

**DETERMINANTS OF FRAUD PREVENTION AMONG SMALL AND MEDIUM
ENTERPRISES IN NAIROBI COUNTY KENYA, MODERATING ROLE OF
INTERNAL CONTROLS**

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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 dissertation contains no material previously published or written by another person except where due reference is made in the dissertation itself.

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ABSTRACT

Fraud remains a significant challenge for SMEs, with Sub-Saharan Africa accounting for 18% of global cases and Kenya the highest in East Africa, causing revenue losses and business failures. The overall objective of the study was establishing the determinants of fraud prevention among SMEs in Nairobi County, with internal controls serving as a moderating variable with specific objectives being to establish the effects of organisational culture, organisational commitment, whistleblowing systems, and human resource competencies, and to establish the moderating role of internal controls on fraud prevention among SMEs in Nairobi County, Kenya. The study was guided by the Fraud Pentagon Theory, Agency Theory, and the Fraud Management Lifecycle Theory. A post-positivist philosophy and quantitative explanatory design were adopted. Data were collected between February and March 2026 via structured questionnaires from 400 SME owners, managers, and employees across key sectors, achieving a 100% response rate, and analysed using descriptive statistics and multiple regression. Findings showed that all determinants positively and significantly influenced fraud prevention, with organisational commitment and whistleblowing having the strongest effects. Internal controls had a direct effect but did not moderate the relationships. The study highlights the importance of ethical organisational culture, employee commitment, whistleblowing, and competencies, recommending stronger governance and supportive policy frameworks for SMEs. The study contributes to knowledge on fraud prevention among SMEs by demonstrating that organizational culture, organizational commitment, whistleblowing systems, and human resource competencies significantly enhance fraud prevention in Nairobi County. It further establishes that internal controls have a direct positive effect on fraud prevention but do not significantly moderate the relationship between the determinants and fraud prevention. The study also extends the Fraud Pentagon Theory, Agency Theory, and the Fraud Management Cycle in explaining fraud prevention within SMEs while providing practical guidance for managers and policymakers. A key limitation was difficulty in accessing updated SME contact information from the Public Procurement Regulatory Authority database, leading to the adoption of snowball sampling.

TABLE OF CONTENTS

Declaration.....	ii
ACKNOWLEDGEMENT	iii
ABSTRACT.....	iv
TABLE OF CONTENTS.....	v
LIST OF FIGURES	ix
LIST OF TABLES.....	x
LIST OF ABBREVIATIONS.....	xi
OPERATION DEFINITION OF TERMS.....	xii
CHAPTER ONE	1
INTRODUCTION	1
1.1 Background of the Study.....	1
1.1.1 Overview of Small and medium enterprises in Kenya	9
1.2 Statement of the problem	11
1.3 Objective of the study	12
1.3.1 General objective.....	12
1.3.2 Specific Objectives	12
1.3.3 Research Questions.....	12
1.4 The Scope of the study	12
1.5 Significance of the study	13
1.5.1 SMEs	13
1.5.2 Policy Makers	14
1.5.3 Researchers and learning institutions	14
1.6 Chapter Summary.....	14
CHAPTER TWO	15
LITERATURE REVIEW	15
2.1 Introduction	15
2.2 Theoretical Review	15
2.2.1 Fraud Pentagon Theory	15
2.2.2 Agency Theory	17
2.2.3 The Fraud Management Lifecycle Theory	18
2.3 Empirical Review.....	19
2.3.1 Determinants of fraud prevention among SMEs	19
2.3.2 The moderating effect of Internal controls on determinants of fraud prevention ...	29

2.4 Summary of empirical review findings	31
2.5 Research Gaps	32
2.6 Conceptual framework	32
2.7 Operationalization of Variables	33
2.8 Chapter Summary.....	35
CHAPTER THREE	36
RESEARCH METHODOLOGY.....	36
3.1 Introduction	36
3.2 Research Philosophy	36
3.3 Research Design.....	37
3.4 Population.....	38
3.5 Sampling Frame	38
3.5.1 Sampling Technique	39
3.5.2 Sample Size	39
3.6 Data Collection.....	40
3.7 Research Quality	41
3.7.1 Research Instrument's Validity	41
3.8 Data Analysis	42
3.8.1 Diagnostic Tests and Assessment.....	44
3.9 Ethical considerations	44
4.0 Chapter Summary.....	45
CHAPTER FOUR.....	46
PRESENTATION OF RESULTS	46
4.1. Introduction	46
4.2 Response Rate	46
4.2 Demographic Information of Respondents	46
4.3 Descriptive Analysis	47
4.3.1 Organizational Culture	48
4.3.2 Organizational Commitment	49
4.3.3 Whistleblowing System.....	49
4.3.4 Human Resource Competencies	50
4.3.5 Descriptive statistics on moderating role of Internal controls	51
4.3.6 Descriptive Statistics on Fraud Prevention.....	52
4.4. Correlation Analysis.....	52
4.5 Regression Diagnostic Tests	53

4.5.1 Multicollinearity Test	54
4.5.2 Normality Test of Regression Residuals	54
4.5.3 Normality Test Before Moderation	54
4.5.4 Normality Test After Moderation.....	55
4.5.4 Goodness of Fit Test.....	56
4.5.5 Linearity Test	57
4.6 Regression Analysis	57
4.6.1 Model Summary	58
4.6.2 Direct Effects of Determinants	58
4.6.3 Moderating Effect of Internal Controls	59
4.5Chapter Summary	60
CHAPTER FIVE	61
DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS.....	61
5.1 Introduction	61
5.2 Summary of Results	61
5.3 Discussion of Findings	61
5.3.1 Effect of Organisational Culture on Fraud Prevention among SMEs in Nairobi County, Kenya.....	61
5.3.2 Effect of Organisational Commitment on Fraud Prevention among SMEs in Nairobi County, Kenya.....	62
5.3.3 Effect of Whistleblowing on Fraud Prevention among SMEs in Nairobi County, Kenya.....	63
5.3.4 Effect of Human Resource Competencies on Fraud Prevention among SMEs in Nairobi County, Kenya.....	63
5.3.5 Moderating Effect of Internal Control on Determinants of Fraud Prevention among SMEs in Nairobi County, Kenya.....	64
5.4 Conclusion.....	65
5.5 Recommendations	65
5.5.1 Recommendation for SMEs	65
5.5.2 Recommendation for policy Makers	65
5.6 Contribution of the study.....	66
5.7 Limitations of study	67
5.8 Areas of further research	67
5.9 Chapter Summary.....	67
REFERENCES	69
Appendix I: Table 2.1 Summary of literature	80

Appendix II- Introduction Letter	89
Appendex III: information sheet.....	90
Appendix IV Research Questionnaire	92
Section A: General Information (Optional/Background)	92
Section B: Organizational Culture	93
Section C: Organizational Commitment.....	94
Section D: Whistleblowing System	94
Section E: Human Resource Competencies.....	95
Section F: Internal controls.....	95
Section G: Fraud Prevention.....	96
Appendix IV: ETHICAL APPROVAL	98
Appendix V: NACOSTI LICENSE	99

LIST OF FIGURES

Figure 2.1: Conceptual Framework	33
Figure 4.5: Histogram of Standardized Residuals Before Moderation	55
Figure 4.6: Histogram of Standardized Residuals After Moderation	56

LIST OF TABLES

Figure 2.1: Conceptual Framework	33
Table 2.2: Operationalization of Variables	33
Table 3.1: Population of the Study	38
Table 3.2 Sample Distribution	40
Table 3.3: Reliability Test	42
Table 4.2: Response Rate.....	46
Table 4.3 Demographic Information	46
Table 4.3.1 Organizational Culture	48
Table 4.3.2 Organizational Commitment	49
Table 4.3.3: Whistleblowing System	50
Table 4.3.4: Human Resource Competencies Descriptive	50
Table 4.3.5: Internal controls.....	51
Table 4.3.6: Fraud Prevention Descriptives.....	52
Table 4.4: Correlation Matrix	53
Table 4.5.1: Collinearity Diagnostics	54
Table 4.6: ANOVA Model Fit	56
Table 4.5.5: Test of Linearity Between Independent Variables and Fraud Prevention.....	57
Table 4.6.1: Regression Model Summary Table	58
Table 4.6.2: Direct Effects of Determinants	59
Table 4.4.6: Moderating Effect of Internal Controls	60

LIST OF ABBREVIATIONS

- a) SMEs- Small and medium sized enterprises
- b) ACFE- Association of certified fraud examiners
- c) KNBS- Kenya National bureau of statistics
- d) NACOSTI -National Commission for Science, Technology and Innovation
- e) GDP-Gross Domestic Product
- f) KES-Kenya shillings
- g) HR-Human Resource

OPERATION DEFINITION OF TERMS

- Small and medium enterprises:** According to Kenya Institute for Public Policy Research and Analysis, Micro and small enterprises (MSEs) employ less than 50 people and have an annual turnover of between KES 500,000 and KES 5 million. A medium enterprise hires between 50 to 100 employees (Central Bank of Kenya, 2023).
- Organisational Culture:** Refers to a system of norms, values and styles of behavior which are shared by organizational employees (Intan & Andry, 2024). Culture presents a uniqueness in identity, distinguishes one organization aside from others, and guides its employees in their conduct. Abu Bakar et al. (2023) further elaborates that organisational culture is set by the tone at the top
- Organizational commitment:** As defined in Murtanto et al. (2022) as an attitude that show loyalty of employees expressing the need and concern for the success of the companies where they work. It involves efforts by the employees to act in the best interest of the organisation leading to loyalty to the company (Manurung et al., 2015).
- Whistleblowing:** Near and Miceli's (1985) definition i.e. "the disclosure by organizational stakeholders (current or former) of illegal, immoral, or illegitimate activities under their employer's control to individuals or organizations that can take corrective action."
- Human resource competencies:** Refers to an individual's knowledge, skills, and personal traits that directly influence their performance in attaining objectives (Yufitrianisa et al., 2022).
- Fraud prevention:** Involves activities to insulate organisation from occurrence of fraud (Amasiatu & Shah, 2018).
- Internal controls:** The Committee of Sponsoring Organizations (COSO) (2013) defines internal control as "a process, effected by an entity's board of directors, management, and other personnel, designed to provide reasonable assurance regarding the achievement of objectives relating to operations, reporting and compliance.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Fraud is an increasing concern for businesses globally, leading to severe risks to stability of operations, financial reporting integrity as well as market reputation (Bruse et al.2025).Fraud imposes enormous costs on business organizations worldwide, eroding confidence of investors (Adejumo & Ogburie, 2025).In 2020, fraud cases reported by region globally were: the United States accounted for 46% of reported fraud cases, while Western Europe recorded 7%, Eastern Europe, together with Western and Central Asia, had a higher rate at 5%. North Africa and Middle East reported 7%, Southern Asia experienced the highest level at 7%, and the Asia Pacific region stood at 10%. Sub-Saharan Africa saw 15% of cases, while Caribbean and Latin America reported 5% (Association of Certified Fraud Examiners, 2020).

Comparatively in 2022, United States accounted for 36% of reported fraud cases, while Western Europe recorded 8%, Eastern Europe, together with Western and Central Asia, had a higher rate at 4%. The Middle East and North Africa reported 7%, Southern Asia experienced the highest level at 7%, and the Asia Pacific region stood at 10%. Sub-Saharan Africa saw 23% of cases, while Latin America and the Caribbean reported 5%(Association of Certified Fraud Examiners, 2022). In 2024 on the other hand, fraud cases were distributed unevenly across different regions. For example, the United States accounted for 35% of reported fraud cases, while Western Europe recorded 53%. Eastern Europe, together with Western and Central Asia, had a higher rate at 71%. The Middle East and North Africa reported 55%, Southern Asia experienced the highest level at 74%, and the Asia Pacific region stood at 56%. Sub-Saharan Africa saw 59% of cases, while Latin America and the Caribbean reported 55% (Association of Certified Fraud Examiners, 2024).

Association of Certified Fraud Examiners, (2016) shows that businesses incur losses approximately 3.5 trillion dollars each year due to reported fraud cases, with small businesses being the hardest hit. Globally, Asset misappropriation represents the most frequently occurring form of fraud, although it typically results in lower financial losses compared to other types. Conversely, financial statement fraud occurs less often but leads to the highest monetary im-

pact. Furthermore, corruption accounts for almost half of the fraud cases reported, highlighting its widespread nature (Association of Certified Fraud Examiners, 2024).

According to the 2024 ACFE report, Kenya ranks as the third most fraudulent country in Africa, with 40 reported fraud cases coming in behind South Africa and Nigeria. In Kenya, the fraud menace has contributed to the downfall of major companies listed on the Nairobi Securities Exchange, including Uchumi supermarket, Imperial Bank, National Bank, Mumias Sugar, Nakumart supermarket among others (Mwangi & Ndegwa, 2020). Additionally, it is likely that small business owners are victims because of ignorance of not considering possibility of them being susceptible to fraud (Laufer, 2011). Small businesses experienced a median loss of \$200,000 per fraud incident, which is 37% higher than the average (Association of Certified Fraud Examiners, 2024). The rising trend of fraud cases in SMEs will negatively impact on the global economy if this trend is not curbed (Andoh et al., 2018). According to a 2016 report by the Kenya National Bureau of Statistics, 46% of SMEs close within their first year, 15% shut down after two years, 10% after three years, 5% after four years, 11% within six to ten years, 4% between eleven and fifteen years, and 5% after more than fifteen years. Small and medium-sized enterprises generally experience a low rate of survival (Sharu & Guyo, 2018). In Kenya, around 60% of newly established small and micro enterprises collapse within their first three years of operation. Between January and May 2024 in Kenya, 72% of organizations targeted by phishing attempts successfully prevented fraud, while 8% fell victim to fraud (TransUnion, 2024).

Fraud prevention involves strategies adopted to lower the incidence of fraud-causing factors as pressure, opportunity, capability, and rationalization. In 2024, North America dominated the global fraud detection and prevention market, accounting for more than 37% of total industry revenue. This strong performance is driven by the region's strong technological infrastructure facilitates the extensive uptake and integration of new technologies for example adoption of AI-enabled, cloud-based fraud detection systems. North America has one of the highest global uptake rates of digital payment methods including mobile banking, online transactions, and contactless payments resulting in large transaction volumes and heightened exposure to cyber and financial fraud. This environment has accelerated the need for sophisticated, real-time fraud detection capabilities across financial institutions, retail platforms, government systems, and digital service providers (Grand View Research, Inc, 2025).

The presence of major global technology firms such as IBM, Microsoft, and Oracle further strengthens the region's leadership. These companies continually invest in artificial intelligence, machine learning, predictive analytics, and cloud security, driving sustained innovation in fraud prevention tools. Their strong collaboration with banks, insurers, fintechs, and public agencies enables the development of tailored solutions that address emerging risks, such as synthetic identities, account takeovers, phishing schemes, ransomware, and insider threats(Grand View Research, Inc, 2025).As cybercriminals become more sophisticated, these tech giants play a critical role in delivering adaptive, enterprise-grade systems capable of analyzing massive data sets and detecting anomalies in real time (Grand View Research, Inc, 2025).

In addition, regulatory frameworks in the United States and Canada such as AML and KYC requirements, as well as data protection laws like CCPA and PIPEDA create strong incentives for organizations to invest in advanced fraud detection technologies. Compliance pressures, coupled with the need to protect consumer trust in a highly digital financial landscape, have contributed significantly to market growth. Together, these factors position North America as the global hub for innovation, deployment, and advancement of fraud detection and prevention solutions (Grand View Research, Inc, 2025).

In Sub-Saharan Africa, common anti-fraud measures include external audits of financial statements, the establishment of internal audit departments, adoption of codes of conduct, management certification of financial reports, external audits of internal controls, formation of independent audit committees, use of hotlines, management reviews, anti-fraud policies, training programs for both employees and managers/executives, dedicated fraud departments, employee support initiatives, formal fraud risk assessments, surprise audits, proactive data monitoring and analysis, job rotation or mandatory leave, and incentives for whistleblower. However, due to their limited resources, lack of robust internal controls, and often insufficient expertise in fraud (Association of Certified Fraud Examiners, 2024). It aims to gather enough early fraud signals and red flags while at the same time reducing the space in which fraud perpetrators can operate (Rosari & Utomo, 2024).

Existing fraud prevention methods among SMEs are predominantly reactive rather than proactive, limiting their effectiveness in addressing increasingly sophisticated fraudulent activities(Anantawikrama et al., 2019). Many SMEs rely heavily on manual processes, such as

physical oversight of transactions, paper-based record reviews, and periodic internal audits. These approaches are time-consuming, prone to human error, and often detect fraud only after significant damage has already occurred. Additionally, most SMEs use basic accounting software or simple financial management tools that have minimal or no built-in fraud detection capabilities. Such systems typically lack advanced features like automated anomaly detection, transaction pattern analysis, or real-time alerts. As a result, irregularities may go unnoticed for long periods, providing opportunities for internal or external perpetrators to exploit weaknesses.(Anantawikrama et al., 2019)

Because these methods operate retrospectively identifying fraud after it has already taken place they do not offer the continuous, real-time monitoring required in today's fast-paced business environment. This gap increases SMEs' exposure to financial losses, reputational damage, and operational disruptions. Consequently, there is a pressing need for more proactive, technology-driven fraud prevention frameworks that enable early detection, timely intervention, and stronger internal controls. (Bruse et al., 2025). Therefore, implementing effective fraud prevention measures is essential for all enterprises, no matter their size.

While SMEs continue to struggle with reactive and largely manual fraud prevention mechanisms, it has become increasingly evident that technological gaps alone do not fully explain their vulnerability (Bruse et al., 2025). Emerging literature highlights that the effectiveness of fraud prevention is also shaped by internal organisational factors that influence how fraud risks are perceived, managed, and responded to. In particular, four key determinants are widely considered by researchers for example Stephen P. Robbins,Intan and Andry (2024), Jerab and Mabrouk (2023), Abu Bakar et al. (2023), Ocansey and Ganu (2018), Murtanto et al. (2022), Manurung et al. (2015), Gunawan et al. (2023), Mazaya et al. (2025), Sari et al. (2025), Fernanda and Muslichah (2020), Kagias et al. (2024), Arroyo and Smaili (2025), Windy and Bunga (2021), Yu-fitrianisa et al. (2022), Banjarnahor et al. (2023), Dewi and Uum (2025), and B. Gunawan and Wardana (2023), John Meyer and Natalie Allen (1997) among others are: organisational culture, organisational commitment, human resource competencies, and whistleblowing systems play a critical role in strengthening or weakening organisations' fraud prevention capacity. Together, these determinants form the human and structural foundations upon which robust fraud prevention strategies are built, making their examination essential in understanding how SMEs can transition from reactive to proactive fraud management (Aprilianty & Suhaedi, 2024).

Organizational culture is a system of norms, values and styles of behavior which are shared by organizational employees (Intan & Andry , 2024). Culture presents a uniqueness in identity, distinguishes one organization aside from others, and guides its employees in their conduct. A sturdy organizational culture has a superb impact on the behaviors of organizational employees including performance, productivity, commitment, and ethical behavior (Robbins & Judge, 2012) .Organizational culture is a cornerstone of an organisation's identity and framework of its operations. It is an invisible tool that informs decisions, shapes the attitude of employees and ultimately establishes the trajectory of the success of organizations (Jerab & Mabrouk, 2023). Other scholars on culture believe that culture is everything and form a remedy of many organisational problems. Abu Bakar et al. (2023) further elaborates that organisational culture is set by the tone at the top and leadership has a critical role in enforcing an anti-fraud culture this is also similar to the sentiments by Roseline (2019) reiterated that the top leadership for example even board of directors have a role in instilling the ethical culture and requiring the employees to be of high character through constant communication to the top leadership thereafter the top leadership will transfer the same culture to the employees. Abu Bakar et al. (2023) and Ocansey & Ganu (2018) further elaborates that organisational culture goes to the extent of affecting individual attitudes and perceptions. For example a culture of openness and transparency enables employees to express themselves and report incidences that could lead to fraud perpetration. In a pessimistic work environment, the morale and commitment of employees will be low and this will likely influence them to commit fraud because they will feel no need to protect their organisation (Abu Bakar et al., 2023b). When uncertainty levels are high, it could lead to an aggressive culture (Fourie, 2020).

Organizational commitment is a mindset that show employee loyalty of an organization showing dedication to ensuring its own success (Murtanto et al., 2022). It represents the psychological connection between the organization and the employee, which influences the employee's commitment to stay with the business. Organizational dedication is characterized by an employees' relationship with an organization and impacts their decision to stay within the organization. Meyer & Allen (1997) highlight that employees with a high level of commitment have a tendency of discipline, high productivity and good work ethics, thus helping to reap organizational goals This loyalty mindset is indicated through; a preference to remain a member in the enterprise they work for, trust in and alignment with the values, mission and

vision of the organization (Murtanto et al., 2022). According to the research conducted by Murtanto et al.(2022), organisational commitment has a positive impact on fraud prevention.

Organisational commitment is defined in Murtanto et al.(2022) as an attitude that shows loyalty of employees expressing the need and concern for the success of the companies where they work. It involves efforts by the employees to act in the best interest of the organisation leading to loyalty to the company (Manurung et al., 2015). Hayati & Wulanditya (2018), as highlighted in their study,characterizes organisational commitment in the following factors: strong belief and acceptance of goals of organization and values ,willingness to put efforts in support of organization and employee loyalty. Gunawan et al. (2023) define organisational commitment as a kind of an attachment, involvement and identity in an organization by employees' .This dedication by the employees is shared with the organization so as to cultivate an enabling environment and bring the vision of the organization and objectives to being materialised. In this scenario, the organization can cultivate loyalty of employees by ensuring that its workers have access to suitable facilities and enjoy stable and positive working relations with one another(A. Gunawan et al., 2023).There are three distinguishing features of organizational dedication, namely: Trust and understanding of each other's individual values and priorities being high, dedication to the company's goals and objectives , willingness to sacrifice individual rewards for the organisation's benefit and determination to remain a worker of the organisation which is a form of allegiance to the organisation (Gunawan et al., 2023).

Mazaya et al. (2025) interprets organizational commitment as the degree to which an employee wants to remain in the organisation and the employee willingness to work optimally.They further state that higher commitment enables the employees to work optimally in their organisations and consequentially prioritising organisational's goals over personal interests.Highly committed employees will more likely fight fraudulent acts (Mazaya et al., 2025).Organizational commitment is also portrayed in engagement of employees and their pride in their jobs(Sari et al., 2025). Morality helps people to make correct moral decisions and enhance their quality of life. Personal morality shapes the character of individuals and affects their behaviour in various situations. Strong positive character allows individuals to make accurate and responsible decisions (Hambali et al., 2023). The higher the morality, the reduced probability of fraudulent activities taking place (Saputra et al., 2022).An improvement in the morality of an individual, will prevent the action of fraud behaviour. In ad-

dition, upholding ethical principles decreases the risk of fraudulent behavior. Implementing a well-defined professional code of ethics will minimize fraudulent behaviour (Fernanda & Muslichah, 2020).

Despite the expanding research on whistleblowing and the introduction of various international and national laws, there is still no universally agreed-upon definition of whistleblowing in academic studies or legal frameworks (Arroyo & Smaili, 2025). For many scholars, however, the benchmark remains Near and Miceli's (1985) definition i.e. "the disclosure by organizational stakeholders (current or former) of illegal, immoral, or illegitimate activities under their employer's control to individuals or organizations that can take corrective action." (Kagias et al., 2024). Whistleblowing serves as an effective tool within organizations to combat corruption and promote stronger corporate governance and social responsibility. In recent years, it has gained significant attention in both legal and corporate arenas due to major scandals exposed by whistleblowers in prominent companies like Uber, Google, and JPMorgan (Jobinpicard & Doha, 2022). The whistleblowing system is defined as a complaint mechanism for filing, dealing with and following up on reviews of alleged violations committed by internal and outside parties (Windy & Bunga, 2021). Implementation of whistleblowing plays a crucial role in finding out financial irregularities and deterring fraud. It enhances transparency in the organisation (Ahmad Herryandi Novrian et al., 2025). Although effective whistleblowing system is said to positively influence fraud prevention (Windy & Bunga, 2021). Some companies with very strong whistle blowing system still have fraud occurring (Jerab & Mabrouk, 2023).

A whistleblower must have credible information or evidence of wrongdoing and report it in good faith, rather than out of personal grievances or malicious intent. The purpose of a whistleblowing system is to expose illegal, unethical, or harmful conduct by any member of the organization and ensure the issue is reported to bodies capable of taking corrective action. To protect the whistleblower, such disclosures are usually made confidentially. (Pratiwi et al., 2019). A whistleblowing system serves as an early warning tool for detecting fraud, allowing prompt action and limiting losses. In the fraud diamond theory, it reduces the opportunity for misconduct by exposing vulnerabilities that could enable fraud. In 2024, 43% of reported fraud cases were identified through tips (Association of Certified Fraud Examiners, 2022). By enabling early reporting, it significantly strengthens fraud prevention within an organization (Hanifah & Clyde, 2022).

Human resource competence can be defined as the combination of an individual's knowledge, skills, and personal attributes that collectively shape their ability to perform effectively and achieve organizational objectives (Yufitrianisa et al., 2022). Human resource competency refers to the knowledge, skills, abilities, and personal attributes that enable employees to perform their roles effectively. These competencies include not only technical expertise but also problem-solving, decision-making, interpersonal skills, ethical judgment, and adaptability. Competent employees contribute to organizational goals, support continuous improvement, and respond effectively to changes in the business environment. By developing strong human resource competencies, organizations enhance performance, uphold ethical standards, and strengthen their capacity for innovation, productivity, and long-term growth (Banjarnahor et al., 2023).

According to Dewi & Uum (2025), fraud prevention can be done through increasing the competence of human resources. The management must be carried out transparently so that there is no misappropriation of funds, so competent human resources are needed to implement these tasks properly. The higher a person's competence in carrying out tasks, the higher likely for fraud prevention. With high competence, an individual is not only able to do his job well, but is able to identify, prevent, and overcome fraud attempts more effectively. Personal morality is vital as it shapes the behaviour and the character of individuals in society.

Internal controls play a critical role in fraud prevention by acting as a moderating variable between key organizational determinants and the effectiveness of anti-fraud measures (Gunawan & Wardana, 2023). While factors such as organizational culture, organizational commitment, whistleblowing systems, and human resource competencies are widely recognized as important in curbing fraudulent behaviour, their impact is not uniform and often depends on the presence and strength of internal controls.

However, without effective internal controls, even a strong ethical culture may fail to translate into tangible compliance, as opportunities for fraud may still exist. Internal controls reinforce cultural norms by embedding checks, audits, and procedural safeguards that ensure ethical behaviour is consistently upheld. Similarly, organizational commitment employees' loyalty and adherence to organizational goals reduces the likelihood of fraud. Internal controls strengthen this effect by providing a structured framework that supports committed employees in translating their loyalty into compliant actions, thereby enhancing the general effectiveness of commitment in preventing fraud.

Whistleblowing systems, which enable employees to report unethical behaviour, are another crucial determinant of fraud prevention. Their effectiveness, however, is contingent upon robust internal controls that ensure reported concerns are properly investigated, addressed, and protected from retaliation. Without such controls, whistleblowing mechanisms may be ignored or mismanaged, diminishing their deterrent effect. Likewise, human resource competencies, including recruitment, training, and performance management, are essential in fostering an ethical workforce. Internal controls amplify the benefits of HR competencies by embedding procedural checks and accountability into daily operations, ensuring that employee skills and knowledge are consistently applied toward compliance and fraud prevention.

Generally, internal controls serve as a moderating factor because they enhance or constrain the influence of organizational culture, commitment, whistleblowing systems, and human resource competencies on fraud prevention (Rashid, 2022). By providing a structural backbone that translates intentions into consistent actions, internal controls ensure that the positive effects of these determinants are maximized and that organizational efforts to prevent fraud are more reliable and measurable (Ahmad, 2019).

1.1.1 Overview of Small and medium enterprises in Kenya

According to the Kenya Institute for Public Policy Research and Analysis, micro and small enterprises (MSMEs) are classified as businesses with fewer than 50 employees and an annual turnover between KES 500,000 and KES 5 million, whereas medium enterprises are defined as those employing 50 to 100 workers (Kenya Institute for Public Policy Research and Analysis, 2014). Similarly, Central bank of Kenya also elaborates that Micro, small, and medium enterprises (MSMEs) are categorized according to their annual turnover, number of employees, and level of investment in assets or capital. Micro enterprises are those with annual earnings below Ksh.500,000 employing between 1 and 9 workers, and having relatively low asset or capital requirements depending on the sector. Small enterprises earn between Ksh.500,000 and Ksh.5 million annually and employ 10 to 49 people, with moderate levels of investment in equipment, machinery, or capital depending on whether they are in manufacturing, services, or agriculture. Medium enterprises have an annual turnover ranging from Ksh.5 million to Ksh.100 million, employ 51 to 250 workers, and operate with higher investment thresholds in assets and capital, which vary by sector (Central Bank of Kenya, 2023). This study will adopt this definition.

Small and medium-sized businesses are important to socioeconomic development, particularly in developing international locations (Ashwin et al., 2018). They contribute to improved income distribution, task creation, technological development, and poverty remedy (Ana et al., 2024). Small and Medium-sized firms (SMEs) are instrumental to African economies, gambling a tremendous position in fostering innovation, using financial increase, and developing employment possibilities.

In kenya ,SMEs contribute to the economic growth by job creation and unemployment reduction (Chu et al., 2007). According to 2016 statistics by Kenya bureau of statistics, about 92.1% microbusiness,7.2% small businesses and 0.7% are medium businesses were licenced in Kenya (formal). 12.5% of people were employed in medium businesses,55.2% in Micro businesses and 32.3% in micro businesses. MSMEs contributed to economic growth by 28.5%. These corporations have a pivotal role in Kenya's financial growth. SMEs both in-formal and formal. Informal ones are diagnosed as "Jua Kali". Their capability to supply jobs to many Kenyans has been highlighted in sessional paper 2 of 1992.This acknowledgment, has made the sector to acquire a lot interest inside the manifestos of the governments. The Companies Act No. 17 of 2015 outlines the procedures and requirements for registering companies in Kenya. Registered companies may be limited by shares or by guarantee, public or private. Small companies are regarded risky businesses due to the fact that most of them lack the collateral. The increase of SMEs in African economies is confronted with numerous challenges that obstruct their sustainability (Cynthia Chizoba Ekechi et al., 2024). These businesses are greater inclined proportionally to worker fraud, and plenty less capable to absorb those losses than large corporations (Cynthia Chizoba Ekechi et al., 2024).

SMEs account for 48.5% of private-sector employment and create 63% of new jobs in the sector and contribute to patent production at a rate 16 times higher per employee than large corporations (Megan & Cottrell , 2016).Unfortunately, this instrumental segment to the global economy is also among the most vulnerable. A 2014 survey by the University of Cincinnati revealed that 64% of small businesses had experienced fraud (Kennedy , 2014), what is more concerning being its far-reaching impact, enhancing the resilience of small businesses against fraud could deliver significant benefits to both owners and the broader economy. However, many small enterprises often lack the necessary resources and expertise to effectively combat fraud (Megan & Cottrell , 2016).

1.2 Statement of the problem

Despite extensive research on fraud prevention determinants, fraud cases continue to rise globally. According to the Association of Certified Fraud Examiners (2024), 38% of reported fraud cases occurred in the US and Canada, 18% in Sub-Saharan Africa, 11% in Asia-Pacific, and smaller percentages in other regions. In Sub-Saharan Africa, common fraud schemes included corruption (59%), billing fraud (21%), non-cash fraud (21%), and cash larceny (14%), with perpetrators comprising 42% employees, 42% managers, and 13% owners. In East Africa, Kenya accounted for the highest number of fraud cases (40), exceeding those of neighboring countries combined, highlighting the growing risk among SMEs. Globally, SMEs lose up to 5% of annual revenue to fraud, contributing significantly to high business failure rates

Empirical studies on fraud prevention determinants have produced mixed findings. Research has shown that organisational culture (Nainggolan, 2020; Aprilianty & Suhaedi, 2024; Soehaditama, 2024) and organizational commitment (Murtanto et al., 2022; Mazaya et al., 2025) positively influence fraud prevention, while other studies report no significant effect (Binsar, 2014; Ramadlan et al., 2020; Indriani et al., 2019). Similarly, whistleblowing systems have been found to reduce fraud in some contexts (Fitrianti et al., 2023; Yulian Maulida, 2021; Arroyo & Smaili, 2025), but not in others (Dwiyanti et al., 2022; Anantawikrama et al., 2019). Evidence on human resource competencies is also mixed, with some studies suggesting that the variable has a positive effect on enhancing fraud prevention (Banjarnahor et al., 2023), while others report no significant relationship (Sinaga et al., 2021; Yufitrianisa et al., 2022). Studies on internal controls as a moderating variable have similarly yielded varied results. For instance, Wardana & Gunawan (2023) reported no mediating effect, and Audeh (2019) found a significant moderating role in Jordanian banks. Other studies reported varying magnitudes of influence, ranging from 50.2% (Rahadiyan & Bunga, 2020) to 68.4% (Kurniawan, 2017).

Conceptually, while organizational culture, organizational commitment, whistleblowing systems, and human resource competencies are recognized as key determinants of fraud prevention, few studies examine how these factors interact, particularly with internal controls as a moderating variable. Most research considers these determinants in isolation, overlooking how internal controls may amplify or reduce their effects. This highlights the need for studies that assess both direct and moderated relationships, offering a more integrated and context-specific understanding of fraud prevention in SMEs, especially those operating in Nairobi County, Kenya.

1.3 Objective of the study

1.3.1 General objective

This study aims to establish the determinants of fraud prevention among SMEs in Nairobi County, with internal controls serving as a moderating variable.

1.3.2 Specific Objectives

The specific objectives of this study will be as follows

- i). To establish the effect of organisational culture on fraud prevention among SMEs in Nairobi County, Kenya
- ii). To establish the effect of organisational commitment on fraud prevention among SMEs in Nairobi County, Kenya
- iii). To establish the effect of whistleblowing on Fraud prevention among SMEs in Nairobi County, Kenya
- iv). To establish the effect of human resource competencies on fraud prevention among SMEs in Nairobi County, Kenya
- v). To establish the moderating effect of internal control on determinants of fraud prevention among SMEs in Nairobi County, Kenya

1.3.3 Research Questions

- i). What is the effect of organisational culture on of fraud prevention among SMEs in Nairobi County, Kenya?
- ii). What is the effect of organisational commitment on fraud prevention among SMEs in Nairobi County, Kenya?
- iii). What is the effect of whistleblowing on fraud prevention among SMEs in Nairobi County, Kenya?
- iv). What is the effect of human resource competencies on fraud prevention among SMEs in Nairobi County, Kenya?
- v). What is the moderating effect of internal control on determinants of fraud prevention among SMEs in Nairobi County, Kenya?

1.4 The Scope of the study

This study was performed in Nairobi, Kenya and data collected between January 2026 and March 2026. The Kenya National Bureau of Statistics', (2024) report on Gross county product indicates that Nairobi City contributed 27.5% of the total gross value added ,37.4% contribution on the service sector nationwide,the working population of 11% of the total

working population nationwide. Nairobi contributed 36% of Kenya's GDP as per this KNBS 2024 report. Being the economic hub of Kenya, it's a model for other counties and hence the reason for consideration for study population in this study.

Kenya's monetary engine is fueled by using SMEs. In line with the Kenya National Bureau of statistics. Over 80% of Kenya's group of workers is hired by SMEs, which account for around 34% of the United States of America's GDP. They cut across several industries, such as production, services, and even agriculture. They are the boom engines for the economy, encouraging entrepreneurship with their modern attitude. Nairobi has the most SMEs consistent with Per capita contribution to the Gross Domestic Product in the country (Economic Survey, 2019). Business people nationwide trade commodities in the Nairobi metropolis. The study was conducted between January and March 2026, during which data collection, analysis, and interpretation were undertaken. It targeted a population of 1,744,500 individuals working or owning SMEs in Nairobi County from which a sample of 400 respondents was selected. The findings are based on this sample within the specified study period.

1.5 Significance of the study

Due to the key role of SMEs in driving economic growth, it is essential to explore effective ways of preventing fraud within these enterprises. This study examines factors influencing fraud prevention among SMEs, with internal controls serving as a moderating variable. The findings are expected to help streamline SME operations and enhance their sustainability. This research could be crucial to a wide range of stakeholders, including policymakers, SME owners and researchers and learning institutions by providing insights into strategies that strengthen accountability, transparency, and resilience against fraudulent practices.

1.5.1 SMEs

This research provides SMEs with key insights into the determinants of fraud prevention, enabling them to strengthen safeguards and close system loopholes. By addressing organizational, cultural, and operational factors, SMEs can design internal policies and controls that promote integrity, accountability, and transparency. Effective internal controls help detect irregularities, ensure compliance, improve financial reporting, and reduce fraud risks, while fostering trust with investors, regulators, and other stakeholders. Widely, the study offers practical guidance for enhancing fraud prevention measures and supporting long-term operational and financial sustainability in SMEs

1.5.2 Policy Makers

The government and SME regulators may also rely on the findings of this study to design and disseminate effective fraud prevention techniques designed to address the unique requirements of small and medium enterprises. By doing so, they can provide clear and practical guidance that empowers business owners and managers to adopt strategies that directly address common fraud risks. For policymakers, the research offers valuable evidence that can be used to develop comprehensive guidelines and regulations aimed at strengthening accountability, enhancing compliance, and building more resilient enterprises

1.5.3 Researchers and learning institutions

This study offers a valuable understanding of the variables that affect fraud prevention among SMEs, highlighting the moderating role of internal controls. It demonstrates how organizational culture, organisational commitment, whistleblowing and HR competencies influence fraud prevention, and how internal controls strengthen or weaken these relationships. The findings provide a reliable reference for future research, enabling comparative studies across regions, industries, or organizational sizes. They also identify gaps in the literature, such as the role of digital technologies and sector-specific challenges, guiding subsequent investigations. Collectively, the study advances both theoretical understanding and practical application, supporting more effective fraud prevention strategies and encouraging innovative approaches to governance in SMEs.

1.6 Chapter Summary

This chapter presented the background of the study by focusing on the determinants of fraud prevention as the independent variables. It also provided an overview of SMEs, emphasizing their economic importance and the challenges they face in implementing effective fraud prevention mechanisms. Further, the chapter outlined the research objectives and questions to clarify the direction of the study, while identifying a research gap concerning the relationship between the identified determinants and fraud prevention among SMEs in Nairobi County. The study sought to generate academically and practically relevant insights that may benefit SME owners and managers, policymakers, researchers, and learning institutions. Additionally, the scope of the study was defined by concentrating on selected SMEs, sectors, and locations within Nairobi County to ensure contextual relevance and manageability.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter looks into theories that form the basis for this study. Previous empirical studies in this subject of study and associated thematic researched areas are discussed. This chapter will also include a literature summary, empirical reviews and studies, a conceptual framework illustrating the linkage between the independent variables, the dependent variable, and the moderating variable. Lastly, an operationalization of variables will be done in this chapter.

2.2 Theoretical Review

The theoretical evaluation involves theories which can be relevant to determinants of fraud prevention. Theories reviewed in this study are Fraud Triangle Theory, agency theory and the fraud management lifecycle theory.

2.2.1 Fraud Pentagon Theory

The Pentagon theory was formulated by Crowe (2011). The development of fraud theory has evolved over several decades, beginning with the foundational work of Cressey (1953) for, who introduced the fraud triangle theory. Cressey argued that fraud occurs when an individual experiences a non-shareable financial problem (pressure), perceives an opportunity to violate trust without detection, and rationalizes the act as acceptable or justified. Building on Cressey's framework, Wolfe and Hermanson (2004) proposed the fraud diamond theory. While retaining the original three elements of the fraud triangle, they introduced a fourth factor capability. Wolfe and Hermanson (2004), argued that even when pressure, opportunity, and rationalization exist, fraud cannot occur unless the perpetrator possesses the necessary personal traits, skills, or position within the organization to exploit internal control weaknesses.

In 2011, Crowe further expanded the fraud models by introducing the fraud pentagon theory. Crowe modified the term capability to competence, noting that both terms describe a perpetrator's ability to commit and conceal fraud. However, Crowe added an important new dimension, arrogance. This new factor recognizes that some individuals commit fraud not only

because they can, but because they believe they are above the rules. Under the fraud pentagon theory, the five elements are: Pressure being incentives or motivations that push individuals toward fraudulent behaviour, such as financial stress, performance demands, or personal obligations, opportunity explained as weaknesses in internal controls or governance systems that provide a chance to commit fraud without detection, rationalization highlighted as mental justification used to make fraudulent acts seem morally or ethically acceptable to the perpetrator, capability/competence defined as the knowledge, skills, position, and ability of an individual to override controls, design sophisticated concealment strategies, and manipulate circumstances to their advantage and lastly arrogance explained as a sense of superiority or entitlement in which the perpetrator believes that organizational policies, ethical standards, or internal control systems do not apply to them. According to Crowe, such individuals often hold positions of authority or exhibit dominant personalities that foster an environment where they feel untouchable or immune from oversight (IN Howart, Crowe, 2011). Crowe's expansion of the fraud theory highlights the evolving nature of fraudulent behaviour, emphasising that fraud is not only a result of situational pressures and opportunities but also influenced by personal traits and attitudes. The addition of arrogance provides a more comprehensive understanding of why certain individuals are more likely to engage in fraudulent activities, particularly within complex organizational settings.

The fraud pentagon theory consisting of pressure, opportunity, rationalization, competence, and arrogance provides a broad conceptual foundation for understanding factors that support effective fraud prevention (Crowe, 2011). Empirical literature shows that organizational culture directly influences rationalization and arrogance; strong ethical norms reduce the likelihood that individuals justify misconduct or feel exempt from rules. Organizational commitment is closely related to reducing pressure and rationalization, as committed employees are less likely to engage in fraudulent acts and more likely to adhere to internal controls. The role of whistleblowing mechanisms aligns with limiting opportunity and arrogance by creating channels for reporting wrongdoing, thereby increasing perceived detection risk and reducing the ability of individuals to override controls. Human resource competencies, including staff training and skill development, connect to the competence element of the fraud pentagon; while higher competence can enable fraud if misused, well-designed HR practices strengthen internal control awareness, ethical behaviour, and detection capability.

The determinants of fraud prevention organizational culture, organizational commitment, whistleblowing systems, and human resource competencies interact closely with the elements of the fraud pentagon, demonstrating that addressing these organisational dimensions is essential for reducing fraud risk and enhancing control effectiveness.

2.2.2 Agency Theory

This theory was originally proposed by Michael C. Jensen and William H. Meckling in 1976 (Wilfred, 2023). An agency relationship develops from the split between ownership and management, with the owner assigning managerial duties to one or more people to accomplish their goals (Michele & Rodrigues , 2014). The owners and managers tend to have different preferences and expectancies. The owners want to maximize their wealth through profitability of their companies while managers aim to increase their personal wealth so the agency conflicts. In trying to clear up the owner-manager conflicts (agency conflicts) owners invest in overseeing directors' actions, but this supervision is not always flawless. As the owners, managers also desire to boom their personal wealth and, consequently, if not complete, use the position and internal knowledge about the company's corporate governance system information to commit fraud thus violation of trust between proprietor and manager. Violation of trust between owners and those charged with governance caused by fraud is the object of analysis of agency theory (Michele & Rodrigues , 2014).

Agency relationship may additionally create conflicts due to the differences in goals between the employees and owners, so such agency theory to remedy these conflicts. In the study of Cressey (1953) through interviews with, evolved a hypothesis about the behaviour of these fraud perpetrators. This theory shapes fraud prevention by emphasizing mechanisms that align interests and reduce opportunistic behavior. A strong organizational culture fosters transparency and ethical behavior, guiding agents toward the organization's objectives. High organizational commitment encourages employees to act in the organization's best interest, reducing self-serving decisions. Effective whistleblowing systems serve as oversight tools that limit opportunities for fraud and deter unethical actions. Meanwhile, robust human resource competencies ensure employees have the knowledge, skills, and ethical awareness to comply with controls and resist temptations. Agency Theory underscores that minimizing conflicts of interest through culture, commitment, reporting systems, and skilled personnel is essential for preventing fraud.

2.2.3 The Fraud Management Lifecycle Theory

This theory was advanced by Wilhelm in 2004, it has eight stages which are: Fraud deterrence, fraud prevention, detection, mitigation, analysis, policy, investigation and prosecution respectively (Sandra, 2024). Fraud deterrence involves actions aimed to discourage fraud before its occurring while fraud prevention involves activities to insulate organisation from occurrence of fraud. Fraud detection being the third stage, activities for example, monitoring programs are employed to identify fraudulent activities with the aim of uncovering fraudulent activities (Amasiatu & Shah, 2018). Fraud Mitigation being the fourth stage aims to stop losses from happening or continuance fraud occurrence whereas fraud analysis stage involves summarizing losses that occurred despite deterrence, detection, and prevention measures (Wilhelm , 2004).The loses are studied to determine the factors of the loss situation, using methods such as root cause analysis. Policy Stage, involves creation of new policies or modifying existing ones in order to reduce the incidence of fraud occurrence (Amasiatu & Shah, 2018).

On the other hand, investigation activities aim at collecting adequate evidence to halt fraud, reclaim misappropriated assets, and supply information that aids in the effective prosecution of fraud perpetrators. Lastly, prosecution stage, at this stage, communication is done by Legal authorities and policing agencies. The first aim being to punish the fraud perpetrators in order to attempt to prevent further theft. Secondly, to obtain recovery or restitution of proceeds of fraud wherever possible. The purpose of fraud prosecution should be confined to preventing fraud, reclaiming losses, and securing restitution (Wesley, 2014).Wilhelm (2004) further suggested that the theory 8 stages do not necessarily occur sequentially instead different components interact with each other in a net work like manner and the need for balancing the components in order to achieve the model's objective (Amasiatu & Shah, 2018).

This theory emphasizes a structured approach to combating fraud through stages such as deterrence, prevention, detection, mitigation, analysis, policy development, investigation, and prosecution (Amasiatu & Shah, 2018). Each stage reinforces the determinants of fraud prevention within organizations. A strong organizational culture underpins deterrence and prevention by promoting ethics and discouraging misconduct. Organizational commitment ensures employees actively engage in all stages, from adhering to policies to participating in mitigation efforts. Whistleblowing systems are critical for detection and investigation,

providing safe channels for reporting irregularities and reducing opportunities for fraud. Meanwhile, human resource competencies support the effective implementation of policies, analysis of risks, and execution of investigations, ensuring that personnel can identify, respond to, and prevent fraudulent activities. By integrating these stages, the theory highlights that sustained fraud prevention relies on cultivating ethical culture, committed employees, reliable reporting mechanisms, and skilled human resources.

2.3 Empirical Review

This section draws from existing empirical studies on determinants of fraud prevention among SMEs with internal controls being a moderating variable. It reflects research objectives and the literature related to those objectives.

2.3.1 Determinants of fraud prevention among SMEs

Fraud prevention is often far more cost-effective than fraud detection because it focuses on stopping fraudulent activities before they occur, rather than dealing with the consequences afterward. Prevention measures such as strong internal controls, employee training, clear ethical guidelines, and effective monitoring systems require upfront investment, but they significantly reduce the likelihood of losses. In contrast, fraud detection usually happens after the damage has already been done, meaning organisations must deal with financial losses, reputational harm, legal costs, and the time spent on investigations (Laufer, 2011). This study will focus on four determinants of fraud prevention (Organisational Culture, organisational commitment, whistleblowing system as well as human resource competencies while internal controls being a moderating variable on the independent variables. The study concentrates on small and medium-sized enterprises located in Nairobi, Kenya. The determinants of fraud prevention as identified by previous studies in other research that this study focused on are discussed individually as below.

2.3.1.1 Organisational Culture and prevention of fraud

Empirical studies on organisational culture as a determinant of fraud prevention, reveal mixed conclusions on its influence on fraud prevention for instance, Intan and Andry (2024) found that organizational culture and commitment positively influence fraud prevention, with internal control acting as a moderating variable in the South Sumatra Provincial Government after employing purposive sampling, involving 136 respondents drawn from 30 Regional Apparatus Organizations (OPDs) within the study area concluded that organisational culture has

a positive impact on prevention of fraud. The study employed purposive sampling, which is appropriate for selecting respondents with relevant knowledge and experience in procurement processes. However, this technique introduces potential selection bias because participants are not randomly chosen. This highlights a contextual gap, as there is a need to examine the influence of organizational culture on fraud prevention within SMEs in Nairobi County. N'Guilla Sow et al. (2018) concluded that SMEs that can establish a culture of honesty among its employees will positively impact the attitude and behaviours of employees leading to effective prevention of fraud. In this study, data were gathered through self-administered questionnaires, with 126 copies distributed among general managers, financial managers, and supervisors working in Malaysian SMEs (N'Guilla, Basiruddin, Mohammad, & Zaleha, 2018). This reveals a contextual gap, highlighting the necessity to examine the influence of organizational culture on fraud prevention among SMEs in Nairobi County.

The study by Dwiyanti et al. (2022) explored how internal control systems, whistleblowing practices, and organizational commitment affect fraud, with individual morality considered as a moderating factor. Adopting a descriptive-associative approach, the study focused on permanent employees of Bank BNI Tulungagung, where 55 participants were selected through convenience sampling (Dwiyanti et al., 2022). The analysis indicated that strong internal control systems play a crucial role in significantly reducing instances of fraud. The fact that internal controls were not used as a moderating variable creates a conceptual gap that will be addressed in this study. Other studies for example Dwi Rahayu et al. (2024) in their findings that involved 369 MSMEs in Bandung, Indonesia showed that a culture of ethical values had a significant positive effect on fraud prevention on MSMEs. This underscores a contextual gap, signalling the importance of investigating the role of organizational culture in shaping fraud prevention practices among SMEs in Nairobi County. Jackson et al. (2010) in their study recommended that a well established organisational code of ethics in SMEs and employee training on the same could play a pivotal role in fraud prevention.

The study by Nainggolan (2020) focuses on assessing how leadership style, internal control mechanisms in banking, compensation appropriateness, and organizational culture influence fraud at PT Bank ABCD. Employing a causal research design through a survey approach, the research targeted all 57 credit staff members of the bank. Data were obtained using questionnaires personally distributed by the researcher, while the census sampling technique was applied, allowing the entire population to be included as respondents. The findings revealed that

an ethical organizational culture were found to negatively influence fraud at PT Bank ABCD, this finding was synonymous with that of Muncahyani et al. (2024) whose aim was to examine how leadership style and organizational commitment affect fraud prevention initiatives, and further, to assess the moderating role of the Monitoring Center for Prevention (MCP) in this relationship. Classified as explanatory research, the study was conducted within the NTB Provincial Government. The respondents were civil servants working in regional apparatus units responsible for seven MCP intervention areas, with a total sample of 95 participants. Data were gathered using a questionnaire as the primary collection tool. While the study by Nainggolan (2020) creates a major contextual gap, the study by Muncahyani et al. (2024) creates both a conceptual and contextual gap.

Similar conclusion was arrived at by Afiah et al. (2019) who applied a survey-based approach with purposive sampling. Participants were deliberately chosen from government service sectors identified as highly susceptible to fraudulent practices. Data were obtained from 21 regional government units, including one at the provincial level, seven at the municipal level, and thirteen at the regency level. A total of 147 respondents took part in the survey. To strengthen the analysis, experts were also asked to complete the same questionnaire as the respondents, ensuring validation and deeper insights. While that of Suharto (2020) aimed to enhance understanding of fraud prevention practices in sharia banking by examining four critical factors: organizational culture, leadership approach, whistleblowing mechanisms, and employee background verification (“know your employee”). The study engaged 73 internal auditors as respondents, with data gathered through a structured questionnaire survey. To analyse the information, descriptive techniques and multiple linear regression models were applied. The outcomes indicated that organizational culture did not show a significant impact on fraud prevention similarly, study by Abu Bakar et al. (2023) which explored the impact of internal control, fraud awareness, and ethical culture on the propensity for occupational fraud among SMEs in Malaysia. Using a questionnaire survey, responses were gathered from staff in 384 SMEs out of a total of 907,065 establishments. The data were analysed through multiple regression, revealing that internal controls and fraud awareness significantly reduce the risk of occupational fraud, whereas ethical culture showed no meaningful effect. This study had limitation on survey response as only 33% responded to the questionnaire out of the sample of 384. Therefore, these findings from previous empirical studies, reveal a contextual gap that specifically focuses on SMEs in Nairobi County, highlighting the need to examine how organizational culture influences fraud prevention when internal controls are considered

as a moderating variable. SMEs in this region face unique challenges such as limited financial resources, informal governance structures, and high competition, which often leave them more exposed to fraudulent practices.

Organizational culture plays a central role in fraud prevention and is strongly supported by insights from the Fraud Pentagon Theory, Agency Theory, and the Fraud Management Cycle. The Fraud Pentagon Theory highlights rationalization and arrogance as key drivers of fraud, both of which are shaped by the prevailing cultural norms within an organization. A culture that promotes ethical behaviour, transparency, and accountability reduces the likelihood that individuals will justify fraudulent acts or assume that rules do not apply to them. From the perspective of Agency Theory, fraud risk arises when agents (employees or managers) pursue self-interest at the expense of principals (owners or stakeholders). A strong organizational culture with clear values, ethical standards, and shared expectations—helps align agent behaviour with organizational goals, thereby reducing agency conflicts and minimizing opportunities for misconduct.

The Fraud Management Cycle, which involves prevention, detection, investigation, and response, also underscores the importance of culture. A positive culture strengthens the preventive phase by encouraging ethical conduct, supporting compliance with controls, and fostering an environment where employees feel responsible for safeguarding organizational resources. It further enhances detection and reporting, as cultures that value openness and integrity promote timely whistleblowing and reduce fear of retaliation. Through these mechanisms, organizational culture becomes a foundational determinant of fraud prevention, reinforcing ethical behaviour, supporting effective control systems, and aligning individual actions with organizational expectations as explained by the fraud pentagon, agency theory, and the broader fraud management cycle.

2.3.1.2 Organisational commitment and prevention of fraud

Studies done on organisational commitment as a determinant of fraud prevention have had inconsistent results for instance the study by Indriani et al.(2019) examined how personal costs, fraud seriousness, and organizational commitment influence whistleblowing intentions, while also testing whether organizational commitment mediates these relationships. Conducted among 103 civil servants and contract employees in Aceh Province, Indonesia, data were collected via online surveys and analysed using SEM-PLS. The results showed that organizational commitment neither significantly affected fraud prevention mechanisms nor mediated

the link between personal costs, fraud seriousness, and whistleblowing intentions. Similarly, (Fachruzzaman et al., 2022) research explored how organizational commitment shape employees' intentions to commit fraud, with Bank Bengkulu serving as the study context. Using random sampling, participants were drawn from staff working in the bank's head office, main branches, and cash offices across Bengkulu City and its surrounding regencies. From a total population of 700 employees, the Slovin formula determined a required sample of 88. Of the questionnaires distributed, 70 were returned, and 64 were deemed usable, giving a valid response rate of 79.55%. Similar conclusions of no effect of organisational commitment on fraud prevention was made by Dwiyanti et al. (2022) their study after analysing the impact of internal control systems, whistleblowing mechanisms, and organizational commitment on fraud, with individual morality acting as a moderating factor. Employing a descriptive-associative design, the research targeted all permanent employees of Bank BNI Tulungagung, using convenience sampling to select 55 respondents.

Conversely, the study by Muncahyani et al. (2024) set out to evaluate how organizational commitment influences fraud prevention, while also examining the moderating role of the Monitoring Center for Prevention (MCP) in strengthening these relationships. Designed as explanatory research, it was conducted within the West Nusa Tenggara (NTB) Provincial Government, focusing on civil servants working in regional apparatus units responsible for seven MCP intervention areas. The sample consisted of 95 respondents, with data collected through structured questionnaires. The findings revealed that organisational commitment was also found to have a positive and significant effect on fraud prevention, suggesting that employees who are loyal, responsible, and dedicated to institutional goals are less inclined to engage in or tolerate fraudulent activities. Similarly, (Rifai & Mardijuwono, 2020) in their research which aimed to provide empirical evidence on the effect of organizational commitment on fraud prevention. The study employed a survey method, distributing questionnaires to internal auditors at the East Java Representative Office of Indonesia's National Government Internal Auditor. Out of 113 questionnaires distributed, 57 valid responses were collected and analysed findings showed that organizational commitment has a positive and significant influence on fraud prevention, indicating that higher levels of employee dedication and loyalty strengthen the effectiveness of anti-fraud measures all indicated that organisational commitment had a significant positive effect on fraud prevention measures. A contextual gap arises because existing research on organizational commitment and fraud prevention has

largely centred on government agencies and large corporations, leaving SMEs in Nairobi County underexplored.

Organisational commitment is a critical determinant of fraud prevention and is strongly supported by principles from the Fraud Pentagon Theory, Agency Theory, and the Fraud Management Cycle. Within the Fraud Pentagon Theory, elements such as pressure, rationalization, and arrogance are influenced by the level of employee commitment to the organisation. High organisational commitment reduces the likelihood that individuals will rationalize unethical behaviour or prioritise personal gain over organisational goals. Employees who feel valued, engaged, and loyal are less prone to financial or performance pressures that may push them toward fraudulent actions.

From the perspective of Agency Theory, fraud risk emerges when agents act in their own interests rather than in the interests of principals. Strong organisational commitment helps align employee motives with organisational objectives, thereby minimising agency conflicts. Committed employees are more likely to comply with internal controls, uphold ethical standards, and act in the organisation's best interest, which reduces the opportunity and motivation for fraud.

The Fraud Management Cycle, which includes prevention, detection, investigation, and response also highlights the importance of organisational commitment. High levels of commitment strengthen the preventive phase by encouraging adherence to policies, supporting ethical decision-making, and promoting responsible behaviour. It further enhances detection and reporting efforts because employees who are committed to the organisation are more likely to report suspicious activities, participate actively in control processes, and cooperate during investigations.

Organisational commitment plays a fundamental role in fraud prevention by influencing employee behaviour, reducing agency-related conflicts, and strengthening each stage of the fraud management cycle, thereby supporting the broader frameworks established by the Fraud Pentagon Theory and Agency Theory.

2.3.1.3 Whistleblowing System and prevention of fraud

In the study by (Fitrianti et al., 2023) the Palopo Inspectorate implemented a whistleblowing system to curb fraud, yet cases of fraud continue to rise. Research indicates there are still irregularities in how the system is applied, showing that its implementation has not effectively

reduced fraud over the years. However, other studies highlight that whistleblowing can directly prevent fraud if applied properly. Thus, the effectiveness of fraud prevention largely depends on how well the whistleblowing system is utilized. The whistleblowing system for reporting fraud serves as an indirect form of oversight. By utilizing this system, employees are able to monitor one another, thereby strengthening supervision (Fitrianti et al., 2023). The study by (Fitrianti et al., 2023) consisted of employees at the Inspectorate of Palopo City as the population, and the sampling technique used is saturated sampling (census), meaning the entire population was included as respondents. They concluded that an effective Whistleblowing System plays a crucial role in fostering transparency and accountability within organizations. It not only empowers employees but also involves the wider community in the fight against fraud and corruption by providing a secure and reliable channel for reporting misconduct. By encouraging individuals to speak up without fear of retaliation, it shifts the organizational culture from silence and concealment to honesty, openness, and integrity. The system helps detect irregularities early, reducing the risk of financial losses, reputational damage, and ethical breaches. Its success can be measured through the number of fraud cases uncovered, the timeliness of responses, and the corrective actions taken as a result of reports. Moreover, it creates a deterrent effect, as potential wrongdoers become aware that unethical actions are more likely to be exposed. Over time, this contributes to building trust between management, employees, and the public, while strengthening internal control mechanisms and reinforcing the organization's commitment to good governance and ethical conduct.

Similarly, (Yulian Maulida, 2021) concluded that whistleblowing system contributed 54.3% to fraud prevention. Data was collected through observation with the focus being the Jabar Banten Central Bank in Bandung. Finally, (Kuntadi et al., 2023) their literature review indicates that the whistleblowing system plays a significant role in influencing and strengthening fraud preventions. In contrast, (Dwiyanti et al., 2022b) aimed to investigate how the whistleblowing system influence fraud, with individual morality acting as a moderating factor. Conducted as descriptive associative research, the study focused on all permanent employees of Bank BNI Tulungagung, with a convenience sample of 55 respondents the whistleblowing system did not show a significant impact, likely due to employees' reluctance to report misconduct. Similarly, Anantawikrama et al. (2019) whose study examined how proactive fraud audits, whistleblowing, and Tri Hita Karana culture influence fraud prevention in the management of village funds. It adopted a survey approach using personally administered questionnaires and analyzed the data through multiple linear regression (ordinary least squares)

based on responses from 88 villages in Bali Province. The findings revealed that the whistleblowing system did not significantly affect fraud prevention in village fund management, highlighting a contextual gap in evidence regarding its effectiveness in reducing fraud among SMEs in Nairobi County, as research in this area remains limited. Most existing studies focus on large organizations, leaving the dynamics within smaller enterprises underexplored. SMEs in Nairobi often operate with informal structures, limited resources, and close-knit employee relationships, which can hinder the effectiveness of whistleblowing systems. Furthermore, local cultural, regulatory, and organizational factors may uniquely shape how employees perceive and use these mechanisms. This gap underscores the need for research that examines how whistleblowing can be adapted to strengthen fraud prevention specifically within Nairobi County's SME sector.

Whistleblowing systems are a vital determinant of fraud prevention and their importance is reinforced by insights from the Fraud Pentagon Theory, Agency Theory, and the Fraud Management Cycle. Within the Fraud Pentagon Theory, whistleblowing mechanisms directly counter the elements of opportunity and arrogance. When employees know that wrongdoing can be reported anonymously and acted upon, the perceived opportunity to commit fraud decreases, and individuals in positions of authority are less likely to feel exempt from internal controls. Effective whistleblowing channels also reduce rationalization by signalling that the organisation does not tolerate unethical behaviour. From the standpoint of Agency Theory, whistleblowing systems reduce agency conflicts by creating a structured avenue for principals (owners or stakeholders) to receive information about misconduct by agents (employees or managers). Since fraud often arises from information asymmetry, strong reporting mechanisms limit the ability of agents to conceal actions that work against organisational interests. Employees are more likely to act as stewards when they know that fraud can be reported and detected early.

The Fraud Management Cycle also emphasises the critical role of whistleblowing in the detection stage. While internal controls and preventive measures address potential risks, whistleblowing systems provide an additional layer of vigilance by empowering employees to serve as an early-warning mechanism. This improves detection, strengthens investigations, and supports appropriate organisational responses. Moreover, the existence of safe and confidential reporting channels enhances the preventive phase by increasing the perceived risk of exposure, which discourages fraudulent behaviour.

Inclusionary, whistleblowing systems significantly strengthen fraud prevention by reducing opportunities for misconduct, limiting agency problems, increasing the likelihood of early detection, and complementing each stage of the fraud management cycle, while aligning with the behavioural insights provided by the Fraud Pentagon Theory and Agency Theory.

2.3.1.4 Human Resource Competencies and prevention of fraud

According Wardani et al .(2025) fraud prevention can be achieved by enhancing the competence of human resources. Transparent management practices are essential to avoid fund misappropriation, which requires skilled and capable personnel. The more competent an individual is in performing their duties, the more effective they are likely to be in preventing fraud. Wardani et al. (2025) after using simple regression analysis and Moderated Regression Analysis (MRA) to examine data from 85 state civil servants of the Yogyakarta City government, collected between March and April 2024, infers that highly competent employee is not only efficient in their work but also better equipped to detect, prevent, and address potential frauds.

Similary, studies by Banjarnahor et al. (2023) which employed qualitative methods combined with library research. It involves examining theories and exploring the relationships or influences between variables using information gathered from books, journals, and other academic sources, accessed both offline in libraries and online through platforms such as Mendeley, Google Scholar, and other digital resources. Show that human resource competencies positively contributes to fraud prevention. Conversely, the study by Sinaga et al. (2021) on how internal control systems, individual morality, and human resource competencies influence fraud prevention in OPD Deli Serdang Regency, employing a causal associative design with a quantitative approach, targeting all Regional Apparatus Organizations (OPDs) in Deli Serdang Regency. A total of 83 respondents were sampled reveal that human resource competencies do not show a significant effect on fraud prevention. In a like manner, the study by Yufitrianisa et al. (2022) after being carried out in villages within Karimun Regency, Riau Islands Province, aiming to examine the influence of human resource competencies, morality, whistleblowing, and the internal control system on fraud prevention among village officials, both partially and simultaneously. The study population included all villages in Karimun Regency, with a sample of 20 villages comprising 80 respondents selected through purposive sampling. Both primary and secondary data were utilized, and the analysis was conducted using a quantitative descriptive approach. The findings indicate that, partially, human re-

source competence did not significantly affect fraud prevention in the villages. Consequently, there is limited empirical research focused specifically on small and medium-sized enterprises (SMEs) in certain regions, such as Nairobi County or similar developing contexts. Many existing studies are concentrated in large corporations or different cultural settings, which may not reflect the challenges faced by smaller or less formal organizations, where resources, training, and ethical enforcement are often limited. This creates a gap in understanding how HR competencies influence fraud prevention within these specific contexts.

Human resource competencies are a critical determinant of fraud prevention, and their influence is well supported by the Fraud Pentagon Theory, Agency Theory, and the Fraud Management Cycle. Within the Fraud Pentagon Theory, the element of capability directly relates to the skills, knowledge, and abilities employees possess. Strong HR competencies ensure that employees understand internal controls, ethical expectations, and fraud risks, which reduces the likelihood that individuals will misuse their skills to override controls or conceal wrongdoing. In contrast, poorly trained or inadequately skilled employees create gaps that increase fraud opportunity and weaken overall control effectiveness. From the perspective of Agency Theory, human resource competencies help reduce agency conflicts by ensuring that employees (agents) are adequately trained, aligned with organisational values, and capable of performing their roles responsibly. Competent employees are better equipped to uphold organisational policies, comply with procedures, and act in ways that align with the interests of principals (owners or stakeholders). This reduces information asymmetry and limits the space for unethical self-serving behaviour.

The Fraud Management Cycle further highlights the importance of HR competencies across all stages prevention, detection, investigation, and response. Competent staff strengthen prevention by correctly applying internal controls and maintaining ethical standards. In the detection phase, skilled employees are more likely to identify anomalies, report irregularities, and recognise fraud indicators. During investigations and response, HR competencies support accurate documentation, proper evidence handling, and effective corrective actions. Comprehensively, human resource competencies significantly enhance fraud prevention by promoting compliance, strengthening internal controls, improving fraud detection, and aligning employee behaviour with organisational objectives, thus complementing the frameworks provided by the Fraud Pentagon Theory, Agency Theory, and the Fraud Management Cycle.

2.3.2 The moderating effect of Internal controls on determinants of fraud prevention

Moderating variables are elements that alter the strength and direction of the relationship between the independent and dependent variables or between predictors and outcomes. By interacting with the independent variables, they collectively affect the dependent variable (Creswell & Creswell, 2018). The Committee of Sponsoring Organizations (COSO) (2013) describes internal control as “a process implemented by an organization’s board of directors, management, and staff, aimed at providing reasonable assurance that objectives related to operations, reporting, and compliance are achieved.” The COSO (2013) framework outlines five key components of internal control: control environment, risk assessment, control activities, information and communication, and monitoring activities.. The main goal of internal control is to support an organization in fulfilling its mission, while also facilitating the production of products and services constant with the organization' mission, promote orderly, competitively priced commodities, efficient and effective operations, promote adherence to laws, guidelines, contracts and management directives, shield organisations against loss because of abuse, waste, mismanagement, mistakes and fraud, increase and hold reliable economic and management statistics, and accurately provide that information in timely reviews (Agyemang, 2020).

According to Audeh (2019), internal controls are a primary governance tool in a corporation and a strong internal control system combined with other determinants of fraud prevention will highly deter fraud from happening. With a purpose to efficiently deter fraud, internal controls ought to be competent within the design of its control structure as well as sound practices in its implementation. The relationship of internal control systems and fraud problems in an organization is inversely related. The results in the study of Audeh (2019) indicate that internal controls play a significant role in influencing the relationship between AIS and fraud detection in the examined banks. This study employed PLS which not provide robust global goodness-of-fit indices. Solved by regression: Regression offers clearer model evaluation through R^2 , adjusted R^2 , F-statistics, and residual analysis, making it easier to judge model adequacy. A strong internal control system functions to ensure that organizational activities are efficient and effective. A comprehensive internal control structure, carried out well and regularly tracking the weaknesses of the company, is an vital step to shield and discover the threat of loss due to fraud .The primary components of a good internal control structure are risk assessment control and management activities, control environment, information and communication (Shanmugam et al., 2012). Internal control is essential for uncov-

ering financial fraud, and putting it in place can significantly limit the possibility of management colluding in fraudulent acts (Madolidi Handoyo & Bayunitr, 2021).

Many SMEs do not have strong internal control systems, due to lack of compliance and enforcement in government of this sector. Lack of right internal controls creates a possibility for personnel to be involved in fraudulent activities and their concealment thereof. Implementation of strong internal control systems in SME is crucial to perceive whether the enterprise can achieve its goals (Shanmugam et al., 2012). Organizational culture ,whistleblowing systems ,human resource competence and organizational commitment won't be very powerful if the internal controls are weak. Similarly, to these independent variables, the internal control system is another variable to play a position as a moderating variable. In conclusion, the study by (Azizan & Ali, 2024) found that all the independent variables investigated namely, the “control environment, control activities, risk assessment, information and communication, and monitoring activities,”play a significant role in minimizing employee fraud within SMEs. The findings highlight the importance for SMEs to adopt a comprehensive internal control system as a means of fraud prevention. The study recommended that SME owners develop and regularly update an internal control manual for guidance and carry out annual financial audits to strengthen the credibility of their financial position and performance. Furthermore, SME owners should also ensure they systematically evaluate all potential risks facing their businesses, including those linked to organizational restructuring and the rollout of new services(Azizan & Ali, 2024).

The Fraud pentagon theory, Agency Theory, and the Fraud Management Lifecycle mode Model, collectively provide useful frameworks for understanding how internal controls shape the determinants of fraud prevention. The Fraud pentagon highlights the conditions under which fraud is likely to occur thereby emphasizing the role of internal controls in reducing opportunities and discouraging rationalizations. Agency Theory underscores the importance of aligning interests between principals and agents, which strengthens accountability mechanisms and reinforces the need for competent human resources and robust monitoring systems. The Fraud Management Lifecycle Theory further complements this by outlining structured processes for prevention, detection, investigation, and resolution, all of which depend on effective internal controls to function optimally. Together, these theories illustrate that internal controls are not only central to mitigating fraud risks but also act as a moderating mechanism

that enhances organizational culture, commitment, competencies, and whistleblowing key determinants of fraud prevention."

Conceptually, while organizational culture, organizational commitment, whistleblowing systems, and human resource competencies are recognized as key determinants of fraud prevention, there is limited clarity on how these factors interact, particularly under the moderating role of internal controls. Existing studies often examine these determinants individually rather than exploring their combined effects or the mechanisms through which internal controls enhance or weaken their impact on fraud prevention. This highlights the need for research that investigates both direct and moderated relationships to provide a more integrated understanding of fraud prevention in SMEs, focusing specifically on SMEs within Nairobi County.

2.4 Summary of empirical review findings

The study by Nainggolan, (2020) concluded that an ethical organisational culture had a significant positive effect on fraud prevention, this was in agreement with the results of Afiah et al. (2019) while that of Binsar (2014) results showed no effect of organisational culture on fraud prevention and that of Suharto (2020) organisational culture did not have a significant positive effect on fraud prevention. (Indriani et al. 2019) and Surantha (2022) showed no effect of organisational commitment on fraud prevention measures while various researchers for example Dwiyantri et al. (2022), Muncahyani et al. (2024) and Saputra et al. (2022) all indicated that organisational commitment had a significant positive effect on fraud prevention measures. In the findings in the study of the role of good governance in fraud prevention by Wardana & Gunawan (2023), the internal controls did not have a mediation role effect on fraud prevention while Audeh (2019) study on 'The Moderating Role of Internal Control on the Relationship Between Accounting Information System and Detection of Fraud: The Case of the Jordanian Banks' result showed that internal controls had a significant moderating effect of accounting information system on fraud detection. The result by Rahadiyan & Bunga (2020) showed that internal control had a significant effect on fraud prevention, while the magnitude of the influence of internal controls on fraud prevention being at 50.2%. On the other hand, the study by Kurniawan (2017) indicated the magnitude of internal controls positive influence on fraud prevention to be at 68.4%.

Table 2.1 on the first appendix presents a detailed and systematic review of prior empirical and theoretical literature on the determinants of fraud prevention. It synthesizes studies focusing on key organizational factors, including organizational commitment, whistleblowing mecha-

nisms, human resource competencies, and organizational culture, while also evaluating the moderating role of internal controls in influencing these relationships. The table outlines critical elements of each study, such as authorship, year, geographical and sectoral context, research design, variables analyzed, and principal findings. Furthermore, it provides a critical appraisal of the existing body of knowledge by identifying methodological limitations, contextual gaps, and inconsistencies in findings. This synthesis ultimately reveals a significant research gap, particularly the lack of integrated studies examining both the direct and moderating effects of internal controls on fraud prevention within small and medium-sized enterprises, which the present study aims to address.

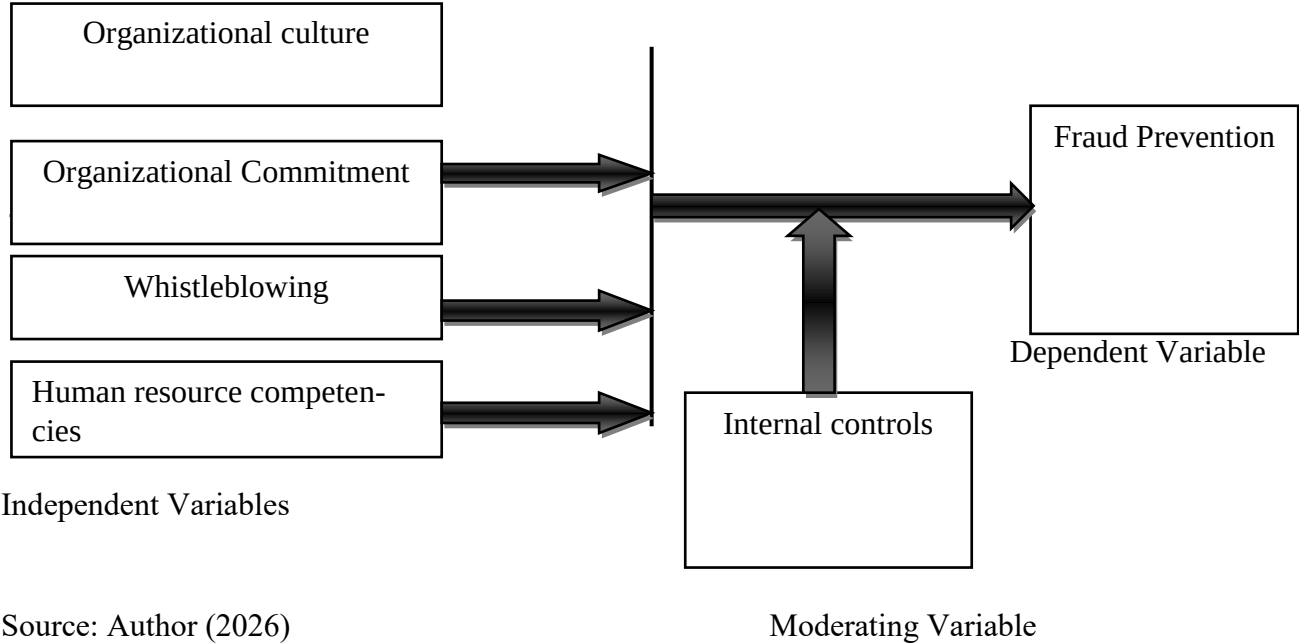
2.5 Research Gaps

Despite growing research, several gaps remain. Most studies examine these determinants in isolation for example (Nainggolan, 2020; Aprilianty & Suhaedi, 2024; Soehaditama, 2024) with limited exploration of the moderating role of internal controls on fraud prevention. Those that have incorporated internal controls as a moderating variable have produced mixed findings for instance, Wardana & Gunawan (2023) reported no mediating effect, and Audeh (2019) found a significant moderating role in Jordanian banks. Other studies reported varying magnitudes of influence, ranging from 50.2% (Rahadiyan & Bunga, 2020) to 68.4% (Kurniawan, 2017). While theoretical frameworks such as the Fraud Pentagon Theory, Agency Theory, and the Fraud Management Cycle are often referenced, there is little empirical work applying them simultaneously within SMEs. Sectoral and contextual variations are underexplored, leaving uncertainty about how determinants operate across different industries or business sizes. Addressing these gaps, including examining the moderating effect of internal controls, would provide a more comprehensive understanding of the mechanisms that drive effective fraud prevention and inform practical strategies for SMEs.

2.6 Conceptual framework

A conceptual framework gives is a graphical illustration of the expected relationship between variables (Ewnetu , 2016). The conceptual framework shows the correlation between determinants of fraud prevention and fraud prevention among SMEs with internal control as an intervening variable. Determinants of fraud prevention in this study are organizational culture and organizational commitment. These determinants are the independent variables in this study while fraud prevention will be the dependent variable moderated by the internal control system. Prior researches to be used to identify the variables.

The conceptual framework of this study is informed by Agency Theory, Fraud Pentagon Theory, and Fraud Management Lifecycle Theory, which collectively explain the links between human resource competencies, whistleblowing, organizational culture, organizational commitment, internal control, and fraud prevention. Human resource competencies strengthen employee capability, whistleblowing supports accountability through reporting of misconduct, organizational culture discourages unethical justification of actions, and organizational commitment reduces pressure by enhancing loyalty to organizational goals, all of which contribute to fraud prevention. Internal control functions as a moderating variable by improving monitoring, enforcing compliance, and strengthening risk management processes, thereby influencing the strength of the relationships between the study variables and fraud prevention outcomes.



Source: Author (2026)

Figure 2.1: Conceptual Framework

2.7 Operationalization of Variables

Variables operationalization define how each variable in the study will be measured. The instrument of measurement that will be applied will be structured questionnaire using the 5-Likert scale (1. Strongly agree, 2. Agree,3. Relatively agree,4. Disagree,5. Strongly disagree) The determinants of fraud prevention will be operationalised by their presence in the SMEs, fraud prevention will be operationalised by measures to identify and analyse risk while presence of a strong control environment will operationalize internal controls.

Table 1.2: Operationalization of Variables

Variable	Constructs	Measure	Scale	Supporting Literature	Theory
Independent Variable					
Organizational Culture	Norms and Practices, Leadership Style, Communication Patterns, Work Climate	A 5-point Likert scale	ordinal	Hendri , Yuliantoro, & Maksimilianus (2020), Intan & Andry (2024). Nainggolan, Erlina, & Fachruddin (2020), De, Saipul, Muhsyaf, & Endar (2024) and Afiah, Syatyakti, Alfian, & Sueb (2019)	Fraud pentagon Theory, Agency Theory, Fraud management life cycle theory
Organizational Commitment	Loyalty and Retention, Job Involvement	A 5-point Likert scale	ordinal	Gupta & Gill, (2012) Dwiyanti , Wicaksono, & Ulum (2022) ,De, Saipul, Muhsyaf, & Endar (2024), and Komang, Saputra, & Mu'ah (2022)	Fraud pentagon Theory, Agency Theory, Fraud management life cycle theory
Whistleblowing System	Independence, Confidentiality and Anonymity, Prompt Response and Investigation, awareness and Training	A 5-point Likert scale	ordinal	(Fitrianti et al., 2023), (Yulian Maulida, 2021),(Arroyo & Smaili, 2025) , (Kuntadi et al., 2023) (Dwiyanti et al., 2022b) and (Anantawikrama et al., 2019)	Fraud pentagon Theory, Agency Theory, Fraud management life cycle theory

Human Resource Competence	Technical and Professional Skills,	A 5 -point Likert scale	ordinal	(Banjarnahor et al., 2023) (Sinaga et al., 2021) and (Yufitriana et al., 2022b)	Fraud pentagon Theory, Agency Theory, Fraud management life cycle theory
Dependent Variable (Fraud Prevention)					
Extent of fraud prevention	High/low fraud prevention	A 5 -point Likert scale	ordinal	Khaled Gubran, (2021)	Fraud pentagon Theory, Agency Theory, Fraud management life cycle theory
Intervening Variable					
Internal control Systems	Control Activities, Monitoring Activities,	A 5 -point Likert scale	ordinal	Fernanda & Muslichah, (2020), Audeh (2019) , Kurniawan (2017)	Fraud pentagon Theory, Agency Theory, Fraud management life cycle theory

Source: Author (2026)

2.8 Chapter Summary

This chapter provided a review of the existing literature on the determinants of fraud prevention, with a particular focus on organizational culture, organizational commitment, human resource competencies, and the whistleblowing system. To provide a theoretical foundation, the discussion drew on the fraud triangle theory, agency theory, and fraud management lifecycle theory, each of which offers unique insights into the mechanisms and motivations underlying fraudulent activities, as well as strategies for their prevention. The empirical review highlighted several conceptual gaps, most notably the limited research examining the role of internal controls as a moderating variable in the relationship between these determinants and fraud prevention within SMEs in Nairobi, Kenya. This gap underscores the need for further investigation into how internal controls strengthen or weaken the effectiveness of various organizational factors in preventing fraud. To address this, the chapter presented a conceptual framework that synthesizes the identified determinants while explicitly incorporating internal controls as a moderating variable. This framework provides a structured basis for analysing how internal control mechanisms influence the relationship between organizational culture, organizational commitment, human resource competencies, whistleblowing, and fraud prevention in SMEs, thereby guiding the empirical analysis and addressing the identified research gap.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology and design that guided the study, providing a comprehensive framework for how the research was conducted. It discusses the various methods for collecting data, including questionnaires. The chapter also defines the target population, explaining the criteria for selection and the rationale for focusing on specific sectors. In addition, it addresses key considerations for ensuring research quality, such as validity, reliability, and ethical standards. Finally, the chapter outlines the procedures for data analysis, detailing the statistical and quantitative techniques that were employed to interpret the data and draw meaningful conclusions, ensuring that the findings were robust and actionable.

3.2 Research Philosophy

Research philosophy guides how a particular aspect should be investigated during data collection and analysis (Saunders et al.2019). Creswell & Creswell (2018) define research philosophy as a set of assumptions and beliefs regarding the creation and advancement of knowledge. As noted by Creswell and Creswell (2018), these assumptions significantly influence the formulation of research questions, the execution of research processes, the interpretation and analysis of results. According to Creswell (2014), research philosophies include five main worldviews. Positivism assumes reality is objective and measurable, relying on experiments and statistical testing. Post-positivism also views reality as real but only imperfectly understood due to bias and limitations, making findings probabilistic. Constructivism focuses on multiple socially constructed realities based on individuals' experiences. The advocacy/participatory (transformative) worldview emphasizes research that addresses social issues and promotes change. Pragmatism emphasizes practical problem-solving and supports the use of both qualitative and quantitative approaches, depending on the nature of the research problem.

According to Creswell (2014), post-positivism is preferred over positivism because it assumes that reality exists, but can only be partially understood or interpreted in a limited and imperfect way. Unlike positivism, which holds that truth is objective, fixed, and fully measurable, post-positivism recognizes that research findings may be influenced by measurement errors, researcher bias, and contextual factors. It therefore treats knowledge as probable rather than absolute while still allowing the use of quantitative methods and hypothesis testing. This approach is more appropriate for social science studies involving complex human and organizational behavior, such as fraud prevention, where outcomes are shaped by multiple interacting factors.

This research holds the post-positivist philosophy. Post positivist assumptions form the basis of traditional research approaches and are more commonly associated with quantitative rather than qualitative methods. Post positivism acknowledges the limitations of our ability to be absolutely certain about knowledge claims, particularly when studying human behavior and actions. Post positivists adopt a deterministic outlook, suggesting that causes are likely to produce specific effects or outcomes. As a result, the issues they investigate typically focus on identifying and evaluating the factors that contribute to particular results (Creswell & Creswell, 2018).

A post-positivist paradigm is suitable for this research because it recognizes that factors such as organizational culture, commitment, whistleblowing systems, and human resource competencies involve complex human behavior that cannot be measured with perfect objectivity. While allowing the use of quantitative methods to test relationships among these variables, post-positivism acknowledges measurement limitations, contextual influences, and the probabilistic nature of fraud-related behaviors (Creswell & Creswell, 2018). It also supports theory-driven analysis and accepts that findings are approximations shaped by organizational and environmental conditions. This makes it an appropriate and realistic approach for studying how these determinants influence fraud prevention within SMEs.

3.3 Research Design

Creswell (2014) outlines three main types of research approaches consisting of qualitative, quantitative, and mixed methods designs. The qualitative approach seeks to understand meanings and experiences through non-numerical data such as interviews and observations. The quantitative approach examines relationships between variables using data presented in numerical form and analyzed using statistical methods to test hypotheses. The mixed methods approach integrates both qualitative and quantitative approaches to provide a more complete understanding of a research problem (Creswell & Creswell, 2018).

The study adopted a quantitative explanatory research design. This approach enables researchers to address three main types of questions: (a) 'descriptive questions' e.g (What are the determinants of fraud prevention?); (b) relational questions e.g (what is the effect of organizational culture on fraud prevention among SMEs in Nairobi County?); and (c) predictive questions in longitudinal studies where surveys are conducted over time (e.g., Does the current Internal controls have a moderating effect on determinants of fraud prevention among SMEs in future (Creswell & Creswell, 2018).

Quantitative research involves the testing of objective theories by exploring the connections between various variables. These variables are typically assessed using standardized tools, generating numerical data that can be analyzed statistically (Creswell & Creswell, 2018). This design is notable since it permits researchers to form inferences about the co-relation between variables (Akinyi, 2023). Survey research design was used to establish whether organisational culture, organisational commitment,

human resource competencies and whistleblowing system as moderated by internal control systems are efficacious in fraud prevention among small and medium enterprises (Adeleke & Iyabode, 2024).

3.4 Population

According to Creswell & Creswell(2018), defines population all key items under investigation (Akinyi, 2023). The current research sought to determine whether organisation culture, organisational commitment, leadership style, whistleblowing and human resource competencies, with internal controls acting as a moderating factor, influence fraud suppression among SMEs in Nairobi, Kenya. The target population was 1,744,500 being those working in licensed SMEs (Kenya National Bureau of Statistics, 2016).

The below sectors were selected using professional judgment after considering prior publications about their contribution to the Kenyan Gross Domestic Product. For instance, the service sector's share of Kenya's economy rose by 0.76 percentage points to reach 62.72 percent in the quarter ending September 2024, continuing its upward trend despite declines in traditionally dominant sectors like agriculture and construction. Led by transport, real estate, and the financial and insurance industries, service sectors contributed a combined KSh 1.65 trillion to Kenya's GDP during the quarter ending September 2025 (Business Daily, 2025).Manufacturing, wholesale and retail on the other hand were the industries with the Greatest MSME Presence in 2016 (Kenya National Bureau of Statistics, 2016).The population was grouped according to economic activities with the highest Concentration of MSMEs Manufacturing being 12%,wholesale& Retail 62% and service sector 26%

Table 3.1: Population of the Study

Business Sector of SMEs	Percentage distribution	Population of the sector
Manufacturing	12%	209,340
Retail & Wholesale	62%	360,530
Services	26%	453,570
Total		1,744,500

Source:(Kenya National Bureau of Statistics, 2016)

<https://www.knbs.or.ke/wp-content/uploads/2023/09/2016-Micro-Small-and-Medium-Enterprises-Basic-Report.pdf>

3.5 Sampling Frame

The composition of a sample frame consists of elements, entities, or items that have common functions that have been discovered via the application of the researcher sampling barometers (Creswell

& Creswell, 2022 & Akinyi, 2023)). 1,744,500 workers in licensed SMEs in Nairobi County as per Kenya National Bureau of Statistics (2016) served as the sampling frame for the study. They were grouped into Real Estate, retail and wholesale and Services sector. After the sample size was arrived at, the questionnaires were distributed to the sample via convenience sampling. The listing of SMEs whose employees or owners work was guided by the SMEs listing by public procurement regulatory authority of 2017.

3.5.1 Sampling Technique

To manage the research instrument, researchers need to pick out how to choose those to reply from the populace (Akinyi, 2023). Sampling design guides the selection of respondents, ensuring the sample represents the population and supports reliable (Cooper & Schindler, 2011). The sample in this study was selected using a multistage or cluster sampling procedure which involves first identifying clusters, such as groups, organizations, or geographic areas. Once the clusters are established, the researcher obtains the list of individuals within each cluster and then selects the sample from these subgroups. The respondents were selected using a non-probability sampling method in which respondents were selected based on their accessibility and willingness to participate. In this approach, the researcher chooses participants who are easiest to reach, readily available, or willing to take part in the study (Creswell & Creswell, 2022). The researcher relied on the list of SMEs public procurement regulatory authority as a guide. Based on convenience, the researcher walked into these SMEs thereafter issued the questionnaire either physically or digitally based on the preference and the availability of the respondent. Where the researcher was not able to visit physically, digital questionnaires were circulated via email or WhatsApp to the selected sample.

3.5.2 Sample Size

A sample refers to a subset of the population chosen for study. It is intended to reflect the key characteristics of the entire population and provides data for analysis and information to meet research objective and answer the research questions. So as to get reliable data, the sample size must be established properly (Cooper & Schindler, 2011). Personnel from every class of SMEs in Nairobi county's wholesale and retail, service and manufacturing sectors will make up the sample size.

Slovin's formula was used to calculate the suitable sample size due to its reliability and effectiveness for studies involving large populations. This method is particularly fitting since the questionnaires will be directed at individual participants rather than the SMEs as whole organizations.

$$n = \frac{N}{1 + N(e^2)}$$

Where; n is the size of the sample,

N is the population and

e is the error tolerance in the sample (5%)- chosen because it's the most commonly used.

$$n=1,744,500 / (1+1,744,500 (5\%^2))$$

$$n=400$$

The study employed a total sample of 400 employees or SME owners, proportionally divided among the three primary sectors: manufacturing, wholesale and retail, and services. This allocation was guided by sector-specific data from the Kenya National Bureau of Statistics (KNBS), which reflected the percentage representation of each sector.

Table 3.2 Sample Distribution

Strata	Percentage Distribution (Nairobi)	Sample Size - 400
Wholesalers &Retailers	62%	248
Manufacturers	12%	48
Service Sector	26%	104
Total	100	400

Source: Author (2026)

3.6 Data Collection

Primary research methods was employed to collect data from the respondents. In agreement with Noor (2008), primary data can be collected through techniques such as questionnaires, interviews, observation, artifacts, documented cultural information and the use of personal experiences. This study used structured questionnaires as the main instrument for collecting data, distributed both digitally and in hard copy. A total of 400 SME owners and employees in Nairobi selected using Slovin's formula, questionnaires were distributed on convenience basis to the targeted sample. To maximize reach, online questionnaires were shared through email and digital platforms to the selected sample while physical copies were personally delivered by the researcher and also by help of research assistants to locations such as the Nairobi Central Business District, Ngong Road, Wetlands, Mombasa Road and Ngong Road .This dual approach promoted inclusivity, accommodating individuals with limited internet access or those who preferred direct interaction.

Data collection was conducted within a defined period, with consistent follow-ups to boost participation and provide sufficient time for respondents to complete the questionnaires. Questionnaires were classified into seven sections: the first section gathered data on the socio-demographic features of this study's respondents, Sections B, C, D, E will focus on organisational culture, organisational commitment, whistleblowing system and human resource competencies which form the independent variables of this study while Section F focused on internal controls and lastly section G will focus on the dependent variable of this study. All variables (independent, moderating and dependent) were measured using a five-point Likert scale to assess respondents' attitudes and opinions (Akinyi, 2023).

3.7 Research Quality

To assess the reliability of the questionnaire, pilot research will be carried out, a 10% of the sample size to ensure its relevance.

3.7.1 Research Instrument's Validity

The key question is whether the instrument scores allow you to draw meaningful and valuable conclusions. Traditionally, validity has been assessed through three main types: (a) content validity, which examines whether the items accurately reflect the intended subject matter; (b) predictive or concurrent validity, which evaluates whether the scores can forecast a specific outcome or align with other relevant results; and (c) construct validity, which investigates whether the items truly measure the underlying theoretical concepts. In more recent research, construct validity has taken precedence, emphasizing whether the scores are practically useful and lead to beneficial outcomes when applied (Creswell & Creswell, 2018).

The study used construct and validity of the content. In phrases of construct validity, the questionnaire was in three sections, the first section will provide background information on the sample that responded, Secondly, specific objectives of the study were addressed, and lastly fraud prevention elements among SMEs in Nairobi County, Kenya were discussed. The conceptual framework variables was incorporated in the research questionnaire. In relation to content validity, the instrument of study was aimed to address the research questions that met the objective of this study(Akinyi, 2023). Its Validity was reviewed together with my supervisor as well. The relevance of the questionnaire items was assessed, and based on the review, the instrument was revised prior to its use in data collection

3.7.2 Reliability of the Research Instrument

Reliability refers to the degree to which a research instrument consistently yields stable and consistent results when administered repeatedly under the similar conditions(Akinyi, 2023). For instruments composed of multiple items, the most important form of reliability is internal consistency, which evaluates how uniformly the items measuring a particular construct perform (Creswell & Creswell, 2018). A reliable instrument minimizes measurement error and ensures that the responses obtained are dependable and reproducible.

In this study, reliability was evaluated using Cronbach's Alpha (α) coefficient. Cronbach's alpha assesses the extent to which items in a scale are interrelated and therefore measure the same underlying concept. The coefficient ranges from 0 to 1, where higher values indicate stronger internal consistency. According to Creswell and Creswell (2018), values between 0.70 and 0.90 indicate good reliability, while values above 0.90 indicate very high reliability. Consequently, a threshold of **0.70** was adopted in this study; any value below this level would have required revision of the measurement items.

The results of the reliability analysis are presented in Table 3.3. The findings showed that all constructs achieved very high reliability levels. Organizational Culture recorded a Cronbach's alpha of 0.989, Organizational Commitment 0.997, Whistleblowing Culture 0.996, HR Competencies 0.981, Internal Controls 0.996, and Fraud Prevention 0.979. Since all coefficients exceeded the acceptable threshold of 0.70, the instrument demonstrated strong internal consistency across all variables. Therefore, no items were removed or modified, and the questionnaire was considered reliable for subsequent validity testing and inferential statistical analysis.

Table 3.3: Reliability Test

Construct	No. of Items	Cronbach's Alpha	Interpretation
Organizational Culture	9	0.989	Excellent reliability
Organizational Commitment	6	0.997	Excellent reliability
Whistleblowing Culture	6	0.996	Excellent reliability
HR Competencies	5	0.981	Excellent reliability
Internal Controls	9	0.996	Excellent reliability
Fraud Prevention	7	0.979	Excellent Reliability

Source: Researcher (2026)

3.8 Data Analysis

Data analysis includes a precise of data with the principal objective of obtaining responses to the objectives of the study. The technique of statistical data analysis encompasses adoption of methods designed for the intended purpose in data analysis as explained by descriptive statistics was incorporated in this study to compute the anticipated statistical results from respondent data (Creswell & Creswell, 2018). Socio-demographic variables for example years of operation, position in the organisation and the sector of operation was analyzed with the usage of descriptive statistics. IBM SPSS Statistics tool was used to analyse data in this research to assess the connection between the variables. A five-point Likert scale was used to measure the variables in this study, with 5 being Strongly Agree, 4 Agree, 3 Relatively Agree, 2 Disagree and 1 Strongly Disagree. Ordinal variables preserved in their categorical form where appropriate, and the moderation role was analyzed by generating interaction terms between the independent variables (organisational culture, organisational commitment, human resource competencies and whistleblowing system) and the moderating variable (internal controls). To understand the moderating effect of internal controls, two regression models were developed:

Model 1 (without Moderation)

This baseline model included only the independent variables to assess their direct effects on fraud prevention as follows;

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

Model 2 (With Moderation)

This model incorporated the moderating variable to assess how internal controls modified the relationship between organisational culture, organisational commitment, human resource competencies and Whistleblowing systems on fraud prevention:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 M + \beta_6 (X_1 \cdot M) + \beta_7 (X_2 \cdot M) + \beta_8 (X_3 \cdot M) + \beta_9 (X_4 \cdot M) + \epsilon$$

Model 2 (Introduction of the moderating variable)

Where:

- (Y) = Fraud Prevention
- X_1 (Organisational Culture Index) – Organisational culture (Independent Variable)
- X_2 (Organisational_commitment_Index) – Organisational commitment (Independent Variable)
- X_3 (Human resource _comptence_Index- Human Resource Competence (Independent Variable)
- X_4 (Whistleblowing System Index-Whistleblowing System (Independent Variable)
- M (Moderator_ Index) – Internal control (Moderating Variable)
- β_{0j} - Threshold (intercept) for category (j)
- $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9$ - Regression coefficients representing the effect of each predictor
- $X_i \cdot M$: interaction between each independent variable and the moderator .These capture whether M changes the effect of each X on Y
-

A comparison of the models was conducted to assess whether internal controls influenced the relationship between the independent variables and fraud prevention. Once the link between the independent and moderating variable was established, the dependent variable (fraud prevention) was measured on an ordinal scale. As a result, ordinal logistic regression was applied, given its appropriateness for examining relationships with an ordinal outcome.

The ordinal logistic regression enabled the estimation of how variations in the independent variables influenced the likelihood of fraud prevention being classified into higher rather than lower categories. The coefficients reflected both the magnitude and direction of these effects, where positive values indicated a greater probability of falling into higher prevention categories.

3.8.1 Diagnostic Tests and Assessment

To validate the regression model examining the determinants of fraud prevention namely; organizational culture, organizational commitment, whistleblowing systems, and human resource competencies a series of diagnostic tests were conducted. The analysis followed a structured approach to ensure that the model met statistical assumptions and yielded reliable results. To begin, normality of residuals was assessed to confirm that the error terms followed a normal distribution, which was essential for ensuring unbiased estimates and valid hypothesis testing. Next, multicollinearity among the independent variables organizational culture, organizational commitment, whistleblowing systems, and human resource competencies was evaluated using Variance Inflation Factor (VIF) and Tolerance values. VIF values below 10 and Tolerance values above 0.1 indicate that the predictors are sufficiently independent and do not introduce distortion or instability into the regression coefficients. Model performance and fit will be assessed using several goodness-of-fit measures. Pseudo R-squared statistics will be computed to evaluate the proportion of variance in fraud prevention explained by the determinants.

To examine the moderating effect of internal controls, interaction terms between internal controls and each of the four determinants were included in the regression model. The significance of these interaction terms was assessed to determine whether internal controls strengthen, weaken, or alter the relationships between the determinants and fraud prevention. A regression model before and after introduction of the moderating variable was used to evaluate the extent of moderation. This comprehensive analytical approach ensured that the findings were statistically robust, providing credible insights into how the determinants are moderated by internal in fraud prevention in SMEs.

3.9 Ethical considerations

Empirical research brings up ethical issues such as respondent's privacy which ought to be dealt with by the researcher in furtherance to describing how these problems are dealt with (Punch, 2013). The researcher treated each person responding with decorum at the same time ensuring their well-being. Participants were informed that their involvement in the study required written informed consent prior to participation. They were also clearly made aware of their full right to voluntarily decline or withdraw from the study at any stage without any consequences. In addition, it was communicated that no financial or monetary incentives would be offered for participation.

To safeguard participants' privacy and ensure their protection, all questionnaires were structured to maintain respondent confidentiality and prevent any potential harm. The study adhered to established

ethical standards in commercial research, emphasizing integrity, respect, and accountability. The researcher ensured transparency throughout the research process, guaranteeing that all data was accurately reported and free from distortion. Collected data was systematically organized to preserve both confidentiality and anonymity, ensuring that individual responses cannot be traced back to participants.

The study utilized and disseminated results ethically by analyzing and reporting findings honestly and transparently, without manipulation or selective reporting. The researcher presented data in anonymized and aggregated form to protect participant confidentiality and used the results strictly within the scope of informed consent. The researcher disclosed study limitations, acknowledge sources and potential conflicts of interest, and complied with ethical approval requirements and applicable data protection regulations throughout the process. Additionally, the researcher received ethical clearance from Strathmore University's Ethics Review Committee and obtained a research permit from the National Commission for Science, Technology, and Innovation (NACOSTI), ensuring adherence to both institutional and national ethical standards.

4.0 Chapter Summary

This chapter presented the research methodology adopted in the study, guided by a post-positivist philosophy and a quantitative explanatory design to examine the determinants of fraud prevention among SMEs in Nairobi County, Kenya, with internal controls as a moderating variable. A sample of 400 respondents was selected from 1,744,500 SME owners and employees using Slovin's formula, and data were collected through structured questionnaires administered both online and physically. Data analysis was conducted using SPSS through descriptive and inferential statistics, including multiple linear regression and diagnostic tests such as VIF. Ethical standards were upheld through approvals from the Strathmore University Ethics Committee and the National Commission for Science, Technology and Innovation, while ensuring confidentiality, voluntary participation, and academic use of the information collected.

CHAPTER FOUR

PRESENTATION OF RESULTS

4.1. Introduction

The study sought to determine the factors influencing fraud prevention among SMEs in Nairobi County, Kenya, with internal controls considered as a moderating variable. This chapter presents and interprets the findings in line with the research objectives and questions. It covers the response rate, demographic profile of respondents, and results from both descriptive and inferential analyses to assess relationships among variables.

4.2 Response Rate

The population of interest in this study included 1,744,500 workers in Nairobi County, from which a sample of 400 was drawn using a stratified random sampling technique. A total of 400 respondents took part in the data collection process, representing a response rate of 100 percent

Table 4.2: Response Rate

Description	Frequency	Percentage
Questionnaires Completed	400	100
Questionnaires Not completed	0	0
Questionnaires Distributed	400	100

Source: Researcher (2026)

Livingston & Wislar (2012) assert that a minimum acceptable response rate is 60% response rate .and on this basis, the researcher moved forward with analyzing the collected data. A high response rate is essential in strengthening the validity of research results.

4.2 Demographic Information of Respondents

This section provides a description of the demographic data collected from participants, which comprised name of SME, years of operation, sector of operation, number of employees in the SME, and job position in the organization. The summarized demographic profile of respondents is shown in

Table 4.3 Demographic Information

Demographic Characteristic		Frequency	Percentage
Years of SME in Operation	Less than 5 years	97	24%

	5–10 years	214	54%
	Above 10 years	89	22%
	TOTAL	400	100%
Sector of Operation	Manufacturing	48	12%
	Wholesale &; Re-tail	248	62%
	Service	104	26%
	TOTAL	400	100%
Number of employees	Less than 10	64	16%
	10–50	238	60%
	51–100	78	20%
	Above 100	20	5%
	TOTAL	400	100%
Position in the organisation	Owner/Founder	26	7%
	Manager	56	14%
	Employee	318	80%
	TOTAL	400	100%

Source: Researcher (2026)

4.3 Descriptive Analysis

This section presents descriptive statistics on the determinants of fraud prevention among SMEs in Nairobi County. Means and standard deviations were used to summarize respondents' perceptions regarding organizational culture, organizational commitment, whistleblowing systems, human resource competencies and internal controls. The mean scores reflect the degree of agreement associated with each statement, while the standard deviation reflects the degree of variability in responses. The results provide an overview of the behavioral and structural environment within which fraud prevention practices operate. The results are presented in Tables 4.3 to 4.4.6 and form the basis for further inferential analysis.

4.3.1 Organizational Culture

The results show relatively high levels of agreement among respondents regarding the existence of organisational culture within their organizations as a fraud prevention determinant. Mean scores for the nine items ranged from 3.89 to 4.23, indicating that respondents generally perceived their organizations to promote ethical conduct and transparency. The highest mean scores were recorded for statements relating to teamwork aligned with ethical standards and promotion of integrity in organizational operations ($M = 4.23$). The statement relating to rewards for refusing bribery recorded the lowest mean score ($M = 3.89$) and the highest variability ($SD = 1.217$), suggesting that although ethical values are emphasized, incentive mechanisms supporting ethical behavior may not be consistently implemented across SMEs. Finally, the results suggest that SMEs in Nairobi County maintain a relatively strong ethical culture. However, enforcement mechanisms and reward systems may vary between organizations.

Table 4.3:1 Organizational Culture

Statement	Mean	Std. Deviation
Our organisation promotes ethical values and integrity in daily operations.	4.22	0.924
Fraud prevention policies are clearly communicated to employees.	4.18	0.985
Employees are encouraged to uphold honesty and transparency.	4.20	0.920
I am likely to be rewarded if I refuse to take a bribe by those charged with governance	3.89	1.217
Employees perceive that honesty and fairness are valued in decision-making.	4.16	1.027
Employees are motivated to act ethically even when not directly monitored.	4.16	1.002
Employees who engage in Fraud cases are likely to be fired or even prosecuted by those charged with governance.	4.23	0.932
The organisation encourages self-regulation and personal accountability among employees	4.23	0.931
Teamwork and collaboration are encouraged in ways that align with ethical standards.	4.09	0.941

Source: Researcher (2026)

4.3.2 Organizational Commitment

The results indicate moderate levels of agreement among respondents regarding their commitment to ethical conduct within their organizations. Mean scores ranged between 3.40 and 3.51, indicating that employees moderately perceive themselves as committed to supporting ethical organizational objectives. The relatively higher standard deviations (ranging from 1.178 to 1.319) suggest differences in perceptions among respondents. This variability indicates that commitment to ethical behavior and fraud prevention may differ across organizations depending on leadership practices, organizational culture and employee engagement levels. The findings suggest that while employees recognize the importance of ethical conduct, commitment to fraud prevention responsibilities may vary across SMEs.

Table 4.3:2 Organizational Commitment

Statement	Mean	Std. Deviation
I feel loyal to the organization and its mission to operate ethically	3.51	1.290
I believe that preventing fraud is an important part of my role in the organization.	3.44	1.285
I am committed to reporting unethical behaviour if I observe it, even without external enforcement	3.49	1.240
I would prioritize ethical behaviour over personal gain in situations that could involve fraud because I love to work in my organisation	3.50	1.178
I consider ethical conduct and fraud prevention as part of my long-term commitment to the organization due to my own beliefs and personal values	3.46	1.215
The more I am loyal to my organisation the higher the likely for me to prevent or discourage fraud	3.40	1.319

Source: Researcher (2026)

4.3.3 Whistleblowing System

The results indicate moderate agreement regarding the presence and effectiveness of reporting mechanisms within SMEs. Mean scores ranged between 3.19 and 3.35, suggesting that respondents moderately agree that whistleblowing mechanisms exist and contribute to fraud prevention. However, the

relatively high standard deviations (approximately 1.22 to 1.29) indicate variations in the perceived reliability and effectiveness of reporting systems across organizations. This suggests that while whistleblowing mechanisms are recognized as important fraud prevention tools, confidence in these systems may differ across firms.

Table 4.3.3: Whistleblowing System

Statement	Mean	Std. Deviation
Our organization has a secure whistleblowing mechanism in place.	3.19	1.280
I believe that reporting unethical behaviour helps prevent fraud in the organization.	3.35	1.221
I believe reporting unethical behaviour can deter others from committing fraud in my firm	3.32	1.291
Whistleblowing is seen as a responsibility that helps protect my organization's resources	3.22	1.261
I am aware of ways to report unethical or fraudulent activities within the organization.	3.29	1.287
The existence of the whistleblowing system has discouraged fraudulent behaviour in my firm	3.28	1.291

Source: Researcher (2026)

4.3.4 Human Resource Competencies

The results indicate moderate agreement that employees possess the skills and competencies required to identify and prevent fraud. Mean scores ranged between 3.50 and 3.74, suggesting that employees generally believe they possess sufficient knowledge and training to detect fraudulent activities. However, the relatively high variability (SD ranging from 1.089 to 1.257) indicates that competency levels differ across organizations. These differences may arise from variations in training programs, professional development opportunities and recruitment practices. The findings suggest that employee competence plays an important role in fraud prevention but may vary across SMEs.

Table 4.3.4: Human Resource Competencies Descriptive

Statement	Mean	Std. Deviation
I possess the knowledge necessary to identify unethical or fraudulent be-	3.67	1.089

haviour.		
Continuous professional development enhances employees' ability to prevent fraud in my firm	3.62	1.144
The more the skills and competence an employee has in my firm the less the likelihood to engage in fraud	3.59	1.123
In my firm, highly skilled and competent employees are the ones who have engaged or likely to engage in fraud	3.50	1.257
Employee competence positively influences organizational fraud prevention in my firm	3.74	1.096

Source: Researcher (2026)

4.3.5 Descriptive statistics on moderating role of Internal controls

The results indicate relatively strong agreement among respondents regarding the presence of internal control mechanisms in their organizations. Mean scores ranged between 4.00 and 4.17, suggesting that respondents generally perceive internal control systems to be well established within SMEs. Standard deviations ranged between 0.95 and 1.08, indicating moderate variability in responses. The results imply that most SMEs have implemented control procedures aimed at monitoring financial activities, ensuring accountability and preventing fraudulent practices.

Table 4.3.5: Internal controls

Statement	Mean	Std. Deviation
The organization's internal controls enhance the effectiveness of its ethical culture in preventing fraud.	4.02	1.022
Internal controls reinforce employees' commitment to ethical behaviour and fraud prevention	4.08	1.080
Effective internal controls support whistleblowing by ensuring reported issues are addressed appropriately	4.05	1.030
Internal controls strengthen employees' ability to apply their skills and competencies to prevent fraud.	4.17	0.950
I believe that internal control measures increase the impact of organisational culture on fraud prevention.	4.07	1.007
Monitoring controls ensure reported fraud cases are addressed effec-	4.05	1.088

tively.		
Internal controls create an environment that encourages ethical reporting and discourages fraud.	4.00	1.031
Internal controls facilitate the application of training and skills in preventing fraudulent activities.	4.07	1.065
Internal controls positively moderate the relationship between organisational factors (culture, commitment, whistleblowing, competencies) and fraud prevention outcome	4.08	1.001

Source: Researcher (2026)

4.3.6 Descriptive Statistics on Fraud Prevention

The results indicate moderate to high levels of agreement regarding fraud prevention activities. Mean scores ranged between 3.19 and 4.10. Higher mean scores were recorded for statements relating to investigating suspicious transactions and protecting organizational assets ($M \approx 4.07\text{--}4.10$). Lower mean scores were observed for early detection of fraud and prevention before financial losses occur ($M \approx 3.19\text{--}3.29$). These findings suggest that SMEs are relatively stronger in responding to fraud after it is detected rather than preventing fraud at an early stage.

Table 4.3.6: Fraud Prevention Descriptives

Statement	Mean	Std. Deviation
Fraudulent activities are quickly detected in this business.	3.25	1.314
The organisation is able to prevent fraud before losses occur.	3.29	1.290
Financial irregularities are identified at an early stage.	3.19	1.307
Employees actively help in preventing fraudulent behaviour.	3.64	1.095
Suspicious transactions are investigated promptly.	3.97	1.093
Fraud risks are consistently identified and addressed.	4.07	1.037
The organisation effectively protects its assets from misuse.	4.10	0.977

Source: Researcher (2026)

4.4. Correlation Analysis

Pearson correlation analysis was used to assess both the strength and the direction of the relationships between the study variables. The findings show positive and statistically significant correlations

between fraud prevention and all predictor variables at the 0.01 significance level. This indicates that improvements in organizational governance factors are associated with improvements in fraud prevention among SMEs in Nairobi County. Fraud prevention was most strongly correlated with organizational commitment ($r = 0.710$), suggesting that employees who demonstrate strong loyalty and attachment to their organizations are more likely to support fraud prevention efforts. Organizational culture ($r = 0.652$) and internal controls ($r = 0.652$) also demonstrated strong positive correlations with fraud prevention, indicating that ethical organizational environments and effective control mechanisms contribute significantly to reducing fraud risk. Similarly, whistleblowing systems ($r = 0.646$) and human resource competencies ($r = 0.624$) showed moderate to strong positive relationships with fraud prevention.

Table 4.4: Correlation Matrix

Variable	Organization Culture	Organization Commitment	Whistleblowing	HR Competencies	Internal Controls	Fraud Prevention
Organization Culture	1.000	0.690**	0.602**	0.634**	0.708**	0.652**
Organization Commitment	0.690**	1.000	0.708**	0.688**	0.677**	0.710**
Whistleblowing	0.602**	0.708**	1.000	0.617**	0.620**	0.646**
HR Competencies	0.634**	0.688**	0.617**	1.000	0.584**	0.624**
Internal Controls	0.708**	0.677**	0.620**	0.584**	1.000	0.652**
Fraud Prevention	0.652**	0.710**	0.646**	0.624**	0.652**	1.000

Source: Researcher (2026)

4.5 Regression Diagnostic Tests

Prior to performing the regression analysis, diagnostic checks were carried out to confirm that the assumptions underlying multiple linear regression were met. The tests included multicollinearity assessment, correlation analysis, and model goodness of fit.

4.5.1 Multicollinearity Test

Multi-collinearity refers to a situation where independent variables exhibit strong interrelationships, which can bias regression coefficients and weaken the model's dependability. In this study, it was evaluated using tolerance levels, the variance inflation factor (VIF), and the condition index. The results show that tolerance values ranged from 0.216 to 0.419 while VIF values ranged from 2.387 to 4.629. According to Hair et al. (2019), multicollinearity becomes problematic when tolerance is less than 0.1 or VIF exceeds 10. The findings suggest that the independent variables and interaction terms included in the regression model are sufficiently independent of each other hence suitable for adoption of regression model.

Table 4.5.1: Collinearity Diagnostics

Variable	Tolerance	VIF
Organization Culture	0.280	3.575
Organization Commitment	0.274	3.654
Organization Whistleblowing	0.281	3.556
HR Competencies	0.419	2.387
Internal Controls	0.252	3.975
Culture x Internal Controls	0.216	4.629
Commitment x Internal Controls	0.262	3.822
Whistleblowing x Internal Controls	0.220	4.543
HR x Internal Controls	0.223	4.493

Source: Researcher (2026)

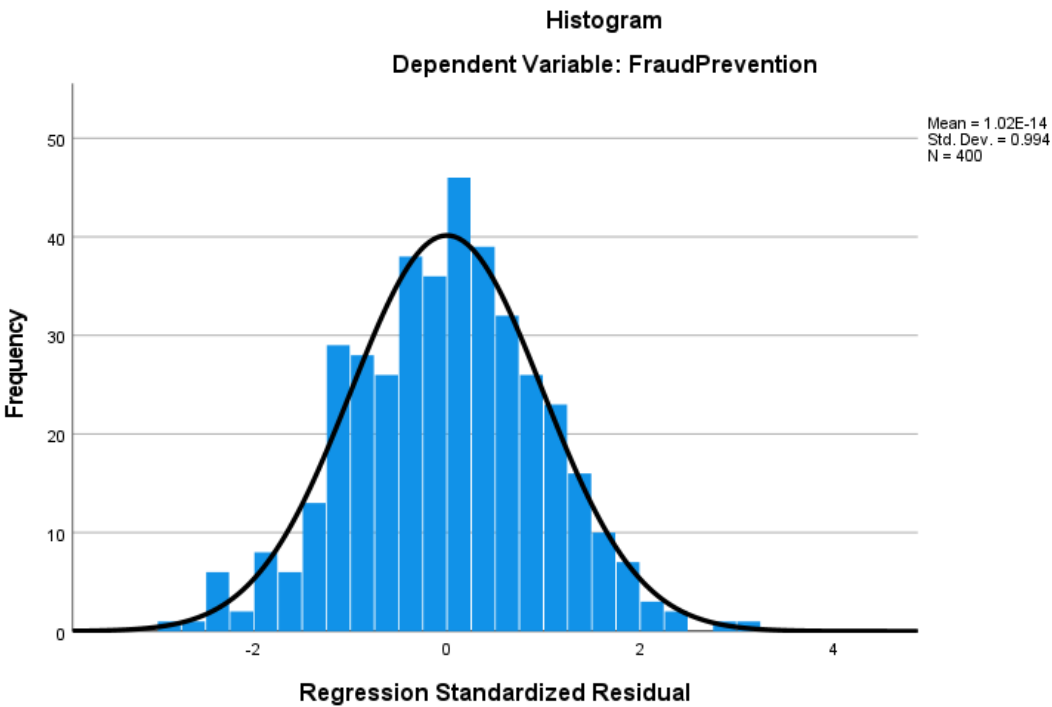
4.5.2 Normality Test of Regression Residuals

Normality of residuals is important because regression analysis assumes that the error terms are approximately normally distributed. This assumption was tested both before moderation and after moderation.

4.5.3 Normality Test Before Moderation

Figure 4.5 presents the histogram of standardized residuals for the regression model before introducing the moderating variable and interaction terms. The histogram shows a bell-shaped distribution centered around zero. The standardized residuals have a mean value approximately equal to zero (Mean = 1.02E-14) and a standard deviation close to one (Std. Dev. = 0.994), which is

consistent with the properties of standardized residuals. The sample size for the model was $N = 400$. The distribution appears approximately symmetrical, with most residuals clustered between -2 and +2. There are no extreme outliers visibly distorting the distribution. The smooth normal curve superimposed on the histogram closely follows the pattern of the bars, further indicating that the residuals are approximately normally distributed. Although minor deviations from perfect normality are expected in behavioural studies using Likert scale data, the distribution does not show severe skewness or kurtosis. Therefore, the normality assumption for regression analysis before moderation was considered satisfied.

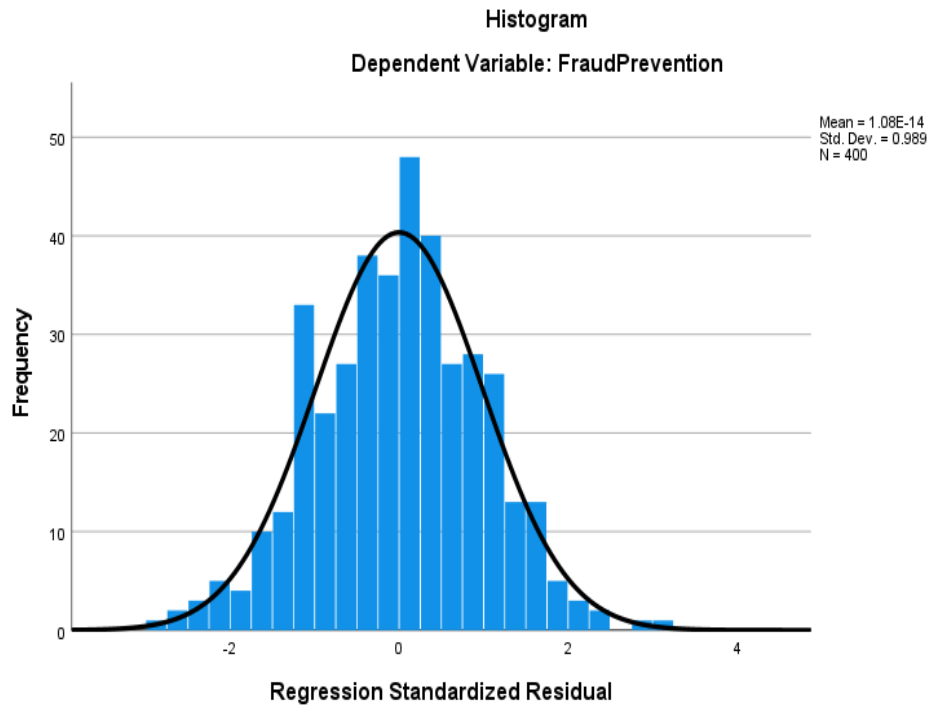


Source: Researcher (2026)

Figure 4.5: Histogram of Standardized Residuals Before Moderation

4.5.4 Normality Test After Moderation

Figure 4.6 presents the histogram of standardized residuals after introducing the moderating variable (Internal Controls) and the interaction terms into the regression model. The histogram similarly demonstrates an approximately normal distribution of residuals. The standardized residuals have a mean very close to zero (Mean = 1.08E-14) and a standard deviation near one (Std. Dev. = 0.989), indicating proper standardization of the error terms. The sample size remained $N = 400$. The distribution remains symmetrical and bell-shaped, with residuals largely concentrated between -2 and +2. The overlaid normal curve closely fits the observed distribution, suggesting that the introduction of interaction terms did not distort the distribution of residuals. There is no evidence of extreme skewness or abnormal clustering that would violate the normality assumption. Importantly, the similarity between the pre-moderation and post-moderation histograms indicates that adding the moderating variable did not introduce instability into the regression model. Thus, the assumption of normally distributed residuals following moderation was deemed to be met.



Source: Researcher (2026)

Figure 4.6: Histogram of Standardized Residuals After Moderation

4.5.4 Goodness of Fit Test

The goodness of fit of the regression model was assessed using the ANOVA F test. The regression model was found to be statistically significant ($F = 13918.210$, $p < 0.001$), indicating that the independent variables jointly explain variation in fraud prevention. This confirms that the model fits the data and is appropriate for hypothesis testing.

Table 4.6: ANOVA Model Fit

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	414.431	4	103.608	13918.210	.000 ^b
	Residual	2.940	395	.007		
	Total	417.371	399			
a. Dependent Variable: Fraud Prevention						
b. Predictors: (Constant), HR Competencies, Organizational Culture, Organizational Commitment, Whistleblowing Culture						

Source: Researcher (2026)

4.5.5 Linearity Test

The linearity assumption was evaluated using the Analysis of Variance (ANOVA) test to examine the association between each predictor variable and the outcome variable. The test aimed to establish whether a statistically significant linear association exists between the predictors and fraud prevention, which is a key requirement for multiple regression analysis. The results indicate that all the independent variables had statistically significant relationships with fraud prevention since their significance values were less than 0.05. In addition, the deviation from linearity significance values for Organizational Commitment (0.595), Whistleblowing (0.417), HR Competencies (0.587), Internal Controls (0.408), and Organizational Culture (0.518) were all greater than 0.05, indicating that there was no significant deviation from linearity. Therefore, the relationships between the variables and fraud prevention were considered sufficiently linear, satisfying the linearity assumption for regression analysis.

The strength of the associations was further supported by the eta values which ranged from 0.727 to 0.817. These values indicate moderately strong to strong relationships between the independent variables and fraud prevention. Organisational commitment recorded the strongest association ($\eta = 0.817$), followed closely by whistleblowing systems ($\eta = 0.816$), internal controls ($\eta = 0.777$), organisational culture ($\eta = 0.748$), and human resource competencies ($\eta = 0.727$). Given the statistically significant relationships and the strength of association observed across all predictors, the linearity assumption was considered satisfied. Therefore, the data was deemed appropriate for regression analysis.

Table 4.5.5: Test of Linearity Between Independent Variables and Fraud Prevention

Variable	F	Sig	Deviation From Linearity	Eta
Organizational Commitment	34.498	0.000	.595	0.817
Whistleblowing	32.692	0.000	.417	0.816
HR Competencies	23.695	0.000	.587	0.727
Internal Controls	21.000	0.000	.408	0.777
Organizational Culture	16.228	0.000	.518	0.748

Source: Researcher (2026)

4.6 Regression Analysis

To test the study objectives, multiple regression analysis was conducted to determine the effect of organizational culture, organizational commitment, whistleblowing systems and human resource competencies on fraud prevention among SMEs in Nairobi County. Internal controls were introduced in the second model as an additional predictor and in the third model as a moderating variable through interaction terms. The dependent variable was fraud prevention. The analysis was performed

in three stages to evaluate both direct and moderating effects. The results are presented in Tables 4.6.1 to 4.6.2.

4.6.1 Model Summary

The model summary results indicate the explanatory power of the regression models used in the study. Model 1 examined the direct influence of organizational culture, organizational commitment, whistleblowing systems, and human resource competencies on fraud prevention. The results show that the four predictors collectively explained 74.5% of the variation in fraud prevention ($R^2 = 0.745$). This indicates that the determinants play a substantial role in determining fraud prevention outcomes within SMEs. Model 2 introduced internal controls as an additional predictor. The results show a slight improvement in explanatory power to $R^2 = 0.755$, representing a 1% increase in explained variance. The change in R^2 was statistically significant ($\Delta R^2 = 0.010$, $F = 16.131$, $p < 0.001$), indicating that internal controls independently contribute to explaining fraud prevention within organizations. Model 3 incorporated interaction terms between internal controls and each independent variable to test the moderating effect of internal controls. The explanatory power increased marginally to $R^2 = 0.757$, representing an additional 0.2% increase in variance explained. However, this increase was not statistically significant ($\Delta R^2 = 0.002$, $p = 0.570$). This suggests that while internal controls contribute directly to fraud prevention, they do not significantly alter the strength of the relationships between the determinants and fraud prevention. The results demonstrate that the determinants explain a large proportion of variation in fraud prevention among SMEs.

Table 4.6.1: Regression Model Summary Table

Model	R	R ²	Adjusted R ²	R ² Change	Sig. F Change	Std. Error	t-stat ($\sqrt{F}$)
1 (IVs)	0.863	0.745	0.742	0.745	0.000	0.39712	16.98
2 (+ Internal Controls)	0.869	0.755	0.752	0.010	0.000	0.38973	15.59
3 (+ Interactions)	0.869	0.755	0.750	0.002	0.570	0.39088	12.29

Source: Researcher (2026)

4.6.2 Direct Effects of Determinants

The regression coefficients from Model 1 show that all four independent variables significantly influence fraud prevention among SMEs in Nairobi County. Organizational culture recorded a positive and statistically significant effect on fraud prevention ($\beta = 0.201$, $p < 0.001$). This indicates that organizations that promote ethical values, integrity and transparency are more likely to experience stronger fraud prevention outcomes. A supportive ethical environment therefore plays an

important role in discouraging fraudulent behaviour. Organizational commitment also demonstrated a positive and significant effect ($\beta = 0.298$, $p < 0.001$). This suggests that employees who feel loyal to their organization and identify with its ethical goals are more likely to engage in behaviours that discourage fraudulent activities. The findings imply that employee engagement and loyalty strengthen internal accountability mechanisms within SMEs. Similarly, whistleblowing systems recorded a strong positive and statistically significant effect ($\beta = 0.308$, $p < 0.001$). This indicates that organizations with effective reporting mechanisms are better positioned to detect and prevent fraud. Whistleblowing channels encourage employees to report suspicious activities, thereby improving transparency and reducing opportunities for fraud. Human resource competencies also showed a positive and significant effect ($\beta = 0.164$, $p < 0.001$). This implies that employee knowledge, training and professional skills enhance the ability of organizations to identify irregularities and prevent fraudulent practices.

Table 4.6.2: Direct Effects of Determinants

	B	Standard Error	Beta	t	Sig.
Constant	3.642	0.020			0.000
Organization Culture	0.256	0.048	0.201	5.356	0.000
Organization Commitment	0.254	0.039	0.298	6.486	0.000
Whistleblowing	0.250	0.037	0.308	6.699	0.000
HR Competencies	0.168	0.039	0.164	4.279	0.000

Source: Researcher (2026)

4.6.3 Moderating Effect of Internal Controls

The moderating role of internal controls was examined by introducing interaction terms between internal controls and each independent variable in Model 3. Moderation analysis determines whether the presence of internal controls strengthens or weakens the relationship between the determinants and fraud prevention. The results show that none of the interaction terms were statistically significant. The interaction between organizational culture and internal controls ($\beta = 0.061$, $p = 0.257$) was not significant, indicating that internal control systems do not significantly strengthen the effect of organizational culture on fraud prevention. Similarly, the interaction between organizational commitment and internal controls ($\beta = -0.034$, $p = 0.491$) was also insignificant, suggesting that employee commitment influences fraud prevention independently of formal control structures. The interaction between whistleblowing systems and internal controls ($\beta = 0.009$, $p = 0.868$) also failed to reach statistical significance. This indicates that whistleblowing mechanisms contribute to fraud prevention regardless of the strength of internal control systems. In addition, the interaction between human resource competencies and internal controls ($\beta = -0.063$, $p = 0.237$) was not statistically

significant. These findings imply that internal controls do not significantly moderate the relationship between organizational factors and fraud prevention. Instead, internal controls appear to function as independent governance mechanisms that directly influence fraud prevention outcomes rather than altering the strength of other organizational relationships.

Table 4.4.6: Moderating Effect of Internal Controls

Interaction	B	Standard error	Beta	t	Sig.
constant	3.642	0.020			0.000
Culture × Internal Controls	0.073	0.064	0.061	1.136	0.257
Commitment × Internal Controls	-0.42	0.060	-0.034	-0.689	0.491
Whistleblowing × Internal Controls	0.010	0.060	0.009	0.167	0.868
HR Competencies × Internal Controls	-0.078	0.066	-0.063	-1.183	0.237

Source: Researcher (2026)

4.5Chapter Summary

This chapter presented and analyzed the findings on the determinants of fraud prevention among SMEs in Nairobi County, Kenya, with internal controls examined as a moderating variable. The study achieved a 100% response rate from 400 respondents, enhancing the reliability of the findings. Descriptive results showed that SMEs generally promote ethical culture, accountability, and transparency, although reward systems for ethical behavior and confidence in whistleblowing mechanisms varied across firms. Respondents also acknowledged the importance of organizational commitment, human resource competencies, and internal controls in supporting fraud prevention. Inferential analysis revealed that organizational culture, organizational commitment, whistleblowing systems, and human resource competencies had significant positive effects on fraud prevention and jointly explained a substantial proportion of variation in fraud prevention among SMEs. Internal controls also had a direct positive influence on fraud prevention, consistent with findings by Akinyi, but did not significantly moderate the relationship between the determinants and fraud prevention, suggesting that they function mainly as independent governance mechanisms within SMEs.

CHAPTER FIVE

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the study findings in line with the research objectives and reviewed empirical literature on fraud prevention among SMEs. The discussion explains how organizational culture, organizational commitment, whistleblowing systems and human resource competencies influence fraud prevention, and whether internal controls moderate these relationships. The findings are interpreted using the theoretical grounding of the Fraud Pentagon Theory, Agency Theory and the Fraud Management Cycle, while also highlighting areas where the results align with or differ from prior studies. The chapter then presents a summary of findings, identifies gaps for future research, draws conclusions and provides practical recommendations for SMEs, policy makers and research institutions.

5.2 Summary of Results

Organizational culture, organizational commitment, whistleblowing systems, and human resource competencies all had significant positive effects on fraud prevention. The regression results indicated that these variables jointly explained a substantial proportion of the variation in fraud prevention among SMEs. Additionally, internal controls had a direct positive influence on fraud prevention, suggesting that stronger control systems enhance the effectiveness of fraud prevention measures within SMEs. However, the internal controls did not significantly moderate the determinants on fraud prevention.

5.3 Discussion of Findings

This section examines the study findings in relation to the research objectives and the achieved response rate. The overall objective of the study was establish the determinants of fraud prevention among SMEs in Nairobi County, with internal controls serving as a moderating variable. Specifically, the study aimed to establish the effect of organisational culture, organisational commitment, whistleblowing, and human resource competencies on fraud prevention among SMEs in Nairobi County, Kenya, and to determine the moderating effect of internal control on these determinants.

5.3.1 Effect of Organisational Culture on Fraud Prevention among SMEs in Nairobi County, Kenya

The study established that organisational culture had a positive and statistically significant effect on fraud prevention among SMEs in Nairobi County. This finding implies that SMEs that promote ethical behaviour, transparency, and accountability are more likely to experience stronger fraud prevention outcomes. Organisational culture plays a crucial role in shaping employee attitudes and behaviours toward ethical conduct within organizations. In SMEs, where formal governance structures are often limited, cultural norms become an important mechanism for guiding behaviour. A

culture that emphasizes integrity, responsibility, and compliance encourages employees to adhere to ethical standards and discourages fraudulent behaviour. When employees perceive that management prioritizes honesty and accountability, they are more likely to follow established procedures and avoid engaging in unethical practices. This finding supports previous empirical studies which emphasize the role of ethical culture in strengthening fraud prevention. For instance, Intan and Andry (2024) reported that organizations with strong ethical cultures are more capable of preventing fraud because employees internalize ethical standards and organizational values. Similarly, N'Guilla Sow et al. (2018) found that ethical leadership and organizational culture significantly reduce the likelihood of fraud by reinforcing accountability and transparency within organizations. From the perspective of the Fraud Pentagon Theory, organizational culture reduces the rationalization and arrogance elements of fraud by promoting ethical norms and discouraging justifications for misconduct. When employees operate in an environment that strongly condemns unethical behaviour, it becomes more difficult for individuals to rationalize fraudulent actions. Similarly, Agency Theory suggests that a strong ethical culture helps align the interests of employees with those of the organization, thereby reducing conflicts of interest and information asymmetry between principals and agents. Within the Fraud Management Cycle, organizational culture strengthens the prevention stage by establishing behavioural expectations that discourage fraudulent activities. The findings indicate that SMEs that foster strong ethical cultures and leadership commitment to integrity are better positioned to prevent fraud and promote responsible organizational behaviour.

5.3.2 Effect of Organisational Commitment on Fraud Prevention among SMEs in Nairobi County, Kenya

The study revealed that organisational commitment had a positive and statistically significant effect on fraud prevention among SMEs in Nairobi County. Organisational commitment reflects the degree to which employees identify with their organisation and are willing to contribute toward its success. Employees who are strongly committed to their organizations are more likely to adhere to established rules, safeguard organizational resources, and act in ways that protect the interests of the organization. In the SME context, where employees often handle multiple responsibilities and oversight mechanisms may be limited, committed employees become critical actors in maintaining organizational integrity and preventing fraudulent activities.

The findings are consistent with previous studies that highlight the importance of employee commitment in promoting ethical behaviour. For example, Rifai and Mardijuwono (2020) found that employees with strong organizational commitment demonstrate higher levels of ethical decision-making and are less likely to participate in fraudulent activities. Similarly, Muncahyani et al. (2024) concluded that organizational commitment strengthens fraud prevention by encouraging employees to actively support governance systems and comply with organizational policies.

From the perspective of Agency Theory, organisational commitment reduces conflicts between principals (owners) and agents (employees). When employees feel emotionally attached to their organiza-

tion, they are more likely to act in the organization's best interests rather than pursuing personal gains through fraudulent behaviour. This alignment of interests helps reduce agency problems and enhances trust between management and employees. Within the Fraud Management Cycle, organizational commitment contributes to both prevention and detection processes. Committed employees are more likely to report suspicious activities, adhere to internal procedures, and support initiatives aimed at strengthening internal governance systems. Therefore, the findings suggest that SMEs can enhance fraud prevention by strengthening employee engagement, promoting organizational loyalty, and creating working environments where employees feel valued and motivated to protect organizational assets.

5.3.3 Effect of Whistleblowing on Fraud Prevention among SMEs in Nairobi County, Kenya

The study established that whistleblowing had a positive and statistically significant effect on fraud prevention among SMEs in Nairobi County. Whistleblowing systems provide employees with mechanisms through which they can report unethical behaviour, misconduct, or suspected fraud within the organization. In many SMEs, where formal audit systems may be limited or absent, employee reporting becomes one of the most effective ways of detecting fraudulent activities. The presence of accessible and confidential reporting channels increases the likelihood that fraud will be detected early and addressed before significant financial losses occur. The findings align with previous studies that highlight the importance of whistleblowing mechanisms in combating fraud. Fitrianti et al. (2023) emphasized that effective whistleblowing systems enhance transparency and accountability within organizations by providing employees with safe avenues to report misconduct. Similarly, Kuntadi et al. (2023) reported that organizations with effective whistleblowing mechanisms experience significantly lower levels of fraud because employees act as internal monitors who help detect wrongdoing.

From the perspective of the Fraud Pentagon Theory, whistleblowing reduces the opportunity and arrogance elements of fraud by increasing the perceived risk of detection. When employees know that misconduct can easily be reported, individuals are less likely to exploit organizational weaknesses for personal gain. Under Agency Theory, whistleblowing reduces information asymmetry by enabling employees to disclose information that may otherwise remain hidden from organizational owners or senior managers. This helps organizations detect fraudulent behaviour that traditional monitoring systems may fail to capture. Within the Fraud Management Cycle, whistleblowing strengthens the detection and response stages, enabling organizations to identify irregularities quickly and take corrective actions. The findings therefore suggest that SMEs should prioritize the development of secure, confidential, and trusted whistleblowing systems as part of their fraud prevention strategies.

5.3.4 Effect of Human Resource Competencies on Fraud Prevention among SMEs in Nairobi County, Kenya

The study found that human resource competencies had a positive and statistically significant effect on fraud prevention among SMEs in Nairobi County. Human resource competencies refer to the technical knowledge, skills, and abilities that employees possess to perform their duties effectively. In

SMEs, employees often perform multiple roles including procurement, accounting, inventory management, and financial record keeping. As a result, employee competence becomes a critical factor in identifying irregularities, applying internal controls, and ensuring that financial procedures are followed correctly. The findings support previous studies that emphasize the importance of employee competence in preventing fraud. Wardani et al. (2025) found that employees with strong professional skills are better equipped to detect suspicious transactions and prevent financial irregularities. Similarly, Banjarnahor et al. (2023) reported that organizations with highly competent employees experience improved fraud detection and prevention because employees are able to recognize anomalies and implement appropriate corrective actions.

From the perspective of the Fraud Pentagon Theory, human resource competencies relate closely to the capability element of fraud. Competent employees are more capable of identifying fraudulent activities and applying procedures correctly, thereby reducing the opportunities for fraud to occur. Within the framework of Agency Theory, competent employees help reduce information asymmetry between management and employees by ensuring that accurate information is recorded and reported. This enhances transparency and improves organizational decision-making. In the Fraud Management Cycle, employee competence strengthens both the prevention and detection stages, as skilled employees are able to identify warning signs of fraud and respond appropriately. The findings therefore suggest that SMEs should invest in continuous training, professional development, and capacity building initiatives to enhance employee competence and strengthen fraud prevention systems.

5.3.5 Moderating Effect of Internal Control on Determinants of Fraud Prevention among SMEs in Nairobi County, Kenya

The study further examined whether internal controls moderate the relationship between organizational determinants and fraud prevention among SMEs in Nairobi County. The hierarchical regression results indicated that the interaction terms representing the moderating effect of internal controls were not statistically significant. These results suggest that although internal controls directly influence fraud prevention, they do not significantly strengthen or weaken the relationships between the other determinants and fraud prevention. In other words, the presence of internal control systems did not significantly alter the extent to which organizational culture, commitment, whistleblowing, or human resource competencies influence fraud prevention. This finding may be explained by the operational nature of SMEs, where internal control systems are often informal and less structured compared to large corporations. While SMEs may implement basic control procedures such as authorization processes, record keeping, and monitoring, these controls may not be sufficiently sophisticated to enhance the effectiveness of behavioural determinants such as culture, commitment, or whistleblowing. The findings partially contrast with studies such as Rahadiyan and Bunga (2020) and Kurniawan (2017), which reported that internal controls significantly strengthen fraud prevention mechanisms. However, the results align with Wardana and Gunawan (2023), who found that internal control sys-

tems may exist but may not significantly moderate behavioural determinants of fraud prevention in smaller organizations.

From the perspective of the Fraud Management Cycle, internal controls primarily function within the prevention and detection stages. However, if these controls are not consistently enforced or monitored, their moderating influence on other governance mechanisms may remain limited. The findings suggest that while internal controls are important governance tools, SMEs should complement them with strong behavioural mechanisms such as whistleblowing systems and employee competencies to achieve effective fraud prevention outcomes.

5.4 Conclusion

Guided by the fraud pentagon theory, agency theory, and fraud management lifecycle theory, the study concludes that organisational culture, organizational commitment, whistleblowing and human resource competencies significantly influence fraud prevention among SMEs in Nairobi County, Kenya while internal controls do not significantly moderate the effect of the determinants on fraud prevention.

5.5 Recommendations

Drawing from the findings of this study, several recommendations can be proposed to strengthen fraud prevention mechanisms among SMEs in Nairobi County. These recommendations focus on improving governance practices, enhancing employee competencies, and strengthening fraud detection mechanisms

5.5.1 Recommendation for SMEs

SMEs should establish secure and confidential reporting channels such as anonymous email systems, suggestion boxes, and set up secure and anonymous reporting channels that allow employees to raise concerns about suspicious activities without fear of reprisals. Organizations should invest in continuous training programs focusing on fraud awareness, financial monitoring, procurement controls, and ethical decision-making to equip employees with skills necessary for fraud detection and prevention. Management should emphasize transparency, ethical leadership, and integrity by consistently communicating ethical expectations and enforcing consequences for fraudulent behaviour. SMEs should create supportive work environments that promote employee loyalty, trust, and responsibility toward protecting organisational resources. SMEs should move beyond formal documentation of controls and focus on practical implementation through segregation of duties, regular monitoring, internal audits, and independent reviews of financial processes.

5.5.2 Recommendation for policy Makers

In light of the findings of this study, a number of recommendations can be proposed for policy makers and SME regulators to strengthen fraud prevention within SMEs. First, policy makers should en-

courage SMEs to develop strong ethical organizational cultures. Since organizational culture was found to significantly influence fraud prevention, regulators should promote the adoption of codes of ethics, integrity policies, and transparency practices within SMEs. Training and awareness programs can also help SMEs understand the importance of ethical business conduct. Secondly, regulators should promote employee commitment to organizational values and fraud prevention. Policies that encourage employee participation, accountability, and ethical leadership can strengthen employees' responsibility in safeguarding organizational resources and discouraging fraudulent behaviour.

Thirdly, policy makers should strengthen whistleblowing frameworks within SMEs. Regulators should encourage the establishment of secure and confidential reporting channels and develop policies that protect whistleblowers from retaliation. This will encourage employees to report suspicious activities and help organizations detect fraud early. Fourth, regulators should support the development of employee competencies in fraud detection and prevention. This can be achieved by promoting training programs, workshops, and professional development opportunities that equip SME employees with the skills needed to identify and prevent fraud.

Finally, policy makers should encourage SMEs to strengthen internal control systems and adopt digital financial management tools. Effective internal controls, together with modern accounting and monitoring technologies, can improve transparency, enhance financial oversight, and reduce opportunities for fraudulent activities.

5.5.3 Recommendation for researchers and academicians

Researchers and academicians should integrate fraud prevention, ethics, whistleblowing, and human resource competencies into business and management curricula to prepare students for real-world fraud risks in SMEs. They should also encourage applied research on organizational and behavioral determinants of fraud across different sectors and regions, including the role of digital tools and emerging technologies such as block chain in fraud detection and prevention. Longitudinal and comparative studies are recommended to track practices over time and identify best practices across industries. Collaborating with SMEs through case studies, internships, and practical engagements can provide valuable insights, while targeted training modules and workshops can strengthen ethical culture, employee commitment, whistleblowing systems, and staff competence. These measures will bridge theory and practice, enhance research, and equip both students and practitioners with the skills to effectively mitigate fraud in SMEs.

5.6 Contribution of the study

This study contributes to knowledge on fraud prevention in SMEs by providing empirical evidence on the influence of organizational and behavioral factors in Nairobi County. The findings show that organizational culture, organizational commitment, whistleblowing systems, and human resource

competencies play a key role in strengthening fraud prevention, highlighting the importance of ethical work environments, employee involvement, reporting mechanisms, and staff skills. The study also establishes that although internal controls have a direct positive effect on fraud prevention, they do not significantly moderate the relationship between the other determinants and fraud prevention, offering new insight into how formal control systems operate within SMEs. In addition, the study supports and extends Fraud Pentagon Theory, Agency Theory, and the Fraud Management Cycle by demonstrating how they explain fraud prevention in the SME context. Overall, the study provides practical guidance for SME managers and policymakers on the need to combine ethical, behavioral, and control-based approaches to improve fraud prevention.

5.7 Limitations of study

One of the major challenges encountered during the study was that the contact information for many SMEs listed by the Public Procurement Regulatory Authority was no longer accessible. Some email addresses were invalid, while several phone contacts revealed that the businesses had relocated from Nairobi County and some had actually shut down. To address this challenge and achieve the required sample size, the researcher adopted a snowball sampling technique. Respondents who were successfully reached were requested to refer the researcher to other SMEs that met the study criteria, which helped facilitate the completion of the data collection process.

5.8 Areas of further research

Future studies should consider the following research directions: Examine the operational effectiveness of internal controls rather than only their perceived presence in organisations to determine how enforcement strength affects fraud prevention outcomes, investigate behavioural factors influencing fraud reporting, such as fear of retaliation, trust in management, ethical climate, and employee psychological safety, Conduct longitudinal studies to evaluate how fraud prevention mechanisms evolve as SMEs grow and formalize governance structures over time, undertake comparative studies across regions or countries to examine how economic, cultural, and regulatory environments influence fraud prevention mechanisms, incorporate qualitative research approaches, such as interviews or case studies, to gain deeper insights into employee attitudes toward whistleblowing and fraud detection, examine the role of technological solutions, including digital accounting systems, automated monitoring tools, and artificial intelligence in detecting fraudulent activities.

5.9 Chapter Summary

The study examined the determinants of fraud prevention among SMEs in Nairobi County by analysing the influence of organisational culture, organisational commitment, whistleblowing systems, human resource competencies, and internal controls. The results showed that organisational culture, organisational commitment, whistleblowing systems, and human resource competencies all had signifi-

cant positive effects on fraud prevention. This indicates that ethical values, employee loyalty, whistleblowing mechanisms, and human resource competencies contribute to strengthening fraud prevention practices within SMEs. Internal controls were also found to have a significant direct effect on fraud prevention. However, the moderating analysis revealed that internal controls did not significantly alter the relationship between the determinants and fraud prevention.

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Appendix I: Table 2.1 Summary of literature

TITLE	Authors	Findings	Research Gap	How Current Study will address the gap
Fraud Prevention Determinants: A Balinese Cultural Overview	Komang Adi Kurniawan Saputra, Mu'ah, Jurana, Claudia Wanda Melati Korompis and Daniel T H Manurung (2022)	Organizational culture and human resource competencies have a strong positive effect on fraud prevention.	The study focused on Tri Hita Karana culture, sampling technique was random sampling and the population was 133 Villages in Tabanan-Bali Regency It did not have internal controls as a moderating variable	This study will focus on organizational culture, The population will be employees SMEs within Nairobi County and sampling technique will be judgmental sampling. The Internal controls will play a moderating role
Determinants of Fraud Prevention with the Monitoring Center for Prevention (MCP) as a Moderating Variable	De A. M., Saipul, A., Muhsyaf, & Endar, P.(2024)	organizational commitment has a notable positive influence on preventing fraud	Monitoring centre was a moderating variable The population of this study was Civil Servants who were in regional apparatus	Internal controls will be the moderating variable The population will be employees SMEs within Nairobi County

ble				
Determi- nants of Fraud Pre- vention with Fi- nancial Perfor- mance as an Inter- vening Variable	Hendri Hendri, Yuliantoro, Maksimil- ianus Kolot Ama(2020)	Quality Human Reource Com- petencies and organizational culture has a positive effect on fraud pre- vention	Financial perfor- mance is the mod- erating variable in this study	Internal controls will be the mod- erating variable The population of this study will be SMEs within Nairobi county
Organiza- tional Cul- ture and Fraud Pre- vention Capability: A Case Study of Govern- ment Agencies	Afiah, N. N., Syatyakti, Y., Alfian, A., & Sueb, M.(2019)	Organizational culture has a significant positive effect on fraud pre- vention	Observation and survey was used to collect data The population was employee in gov- ernment agencies in Indonesia	Self-administered questionnaires will be issued to the sampled ele- ments in the population of SMEs within Nairobi County
Factors Influencing Fraud Pre- vention: The Impact of Internal Audit, Or- ganization- al Culture, and Whis- tleblowing System	Cris Kuntadi1, Muhammad Nurizal AR2, Prita Yuniarti Ramayani(2023)	Organizational Culture affects Factors Affecting Fraud Prevention. Whistleblowing System affects Factors Affecting Fraud Prevention	study is a <i>literature review</i>	This study will be a quantitive study with prima- ry data collected

The Effect of Leadership Style, Compensation Suitability, Internal Control Systems, and Organizational Culture on Fraud at PT Bank ABCD	Nainggolan, V., Erlina, & Fachruddin(2020)	Organizational culture had a significant positive effect on Fraud Prevention	The target population for this study consisted of all credit staff at PT Bank ABCD, totaling 57 individuals. Data was gathered through questionnaires that were personally distributed by the researcher. A census sampling technique was employed, meaning the entire population served as the study sample.	The population will be employees SMEs within Nairobi County
The Effect of Organizational Culture, Leadership Style, Whistle-blowing Systems, and Employee Verification on Fraud Prevention in Sharia Banking .	Suharto, B. S.(2020)	Leadership style did not have a significant impact on fraud, and the internal control system, appropriate compensation, and the ethical culture within the organization negatively influenced fraud occurrence at PT Bank ABCD.	The study population was internal auditors a sharia bank in Jakarta Sampling technique used was saturated sampling	The population will be employees SMEs within Nairobi County Judgmental sampling will be used
Internal Control	Dwiyanti , D. A., Wicaksono, A. P., & Ulum, I.(2022)	Strengthening internal controls within the	The study population consisted of all permanent employ-	Research population workers in SMEs within

System, Whistle-blowing System, Organizational Commitment, and Fraud Prevention: The Moderating Role of Individual Morality		bank directly helps in preventing fraud. However, the whistleblowing system has no impact, as employees are hesitant to use it. Similarly, organizational commitment does not influence fraud prevention, attributed to the low level of employee commitment.	ees at Bank BNI Tulungagung, with a sample of 55 respondents' selected using convenience sampling as determined by the researcher. The data was analyzed using Partial Least Squares (PLS) through a Structural Equation Modeling (SEM) approach, utilizing the SmartPLS 3.0 software.	Nairobi county, Judgemental sampling will be used
Whistleblowing Intention, Personal Cost, Organizational Commitment and Fraud Seriousness Level	Mirna , I., Yulia, A., Nadirsyah, & Lisa, A. P.(2019)	The study found that organizational commitment had no significant influence on the fraud prevention	The population of this study were civil servants and contract employees working in government institutions across regencies and cities in Aceh Province, Indonesia. A total of 103 respondents were selected through a convenience sampling method. Data collection was carried out using online survey questionnaires distribut-	Judgmental sampling will be used. Self-Administered physical questionnaires will be used. The population will be employees SMEs within Nairobi County

			ed via Google Forms between May and July 2017. The data were then analyzed using Structural Equation Modeling with the Partial Least Squares (SEM-PLS) approach	
Love of money, organizational commitment, leadership morale, work environment and religious beliefs on fraudintention: a study on bank bengkulu employees	Fachruzzaman, Indriani, R., Suranta, E., & midiastuty, P. P. (2022)	organizational commitment, leadership morale, and religious beliefs did not significantly influence fraud intention	The research sample consisted of employees from Bank Bengkulu, selected through a random sampling method. These included staff working at the head office, main branches, sub-branches, and cash offices located in Bengkulu City and across various regencies in Bengkulu Province. With a total population of 700 employees, the sample size was determined using Slovin's formula, resulting in 88 respondents for the study	The population will be employees SMEs within Nairobi County Judgmental sampling technique will be used
The Moderating Role of	Audeh , A. B.(2019)	The internal controls had a mediation role	The population was staff of Jordanian banks	The population will be employees SMEs within

Internal Control on the Relationship Between Accounting Information System and Detection of Fraud: The Case of the Jordanian Banks.		on fraud prevention and detection		Nairobi County
The influence of internal control on fraud prevention (Case study at Bank BRI of Cimahi City)	Rahadiyan , N., & Bunga , I. B.(2020)	The positive influence of internal controls on fraud prevention was at 50.2%	This study employed an explanatory research method, targeting employees of Bank BRI in Cimahi City as its population.	The population will be employees SMEs within Nairobi County Judgmental sampling technique will be used
The effect of internal control on fraud prevention (Case Study at the Main Post Office (Regional	Kurniawan, T. F.(2017)	The influence of internal controls on fraud prevention was at 68.4%	Study done in Indonesia The study did not focus on other determinants other than the effect of internal control	Study to be done in Kenya, Nairobi County. This study will focus on organizational culture and organizational commitment

V) PT Pos Indonesia (Persero)).				
Determinants Of Fraud Prevention Of Procurement Of Goods And Services In Government Agency	Yoga Bayou Adi, Abdul Rohman(2023)	The study found that the effective implementation of internal control systems has a significant positive impact on preventing fraud in the procurement of goods and services.	The study primarily relied on secondary data for data collection. The population consisted of work units of the Central Statistics Agency (BPS) across Indonesia. Systematic random sampling was employed, and the survey was distributed via Google Forms.	The population will be employees SMEs within Nairobi County. Judgmental sampling technique will be used. Self-administered questionnaires will be used.
Effectiveness of internal control systems on fraud detection and prevention Among Small and Medium-Sized Enterprises in Nairobi Kenya.	Opiyo, Lauryn Akinyi(2023)	The study revealed a weak relationship between the control environment and the detection and prevention of fraud. Consequently, it was concluded that control environment factors, by themselves, have minimal impact on identifying and preventing fraudulent ac-	The study concentrated on internal controls as an independent variable and not moderating Variable. The study utilized an explanatory research design, which is also referred to as an experimental design.	This study will focus on organizational culture and organizational commitment as independent variables while internal controls being the moderating variable.

		tivities. Environment and fraud prevention.		
Determinants of Fraud Tendency in the Management of Village Funds	Ratieh WIDHIAS-TUTI, Tri Hesti UTAMININGTYAS, Ismi WAHYUNINGSIH (2020)	The results showed that the internal control system had a significant negative effect on fraud occurrence	The study was on determinants of fraud tendency and not fraud prevention determinants The population was 61 village officials in Kejajar Sub-district The research was on 100% of the population	This study will focus on organizational culture and organizational commitment as independent variables while internal controls being the moderating variable Judgmental sampling technique will be used
Determinants of fraud in the village government: the pentagon's fraud perspective	Yesi Mutia Basri*, Olga Fadilla, Al Azhar(2021)	The findings of this study revealed that the effectiveness of internal controls, organizational culture, human resource competencies, and leadership style all influence the occurrence of fraud within the village government	This population of research was village government environment in the Kampar Kiri sub-district of Riau Province, Indonesia	The population will be employees in SMEs within Nairobi County
Determinants of management fraud	Christine Avortri, Richard A gbanyo(2020)	In Ghana's banking sector, fraudulent activities are in-	The scope of the study was the banking sector, the population being staff	The population will be SMEs within Nairobi County

in the banking sector of Ghana: the perspective of the diamond fraud theory		fluenced by pressure, opportunity, rationalization, and the ability to commit fraud, with the latter being the most significant factor	of 23 universal banks in Ghana	
The determinants affecting fraud trends	Seto Satriyo Bayu Aji(2018)	Ethical practices help prevent fraud, and an effective leadership style negatively impacts fraud, meaning that strong leadership can act as a deterrent to fraudulent behavior.	The population for this study consisted of medium-sized companies in Yogyakarta. The independent variables examined were ethics, compensation conformity, and leadership style, with fraud serving as the dependent variable.	The study population will consist of employees in small and medium-sized enterprises (SMEs) in Nairobi County, Kenya. The independent variables will be organizational commitment and organizational culture, with internal controls serving as the moderating variable

Source: Author (2026)

Appendix II- Introduction Letter

Ole Sangale Rd, Madaraka Estate
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3rd December 2025

To Whom It May Concern,

RE: FACILITATION OF RESEARCH – ODUMO, TERENCE MESHARCK

This is to introduce Odumo, Terence Mesharck who is a Master of Commerce (MCOM) Student at Strathmore University Business School, admission number MCOM/80404. As part of our MCOM Programme, Terence is expected to do applied research and undertake a project. This is in partial fulfilment of the requirements of the MCOM course. To this effect, Terence would like to request appropriate data from your organization.

Terence is undertaking a research paper on “**DETERMINANTS OF FRAUD PREVENTION AMONG SMALL AND MEDIUM ENTERPRISES IN NAIROBI COUNTY KENYA, MODERATING ROLE OF INTERNAL CONTROLS.**” The information obtained shall be treated confidentially and shall be used for academic purposes only.

Our MCOM Programme seeks to establish links with industry, and one of these ways is by directing our research to areas that would be of direct use to industry. We would be glad to share our findings with you after the research, and we trust that you will find them of great interest and of practical value to your organization.

We appreciate your support and shall be willing to provide any further information if required. Yours

sincerely,

Njoki Kiagiri
Manager – Graduate Programmes Strathmore University Business School.

Strathmore Business School is a Proud member of:

Association of African
Business Schools



Appendix III: information sheet

Investigator: Mesharck Terence Odumo

Institutional affiliation: MCOM Student, Strathmore Business School (SBS)

SECTION 2: INFORMATION SHEET–THE STUDY

2.1: Why is this study being carried out?

This study aims to establish the determinants of fraud prevention among SMEs in Nairobi, With internal controls serving as a moderating variable.

2.2: Do I have to take part?

Participation in this study is voluntary, and the choice is entirely yours. Should you choose to participate, you will be required to fill out a questionnaire to provide information, and you have the right to withdraw from the study at any time without providing any explanation.

2.3: Who is eligible to take part in this study?

Everyone owning or working in SMEs within Nairobi County

2.4: Who is not eligible to take part in this study?

Anyone other than the above.

2.5: What will be taking part in this study involve for me?

Participants will be approached and invited to participate in this study. Upon ensuring full understanding of the study objectives, participants will be requested to sign the informed consent form (this form) and subsequently complete the questionnaire. The researcher will require you to go through the items in the questionnaire and respond to them to the best of your knowledge and without bias.

2.6: Are there any risks or dangers in taking part in this study?

Participation in this study carries no risk. All information provided will be kept strictly confidential and will not be utilized without explicit consent. The participation in this study is beneficial to all SMEs, research institutions, regulators and policy makers to develop regulations that respond to the peculiar problems in the SMEs

2.7: Are there any benefits of taking part in this study?

The study participants will gain insights on determinants of fraud prevention among SMEs in Nairobi County, the moderating role of internal controls. By contributing, they can access findings to enhance efficiency, reduce fraud losses, and improve governance. Participants will receive tailored recommendations based on firm size

2.8: What will happen to me if I refuse to take part in this study?

There are no consequences for non-participation. Participation in this study is entirely voluntary.

2.9: Who will have access to my information during this research?

All research records will be stored in securely locked cabinets. That information may be Transcribed into our database but this will be sufficiently encrypted and password protected. Only the people who are closely concerned with this study will have access to your information. All your information will be kept confidential.

2.10: Who can I contact in case I have further questions?

You can contact me, Mesharck Terence Odumo via e-mail **terence.odumo@strathmore.edu** or by phone 0717299870.

You can also contact my supervisor, Dr.Erastus Mbithi, at the Strathmore Business School, Nairobi via e-mail **embithi@strathmore.edu** or by phone 0729207192.

If you want to ask someone independent anything about this research, please contact:

The Secretary–Strathmore University Institutional Ethics Review Board, P. O. BOX 59857, 00200, Nairobi, email **ethicsreview@strathmore.edu** Tel number: +254 703 034 375

I _____ have understood all that I have read. I have had the study explained to me and had my questions answered satisfactorily. I understand that I can change my mind at any stage.

Please tick the boxes that apply to you;

Participation in the research study

☐ I AGREE to take part in this research

☐ I DO NOT AGREE to take part in this research

Participant's Name _____ **Participant's Signature** _____

Date _____ **Time:** _____

I, Mesharck Terence Odumo, certify that I have followed the SOP for this study and have

explained the study information to the study participant named above, and that s/he has understood the nature and the purpose of the study and consents to the participation in the study.

Investigator's Signature:

_____ **Date:** ____/____/____

DD / MM / YEAR

Investigator's Name: Mesharck Terence Odumo Time:

(Please print name) HR / MN

Appendix IV Research Questionnaire

Introduction

This questionnaire aims to:

- i. To establish the effect of organizational culture on fraud prevention among SMEs in Nairobi County, Kenya
- ii. To establish the effect of organizational commitment on fraud prevention among SMEs in Nairobi County, Kenya
- iii. To establish the effect of whistleblowing on Fraud prevention among SMEs in Nairobi County, Kenya
- iv. To establish the effect of human resource competencies on fraud prevention among SMEs in Nairobi County, Kenya
- v. To establish the moderating effect of internal control on determinants of fraud prevention among SMEs in Nairobi County, Kenya

Please respond to the following questions and, where applicable, mark the relevant box with

a tick if manual or check the circle if digitally

Section A: General Information (Optional/Background)

1. Name of SME (optional): _____

2. Years in operation:

[] Less than 5 years

[] 5–10 years

[] Above 10 years

3. Number of employees:

☐ Less than 10

☐ 10–50

☐ 51–100

☐ Above 100

4. Which Sector do you work in? *

☐ Manufacturing

☐ Wholesale & Retail

☐ Service

5. Which position best describes you in your organization? *

☐ Owner/Founder

☐ Manager

☐ Employee

Scale: 5 = Strongly Agree, 4 = Agree, 3 = Relatively Agree, 2 = Disagree, 1 = Strongly Disagree

Section B: Organizational Culture

Question	5 Strongly Agree	4 Agree	3 Relatively Agree	2 Disagree	1 Strongly Disagree
Our organization promotes ethical values and integrity in daily operations.					
Fraud prevention policies are clearly communicated to employees.					
Employees are encouraged to uphold honesty and transparency.					
I am likely to be rewarded if I refuse to take a bribe by those charged with governance					
Employees perceive that honesty and fairness are valued in decision-making.					
Employees are motivated to act ethically even when not directly monitored.					
Employees who engage in Fraud cases are likely to be fired or even prosecuted by those charged with governance.					

The organisation encourages self-regulation and personal accountability among employees					
Teamwork and collaboration are encouraged in ways that align with ethical standards.					

Section C: Organizational Commitment

Question	5 Strongly Agree	4 Agree	3 Relatively Agree	2 Disagree	1 Strongly Disagree
I feel loyal to the organization and its mission to operate ethically					
I believe that preventing fraud is an important part of my role in the organization.					
I am committed to reporting unethical behavior if I observe it, even without external enforcement					
I would prioritize ethical behavior over personal gain in situations that could involve fraud because I love to work in my organisation					
I consider ethical conduct and fraud prevention as part of my long-term commitment to the organization due to my own beliefs and personal values					
The more I am loyal to my organisation the higher the likely for me to prevent or discourage fraud					

Section D: Whistleblowing System

Question	5 Strongly Agree	4 Agree	3 Relatively Agree	2 Disagree	1 Strongly Disagree
Our organization has a secure whistleblowing mechanism in place.					
I believe that reporting unethical behavior helps prevent fraud in the organization.					
I believe reporting unethical behavior can					

deter others from committing fraud in my firm					
Whistleblowing is seen as a responsibility that helps protect my organization's resources					
I am aware of ways to report unethical or fraudulent activities within the organization.					
The existence of the whistleblowing system has discouraged fraudulent behavior in my firm					

Section E: Human Resource Competencies

Question	5 Strongly Agree	4 Agree	3 Relatively Agree	2 Disagree	1 Strongly Disagree
I possess the knowledge necessary to identify unethical or fraudulent behavior.					
Continuous professional development enhances employees' ability to prevent fraud in my firm					
The more the skills and competence an employee has in my firm the less the likelihood to engage in fraud					
In my firm, highly skilled and competent employees are the ones who have engaged or likely to engage in fraud					
Employee competence positively influences organizational fraud prevention in my firm					

Section F: Internal controls

Question	5 Strongly Agree	4 Agree	3 Relatively Agree	2 Disagree	1 Strongly Disagree
The organization's internal controls enhance the effectiveness of its ethical culture in preventing fraud.					

Internal controls reinforce employees' commitment to ethical behavior and fraud prevention					
Effective internal controls support whistleblowing by ensuring reported issues are addressed appropriately					
Internal controls strengthen employees' ability to apply their skills and competencies to prevent fraud.					
I believe that internal control measures increase the impact of organizational culture on fraud prevention.					
Monitoring controls ensure reported fraud cases are addressed effectively.					
Internal controls create an environment that encourages ethical reporting and discourages fraud.					
Internal controls facilitate the application of training and skills in preventing fraudulent activities.					
Internal controls positively moderate the relationship between organisational factors (culture, commitment, whistleblowing, competencies) and fraud prevention outcome					

Section G: Fraud Prevention

Question	5 Strongly Agree	4 Agree	3 Relatively Agree	2 Disagree	1 Strongly Disagree
Fraudulent activities are quickly detected in this business.					
The organisation is able to prevent fraud before losses occur.					
Financial irregularities are identified at an early stage.					
Employees actively help in preventing					

fraudulent behaviour.					
Suspicious transactions are investigated promptly.					
Fraud risks are consistently identified and addressed.					
The organisation effectively protects its assets from misuse.					

List of SMEs

<https://ppra.go.ke/wp-content/uploads/2017/05/PPOA-List-of-SMEs-Disadvantaged-Groups.pdf>

Appendix IV: ETHICAL APPROVAL



9th January 2026

Mr Odumo Mesharck,
terence.odumo@strathmore.edu

Dear Mr Odumo,

RE: Determinants of Fraud Prevention Among Small and Medium Enterprises in Nairobi County Kenya, Moderating Role of Internal Controls

This is to inform you that SU-ISERC has reviewed and **approved** your above **SU-masters** research proposal. Your application reference number is **SU-ISERC3199/25**. The approval period is from **9th January 2026 to 8th January 2027**.

This approval is subject to compliance with the following requirements:

- i. Only approved documents including (informed consents, study instruments, and 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 affect the 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,

Mr Ambrose Rachier,
Chairperson; SU-ISERC

Appendix V: NACOSTI LICENSE

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 187238	Date of Issue: 22/January/2026
RESEARCH LICENSE	
	
This is to Certify that Mr.. MESHARCK TERENCE ODUMO 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: Determinants of Fraud Prevention Among Small and Medium Enterprises in Nairobi County Kenya, Moderating Role of Internal Controls for the period ending : 22/January/2027.	
License No: NACOSTI/P/26/4183444	
187238 Applicant Identification Number	 Ag. Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
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