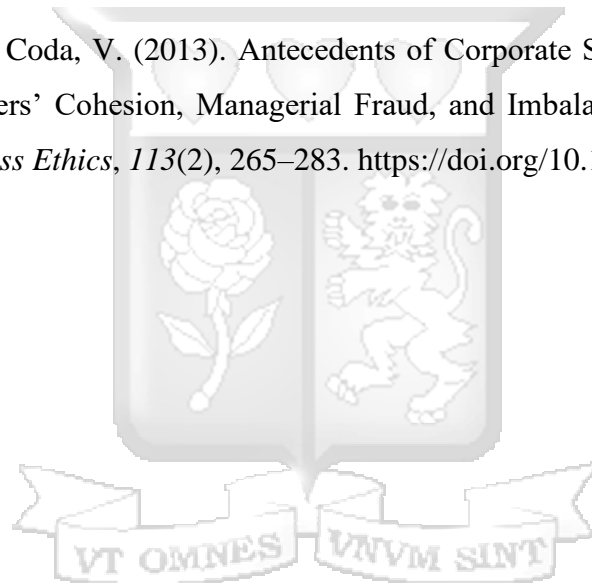
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APPENDICES

Appendix One: Introduction Letter

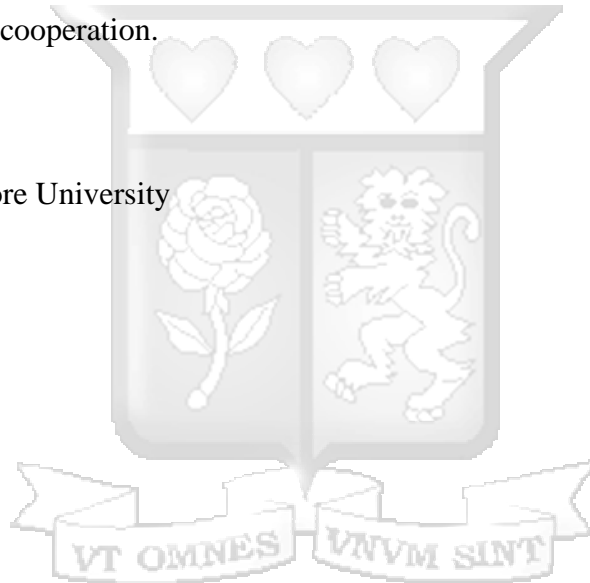
Dear Respondent;

The questionnaires provided serve solely for academic purposes, serving as a means of gathering data pertaining to the student's chosen subject. Please complete the given questionnaire to the best of your knowledge. Be assured that the information supplied will be maintained with utmost secrecy. The questionnaire may be completed in around 15 minutes.

I appreciate your aid and cooperation.

Jane Oguya

MCOM Student Strathmore University





Appendix Two: Questionnaire

Section A: General Information

This survey aims to gather data on the impact of CEO, employee, and business characteristics on the prevalence of occupational fraud in manufacturing enterprises in Kenya. Please provide truthful responses to all the items in this form. No need to provide your name or your company's name since the collected data will be utilized for generalisation purposes.

(Please tick inside the box where it is relevant)

1. Gender: Male Female
2. Respondent's age:
 21 - 30 31 - 40 41 -50 Over 50
3. Marital status: Single Married Divorced
4. Sector which your firm operates in:
Agriculture Sector/Agro-processing Automotive
Building, Mining and Construction Chemical & Allied
Energy, Electrical and Electronics Food and Beverages
Leather and Footwear Metal and Allied
Paper Plastics and Rubber Timber
Pharmaceutical and Medical Equipment Textile and Apparels Sector
5. Job Title: CEO Finance Manager Supply Chain Manager
Internal Audit & Risk Manager Non-Executive Director
6. Working experience in the sector:
Less than 1 year 1 - 5 years 5 -10 years Over 10 years
7. Education Level:
Bachelor degree High Diploma Master's degree
PhD/Doctorate
8. Certificate Qualification: CPA ACCA CIA
CFA CIFA CISA

9. Average firm's revenue: Less than Kshs. 250 million Kshs. 251-500 million
 Kshs. 501-750 million Kshs. 751-1000 million
 More than Kshs. 1001 million
10. Average firm's asset size: Less than Kshs. 250 million Kshs. 251-500 million
 Kshs. 501-750 million Kshs. 751-1000 million
 More than Kshs. 1001 million
11. Firm's employee size: Less than 100 101-500 501-700
 701-1000 More than 1001

Section B: Questions concerning of CEO determinants and occupational fraud occurrence in manufacturing companies in Kenya

12. Rate based on the level of agreement on the effect of CEO attributes on occupational fraud occurrence in manufacturing companies in Kenya by ticking (√) in the applicable column.

	Strongly Agree:1	Agree: 2	Neutral: 3	Disagree: 4	Strongly Disagree: 5
An ethically strong CEO is likely to create a culture of integrity and discourage fraudulent behavior among employees.					
A CEO who prioritizes honesty and transparency creates an environment where fraudulent activities are less likely to occur.					
A CEO who emphasizes the importance of robust internal controls and risk management measures reduces opportunities for fraud.					
A CEO who communicates openly and transparently fosters a culture where employees feel comfortable reporting potential fraud.					
Aligning CEO incentives with the company's long-term success rather than short-term financial					

gains reduces the temptation for fraudulent activities.					
A CEO with a deep understanding of the manufacturing industry is better equipped to identify potential fraud risks unique to the sector.					
CEOs with experience in crisis management are more likely to respond effectively to fraud incidents, mitigating their impact.					
A CEO who actively supports and protects whistleblowers creates an environment where employees are more likely to report suspicious activities.					

Section C: Questions concerning of Employee determinants and occupational fraud occurrence in manufacturing companies in Kenya

13. Rate based on the level of agreement on the effect of Employee attributes on occupational fraud occurrence in manufacturing companies in Kenya by ticking (√) in the applicable column.

	Strongly Agree:1	Agree: 2	Neutral: 3	Disagree: 4	Strongly Disagree: 5
Younger employees are more technologically savvy and could exploit vulnerabilities in digital systems					
Higher-ranking employees with greater authority and access are in a position to commit more significant and sophisticated fraud.					
Employees in financial or procurement roles have increased opportunities to manipulate transactions for personal gain due to their specialized roles.					

Employees with lower salaries may be motivated to engage in fraudulent activities to supplement their income.					
Disgruntled or dissatisfied employees are more prone to committing fraud as a form of retaliation or to improve their personal situation.					
Employees with a history of engaging in fraudulent activities are more likely to repeat such behaviors.					
Employee training and awareness of anti-fraud training programs influences their commitment to ethical conduct.					
The behavior and values exhibited by organizational leaders significantly influence employee behavior and attitudes toward fraud.					

Section D: Questions concerning of Firm determinants and occupational fraud occurrence in manufacturing companies in Kenya

14. Rate based on the level of agreement on the effect of firm attributes on occupational fraud occurrence in manufacturing companies in Kenya by ticking (√) in the applicable column.

	Strongly Agree: 1	Agree: 2	Neutral: 3	Disagree:4	Strongly Disagree: 5
Larger and more complex manufacturing firms have more extensive operations and numerous transactions, providing increased opportunities for fraud.					
Financially distressed firms are more susceptible to fraudulent					

activities as employees seek to mitigate financial challenges.					
Companies with sound governance structures are better positioned to detect and prevent fraud through effective oversight.					
Firms that prioritize ethical conduct and integrity, actively comply with industry standards and regulations are less likely to experience occupational fraud.					
Outdated or inadequately protected technology create vulnerabilities that fraudsters can exploit.					
Firms with robust risk management processes can proactively address vulnerabilities and reduce the likelihood of fraud.					
Companies that actively protect whistleblowers encourage employees to report potential fraud without fear of reprisal.					

Section E: Questions concerning occupational fraud occurrence in manufacturing companies in Kenya

15. Rate based on the level of agreement on occupational fraud occurrence in manufacturing companies in Kenya by ticking (√) in the applicable column.

No.	Form of Fraud Occurrence	Strongly Agree: 1	Agree: 2	Neutral: 3	Disagree: 4	Strongly Disagree: 5
	High/Low Asset Misappropriation					
1	Embezzlement of the company's funds					
2	An employee exploits their position within the company to generate costs for personal or improper purposes.					
3	Embezzlement of monetary earnings.					
4	Utilization of corporate resources for personal benefit.					

5	Deceptive practices involving the sale and transportation of goods in stock					
High/Low Corruption						
6	Bribery					
7	Companies engage in bribery to get contracts at favorable pricing through the winning party.					
8	An employee aiding in the facilitation of a payment related to an exaggerated invoice.					
9	Engaging in the act of providing fraudulent or unlawful gratuity in order to get personal benefits.					
10	A conflict of interest arises when items are sold to a close relation at a discounted price below the market value.					
11	The purchasing plan involved showing preference towards a supplier who had a financial stake in the purchase transactions due to their connection with an employee.					
High/Low Financial Statement Fraud						
12	Companies manipulate financial accounts by reporting inflated revenues in order to enhance their top-line results.					
13	Companies inflate their obligations and costs by utilizing accruals.					
14	Assets are inaccurately assessed to provide the illusion of a robust balance sheet.					
15	Financial disclosures that are intentionally deceptive are used to present a financially struggling company in a positive light, particularly in relation to transfer pricing.					

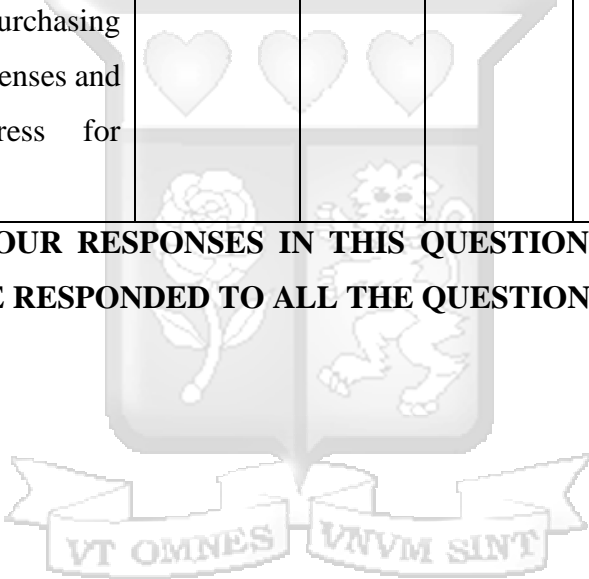
Section F: The moderating effect of macroeconomic factors on the relationship between occupational fraud occurrence and its determinants in manufacturing companies in Kenya

16. Rate based on the level of agreement on the moderating effect of macroeconomic factors on the relationship between occupational fraud occurrence and its determinants in manufacturing companies in Kenya by ticking (√) in the applicable column.

	Strongly Agree: 1	Agree: 2	Neutral: 3	Disagree: 4	Strongly Disagree: 5
High-interest rates may exacerbate financial difficulties potentially increasing the temptation for fraudulent activities.					
Economic shifts affecting the manufacturing sector can impact the financial health of companies potentially influencing fraud occurrence.					
Stringent regulations during economic downturns may act as a deterrent while regulatory laxity could increase fraud risks.					
Global economic factors such as trade tensions or geopolitical events can create both opportunities and challenges for fraud prevention.					
Tighter credit conditions may increase financial stress potentially elevating the risk of fraudulent activities.					

Exchange rate volatility may introduce financial uncertainties potentially influencing fraud occurrence.					
The presence of government stimulus programs during economic crises may influence fraud risks potentially mitigating or exacerbating fraud risks.					
Inflationary pressures may affect the cost of living purchasing power and corporate expenses and increase financial stress for individuals.					

THANK YOU FOR YOUR RESPONSES IN THIS QUESTIONNAIRE AND PLEASE CHECK IF YOU HAVE RESPONDED TO ALL THE QUESTION ITEM



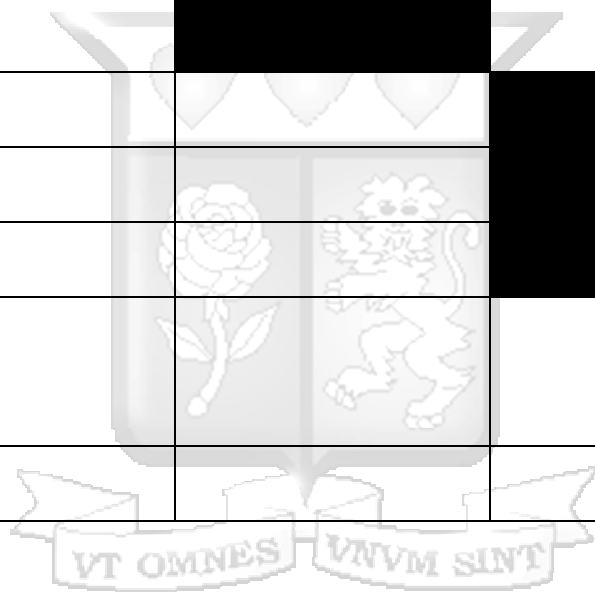
Appendix Three: List of Firms Listed in the Kenya Association of Manufacturers

Sector (Strata)	Target Population (companies)	Sample Size
Building, Mining and Construction	58	13
Chemical and allied	115	27
Energy, Electrical & Electronics	67	15
Food and Beverages	272	63
Fresh produce	21	5
Leather and Footwear	19	4
Metal and Allied Automotive	113	26
Motor Vehicle Assemblers & Accessories	77	18
Paper and board	89	21
Pharmaceutical & Medical Equipment	36	8
Plastics & Rubber	106	25
Services and Consultancy	230	53
Textile and Apparel	85	20
Timber, Wood & Furniture	40	9
Total	1328	307

Appendix Five: Work Plan

This work plan summarizes all the activities that will be done in this study.

Activity	May -Nov 2023	Dec 2023 – Feb 2024	Mar-Apr 2024	May-Jun 2024
Literature Review				
Proposal Writing				
Presentation				
Data Collection				
Data Analysis				
Report Writing				
Project Submission				
Project Defense				



Appendix Six: Ethical Approval



28th March 2024

Ms Oguya Jane,
jane.oguya@strathmore.edu

Dear Ms Oguya,

RE: Moderating Effects of Chief Executive Officer, Employee, and Firm Attributes on Occupational Fraud Occurrence in Manufacturing Companies in Kenya

This is to inform you that SU-ISERC has reviewed and **approved** your above **SU-masters** research proposal. Your application reference number is **SU-ISERC2090/24**. The approval period is from **28th March 2024 to 27th March 2025**.

This approval is subject to compliance with the following requirements:

- i. Only approved documents including (informed consents, study instruments, MTA) will be used.
- ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-ISERC.
- iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-ISERC within 72 hours of notification.
- iv. Any changes anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-ISERC within 72 hours.
- v. Clearance for the export of biological specimens must be obtained from relevant institutions.
- vi. Submission of a request for renewal of approval at least 60 days prior to the expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days of completion of the study to SU-ISERC.

Before commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology, and Innovation (NACOSTI) <https://research-portal.nacosti.go.ke/> and obtain other clearances needed.


Yours sincerely,

A handwritten signature in blue ink, appearing to read "Ambrose Rachier".

**Mr Ambrose Rachier,
Chairperson; SU-ISERC**




Appendix Seven: Research Permit - NACOSTI


REPUBLIC OF KENYA
National Commission for Science, Technology and Innovation

Ref No: 173968

RESEARCH LICENSE



This is to Certify that Miss. Jane Adhiambo Oguya of Strathmore University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: Moderating Effects of Chief Executive Officer, Employee, and Firm Attributes on Occupational Fraud Occurrence in Manufacturing Companies in Kenya for the period ending : 13/April/2025.

License No: NACOSTI/P/24/34482

Applicant Identification Number

Director General
Wadhvani
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Verification QR Code



NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions