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# The Effect of enterprise risk management practices on the organizational performance of non-financial firms listed on the Nairobi Securities Exchange: the moderating role of firm characteristics.

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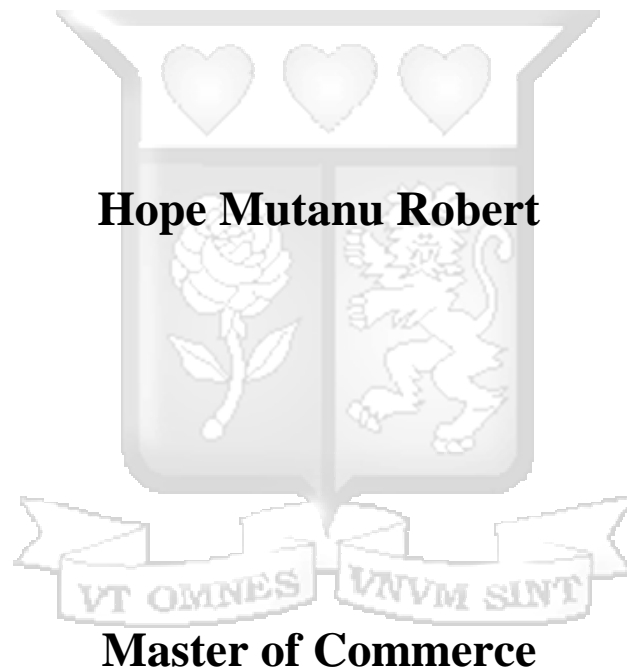
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**The Effect of Enterprise Risk Management Practices on  
the Organizational Performance of Non-Financial Firms**

**Listed on the Nairobi Securities Exchange: The  
Moderating Role of Firm Characteristics**



**2024**

**THE EFFECT OF ENTERPRISE RISK MANAGEMENT PRACTICES ON THE  
ORGANIZATIONAL PERFORMANCE OF NON-FINANCIAL FIRMS LISTED ON  
THE NAIROBI SECURITIES EXCHANGE: THE MODERATING ROLE OF FIRM  
CHARACTERISTICS**

**HOPE MUTANU ROBERT**

**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE AWARD OF THE DEGREE OF MASTER OF COMMERCE AT  
STRATHMORE UNIVERSITY**



**STRATHMORE UNIVERSITY BUSINESS SCHOOL**

**STRATHMORE UNIVERSITY**

**NAIROBI, KENYA**

**MAY, 2024**

## DECLARATION

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

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Hope Mutanu Robert

Signed ...  ..... Date ... **30/05/2024** .....

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## ABSTRACT

In the context of the dynamic corporate environment, where successful economic performance and value creation are paramount objectives, this study investigated the effect of ERM practices on the organizational performance of listed non-financial firms in the NSE, with an exploration of how firm characteristics moderate this relationship. Through a mixed-method approach using both primary and secondary data sources, the study aimed to establish the relationship between ERM practices (risk culture, risk identification and governance, risk assessment mitigation, and control) and organizational performance, determine the impact of firm characteristics on this relationship, and explore management perceptions regarding the relationship between ERM practices and organizational performance. Secondary data was collected from the financial statements of all the 39 listed non-financial firms. Primary data was collected through the issue of questionnaires to 114 CEOs, CFOs and CROs. Objective one entailed the analysis of data using descriptive statistics and Structural Equation Modeling (SEM) in the R statistical programming language to unveil structural linkages. The structural model assessment revealed a significant ( $p < 0.05$ ) relationship between ERM and its eight components, except for objective setting and information & communication ( $p > 0.05$ ). Furthermore, a positive correlation was identified between ERM and organizational performance. The correlation matrix indicated that all eight ERM components exhibited a positive correlation with organizational performance. For objective two, a multiple regression analysis determined a direct impact of ERM practices on organizational performance. Additionally, the analysis indicated a positive influence of firm characteristics on organizational performance, albeit statistically insignificant. For objective three, the management concurred with the regression analysis, acknowledging the impact of ERM practices on organizational performance. They perceived a risk-focused culture as a primary motivator for ERM adoption, with unsupportive cultures identified as barriers. One key limitation of the study was the use of composite score to measure organizational performance. Future research could benefit from examining the direct impact of ERM practices on the four perspectives of the Balanced Scorecard (BSC): Financial, Customer, Internal Business Processes, and Learning & Growth. Overall, the study enhances understanding of how ERM practices contributes to improved organizational performance and informs future research directions in this area.

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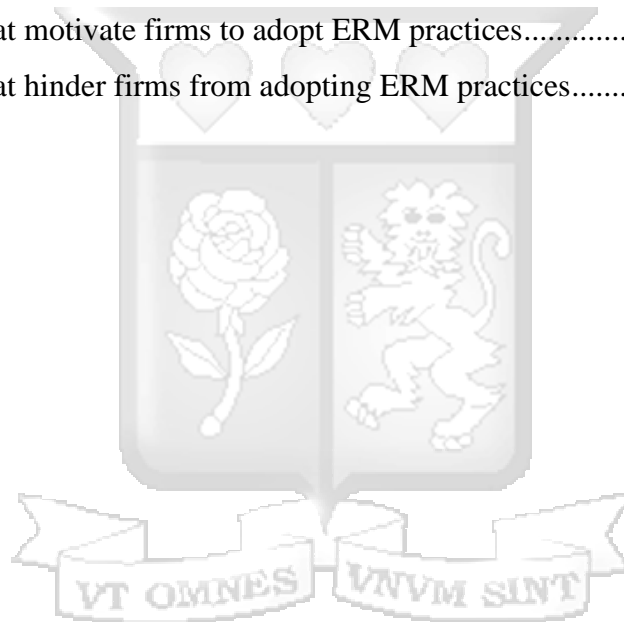
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## LIST OF ABBREVIATIONS AND ACRONYM

**BOD** – Board of Directors

**CMA** – Capital Markets Authority

**COSO** – Committee of Sponsoring Organizations of the Treadway Commission

**CRO** – Chief Risk Officer

**ERM** – Enterprise Risk Management

**NSE** – Nairobi Securities Exchange

**SPSS** – Statistical Package for Social Science

**TRM** – Traditional Risk Management



## DEFINITION OF TERMS

- Balanced Score Card:** The Balanced Score Card is a tool that uses financial and non-financial indicators within an integrated system for measuring an organization's strategic performance in a fair manner (Kaplan & Norton, 2002; Idris, 2009; Niknazar, 2011; Tanyi, 2011; Suttipun et al. 2018).
- Enterprise Risk Management (ERM):** ERM is a proactive process by a company's board of directors, management, and other personnel. to identify potential events that could have an impact on the company's operations and preventing or laying out a plan by allocating resources to mitigate the negative outcomes (Brustbauer, 2016; Casualty Actuarial Society, 2019; Razif, 2019).
- Organizational Performance:** Organizational performance is the level of fulfilment of various goals to sustain competitiveness and generate new resources (Rigas et al., 2015; Alfaouri, 2012; Bozac, 2015; Bulut & Aktan, 2018).
- Firm Characteristics** Firm characteristics are aspects like organizational structure, size, ownership, and management dynamics (Anderson, 2014). In the context of this study, an exploration of firm characteristics will be conducted, focusing on dimensions including firm size and ownership structure.
- Ownership Structure:** Ownership structure refers to the composition of the company owners in terms of shareholding and control through decision-making (Brustbauer, 2016).
- Risk:** Risk is a hindrance to firm performance (Mustafa & Yaakub, 2015).

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## CHAPTER ONE: INTRODUCTION

### 1.1 Background of the Study

The organizational performance of non-financial firms listed in the NSE varies per period. For instance, some of the companies reported an increase in income in 2023, compared to 2022, while the management of others hinted of a possible drop in profits this year. According to Statista (2023), Safaricom recorded the highest revenues of Kes. 385.05 billion in 2023. Other companies with significant increases in revenue are East African Breweries at Kes 138.15 billion and British American Tobacco Kenya at Kes 32.55 billion (Statista, 2023). Although some non-financial firms have reported exceptional performance lately by showing an increasing trend in profits, others have indicated that their earnings will drop in 2023, compared to 2022. For instance, Unga Group, Express Kenya, Kakuzi PLC, Kenya Power, Car & General, Sameer Group Africa, Crown Paints, and Sasini Tea, among others have issued warnings of a possible decline in profits (Mwangi, 2023). The main reasons cited for the anticipated decrease in organizational performance include risks such as the slowed economic activities, reduced demand, unfavourable economic environment caused by the freefall of the Kenyan Shilling against the United States Dollar, high cost of production, and unfavourable environmental conditions such as severe drought. Some of the firms affected with declining profitability have restructured their operations.

Considering the statistics on the performance of non-financial firms, it is evident that it fluctuates over time. There is a need to assess the factors that contribute to a rise in operating costs or a decline in revenues. According to Gordon (2020), firms that can mitigate contingencies manage to sustain good performance. Therefore, there could be a relationship between ERM and organizational performance in the context of non-financial firms listed on the NSE. The reason is that the performance of these organizations appears to be influenced by the effectiveness of their ERM practices in identifying, assessing, and mitigating risks. On the other hand, firms that have experienced declining profitability due to external factors are responding by restructuring their operations. The proactive approach to risk management aligns with the fundamental purpose of ERM of enhancing an organization's ability to anticipate, respond to, and recover from risks. Consequently, the strategic planners of such companies influence their overall performance by managing risk appropriately through ERM.

### **1.1.1 Enterprise Risk Management Practices**

Concerns surrounding risks have intensified globally, especially during times of crisis, as indicated by Kosmala (2020). There has been a recent surge in the commitment to minimizing losses, challenging the traditional belief that risks can be entirely avoided. Stakeholders are recognizing that risk is an inherent aspect of business operations. According to Silva et al. (2018) the transformation of risk management from TRM to ERM is indicative of a worldwide trend towards a more integrated and holistic approach to managing risks. (Altanashat & Alheety, 2019). Altanashat (2019) highlight that ERM is not merely a risk management process but an opportunity for organizations to achieve better possibilities and greater goals. The COSO ERM Framework (2004), widely recognized globally, has found significant acceptance in the region (Gelinas et al., 2018). According to Lubis (2018), ERM is not just a risk management strategy, but an opportunity for organizations to navigate challenges, seek better possibilities, and achieve strategic objectives, contributing to long-term success. Therefore, organizations across the world are embracing ERM to reduce costs and increase the sustainability of profitability and performance.

In the African context, the transition from TRM to ERM aligns with the global trends. The widespread adoption of ERM gained momentum following the 2008 global financial crisis (International Monetary Fund, 2009). ERM is acknowledged as a crucial element in corporate governance, encompassing actions and strategies to identify, measure, and mitigate various corporate risks. Sandada (2017) emphasize its role in aligning risks with strategic objectives to enhance stakeholder value. Arkoh (2019) report that the COSO ERM Framework is highly familiar to a substantial percentage of respondents in sub-Saharan Africa, underscoring its prominence as a preferred framework for ERM implementation. ERM offers organizations an opportunity to explore better possibilities and attain greater goals, contributing to overall organizational performance.

Within East Africa, the importance of ERM in corporate governance is emphasized, aligning with global and African perspectives. According to Namanya et al. (2023) ERM shows no significant impact on key financial performance indicators, including Return on Assets (ROA), Return on Equity (ROE), Total Book Value (TBQ), and Price-to-Earnings Ratio (PER).

Notably, a majority of listed companies did not adopt ERM following the operationalization of the East African Community (EAC) Common Market in 2010, with cost concerns cited as a likely deterrent. The findings raise questions about the perceived benefits of ERM implementation and prompt considerations regarding its cost-effectiveness. Yegon et al. (2014) indicates that in the East Africa region, specifically in Kenya, Uganda, and Tanzania, a significant majority (69%) of firms have a weak Enterprise Risk Management (ERM). A weak ERM system implies that risk management practices were either ad hoc, subjective, or ignored altogether.

In Kenya, the importance of ERM is pronounced as it aligns with global and regional perspectives. Cheplel (2013) points out that ERM facilitates the integration of risk considerations into decision-making processes, reducing redundancy and cutting down on risk management costs. It is seen not only as a regulatory requirement but as a strategic approach for businesses to achieve financial stability, optimize resource allocation, and enhance overall organizational performance. Ndambuki (2016) indicates that the successful implementation of ERM is significantly and positively influenced by five independent variables: corporate governance, employee training, organizational culture, organizational resources, and communication. Additionally, Girangwa (2020) established that ERM governance practices have a significant positive influence on organizational performance, while intellectual capital plays a crucial moderating role, significantly enhancing the relationship between ERM governance practices and organizational performance. Therefore, the adoption of ERM is pivotal for businesses seeking strategic advantages.

### **1.1.2 Firm Characteristics**

Organizational activities are significantly impacted by firm characteristics, as they play a pivotal role in shaping communication channels, decision-making processes, and the overarching framework for integrating risk management (Prinsloo, 2017). A well-defined firm structure not only establishes clear roles but also facilitates the implementation of efficient ERM strategies. When these procedures become ingrained as routine practices, ERM seamlessly becomes an integral part of the organizational culture. Conversely, an unfavorable firm structure gives rise to communication gaps, posing obstacles to the effective implementation of ERM (Mwangi, 2023).

The firm's characteristics wield substantial influence over the overall risk culture within an organization, thereby molding the effectiveness of ERM. Recognizing how firm characteristics moderate risk management practices is crucial, as they concurrently determine the overall performance and sustainability of the organization.

This study employed firm size and ownership structure as proxies for firm characteristics, a methodology in alignment with previous research conducted by (Waweru & Kisaka, 2012; Prinsloo, 2017; Yazid et. al., 2019; Altuntas et. al., 2019).

A firm's size determines its risk exposure and risk management capabilities. For instance, large organizations are set to face complex risks because of a higher scale of their operations. Therefore, such firms need detailed ERM frameworks. On the other hand, smaller firms may encounter easily manageable risks. Yazid et. al. (2019) emphasize that firm size is a manifestation of its economic resources, often reflected in the ownership of assets. These assets encompass both tangible assets, such as physical properties and equipment, and intangible assets like copyrights and trademarks. Managing these assets proficiently can lead to cost reduction associated with risk prevention and mitigation, benefiting both the firms and shareholders.

Gordon et. al. (2019) embarked on an examination of the interplay between ERM and firm performance. The study's regression model outcomes revealed a noteworthy discovery, with firm size exerting a statistically significant impact ( $p\text{-value } 0.004 < 0.05$ ) on the practice of erm. Similarly, Yegon et. al. (2014) delved into the impact of firm size on ERM within the Kenyan context. Their results revealed a strong correlation between firm attributes and the practice of ERM. Larger firms were observed to demonstrate improved efficiency in ERM implementation, reinforcing the relationship between size and risk management effectiveness.

Ownership structure, encompassing dimensions such as shareholding concentration, board ownership, and foreign ownership, serves as a governance mechanism contributing to firm value and performance (Edmans & Holderness, 2017). It plays a pivotal role in shaping decision-making processes, particularly in democratic settings where majority shareholders exert significant influence. Prinsloo (2017) advocates for a diverse ownership structure and an expert board for effective risk management.

The positive relationship between group affiliation within ownership and ERM adoption is highlighted by Altuntas et. al. (2019), while Golshan (2018) reveal distinctions between ERM adopters and non-adopters related to financial leverage and auditor engagement. This cautious financial management approach among ERM adopters is supported. Hoyt & Liebenberg (2011) analyze the impact of ERM through share ownership percentages, and Razidi et. al. (2011) examines ownership structure considering individual versus institutional ownership. In summary, ownership structure dimensions play a critical role in shaping firm strategies, risk management, and ERM adoption.

In conclusion, a combined effect of ERM and firm characteristics can enhance organizational performance efficaciously. As a result, this study sought to enrich the findings from previous studies on the effect of ERM on organizational performance by exploring the moderating role of firm characteristics in the relationship between ERM and organizational performance.

### **1.1.3 Organizational Performance**

In Kenya, organizational performance is influenced by national policies, economic conditions, and the local business environment. Mugo (2018) highlights factors such as strategic orientation, core competences, intellectual capital, and organizational culture as crucial contributors to performance in the Kenyan insurance industry. Moriasi (2023) underscores the significance of management support, employee training, and information and communication technology in shaping organizational performance. Additionally, Kaliti (2014) points out the positive effects of risk assessment, risk response, innovation and quality, and internal environment and control activities on the financial performance of firms in the hospitality industry in Nairobi County. This comprehensive understanding of organizational performance at various levels is indispensable for businesses navigating the global, regional or, the Kenyan business landscapes.

Organizational performance is dynamic and crucial, signifying the effective and efficient achievement of a firm's objectives. Selvam et al. (2018) devised a comprehensive measurement model for indicators of organizational performance, drawing from Carroll's (2004) diverse facets encompassing profitability, growth, market value, economic value added, and customer satisfaction. Previous research on the impact of ERM on organizational performance has predominantly relied on the conventional tool of measuring organizational performance, specifically in terms of financial performance, as emphasized by (Delen et al., 2017).

This approach stems from the recognition that investors, decision makers, creditors, and a majority of stakeholders tend to gauge organizational performance with a primary reference to the financial aspects of the organization.

According to Saeidi et al. (2018), the evaluation and enhancement of overall performance hinge on both monetary and non-monetary features, challenging the traditional division between financial and non-financial performance. Bozac (2019) advocates for a holistic perspective, urging companies to consider not only their financial prowess but also factors like competitive capacity, product quality, delivery efficiency, reliability, and customer satisfaction. Conventional financial tools, while prominent globally, may fall short in capturing the entirety of attributes they aim to measure (Gordon, 2020). This study, therefore, sought to fill the gap by taking a multifaceted approach to performance, incorporating both financial and non-financial performance. Consequently, the study aimed at assessing the effect of ERM on both financial and non-financial performance (used synonymously with organizational performance throughout the study), leveraging the balanced scorecard as a measurement tool to comprehensively observe and analyze both aspects.

#### **1.1.4 Non-Financial Listed Companies in the Nairobi Stock Exchange**

Kenyan corporations issue stocks and bonds that are traded on the NSE. Established in 1954 as a voluntary association of brokers under the Society Act of the then British Kenya, its primary objective has consistently focused on fostering the growth and regulation of the country's securities market. Over the past six decades, the NSE has served as a platform for listing and trading stocks and bonds. In 1988, the Central Bank of Kenya initiated a blueprint study titled "Development of money and capital markets in Kenya," setting the foundation for subsequent structural reforms in the financial markets. This initiative culminated in the establishment of the CMA, responsible for overseeing the NSE.

The NSE has expanded its influence beyond the Kenyan market through regional integration, participating in organizations such as the World Federation of Exchanges, the African Securities Exchanges Association, and the East Africa Securities Exchanges Association (NSE, 2020). Currently, the NSE hosts listings from 64 companies spanning diverse sectors like agriculture, automotive, banking, business and service, construction, energy, insurance,

investment, manufacturing, telecommunications, and real estate. Notably, 39 non-financial companies are also included in the NSE listings, with the classification of "non-financial" encompassing entities that do not directly provide financial services (NSE, 2023).

In 2023, the NSE was reported as the worst performing African bourse in terms of dollar returns (Business Daily, 2023). The Morgan Stanley Capital International (MSCI) index, which monitors three prominent Kenyan blue-chip stocks which include EABL, Safaricom, and Equity Group revealed a decline of 41.9 percent in the Kenyan index, bringing it to 627.4 points. An examination of the NSE All Share Index by Bloomberg indicated that the NSE ranked among the worst-performing stock markets globally (Bloomberg, 2023). The subpar performance of the NSE can be attributed to various factors.

A notable factor contributing to this downturn is the substantial decrease in the share prices of constituent stocks. Safaricom, with significant influence on the MSCI Kenya Index and local shilling indices due to its status as the NSE's largest stock by market capitalization, witnessed a 36 percent drop in its share price to Ksh14.70 since the beginning of 2023. Additionally, EABL experienced a decline of 23.5 percent in 2023.

Furthermore, the Kenyan shilling faced depreciation against the dollar, with a 16.9 percent decline from the start of 2023. According to the official Central Bank of Kenya (CBK) rate, the shilling exchanged at 148.45 units against the dollar in September 2023. In shilling terms, the blue-chip NSE 20 Share Index retreated by 10 percent to 1,508 points in the nine months leading up to September 2023, while the NSE All Share Index registered a 25.3 percent decrease to 95.2 points (Business Daily, 2023).

The NSE faced additional challenges with persistent selling by foreign investors, resulting in net foreign outflows totaling Ksh18.6 billion (\$125.4 million) in the nine months leading up to September 2023. Notably, the acquisition of additional EABL shares by the British multinational Diageo in March 2023, amounting to Ksh.22.7 billion (\$153.1 million), contributed significantly to net outflows, reaching Ksh10.7 billion (\$72.2 million) in that specific month. The direction of foreign funds, whether inflow or outflow, is a crucial indicator of the economy's attractiveness to foreign investment, considering the diverse sectors available for investment in the market. Consequently, it is evident that the NSE has experienced a diminishing appeal to foreign investors.

The convergence of the aforementioned factors collectively contributed to a deceleration in economic activities, diminished demand, high production costs, and adverse environmental conditions.

This confluence of challenges has resulted in the underperformance of individual companies listed on the Nairobi Securities Exchange (NSE), consequently leading to the NSE's low rankings not only within the region but also on a global scale. Notably, non-financial firms have been particularly impacted by these adverse conditions.

The performance of non-financial companies listed on the Nairobi Securities Exchange (NSE) presents a nuanced landscape in 2023, with some entities exhibiting commendable results while others issue profit warnings. Noteworthy examples include Unga Group, Express Kenya, Kakuzi PLC, Kenya Power, Car & General, Sameer Group Africa, Crown Paints, and Sasini Tea (Mwangi, 2023).

Given their substantial contribution to Kenya's GDP (Ngei, 2020), the performance of listed non-financial firms assumes paramount importance. Scholars such as Ombaka et al. (2015) have delved into the causes of performance variations among organizations within the same industry and markets, highlighting that understanding such discrepancies remains a fundamental query in management discourse. ERM has been posited as a partial explanatory factor for performance differences, as the efficacy of ERM practices in identifying, assessing, and mitigating risks appears to influence the performance of listed non-financial firms. Conversely, organizations facing declining profitability due to external factors are adopting proactive measures, including restructuring, in response to these challenges. This aligns with the core objective of ERM, which aims to enhance an organization's ability to anticipate, respond to, and recover from risks.

Despite this, a notable gap exists in the literature regarding the effect of ERM on the performance of listed non-financial firms. Previous research has predominantly focused on the financial and insurance sectors (Cheplel, 2013; Otieno, 2017; Onyango, 2018). Expanding the scope of investigations to include other industries is crucial for a comprehensive understanding of how ERM practices influence performance across diverse contexts (Mohamed, 2020).

The study's focus on non-financial firms listed on the NSE aimed to fill this research gap, particularly in crucial sectors such as manufacturing and agriculture, which play vital roles in the Kenyan economy.

## **1.2 Research Problem**

In recent years, the performance of non-financial firms listed on the NSE has demonstrated significant variability, with some companies experiencing increased income while others anticipate a decline in profits. Notably, Safaricom recorded the highest revenues in 2023, while other firms, such as Unga Group and Car & General, issued warnings of potential profit decreases (Mwangi, 2023). Factors contributing to declining performance include economic deceleration, reduced demand, high production costs, and adverse environmental conditions, including severe drought. In response, some companies have initiated restructuring efforts (Statista, 2023), highlighting the proactive role of risk management aligned with ERM practices. However, despite the importance of ERM in enhancing firm value and performance, a significant majority of firms in the East Africa region, particularly in Kenya, Uganda, and Tanzania, are reported to have weak ERM systems, indicating ad hoc, subjective, or ignored risk management practices (Yegon et al., 2014).

The significance of ERM has been emphasized by recent global events, such as the COVID-19 pandemic and ongoing geopolitical conflicts, which have disrupted global supply chains and economic stability, leading to substantial losses for many organizations. In response, organizations like East African Breweries Limited (EABL) and Safaricom Kenya have effectively utilized ERM to navigate uncertainties and enhance their performance. For example, EABL has stabilized its supply chain, adapted to changing consumer preferences, and maintained market competitiveness, while Safaricom Kenya has safeguarded its operations against regulatory changes, cybersecurity threats, and infrastructure disruptions, resulting in uninterrupted services and outperforming other non-financial firms (Chege et al., 2023). These examples demonstrate the tangible impact of ERM on organizational performance, acting as a safeguard against uncertainties and promoting resilience (Wan et al., 2018).

Existing literature on the effect of ERM on organizational performance reveals inconsistencies and varying results. Some studies have discovered a positive relationship between ERM and

firm performance (Hoyt & Liebenberg, 2011; Quon et al., 2012; Cheplel, 2013; Onyango, 2018; Alawattagama, 2019) while others have unearthed an inverse relationship, denoting a negative relationship between ERM and company performance (Belghitar et al., 2013; Allayannis et al., 2017). Several studies in Kenya have investigated the impact of ERM on organizational performance. Girangwa, (2019) established that ERM practices can boost the organizational performance of firms. Contrary, Cheruiyoi (2018) found out that ERM negatively affected firm performance.

The study brought to light a captivating facet, disclosing that certain enterprises incurred notable financial outlays during ERM integration, resulting in adverse performance consequences. Munyalo (2020) a study on supermarkets in Nairobi County found no statistical significance between any ERM practices and company performance.

While Opiyo (2012) previously investigated the relationship between ERM practices and the financial performance of listed non-financial firms in Kenya, it is imperative to undertake a new study due to significant changes in the economic landscape. Given significant changes in the economic landscape, including currency depreciation, flight of foreign investors, and a decline in share prices (Mwangi, 2023), there is a need for a fresh examination of the relationship between ERM practices and organizational performance among non-financial firms listed on the NSE. Furthermore, there exists a gap in understanding how management perceives ERM, highlighting the importance of addressing this gap to provide valuable insights into the subjective understanding of ERM among management.

In addressing these research gaps, it is essential to consider the moderating variable of firm characteristics. Firm characteristics such as size and ownership structure significantly influence the effectiveness of ERM practices and their subsequent impact on organizational performance (Mohammed, 2020). Larger firms possess greater resources to invest in comprehensive ERM systems, potentially leading to different outcomes compared to their smaller counterparts (Yazidi et al., 2019). Similarly, firms with different ownership structures, such as family-owned businesses versus publicly traded corporations, face varying risk exposures and regulatory requirements, thereby influencing the relevance and applicability of ERM practices. Understanding how these firm-specific factors moderate the relationship between ERM

practices and organizational performance is crucial for developing tailored risk management strategies and improving performance outcomes across different organizational contexts.

The study employed a mixed-method approach to investigate how ERM practices affect organizational performance in underexamined non-financial firms. By integrating financial and non-financial metrics, considering management perspectives, and using advanced statistical techniques, it provided detailed insights, addressing research gaps and improving ERM practices in East Africa.

### **1.3 Research Objectives and Questions**

The main objective of the study was to examine the effect of enterprise risk management practices on the organizational performance and the moderating role of firm characteristics of non-financial firms listed on the Nairobi Securities Exchange.

#### **1.3.1 Specific Objectives**

The study addressed the following objectives:

1. To establish the relationship between ERM practices and the organizational performance of non-financial firms listed on the NSE.
2. To determine the moderating effect of firm characteristics on association between ERM practices and organizational performance.
3. To evaluate the perceptions of management in non-financial firms listed on the NSE regarding the relationship ERM practices and the Organizational performance of their organizations.

#### **1.3.2 Research Questions**

1. What is the relationship between ERM practices and organizational performance of non-financial firms listed on the NSE?
2. What is the moderating effect of firm characteristics on the association between ERM practices and organizational performance?
3. What is the perception of the management of non-financial firms listed on NSE on the relationship between ERM practices and the Organizational performance of their organizations.

## **1.4 Scope of the Study**

The study analyzed the effect of ERM practices and firm characteristics on organizational performance of listed non-financial firms in NSE in Kenya. Secondary data was collected on objective measures of organizational performance, primarily financial indicators, and firm characteristics of listed non-financial firms for the period of 2020 to 2022. Organizational performance was assessed using a combination of objective and subjective measures.

Financial indicators provided objective performance metrics, while non-financial indicators, such as those derived from the balanced scorecard framework including customer relations, internal business processes, and learning and growth perspectives, provided subjective insights. Similar methodologies were employed in studies by Calandro (2018) and Marques (2019).

Primary data was gathered on ERM practices and organizational performance through a structured questionnaire. ERM practices were evaluated based on the COSO ERM Framework 2004, which encompasses eight components summarized into risk culture, risk identification and governance, and risk assessment, mitigation, and control. This framework has been utilized in previous studies, including those conducted by Shad (2019).

The study encompassed all listed non-financial firms on the NSE as of 2022. The financial statements of these firms up to 31st December 2022 served as reliable sources of secondary data, given their mandatory audit by the CMA.

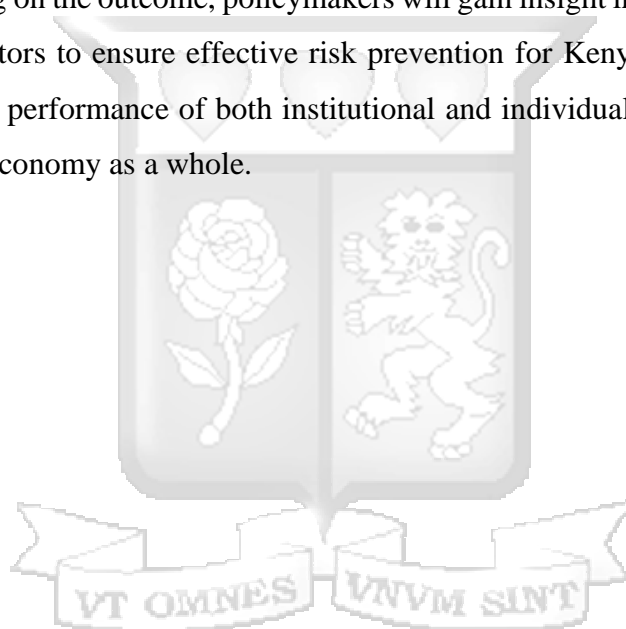
Primary data was collected from all CEOs/Managing directors (35 respondents), Chief Risk Officers (35 respondents) and Chief Finance Officer/Finance Managers (44 respondents) of listed non-financial firms in the NSE.

## **1.5 The Significance of the Study**

The study's findings could assist other researchers in the field to develop better research methodologies. The research findings will be utilized as a reference, and the data will be used as a source of secondary data while performing research. The study findings will either confirm or refute the conclusions of prior studies, while it is envisaged that it will provide new information in the domain of ERM among the NSE-listed non-financial firms.

The research findings will assist firm management in allocating resources appropriately based on how ERM affects the firm's performance. If the results show a positive link, more resources will be devoted to ERM implementation; if the ERM implementation has a negative or no effect on company performance, relatively little resources will be assigned. The study's findings will be designed to assist investors in understanding the impact of ERM on the organization's performance. This is important to investors because the return on their investment is determined by the organization's performance; hence, they would support the implementation of ERM based on the value added.

The findings of this study will be expected to be useful to the Kenyan government in developing documents that guide policy administration and other pertinent regulatory needs for Kenyan enterprises. Depending on the outcome, policymakers will gain insight into how to successfully integrate different sectors to ensure effective risk prevention for Kenya's economy, with the goal of improving the performance of both institutional and individual investors in the firms and thus the Kenyan economy as a whole.



## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter delves into an examination of previous literature concerning the study of ERM practices and their impact on the performance of listed non-financial firms. It encompasses a theoretical review of ERM, an empirical evaluation of ERM practices in the context of listed non-financial firms, and culminates in a summary of the pertinent literature.

### **2.2. Theoretical Foundation of ERM**

A theoretical review, as defined by Turner, Baker, and Kellner (2018), is an explanation of the relationships between ideas or events that occur in an area under specific conditions. It depends on the knowledge of subject-matter experts and aims to provide a comprehensive summary of the theoretical foundations of a study that supports research using relevant theories. It frequently refers to an explanatory framework for observations (Barry et al., 2018). This study will rely on the enterprise risk management theory, balance scorecard theory, and the stakeholder theory

#### **2.2.1 Enterprise Risk Management Theory**

Enterprise Risk Management (ERM) Theory will serve as the foundation for the investigation. Jankensgård (2019) introduced the concept of modern ERM, explaining how changes in organizational elements affect operational activities. Organizational operations are overseen separately by a variety of actors, including management. This approach has changed over time, influencing how risk management is understood in organizational systems. ERM has been acknowledged as a component of an organization's management role since the 1990s (Dickinson, 2001). The proponents of this theory claim that ERM comprises an integrated strategy to managing all of the risks that a firm encounter. However, according to Dickinson (2001), the theory's inception dates to the late 1940s and early 1950s. Managing financial risks and insurance by leaving uninsurable risks unaddressed was the main focus during that period. Throughout time, risk management techniques evolved. In the 1970s, businesses started paying attention to things like changes in interest rates, stock prices, currency rates, and even commodities prices (Przetacznik, 2022). Because of this, management is concerned with controlling a company's net and total risk exposure. It is necessary to define the firm's tolerance for risk and its readiness to take it.

The key tenet of the ERM theory is that management boards are essential parts of the organizational structure and should follow risk-neutral guidelines. Administrators are supposed to protect the interests of shareholders and optimize profits for firm owners (Moeller, 2017). The board's comprehension of risks varies often throughout departments because of the concentration of decision-making power within the company's management. As a result, knowledge of business risk management is typically lacking. Another presumption is that businesses should have a thorough strategy for risk management that considers all business divisions and even evaluates the interdependencies between the risks. In order to improve the uniformity and thoroughness of mitigation measures taking into account both internal and external settings, it is also assumed that risk management requires interaction with other management systems (Jankensgård, 2019). Planning, financial and investment decisions, and organizational strategy should all be connected to risk management. Another premise is that businesses continuously identify, evaluate, and manage risk by analyzing problems related to all aspects of the business, including operations, finances, reputation, strategy, and law. It is further assumed that risk management is preventive and that its main goal is to maximize possibilities in order to profit from potential risks.

Previous research that emphasized the theory's progression, such as Ntare (2022), has verified the ERM theory. The board's function in risk management and governance was also emphasized in the study. The theory emphasizes cost-effectiveness measures and strikes a balance between potential financial distress and economic expenses in order to handle agency costs and information risk management difficulties inherent to organizations. Falkner's (2015) study explores the significance of enterprise risk management (ERM) in augmenting a company's profitability and efficiency. As a result, ERM is a widely accepted and pertinent theory that clarifies how an organization approaches risk management.

The ERM Theory, which addresses the discrepancy in understanding risks due to centralized decision-making and encourages a closer examination of risks, will be pertinent to this study on the impact of enterprise risk management practices on the organizational performance of non-financial firms listed on the Nairobi Securities Exchange (Mohammed, 2020).

The research focuses on how these components affect organizational performance, which is in line with the requirements for a proactive approach, continual risk detection, integration with management systems and strategy, and comprehensive risk management.

It is anticipated that the study will clarify the connection between ERM procedures and business outcomes by looking at these presumptions in the context of non-financial enterprises.

### **2.2.2 Balance Scorecard (BSC) Theory**

The Balanced Scorecard theory, pioneered by Robert S. Kaplan and David P. Norton in 1992, emerged from a recognized necessity to measure success beyond conventional financial metrics. The theory contends that solely concentrating on financial outcomes fails to provide organizations with comprehensive insights essential for thriving in contemporary business environments.

According to the theory, organizational performance should be evaluated using a combination of financial and non-financial measures. The Balanced Scorecard framework delineates performance across four distinct perspectives: financial, customer, internal processes, and learning & growth (Kaplan, 2010). By incorporating these perspectives, businesses can gain a competitive advantage in enhancing their organizational performance. The balance scorecard theory emphasizes on the multifaceted accountability of companies to various stakeholder, including employees, suppliers, customers, the community, and shareholders. Through the comprehensive evaluation of organizational performance across multiple dimensions, this framework offers a holistic perspective on the extent to which a firm achieves its objectives concerning these stakeholder groups.

Furthermore, the Balanced Scorecard fosters a "double-loop feedback" mechanism by incorporating responses concerning internal business practice results and aligning them with the outcomes of business strategies. This feedback loop facilitates collective efforts towards common objectives and instills a sense of ownership among individual employees, as they perceive their personal contributions towards the realization of the organization's vision (Kaplan & Norton, 1996).

The logic of the Balanced Scorecard underscores the interconnectedness of learning and growth capabilities with internal processes, customer value, and financial outcomes.

Enhanced internal processes lead to increased customer value, which, in turn, improves company's performance. This positive cycle of improvement emphasizes the importance of aligning these perspectives to create value continuously. In the context of the research's conceptual framework, the Balanced Scorecard model effectively addresses all relevant independent variables.

This theory was chosen because it offers a comprehensive framework for evaluating organizational performance across multiple dimensions, including financial and non-financial perspectives. Since ERM practices encompass both financial risk management and broader organizational risk considerations, the Balanced Scorecard provides a suitable framework for assessing their impact on performance. Additionally, the theory's emphasis on stakeholder perspectives aligns with the research's focus on understanding how ERM practices affect various stakeholders within organizations.

### **2.2.3 Stakeholder Theory**

Stakeholder theory is an organizational and management theory that centers on the interactions that exist between an organization and its different stakeholders. According to the theory, for an organization to succeed and be sustainable in the long run, it is important to take into account and weigh the interests of all stakeholders. Many scholars have created the idea of stakeholder theory, and Freeman (1984) is among its well-known proponents. Stakeholders are people or groups that have the power to influence or be impacted by an organization's decisions; as such, organizations should take their interests into account when making decisions.

The identification and acknowledgment of all parties with an interest in or impacted by an organization's operations is emphasized by the stakeholder theory. In addition to shareholders, this also refers to clients, staff members, suppliers, authorities, and the general public. According to the theory, businesses should not just concentrate on increasing shareholder value; instead, they should take into account and balance the interests of all stakeholders (Gelinas, 2018). Long-term organizational growth and viability depend on this equilibrium. The reciprocal interdependence of enterprises and their stakeholders is acknowledged by the Stakeholder Theory. The status and support of the organization's many stakeholders are critical to its success.

The theory assumes that organizations function within a complicated network of interested parties with a range of interests. Stakeholders in companies include local communities, governments, employees, and shareholders (Jeevarathinam, 2023). The theory further assumes that various stakeholders have differing levels of influence over the firm. It is essential to comprehend and control this influence to make effective decisions.

The theory critics claim that it is imprecise and insufficient in directing managerial choices. Without clear standards, it might be difficult to decide how to make precise trade-offs and balance the interests of conflicting stakeholders (Jenya, 2017). Other detractors argue that the theory's focus on treating stakeholders fairly could result in a disproportionate focus on non-investor interests, thereby disregarding the justifiable worries of shareholders.

Stakeholder Theory is pertinent to the research since it promotes an all-encompassing approach to risk management. ERM procedures should take other stakeholders' interests and concerns into account in addition to safeguarding shareholder value. Robust risk management, for instance, can improve community relations, employee well-being, and customer trust (Handoyo et al., 2023). Stakeholder theory places a strong emphasis on responsibility and openness in organizational actions. By incorporating this perspective into ERM procedures, non-financial companies may make sure that stakeholders are informed about their risk management plans in an efficient manner, which promotes mutual respect and trust. The theory's emphasis on long-term success is in line with the objective of the study, which is to look at how ERM practices affect organizational performance. Organizations can increase their resilience and sustainability and contribute to long-term success by taking into account the interests of a variety of stakeholders.

### **2.3 Measurement of Organizational Performance**

Organizational performance can be measured in a financial perspective, which measures the organization's past actions and their economic outcomes. These measures primarily revolve around profitability-related metrics that shareholders utilize to assess the profitability of their investments. Commonly employed performance measures within this framework encompass cash flow, Return on Investment (ROI), revenue growth, net operating income, and more (Altanashat & Alheety, 2019).

Apart from the financial metrics, organizational performance can be measured in terms of customer relations management. The approach is known as the customer perspective. The customer perspective encapsulates the organization's capacity to deliver high-quality goods and services, the efficiency of their delivery processes, and the overall caliber of customer service and contentment. Factors such as price, quality, availability, selection, functionality, service, partnerships, and brand value propositions all contribute to heightened customer acquisition and retention (Kairu, 2013). This perspective aids managers in comprehending how customers perceive the organization in terms of delivery, price, and quality (Altanashat & Alheety, 2019). Separately, the internal business process perspective focuses primarily on scrutinizing the organization's internal operations that enable them to fulfill customer needs (Cheruiyot, 2013). Finally, the learning and growth perspective highlights the fundamental infrastructure that an organization needs to establish to ensure its long-term creation, improvement, and growth (Maraghi, 2012). It considers the competence of the staff, the quality of the information systems, and how internal coordination affects the attainment of organizational objectives. However, it should be noted that the elements of traditional measures of performance are interrelated with the balanced score card (BSC).

The Balanced Scorecard (BSC), which is adopted in this study, is an evaluation tool that helps management map the organization's strategic objectives into performance (Balasundaram & Valnampy, 2007). The tool focuses on aspects such as financial, internal business operations or perspectives, customer relations, and learning and growth. On the other hand, the traditional measures of performance and risk management tend to focus only financial scores and closely-related aspects. However, the BSC provides a comprehensive approach to assessing organizational performance. Traditional financial measures and the Balanced Scorecard are linked in the financial, customer, internal business processes, and learning and growth. The reason is that the traditional financial measures of performance, such as cash flow, return on investment (ROI), revenue growth, and net operating income, align with the financial perspective of the Balanced Scorecard. Therefore, the perspective illuminates the organization's past actions and economic outcomes regarding shareholder value and financial success. On the other hand, customer perspective metrics such as customer satisfaction, market share, and brand value propositions are determinants of a company's financial performance (Balasundaram & Valnampy, 2007).

Therefore, there is a need for delivering high-quality goods and services, efficient delivery processes, and overall customer contentment to enhance financial success through customer loyalty and market positioning. Separately, internal processes influence financial success, depending on their effectiveness. Therefore, the aspect is linked to the Balanced Scorecard focuses in the sense that high levels of efficiency and effectiveness in internal operations contribute to the fulfilment of customer needs, hence positively impacting financial performance. Finally, the learning and growth perspective of the Balanced Scorecard is directly related to factors such as employee competence, information system quality, and internal coordination. Such aspects impact financial performance in the long-term. Therefore, the traditional measures of performance are linked with the BSC, because the latter encourages a balanced approach to performance measurement. Consequently, it is ensured that strategic objectives are pursued to achieve sustainable success.

## **2.4 Empirical Literature Review**

This section examines the various research studies that have been conducted in relation to ERM and organizational performance in order to justify the study variables. Though several studies have been conducted in this field, there are some gaps that exist which the current study will identify and fill.

### **2.4.1 Relationship Between Enterprise Risk Management and Organizational Performance**

Some previous studies on the relationship between ERM & organizational performance have been executed at the global level. For instance, ERM has been recognized globally as a critical factor influencing organizational performance. Studies by Sax & Andersen (2019), Alawattagama (2019), Asamoah & Arkoh (2019), and Kommunuri et al. (2018) have highlighted the positive impact of effective ERM on firm performance, shareholders' value, firm value, and liquidity. Alawattagama's (2019) study demonstrated a significant relationship between the eight ERM components and firm performance, further supporting the idea that ERM may have a notable impact on performance. Razali & Tahir (2021) emphasize the importance of fully integrating risk as a crucial component of a comprehensive risk management strategy, known as ERM. Consequently, enterprises embracing ERM, as highlighted by Beasley (2006), are poised to enhance performance.

Studies by Daud & Ibrahim (2021) and Malik et al. (2019) emphasize the positive correlation between board attributes, ERM adoption, and firm performance, showcasing the importance of governance in reinforcing the relationship between ERM and organizational outcomes.

Maingota et. al. (2012) conducted a study on ERM and firm performance in Canada, focusing on 159 non-financial firms between 2007 and 2008. The findings of the study did not yield statistically significant results across all eight COSO ERM components examined. As a result, it was not possible to establish a conclusive relationship between the evaluated outcomes, economic indicators, and market risk exposures with firm performance.

These findings have been supported by Anton (2018), a study focusing on non-financial firms in Romania to explore the influence of ERM on firm value. The study yielded a significant outcome, revealing a mixture of results regarding the impact of ERM implementation. The investigation spanned the years 2006 to 2016. Initial analysis of data from 2006 to 2012 indicated that firms that had adopted ERM exhibited a higher firm value, measured through Tobin's Q, at a premium of approximately 46.5%. However, when the temporal scope was extended to 2016, the findings indicated that ERM no longer exhibited a significant effect on firm value. This observation was further echoed by Alawattagama (2018), whose study similarly found that none of the eight ERM components analyzed exerted a substantial influence on firm value. The differences in the global perspective underscores the need for appropriate approaches in understanding the impact of ERM on performance.

ERM is crucial for non-financial firms vulnerable to risks related to marketing, cash flow, physical disasters, customer loss, financial issues, and competition in Africa. Razali and Tahir (2021) stress the importance of integrating risk into a comprehensive ERM strategy, aligning with Monda & Giorgino's (2019) view that ERM involves considering interconnected risks. Successful ERM implementation, as demonstrated by Wan et al. (2018), optimizes resource utilization, maximizes profits, and contributes to goal achievement. ERM enhances strategic planning, resource allocation, and decision-making processes, ultimately leading to improved business outcomes and stakeholder satisfaction. These findings emphasize the global relevance of ERM in driving long-term value for stakeholders and ensuring organizational success.

However, Akpan (2019) found individual associations between COSO ERM components and company performance, suggesting a potential influence of ERM on organizational outcomes. Studies within the East African region recognize the interrelationship between ERM and organizational performance. For instance, a study on supermarkets in Nairobi County by Munyalo (2020) revealed complexities in the direct link between COSO eight ERM components and company performance. This challenges the conventional understanding of the relationship between economic position, risk exposure, and market influence with company performance.

Research by Kenyan scholars further emphasizes the significance of ERM. The updated COSO (2017) ERM framework highlights advantages such as expanded opportunities, better risk identification and management, improved outcomes, reduced shocks, enhanced performance consistency, increased resource utilization, and greater firm resilience. This aligns with the findings of Cheplel (2013), and Giorgino (2019), who discovered a substantial statistical connection between effective ERM implementation and favourable outcomes among listed firms. However, it is crucial to note that certain enterprises incurred notable financial outlays during ERM integration, resulting in adverse performance consequences.

Nevertheless, it is essential to recognize that exclusively relying on financial metrics has its limitations, failing to encompass aspects of sustainable development and neglecting the comprehensive needs of all stakeholders. Furthermore, this approach may not be equipped to anticipate future challenges.

Encouragingly, some performance measurement frameworks have evolved to address these limitations by accommodating both financial and non-financial perspectives. One such prominent framework is the Balanced Scorecard (BSC), pioneered by Kaplan and Norton. The BSC's distinctiveness lies in its holistic integration of non-financial performance metrics alongside traditional financial measures such as return on capital, equity, and assets. By incorporating both dimensions, the BSC effectively addresses the shortcomings inherent in conventional financial reporting. It encompasses four facets – financial, customer, internal processes, and learning – offering a comprehensive framework for reporting on both financial and non-financial performance.

The existing empirical findings are diverse. Some earlier studies (Alawattagama, 2019; Cheplel, 2013; Munyalo, 2020; Onyango, 2018; Hoyt & Liebenberg, 2011; Quon et al., 2012) discovered a favorable correlation between ERM and firm performance. This is understandable because businesses that utilize ERM as a management tool address stakeholder needs and exhibit openness, accountability, and the dependability of their actions and operations in relation to those stakeholders. Hence, the enterprises will gain from their stakeholders when their needs are addressed, including in terms of performance, reputation, value, and market price.

Conversely, other studies have unearthed an inverse relationship, denoting a negative connection between ERM and company performance (Belghitar et al., 2013; Allayannis et al., 2017). This may be attributed to the considerable expenses associated with the implementation and management of ERM, potentially affecting an enterprise's performance. Notably, Anton (2018) and Quon et al. (2017) were unable to establish any linkage between ERM and firm performance, possibly owing to the distinct operational realms of risk management and performance tracking departments. The divergent findings observed across studies can be attributed to a multitude of factors, including methodological variations, sample sizes, industry contexts, and unique firm attributes, among others.

Therefore, studies executed on a global level have shown a favourable correlation between ERM and firm performance. However, there are diverse findings from findings carried out in Africa, East Africa, and Kenya. The variations can be attributed to methodological differences, industry contexts, and unique firm attributes. Moreover, the challenges and costs associated with ERM implementation contribute to the complexity of its impact on performance.

The different perspectives provided by regional studies affirm the need for a comprehensive understanding of ERM's influence on organizational outcomes, considering both financial and non-financial performance indicators. The Balanced Scorecard framework, incorporating both dimensions, emerges as a relevant tool for assessing the holistic impact of ERM on organizational performance.

#### **2.4.2 Moderating Role of Firm Characteristics on Organizational Performance**

Firm characteristics influence organizational activities by determining the communication

channels, decision-making processes, and the overall framework for risk management integration adopted. With a well-defined firm structure, clear roles and ERM strategies are expected, and this will lead to efficiency. Consequently, if the procedures become a routine, the particular ERM will be part of an organization's culture. In contrast, an unfavourable structure may result in communication gaps, and this will hinder the implementation of ERM.

Depending on the firm's size determines its risk exposure and risk management capabilities. For instance, large organizations are set to face complex risks because of a higher scale of their operations. Therefore, such firms need detailed ERM frameworks. On the other hand, smaller firms may encounter easily manageable risks. However, there is a need to tailor ERM to address the challenges. Separately, ownership structures influence risk management. Interests of the management team must align with those of the owners. Stockholders may also create additional pressures. Therefore, the structure determines how risk is prioritized. The overall risk culture within an organization is influenced by the firm's characteristics, and this shapes ERM effectiveness. It is important to understand how firm characteristics moderate risk management practices because they also determine overall performance and sustainability.

In the context of understanding the impact of firm size on ERM and performance, several studies have shed light on the intricacies of this relationship. Yazid et. al., (2019) emphasize that firm size is a manifestation of its economic resources, often reflected in the ownership of assets. These assets encompass both tangible assets, such as physical properties and equipment, and intangible assets like copyrights and trademarks. Managing these assets proficiently can lead to cost reduction associated with risk prevention and mitigation, benefiting both the firms and shareholders. To enhance ERM practices, modern software tailored for comprehensive risk oversight is essential.

Kisaka (2012) further elaborate that the size of a firm, reflected through its asset holdings, significantly influences the effectiveness of risk management systems. Larger organizations tend to face more complex operations, rendering them more susceptible to unexpected events. However, the acquisition of advanced software for effective ERM implementation can come with significant financial investment, potentially impacting a firm's overall performance.

In a study by Razali (2021), the role of firm size as a predictor variable in the connection between ERM and firm value was explored. The findings emphasized on a positive correlation between firm size and firm value. Larger firms can expedite their growth through earnings accumulation, contributing to enhanced overall value.

Similarly, Yegon et. al. (2014) delved into the impact of firm size on enterprise risk management within the Kenyan context. Their results revealed a strong correlation between firm attributes and the practice of enterprise risk management. Larger firms were observed to demonstrate improved efficiency in ERM implementation, reinforcing the relationship between size and risk management effectiveness. These findings align with the conclusions of Gordon et. al. (2019), who similarly established a relationship between the adoption of ERM and the size of the firm. Gordon et. al., (2019) embarked on an examination of the interplay between ERM and firm performance. The investigation encompassed the scrutiny of five determinants influencing a firm, one of which was the size of the firm. Firm size, indicative of its resource allocation, emerged as a pivotal consideration when contemplating management control systems, the recruitment of personnel for ERM implementation, and the architecture of ERM systems. Their regression model outcomes revealed a noteworthy discovery, with firm size exerting a statistically significant impact ( $p\text{-value } 0.004 < 0.05$ ) on the practice of enterprise risk management.

Firm size is a multifaceted aspect that can be assessed through indicators like capital used, total assets under management, or overall sales volume. In the context of this study, the determination of firm size is predicated upon the total assets possessed by the company. Due to the substantial numerical values often associated with total assets, it is pragmatic to convert them into their natural logarithmic form.

Ownership structure plays a pivotal role in shaping decision-making processes, often with majority shareholders exerting significant influence, especially in democratic settings. According to Prinsloo (2017), a diverse ownership structure accompanied by an expert board of directors emerges as a superior approach for effective risk management. This influence extends even to decisions concerning the integration of ERM, where the impetus can come directly from the company's board of directors (Yazid et. al, 2020).

Institutional ownership wields considerable sway, especially when it holds a majority of shares, affording it substantial control over risk management decisions (Tahir & Razali, 2011). The influence of ownership structure is further highlighted by Altuntas et. al. (2019) who found that group affiliation within ownership was positively related to the adoption of ERM. However, the relationship between organizational ownership structure and ERM demonstrated a negative correlation, suggesting that firms with higher financial leverage were more inclined to implement robust ERM practices due to their obligations towards debt holders.

Further substantiating these findings, Golshan (2018) discovered substantial differences between firms that adopted ERM and those that did not. The former exhibited distinctions related to financial leverage and engagement with prominent auditors. This observation underscores that ERM adopters demonstrated a more cautious approach to financial management. Hoyt (2011) enriched this perspective by assessing the impact of ERM through the analysis of share ownership percentages. Additionally, Tahir (2011) examined ownership structure, considering the proportion of individual ownership against institutional ownership. Ownership structure is a governance mechanism that contributes to enhancing firm value and performance through various avenues (Edmans & Holderness, 2017). Ownership structure's dimensions encompass shareholding concentration, board ownership, and foreign ownership, all of which interplay to shape firms' operational landscapes.

#### **2.4.3 Relationship between Management's Perception and the Impacts of Risk Management**

Previous studies show that management's perception may have a positive or negative impact on organizational performance. For instance, the study by Eliud (2022) management's positive perception of risk management in Kenya plays a significant role in organizational performance. Therefore, when organizational leaders view risk management as integral to decision-making processes, they end up making informed and timely decisions, leading to improved overall performance. Incorporating risk management into decision-making is better for better organizational outcomes. Management's perception of risk refers to the view and understanding of an organization's senior managers and decision-makers of the processes, strategies, and outcomes associated with enterprise risk management. It entails the subjective assessment of the effectiveness and relevance of risk management practices in the identification, evaluation, and response to risks that may impact an organization's objectives.

Therefore, the decision-makers' attitudes, beliefs, and awareness of the importance of enterprise risk management as a strategic tool. In this case, the managers must acknowledge potential threats and opportunities and understand the value of proactive risk mitigation. Additionally, it is essential that risk considerations are integrated into decision-making processes. According to a study by Handoyo et al. (2023), organizations whose management engages in risk management processes actively usually demonstrate higher efficiency in navigating uncertainties more effectively. The implication is that a positive perception of risk by senior managers contributes to adaptability and resilience within organizations facing dynamic economic conditions and regulatory challenges such as those in Kenya. Adaptability is crucial for organizations in Kenya because economic conditions can be subject to sudden changes. The proactive identification and diversion of potential disruptions reduces the likelihood of financial losses and operational setbacks. Therefore, the resultant operational efficiency is helpful to Kenyan firms because they face high production costs and external economic pressures. Management's perception on risk management is expected to significantly determine organizational performance. The reason is that such decision-makers align the organization's strategic objectives with risk mitigation efforts and innovate accordingly to sustain superior financial performance.

## **2.5 Summary of Literature and Research Gap**

The empirical review highlights a multitude of studies conducted worldwide, investigating the relationship between ERM and organizational performance across different markets. In the contemporary business landscape, ERM has emerged as a pivotal factor for organizational survival and success (Jankensgård, 2019). However, despite the growing recognition of ERM's importance, the existing literature reveals conflicting findings in terms of its impact on organizational performance. These discrepancies are often attributed to variations in sample sizes, timeframes, geographical regions, and performance measurement metrics. Consequently, these divergent outcomes have unveiled a research gap, necessitating further exploration of the intricate interplay between ERM practices and organizational performance.

Within the Kenyan context, studies have been conducted to unravel the nexus between ERM practices and firm performance. However, even within this locale, a variety of findings has emerged.

While some researchers have reported a positive association between ERM practices and firm performance (Naibei & Momanyi, 2012; Kisaka & Waweru, 2013; Mouni, Wanjau & Yegon, 2014; Nyagah, 2014; Ojwang', 2022), others, such as Maingota (2014), have identified an adverse effect. Moreover, studies led by Otieno (2017) have yielded mixed and inconclusive results regarding the correlation between ERM practices and company performance.

It's notable that the majority of these studies have predominantly focused on the financial performance of firms, typically using financial ratios like return on assets (ROA) as proxies, while overlooking operational aspects such as customer satisfaction, learning and growth, and internal business processes, as assessed through the balanced scorecard (BSC). This disparity underscores a critical gap within the literature. Furthermore, the utilization of the balanced scorecard as a performance measurement tool within the context of ERM remains underexplored.

Studies by Cooper et al. (2019), Zeb et al. (2019), Malik et al. (2020), Kumar (2021), Mohammed(2020), and Mugo (2018) have utilized financial metrics and regression analysis. These are examples of quantitative techniques used in most of these investigations. The depth of knowledge about the underlying mechanisms and managerial perceptions is limited by the absence of qualitative research tools. The available literature might be enhanced by a more varied methodological strategy that incorporates qualitative research. While some research such as that of Otieno (2017) used a longitudinal design, the frequency and duration of these studies might not fully represent how ERM practices affect organizational performance in the long run. The research lacks a methodological explanation for the necessity for longer-term, more frequent longitudinal studies that take into account the effects of other variables, such as economic cycles, on the relationship over time.

Numerous finance industries, including SACCOS, commercial banks, and insurance companies, are the subject of the majority of studies. Studies by Otieno (2017), Mugo (2018) and Namanya et al., (2023) have all delved into the finance sector. A comprehensive knowledge of how ERM techniques impact organizational performance in various contexts is hampered by an absence of industry-specific studies, particularly in the non-finance sectors.

**Table 2:1 Previous Studies' Findings and Research Gaps**

	Data	Time Frame	Methodology	ERM Proxy	Objective: Impact of ERM on	Performance Metric	Significant positive relation (Yes = Y) (No = N)	Type of Research Gap
Chege et al., (2023)	30 Enterprises in Kenya	2020 - 2022	DEA, Observable ERM Activities	N/A	Organizational Performance	Revenue and Cost Efficiency	Y	Lack of comprehensive ERM Measures
Moriasi (2023)	20 Companies in Kenya	N/A	Questionnaire, ERM Adoption, ROA	N/A	Organizational Performance	ROA	Y	Limited Financial Metrics, only ROA used
Otheno (2017)	Banks in Kenya	2016 - 2017	Longitudinal study, SPSS	Board size, Ownership Concentration	Financial Performance	ROA	Y	The duration of the longitudinal analysis
Namanya et al. (2023)	53 Sacco Staff in Kenya	2022 - 2023	Questionnaire	Employee Involvement and Training	Financial Performance	Revenue Growth	N	Industry specific, the study only focused on saccos
Mohammed (2020)	Kenyan Hotels	2019 - 2020	Questionnaire, Structured Questions	N/A	Organizational performance	Revenue Per Available Room (REV/PAR)	N	Limited scope (Market and operational risk)
Mugo (2018)	Insurance Industries in Kenya	2017-2018	Questionnaire, Structured Interviews	N/A	Organizational Performance	ROE	Y	Peculiarities associated with different sectors
Nyamongo (2019)	Medium scale businesses in Kisumu	2017 - 2019	Correlational Study	N/A	Financial Performance	ROA	Y	Use of Secondary Data

**Source: Researcher (2024)**

## **2.6 Conceptual Framework**

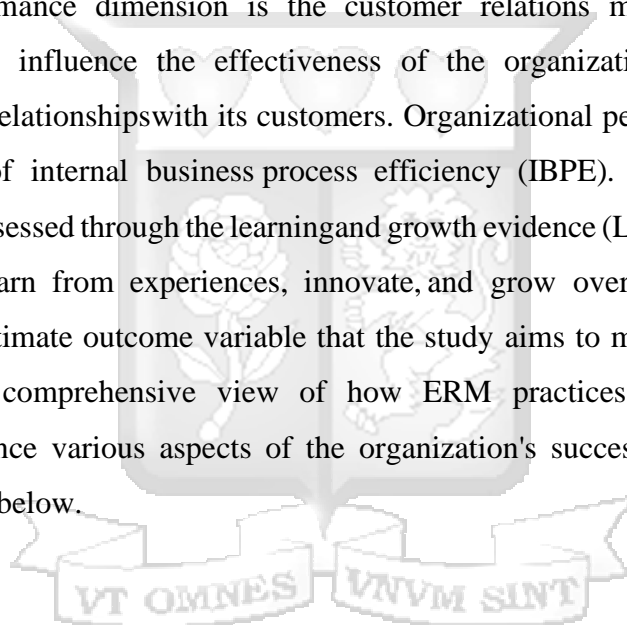
A conceptual framework is a brief explanation of the phenomenon being studied, along with a graphic or visual representation of the key study variables (Michael et al., 2008). The conceptual framework for the study demonstrates how the performance of non-financial firms listed on NSE is impacted by ERM practices. Listed non-financial firms' performance (PF) measured by BSC's Financial performance (FP), customer relations management efficiency (CRME), internal business process efficiency (IBPE), and learning and growth evidence (LGE) will be the response variable (Beasley, 2006). The eight ERM components will be the explanatory factors, that are summarized into Risk Culture, Risk Identification and Governance, and Risk Assessment, Mitigation. Particularly, the ERM components include Internal Environment (IE), Objective Setting (OS), Event Identification (EI), Risk Assessment (RA), Risk Responses (RR), Control Activities (CA), Monitoring (MO), and Information and Communication (IC) (Anton, 2018; Akpan & Olufemi, 2019; Ntare et al., 2022). The dimensions can affect organizational performance either negatively or positively. Firm characteristics in terms of ownership structure and size will be a moderating variable similar to the study by Suttipun et al. (2018).

In this case, the independent variable is ERM, which comprises aspects like risk culture, the organization's values, beliefs, and attitudes towards risk. The way risk is perceived and managed across the entire organization is its risk culture. Another component of ERM is risk identification and governance, which involves the processes and structures that are in place to identify and govern risks. With an effective risk identification and governance, a company can have a proactive approach to risk management. Also, risk assessment, mitigation, and control encompass the methods and strategies the organization employs to evaluate risk and implement management practices. The focus of this study is to understand how the various dimensions of ERM, as indicated by risk culture, identification and governance, and risk assessment, mitigation, and control, influence organizational performance.

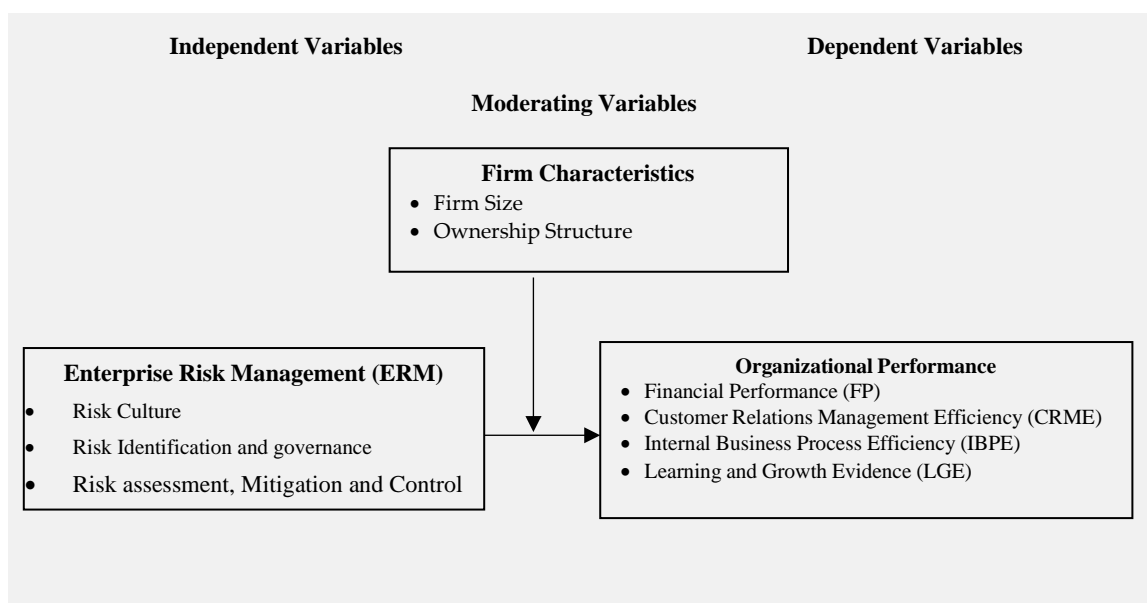
Firm characteristics are presumed to moderate the impact of ERM on organizational performance.

Factors such as firm size, in terms of whether it a small, medium, or large-sized firm influence themagnitude of the impact if ERM on organizational performance. Additionally, ownership structure of the firms in terms of private, public, shareholding, and power may moderate the relationship between ERM and organizational performance. Larger firms may have different risk management needs and capabilities compared to smaller ones. Similarly, ownership structure can influence theorganization's risk appetite and approach to ERM.

The dependent variable is organizational performance. ERM is expected to have an effect on an organization's financial performance (FP). The financial health and success of the organization, including metrics like profitability, revenue growth, and return on investment are determined by the risk management strategies adopted by a company's management. Another organizational performance dimension is the customer relations management efficiency (CRME). ERM may influence the effectiveness of the organization in managing and maintaining positive relationships with its customers. Organizational performance can also be measured in terms of internal business process efficiency (IBPE). Lastly, organizational performance can be assessed through the learning and growth evidence (LGE), which showcases a firm's ability to learn from experiences, innovate, and grow over time. Organizational Performance is the ultimate outcome variable that the study aims to measure. Therefore, the variable provides a comprehensive view of how ERM practices, moderated by firm characteristics, influence various aspects of the organization's success. The relationship is depicted in figure 2:1 below.



**Figure 2: 1 Conceptual framework**



**Source: Researcher (2023)**

### 2.1 Measurement of Study Variables

The measurement of study variables allows for the transformation of abstract constructs into observable characteristics that can be quantitatively measured. This facilitates the examination of relationships between variables within the theoretical model (Sekaran, 2006). Variables, in this study, are defined as measurable factors. The study focuses on two variables: ERM practices as the independent variable and organizational performance as the dependent variable, as indicated in Table 2.8.1. The study measured the performance of non-financial firms using both non-financial and financial measures of performance.

The non-financial measure of performance included customer satisfaction, internal business processes and learning and growth while the financial performance was measured using Return on Assets (surplus/assets), liquidity (current assets/current liabilities), Net Operating Revenue and Solvency ratio (long term liability/assets) ((Marqués & Simón, 2016). The trends from the financial measures were observed and scored on a 5-point Likert scale, from which a raw score was derived. Regarding the non-financial measures of organizational performance, the study utilized modified and validated questions developed by Ping (2017). Each indicator was scored, and a raw score was derived.

The raw scores from both non-financial and financial measures were combined to generate a composite score for organizational performance for each non-financial firm in Kenya.

In this study, ERM practices, the independent variable, was operationalized based on the eight components of the COSO ERM framework (COSO, 2004). These components can be further summarized into three main categories: Risk Assessment, Mitigation, and Control (encompassing risk response, risk assessment, and internal environment), Risk Culture (including objective setting, information and communication, and monitoring), and Risk Identification and Governance (covering event identification and control activities). The Likert scale responses from the survey represented ordinal data, capturing qualitative insights on various dimensions such as risk culture, risk assessment, mitigation and control and risk identification and governance. The Likert scale provided a way to gauge attitudes, opinions, and perceptions, allowing participants to express their sentiments within a predefined range. Likert scale responses were presented in frequencies, percentages, and ordinal rankings.

The study employed moderation analysis to investigate the role of firm characteristics, specifically firm size and ownership structure, in influencing the relationship between ERM practices and organizational performance. Firm size was operationalized through total assets, reflecting the scale and extent of the organization's activities. Conversely, ownership structure, a fundamental aspect of corporate governance, was assessed using leverage, indicative of the firm's reliance on debt financing. Through these metrics, the study sought to explore how variations in firm size and ownership structure might moderate the impact of ERM practices on organizational performance within the context of non-financial firms listed on the Nairobi Securities Exchange. The operationalization table 2.1:1 below shows how the independent and dependent variables will be measured.

Table 2.1 :1 Operationalization of Variables

	Variable	Constructs	Initial	Type of Data	Proxy	Supporting Literature	Supporting Theory
No	<b>Independent Variables</b>						
1.	ERM	Internal Environment	IE	Primary	5-point Likert scale	COSO (2004) Shad and Lai (2015)	Enterprise Risk Management Theory
2.		Objective Setting	OS	Primary	5-point Likert scale		
3.		Event Identification	EI	Primary	5-point Likert scale		
4.		Risk Assessment	RA	Primary	5-point Likert scale		
5.		Risk response	RR	Primary	5-point Likert scale		
6.		Control Activities	CA	Primary	5-point Likert scale		
7.		Information and Communication	IC	Primary	5-point Likert scale		
8.		Monitoring	MO	Primary	5-point Likert scale		
	<b>Dependent Variable</b>						
1.	Listed Non-Financial Firm's Performance by balanced scorecard	Financial Perspective Customer Perspective Internal Business Processes Learning and Growth Perspective	PF	ROA Primary Primary Primary	Ratio scale 5-point Likert scale 5-point Likert scale 5-point Likert scale	Ping and Muthuveeloo (2017) Calandro and Lane (2006)	Balance scorecard Theory
	<b>Moderating Variables</b>						
1.	Firm Ownership Structure	Financial Leverage	FOS	Secondary	Ratio scale	Suttipun et al. (2018)	Enterprise Risk Management Theory
2.	Firm Size	Total Assets	FS	Secondary	Ln Total Assets		Enterprise Risk Management Theory

**Source: Researcher (2023)**

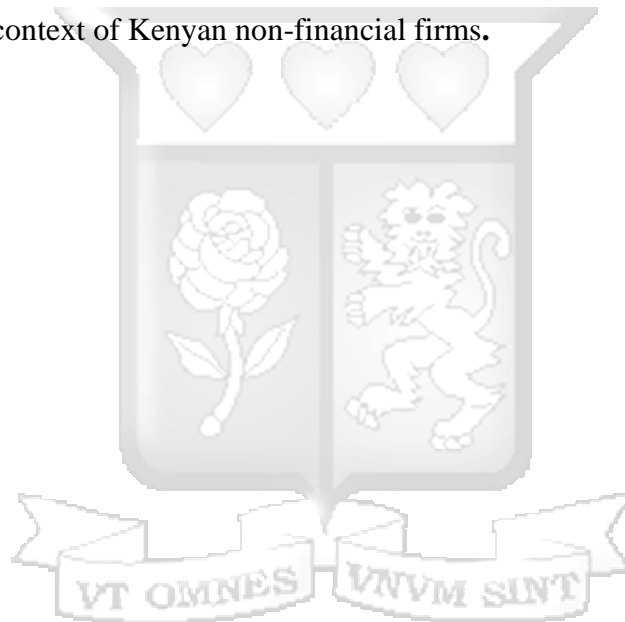
## **2.2 Summary**

The inconsistent findings across existing empirical studies examining the relationship between ERM and organizational performance can be attributed to variations in research methodologies, sample characteristics, study timeframes, and geographic locations. Many studies have utilized proxies, such as the appointment of a Chief Risk Officer (CRO) or the identification of ERM-related keywords in corporate documents, to measure ERM implementation. However, these proxies may fall short of capturing the comprehensive nature of ERM practices (Otieno, 2012; Kimotho, 2015; Girangwa, 2020). Acknowledging this limitation, Malik and Zaman (2020) underscore the importance of collecting data on all ERM components outlined in the COSO 2004 framework for a more holistic understanding of ERM's impact on organizational performance.

Moreover, the predominant focus of prior ERM studies on financial and insurance companies, due to their stringent regulatory oversight, has contributed to the diversity of findings. Non-financial firms have received comparatively less attention, leading to a gap in understanding ERM's implications for this sector (Otieno, 2012; Sprčić, & Lacković, 2022). Some studies have concentrated on traditional financial metrics, potentially overlooking ERM's long-term impact on organizational performance (Allawattegama, 2019; Ntare, Shau & Ojwang', 2022; Apaloo, 2022). To address this, achieving a balance between financial and operational measures is imperative, and this can be accomplished through the Balanced Scorecard framework developed by Kaplan and Norton in 1992. As indicated by Simkins (2013), the Balanced Scorecard integrates financial and operational performance measures, offering a comprehensive approach to assessing organizational performance that encompasses both financial and organizational aspects.

In the context of Kenya, publicly traded non-financial firms implementing ERM have encountered challenges amid increasing risks and globalization, impacting the country's competitiveness and resulting in lower rankings in terms of GDP and attractiveness as a business destination (Munyalo, 2020). Despite the support of Kenya's ERM framework by the CMA and the 2015 Code of Corporate Governance Practices, the lack of a mandate for organizations to disclose their risk management strategies poses difficulties in evaluating the efficiency of ERM

in the country. This challenge is reflected in a rising rate of fraud in various institutions. Despite these challenges, ERM is widely acknowledged for its potential to enhance organizational value by reducing volatility, improving liquidity, enhancing performance, and increasing firm value (Sax & Andersen, 2019). Hence, this study aims to investigate the impact of ERM practices on non-financial companies listed on the NSE, examining the moderating effect of firm characteristics on the relationship between ERM and organizational performance. Through empirical analysis and a multidisciplinary approach, this research seeks to contribute to a deeper understanding of ERM's influence on organizational performance beyond the purely financial perspective. By addressing this knowledge gap and incorporating the Balanced Scorecard, the study aims to provide valuable insights for practitioners, researchers, and policymakers, enabling them to make informed decisions and formulate effective strategies for optimizing ERM practices in the context of Kenyan non-financial firms.



## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

The research design and methodology are covered in detail in this chapter, which also offers a thorough explanation of the research variables as well as a wide overview of the population's definition and selection. Additionally, the research tools, data gathering methods, and data analysis process have been described.

### **3.2 Research Philosophy**

Philosophy is a set of guidelines and precepts pertaining to the advancement of knowledge and its fundamentals (Hoyt & Liebenberg, 2013). Post-positivism is a research paradigm that acknowledges the complexity of the real world and the limitations of human knowledge, making it particularly relevant to studying the effect of ERM practices on organizational performance with the moderating effect of firm characteristics among non-financial firms listed on the NSE (Saunders, 2019). This approach supports the objective study of ERM practices and performance metrics while recognizing potential biases and contextual influences. Post-positivism advocates for a mixed methods approach, combining quantitative data on ERM practices, financial performance, and firm characteristics with qualitative insights from management perceptions, thus providing a comprehensive understanding of the impacts and mechanisms at play (Fox, 2018). It aligns with critical realism by identifying how ERM practices influence performance through internal processes, customer satisfaction, and learning and growth capabilities, moderated by firm characteristics. Emphasizing triangulation and researcher reflexivity, post-positivism ensures methodological rigor and contextual sensitivity, enhancing the validity and reliability of findings. By incorporating this perspective, the study gains an understanding of the relationship between ERM practices and organizational performance, ensuring that the results are contextually relevant and practically useful for stakeholders.

### **3.3 Research Design**

According to Saunders, Lewis, and Thornhill (2012), research design is the strategy or plan that specifies how the study will address its research objectives or hypotheses. The research design offers a structure within which the study can be conducted. This study used a quantitative research design to investigate the nature of the relationship between listed non-financial firm's

performance (the dependent variable) and the study's independent variables. The structural linkages suggested by the study's conceptual model had to be empirically tested, hence a suitable research strategy was required. The researcher aimed at accurately answering the research questions by utilizing data questionnaires and secondary sources. The researcher gathered quantitative data in order to provide answers to the study's questions. The study employed a correlational design. Correlational designs make it possible to gather, summarize, display, and interpret data in order to make things clearer (Cooper & Schindler, 2011). It also includes a large number of participants and uses an impartial sample to describe demographic characteristics. One of the greatest approaches for doing research in human contexts is the correlational research design since it accurately describes current facts through data collecting for testing hypotheses or answering questions to draw conclusions. The study employed a correlational research design and a field survey. The researcher was able to gather empirical data on both the independent and dependent variables at the same time with the use of this research design. Thanks to this research methodology, the researcher was also able to explain the correlations between the variables.

### **3.4 Target Population**

Population is the set of observable elements with comparable properties from which conclusions can be drawn (Cooper and Schindler, 2006). A whole group of individuals, things, events, or objects that have a common trait are also referred to as a population (Mugenda and Mugenda, 2003). The total population is 64 (NSE, 2022). The target population consisted of 39 non-financial firms listed on the NSE (Appendix 2). All the 39 companies formed the target population of the study except Athi River Mining, Deacons (East Africa) plc, Kenya Airways Ltd, Kenya Orchards Ltd, Laptrust Imara I-REIT, Mumias Sugar Co. Ltd and Uchumi Supermarkets Ltd were excluded from the study due to lack of sufficient data.

The companies were divided into seven segments: agriculture, automobiles and accessories, commercial and services, construction and allied, energy and petroleum, manufacturing and allied, telecommunications, and technology. Due to the small size of the listed non-financial firms, a census study was carried out covering all companies. Therefore, all companies were selected from each segment, as shown in Table 3.4:1 below.

**Table 3.4:1 Sample Size for Secondary Data**

Segment	Number of Companies	Selected for Sample	Proportion
Agricultural Sector	7	7	21.50%
Telecommunication	1	1	3%
Automobiles & Accessories	1	1	3%
Commercial & Services	11	8	25%
Construction & Allied	5	4	13%
Energy & Petroleum	4	4	13%
Manufacturing & Allied	9	7	21.50%
Real Estate Investment Trust	1	-	-
<b>Total</b>	<b>39</b>	<b>32</b>	<b>100%</b>

**Source: NSE (2022)**

### **3.5 Data Collection**

The study incorporated both primary and secondary data. Cooper and Schindler (2018) elucidate that in cases where information sources exhibit variation, such as the combination of primary and secondary sources in this instance, alternative methods may be employed. Kothari (2019) further elucidates that the selection of an appropriate data collection method is contingent upon factors such as the nature of the data, the scope and purpose of the investigation, the availability of financial resources, time constraints, and the desired level of precision.

### **3.6 Primary Data**

Primary data was collected through questionnaires. In this case, the primary data was information pertaining to enterprise risk management practices and subjective measures of organizational performance derived from the balanced scorecard framework including customer relations, internal business processes, and learning and growth perspectives (Lane & Calandro, 2018). Additionally, primary data on the management's perception of the effect of enterprise riskmanagement practices on organizational performance was collected.

Questionnaires are widely used in correlational studies to get data from respondents about a specific topic. Questionnaire development is the process of generating a tool (research questionnaire) with a set of prepared question items that aims to elicit responses in a methodical manner (Cooper & Schindler, 2011). The questionnaire gained a systematic format because of

the inclusion of closed-ended questions and 5-point Likert scale systems. The constructs employed to measure the study variables and preceding research both have an impact on the questionnaire's design. The statements therefore match the goals of the study (Hinton et al., 2004).

The questionnaire was structured to encompass a variety of question types, including closed-ended, open-ended, and dichotomous questions. Additionally, it was organized into four distinct sections, each dedicated to capturing information relevant to the respective variables. The demographic information about the study's respondents was gathered in Section A. The purpose of Section B was to gather information on the independent variable components of the study. Section C was to gather information on non-financial measures of organizational performance. Section D helped gather information on listed non-financial firms' management's perception of effect of enterprise risk management on organizational performance. The effectiveness of the questions was evaluated using a five-point Likert scale. (1) No Extent (2), Less Extent (3), Moderate (4), Great (5), and Very Great Extent are the possible outcomes.

### **3.7 Secondary Data**

On the other hand, secondary data was collected from documented sources for the years 2020, 2021 and 2022. Such data included information on organizational performance such as profitability and financial healthiness, among others. Additionally, data on the firm characteristics was also obtained from secondary sources. The data was obtained from the listed non-financial companies' financial statements and other specific documents. The data was collected and restructured in a quantitative format to facilitate statistical analysis.

### **3.8 Data Collection Procedures**

A drop and pick later method was used to distribute the questionnaire to each respondent. According to Apaloo (2022), the drop and pick method can be helpful in collecting survey data through questionnaires. Each respondent was approached separately in accordance with the sample of the study. The distribution of the questionnaire that were delivered to the responders was monitored using a record. The researcher asked for approval before beginning data collection.

Google forms were also be used by the researcher to collect data electronically in cases when drop and pick was not appropriate. This made the process of gathering data more convenient.

### **3.9 Research Quality**

To pre-test and validate the questionnaire, the researcher conducted a pilot study. The pilot group does not have to be statistically chosen, according to Cooper and Schindler (2003), and can consist of any number of people between 25 and 100, depending on the approach being tried. A pilot test was conducted with several randomly chosen respondents. In this study, 10% of the target population made up the pilot group. Since statistical requirements are not required for the pilot study, the respondents were conveniently chosen (Cooper and Schindler, 2003). The questionnaire was improved in order to ensure that respondents in the larger study had no trouble responding to the questions. It was also necessary to consult with an expert to comment on the representativeness and suitability of the questions and to offer recommendations on how the questionnaire should be structured. This enhanced the accuracy and dependability of the information and the data that was gathered.

### **3.10 Validity**

The degree to which the selection of test items accurately reflects the material that the test is intended to measure is known as validity (Kothari, 2019). The term "content validity" refers to the degree to which data obtained using a certain instrument accurately reflects a particular domain or content of a particular idea. Mugenda & Mugenda (2008) assert that consulting a specialist or professional in the relevant subject is the accepted practice for determining a measure's content validity. Three experts were given each item in the instrument to rate on a scale of highly relevant (4 points), pretty relevant (3 points), somewhat relevant (2 points), and not relevant (1 points), which was used to determine the validity of the instrument. The content validity index (C.V.I), which is equal to the number of items scored 3 or higher by each expert divided by the total number of items in the questionnaire, was used to assess validity.  $n_{3/4}/N$  was used to represent this. The instrument will be regarded as legitimate if the CVI calculated for each tool is larger than 0.6, as suggested by Jeffrey 2011.

### **3.11 Reliability**

A reliability test is used to determine how consistently a research equipment produces results overtime (Paton, 2012). The internal consistency of the questionnaire was assessed in this study using Cronbach's alpha. Important data interpretations depended on the validity and reliability of instrument findings. A higher value denotes a significant correlation between the tested data items, whereas a lower value denotes a lesser correlation. This study used Cronbach's alpha to consistency in the range of 0 to 1. The variables under consideration are more easily quantifiable when their values are closer to 1. The reliability item can be accepted if the alpha is between 0.7 and 0.99. In order to conduct dependability statistics, the study carried out pilot testing among non-financial firms listed at the NSE.

### **3.12 Data Analysis and Presentation**

Lewis (2016) defines data analysis as the systematic application of statistical tools to process data into meaningful information. In this study, both primary and secondary data underwent cleaning, coding, sorting, and classification before further analysis. According to Kothari (2009), the collected data in its raw form necessitates processing through procedures such as editing, classification, and tabulation, rendering it suitable for subsequent analysis. Editing involves a meticulous review of completed questionnaires or schedules to ensure accuracy, consistency, and uniform entry of the acquired data. Coding, on the other hand, encompasses the assignment of numerical values or other symbols to the received responses, enabling their organization into limited categories or classes. Tabulation, as described by Peter (2007), Kothari (2009), and Schindler (2011), entails the summarization of raw data, presented in a concise format for further analytical scrutiny.

The first objective focused on establishing the correlation between ERM and the performance of non-financial firms listed on the NSE. To address this objective, factor analysis was employed to simplify the data, making it more comprehensible and manageable. This approach also assessed the appropriateness of the variables and unveiled potential patterns among them. Factor analysis aimed at determining if the collective impact of the original variables effectively summarized the complete dataset. Furthermore, this technique aided in condensing numerous variables into a more interpretable set of factors.

By constructing a correlation matrix, factor analysis illustrated the interrelationships among the variables, with factor loadings indicating the strength of connections between each original variable and a specific factor (Corwin, 2014). Descriptive statistics and a structural equation model were applied to analyze the relationship's nature and pattern between the variables, thereby evaluating the connection between ERM practices and the performance of listed non-financial firms (Ntare et. al., 2022). Descriptive statistics, facilitated by the SPSS, describe the data and define its scope of application.

The second objective of this study aimed at exploring the moderating effect of firm characteristics on the relationship between ERM practices and organizational performance. Other studies within the same realm of ERM have also employed linear regression models and multiple regression models. Noteworthy among these scholars, Kumsuprom et al. (2016) utilized multiple regression models to explore the determinants of successful Information and Communication Technology (ICT) risk management in Thailand, and Pagach and Warr (2020) investigated the effects of ERM on firm performance through similar modeling techniques. Additionally, Namusonge (2018) employed a linear regression model in a study focused on the determinants of growth-oriented small and medium enterprises in Nairobi, Kenya. In this context, the model was used to ascertain the influence of socio-economic variables on the rate of return and also to assess the impact of various determinant types on growth.

To facilitate testing of the objective two of the study, multiple regression equations outlined below were utilized. In the equations:

**Xi:** Represents ERM Practices (Independent variables); where X1 (Risk Culture), X2 (Risk identification and governance) and X3 (Risk assessment, mitigation and control).

**Mi:** Represent Firm Characteristics (Moderator variable). where M1 (Firm size) and M2 (Ownership Structure).

**Yi:** Represent Organizational Performance (Dependent variable).

Model 1 was used to test the direct effect of Xi on the dependent variable.

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \epsilon_1 \quad \text{Equation 1}$$

Model 2 was used to examine the unconditional effect of  $M_i$  on the dependent variable.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 M + \varepsilon_1 \quad \text{Equation 2}$$

To test the moderating effect of firm characteristics on the relationship between ERM practices and organizational performance, the following models were used

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 M + \beta_5 M \cdot X_1 + \varepsilon_1 \quad \text{Equation 3}$$

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 M + \beta_5 M \cdot X_1 + \beta_6 M \cdot X_2 + \varepsilon_1 \quad \text{Equation 4}$$

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 M + \beta_5 M \cdot X_1 + \beta_6 M \cdot X_2 + \beta_7 M \cdot X_3 + \varepsilon_1 \quad \text{Equation 5}$$

The final objective aimed at assessing the perceptions of the management in NSE-listed non-financial firms on the effect of ERM on organizational performance. The data collected via a systematic administration of a structured questionnaire was examined to ensure the presence of complete responses and to rectify any identified errors. Subsequently, the collected data underwent rigorous analysis through the utilization of the SPSS, thereby yielding descriptive statistical output that substantiated the formulation of well-founded conclusions.

### **3.13 Assumptions of Linear Regression**

Statistical tests rely on specific assumptions regarding the variables under analysis. If these assumptions are not fulfilled, the resulting outcomes may lack validity (Osborne & Waters, 2002). This can lead to type I or type II errors, or the over- or under-estimation of significance or effect sizes. Therefore, it is crucial to conduct pretests to ensure the validity of the results. The following assumptions for linear regression will be examined before proceeding with data analysis: linearity, normality, multicollinearity, and homoscedasticity.

#### **3.13.1 Linearity**

Linearity in data implies that the values of the outcome variable for each increment of a predictor variable fall along a straight line (Hair et al., 2010). It signifies a crucial association between the dependent and independent variables. In this study, linearity was assessed using the ANOVA test of linearity.

The absence of a linear relationship between independent variables and the dependent variable can cause the results of the regression linear analysis to underestimate the true relationship.

### **3.13.2 Normality**

In statistics, normality tests are employed to ascertain whether a dataset conforms well to a normal distribution and to determine the likelihood of the underlying random variable being normally distributed. Variables that deviate from normal distribution can distort relationships and significance tests. Moreover, when the assumption of normality is violated, the interpretation and inferences drawn may lack reliability or validity (Razali & Wah, 2011). This is particularly significant as all regression analyses assume normal distributions. In this study, normality was assessed using histograms and the Kolmogorov-Smirnov test. Shapiro-Wilk's test was used as this test is suitable for samples smaller than 50 but can handle samples up to 2,000.

### **3.13.3 Multicollinearity**

Multicollinearity arises when independent variables exhibit interdependence, resulting in unreliable and unstable estimates of regression coefficients. A multicollinearity test assesses whether independent variables are highly correlated. To examine multicollinearity, Variance Inflation Factor (VIF) and Tolerance (TOL) were computed using the Statistical Package for Social Sciences (SPSS). The researcher anticipated the VIF values for collinearity diagnostics to fall within the range of 1 to 10, indicating the absence of multicollinearity. Additionally, as a rule of thumb, TOL should exceed 0.2 to indicate no multicollinearity. There exists an intimate relationship between VIF and TOL, where Tolerance equals the inverse of VIF. A TOL value closer to zero indicates a higher degree of collinearity for that variable (O'Brien, 2007).

### **3.13.4 Homoscedasticity**

Homoscedasticity occurs when the variance of error terms remains consistent across different values of the independent variables. To assess homoscedasticity, the Levene test was conducted within SPSS. The focus was primarily on the significance value of the statistic, which was expected to be greater than 0.05 (non-significant) to ensure compliance with the assumption. A significance value below 0.05 would imply heteroscedasticity, indicating a violation of the assumption.

### **3.14 Ethical Considerations**

Ethical considerations are paramount in research involving human participants, with adherence to societal norms ensuring proper conduct. Upholding ethical standards is crucial in safeguarding research subjects, acknowledging potential negative impacts. This study was committed to ethical principles, including voluntary participation, transparent communication through an institution- approved cover letter, guaranteed confidentiality, and the preservation of participant anonymity. By addressing these ethical dimensions, this research underscores its integrity, respect for participants' rights, and responsible research practices.

### **3.15 Summary**

The Chapter has outlined the research design and methodology adopted in this study. Additionally, the research philosophy of empirical positivism, aligning with the study's objective of identifying correlations between independent and dependent variables was explained. The chosen research design was quantitative, specifically a descriptive correlational design, which enabled empirical testing of the study's conceptual model. The target population comprises 39 non- financial firms listed on the NSE all the CEOs/managing directors, CFOs/Finance managers and CROs from these firms. Data collection involved both primary and secondary data, gathered through questionnaires and financial statements, respectively. A pilot study was conducted to validate the questionnaire, and validity is assessed through expert ratings. Reliability was measured using Cronbach's alpha. Prior to data analysis, diagnostic tests such as linearity, normality, multicollinearity and homoscedasticity were conducted. Data analysis included structural equation model, descriptive statistics and multiple regression analyses to explore relationships and moderating effects. Ethical considerations such as voluntary participation and confidentiality were also specified to affirm the commitment to ethical research practices.

## **CHAPTER FOUR: PRESENTATION OF RESEARCH FINDING**

### **4.1 Introduction**

The results of the data analysis and research findings of the study are presented in this chapter. The chapter organization is on the basis of the specific objectives of the study. Section 4.2 presents the data used in the study. Section 4.3 presents the general information of the study. Section 4.4 covers the first objective; aimed at establishing the relationship between enterprise risk management practices and the performance of non-financial firms listed on the Nairobi Securities Exchange. Section 4.5 covers the moderating effect of firm characteristics on the relationship between ERM practices and organizational performance. Section 4.6 covers the perception of the management in NSE listed non-financial firms on the effect of enterprise risk management on organizational performance. Section 4.7 shows the comparison of secondary and primary data findings. Section 4.8 presents the chapter summary.

### **4.2 Data**

The study used secondary data from non-financial firms listed on the Nairobi Securities Exchange. The study included data from thirty-two out of the thirty-nine listed firms, which are detailed in Appendix 2. Certain companies such as Athi River Mining, Deacons (East Africa) Plc, Kenya Airways Ltd, Kenya Orchards Ltd, Laptrust Imara I-REIT, Mumias Sugar Co. Ltd, and Uchumi Supermarket Ltd were excluded from the study due to lack of sufficient data. The secondary data collected for the study encompassed various financial metrics, including current assets, current liabilities, long-term liabilities, net income, net operating revenue, total assets, total debt, and shareholders' Equity. This data formed the basis for analyzing the financial performance and firm characteristics.

Out of 114 questionnaires sent out, 105 fully filled questionnaires were returned. This represents a response rate of 91.42%. This high response rate is indicative of strong engagement from the respondents and provides a solid basis for analysis. According to Saunders, Lewis, and Thornhill (2019), a response rate of 50% is deemed adequate for data analysis.

**Table 4: 1 Sample representation**

<b>Sector</b>	<b>No. of firms</b>	<b>Selected for sample</b>	<b>Proportion</b>
Agricultural Sector	7	7	21.50%
Telecommunication	1	1	3%
Automobiles & Accessories	1	1	3%
Commercial & Services	11	8	25%
Construction & Allied	5	4	13%
Energy & Petroleum	4	4	13%
Manufacturing & Allied	9	7	21.50%
Real Estate Investment Trust	1	-	-
<b>Total</b>	<b>39</b>	<b>32</b>	<b>100%</b>

**Source: Researcher 2024**

### **4.3 General information of the study**

The demographic information of the study indicated that most of the respondents were Bachelor's degree holders 60% while 34.28% and 5.71%, of the respondents were master's degree holders and diploma certificate holders respectively. On the gender distribution, 91.42%, were male while 8.571%, were females. The current position of the respondents indicated that 35.238% were chief finance officer (CFO) while the rest comprised of the chief Executive and Chief Risk Officers (CROs) at 32.380% and 31.428%. The summary of the descriptive statistics is presented on table 4.2

**Table 4: 2 The demographic statistics of the questionnaire data**

<b>Education level of the respondent</b>	<b>Proportions (%)</b>
Bachelor's	60
Diploma	5.71
Master's Degree	34.28
<b>Gender of the respondent</b>	
Female	8.571
Male	91.42
<b>Current Position of the respondent</b>	
Chief Executive Officer	32.380
Chief Finance Officer	35.238
Chief Risk Officer	31.428
Did not state	0.9523

**4.4 Objective one - The relationship between ERM practices and the organizational performance**

**4.4.1 Descriptive statistics of ERM items**

The descriptive statistics of the questionnaire are showed in the Table at appendix 7. The appendix shows the mean, standard deviation, skewness, kurtosis of each item. All items from item 1 to 65 had a skewness of -0.12 to 0.01 which fall within an acceptable level of -0.5 and 0.5. The Kurtosis a measure of tail distribution of the items lied within a range of -0.5 and 0.82. This is within a reasonable range (Vaclavik et al., 2020).

**4.4.1.1 Objective Setting**

The descriptive analysis conducted on objective setting indicated that on average most of the respondent believed that to some degree there is alignment of business risks with its corporate level and business unit level goals and objectives (mean =3.88). The respondents stated that while there is communication regarding risk-taking expectations, it may not be perceived as consistently clear or explicit across all senior managers (mean =2.85). The respondent also stated that to some degree they recognize the presences of risk tolerance levels or limits for risk categories within the organization (mean =2.87). The summary of these results are presented at Table 4.3.

**Table 4: 3 Descriptive analysis ERM Risk Aligned Objective Setting**

<b>Statement</b>	<b>N</b>	<b>Mean</b>	<b>Std.Dev</b>
The firm has aligned its business risks with its corporate level and businessunit level goals and objectives.	105	3.88	0.99
The firm has established explicit corporate and wide risk tolerance levels orlimits for all major risk categories.	105	2.85	0.97
The firm has clearly communicated its expectations for risk taking to seniormanagers.	105	2.85	0.97
The firm has aligned its strategic objectives to compliance objectives.	105	2.87	0.93

#### 4.4.1.2 Event identification and control activities

The descriptive statistics was conducted on event identification and control activities. Most of respondent perceive moderate levels of alignment, communication, and establishment of risk-related processes and expectations within the firm's event identification practices. Equally the respondent also perceived that most of the firm had a moderate perception policy to ensure risk Response management (Mean=2.87), policies regarding verification, reconciliation and companies' performance in managing risk (Mean=2.92) as indicated in Table 4.4.

**Table 4: 4 Descriptive analysis of Event identification and Control activities statements**

<b>Statement (Control activities)</b>	<b>N</b>	<b>Mean</b>	<b>Std.Dev</b>
The firm has established policies executed to help ensure the risk responses management selects are effectively carried out.	105	3.87	1
The firm has clear authorizations and approvals on business operations.	105	2.88	0.95
The firm has policies governing verification, reconciliations and company performance reviews in managing risks.	105	2.92	0.95
The firm applies change management in managing occurrence of risks.	105	2.84	0.95
<b>Statement (Event identification)</b>			
The firm has aligned its business risks with its corporate level and businessunit level goals and objectives.	105	3.01	0.99
The firm has established explicit corporate and wide risk tolerance levels orlimits for all major risk categories.	105	2.85	0.97
The firm has clearly communicated its expectations for risk taking to senior management	105	3.85	0.97
The firm has aligned its strategic objectives to compliance objectives.	105	2.87	0.93

#### 4.4.1.3 Risk Assessment

The respondents generally had a moderate view of the firm capacity to evaluates the efficiency and leverage of its business (Mean =2.92) meanwhile the responses had a moderate view of Classification and Management of Risks (mean =2.91),

Treatment of Risks Based on Probability and Potential Loss (mean =2.87), and Subdivision of Risks for Further Analysis (mean =2.91). The summary of the descriptive statistics is provided in Table 4.5

**Table 4: 5 Descriptive analysis of ERM Risk Assessment**

<b>Statements</b>	<b>N</b>	<b>Mean</b>	<b>STD</b>
People who understand the risks faced are usually involved in assessing probability and impact of occurrence of risks.	105	3	0.93
The firm assess the efficiency of and leverage of business before venturing into it.	105	2.92	0.98
The firm classify risks based on the amount of damage they cause and applies the correct measure to manage the risks.	105	2.91	0.95
A risk with a large potential loss and a low probability of occurring is often treated differently from one with a low potential loss and a high likelihood of occurring.	105	2.87	0.98
Risks are subdivided into individual levels for further analysis.	105	2.91	0.96

#### **4.4.1.4 Monitoring Assessment**

Respondent were interviewed on their view on Risk Monitoring. Respondents generally agreed of an existence of written risk policy and procedure manual. It's therefore in agreement that most non-financial companies listed in the NSE have a structural framework to guide on risk management (mean of 3.93). With a mean (mean =2.86) respondent agreed to some extent of existence of monitoring and reporting. These sentiments were shared on identification of key metrics for reporting on risk management (mean =3.90) and regular monitoring of risks (mean =2.89). The summary is presented in Table 4.6.

**Table 4: 6 Descriptive analysis of ERM Monitoring Assessment**

<b>Statement</b>	<b>N</b>	<b>Mean</b>	<b>Std.Dev</b>
The firm has established written risk policy and procedure manuals that are consistent across all major risk.	105	3.93	0.95
The firm's business units monitor and report on current status of key risks.	105	2.86	1
The firm has identified the key metrics required for reporting on risk management performance.	105	3.9	0.94
The firm monitors all significant risks on a regular basis, with timely and accurate measures of risk.	105	2.89	0.99

**4.4.1.5 Risk response**

The respondents were interviewed on risk response. Respondents generally agreed that the firms conducted formal risk assessment on a regular basis (Mean 3.02). However, the respondents had a moderate view on quantification of risk (mean=2.87), analyzing the root causes impact and interrelation of risk (mean=2.87), and development of risk strategy (mean=2.90). The summary is provided in Table 4.7.

**Table 4: 7 Descriptive analysis of ERM Risk Response**

<b>Statement RR</b>	<b>N</b>	<b>Mean</b>	<b>Std.Dev</b>
The firm conducts formal risk assessment across the company on a regular basis.	105	3.02	0.97
The firm's risk management department analyze the root cause, impact and interrelationships of risks.	105	2.87	0.99
The firm has quantified its key risks to a large extent.	105	2.85	0.97
The firm's business units develop and determine risk mitigation strategies.	105	2.9	0.94

#### 4.4.1.6 Information and communication

The descriptive statistics conducted on information and communication indicated an agreement on corporate wide common language for communicating risk exposure (Mean =3.01) Table 4.8. The analysis also indicated that respondents also moderately agreed on Regular Briefs to the Board and Executive Committee on Risk Management Issues (Mean =2.95). Communication System for Risk Control Activities and Monitoring Efforts (Mean =2.93)., and adequate Risk Communication Capabilities (Mean =2.97).

**Table 4: 8 Descriptive analysis of ERM on information and communication**

Statement IC	N	Mean	Std.Dev
The firm has a corporate wide common language for communicating risk type exposures.	105	3.01	0.96
The firm has regular briefs to the board and executive committee on risk management issues.	105	2.95	0.99
The firm has communication system to communicate risk control activities and monitoring effort.	105	2.93	0.95
The firm has adequate risk communication capabilities to identify, measure, and manage most major risk exposures and losses	105	2.97	0.94

#### 4.4.2 Assessment of suitability of the dataset for factor analysis

The assessment of the dataset the variables used was determined using the Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity of the questionnaire items Table 4.10.

**Table 4: 10 The Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity of the questionnaire items**

Test	Values
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Overall MSA = 0.66
Bartlett's Test of Sphericity (Approximate chisq estimate)	5572.532
P value	Sig 0.0000

Table 4.10 shows the KMO and Bartlett's Test that are used to determine the suitability of a dataset for factor analysis. From the analysis a KMO value of 0.66 which indicated that the data was moderately suitable for factor analysis relative to a cut-off point of 0.5. On the other hand, the Bartlett's Test showed a significant result  $p < 0.00001$  which indicated rejected the null hypothesis of similarity of correlation matrix to an identity matrix. This results further reinforced the suitability of the dataset for factor analysis (Yegon et al., 2015).

#### 4.4.2.1 Reliability and Validity

**Table 4: 9 The Overall reliability statistics of the items of the study**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.870	.866	105

The study used Cronbach's alpha coefficient with a threshold of above 0.7 to determine the reliability of the questions used in the questionnaire. The overall reliability statistics of all the items (0.870) was relatively higher relative to the cut-off of 0.7 further reaffirming the suitability of the questionnaire item as shown in Table 4.11. Further all the variables had Cronbach's alpha coefficients which was more than 0.7 as indicated at Table 4:12. As a result, all the items used in the instruments were retained for further study (Hanggraeni et al., 2019).

**Table 4: 10 (a) Measuring Items' Reliability**

<b>Factor</b>	<b>Factor code</b>	<b>Reliability of the factor(<math>\alpha</math>)</b>	<b>Item</b>	<b>Item Code</b>	<b>Reliability of the item(<math>\alpha</math>)</b>
Objective setting	OS	0.84	The firm has aligned its strategic objectives to compliance objectives.	X1	0.89
			The firm has established explicit corporate and wide risk tolerance levels or limits for all major risk categories.	X2	0.94
			The firm has aligned its business risks with its corporate level and business unit level goals and objectives.	X3	0.78
Internal environment	IE	0.80	The firm has incorporated responsibility for risk management into the manager's position.	X4	0.88
			The board of directors is actively involved in the management process.	X5	0.83
			There is a clear communication of risk management mission statement to senior managers.	X6	0.79
Monitoring	MT	0.80	The firm has identified the key metrics required for reporting on risk management performance.	X7	0.81
			The firm monitors all significant risks on a regular basis, with timely and accurate measures of risk.	X8	0.78
			The firm has established written risk policy and procedure manuals that are consistent across all major risk.	X9	0.90
Information & communication	IC	0.77	The firm has a corporate wide common language for communicating risk type exposures.	X10	0.76
			The firm has regular briefs to the board and executive committee on risk management issues.	X11	0.90
			The firm has communication system to communicate risk control activities and monitoring effort.	X12	0.74

**Table 4: 11 (b) Measuring Items' Reliability**

Risk response	RR	0.88	The firm's risk management department analyze the root cause, impact and interrelationships of risks.	X13	0.94
			The firm conducts formal risk assessment across the company on a regular basis.	X14	0.89
			The firm has quantified its key risks to a large extent.	X15	0.90
Event Identification	EI	0.72	The firm has competent staff that predict risks based on losses incurred and devise mitigation measures.	X16	0.73
			Business units within the firm utilize facilitated self-evaluation and/or survey techniques to map risks.	X17	0.74
			The firm has a comprehensive list of business risks that managers are expected to manage.	X18	0.79
Risk assessment	RA	0.74	The firm classify risks based on the amount of damage they cause and applies the correct measure to manage the risks.	X25	0.82
			The firm has a risk evaluation committee to determine risks in business activities.	X26	0.78
			People who understand the risks faced are usually involved in assessing probability and impact of occurrence of risks.	X27	0.71
Enterprise risk management	ERM	0.79	We do regular risk and opportunity assessments to determine how they should be managed.	X19	0.82
			Our company has a plan in place for dealing with big risks that could hurt its performance.	X20	0.74
			We use established procedures for assessing significant risks and opportunities.	X21	0.90
Organizational performance	PF	0.80	Return on Assets	PF1	0.78
			Liquidity	PF2	0.77
			Profitability	PF3	0.80
			Customer retention	PF4	0.79
			Customer satisfaction	PF5	0.77
			Creativity and unexpected ideas	PF6	0.78
			Quality in product and services	PF7	0.79
			Employee satisfaction	PF8	0.77

### 4.4.3 Analysis

The purpose of this objective was to assess the relationship between ERM practices and organizational performance of non-financial firms listed in NSE. Firstly, the study aimed at examining the relationship between components of ERM and ERM. To depict a path analysis model, measurement and structural models were defined to show the relationship between observed variables and latent variable and among the latent variables themselves. The model fit was done using maximum likelihood estimation in Lavaan package in R, while for the visualization semPaths function in the semPlot package was used.

### 4.4.4 Assessment of Model Fit

The critical model fit indices were calculated to determine a model fit. The result showed the Comparative Fit Index (CFI) value of 0.981 and the Tucker-Lewis Index (TLI) value of 0.978 which were both larger than 0.95, and a Root Mean Square Error (RMSEA) value of 0.052 which was less than 0.08 (Table 4.9). These measures all suggested a good model fit. The chi square test  $\chi^2 = 379.198$ ,  $df = 295$ ,  $p < 0.001$  however, showed lack of fit. Chi square test is very sensitive to sample size and any discrepancies between the model and observed. As a result, the chi square test not used to determine model fit. These measures all suggested a good model fit. These results indicated that the nine constructs and their relationships as suggested from the study do reflects the data obtained.

**Table 4: 12 Parameters of the model fit**

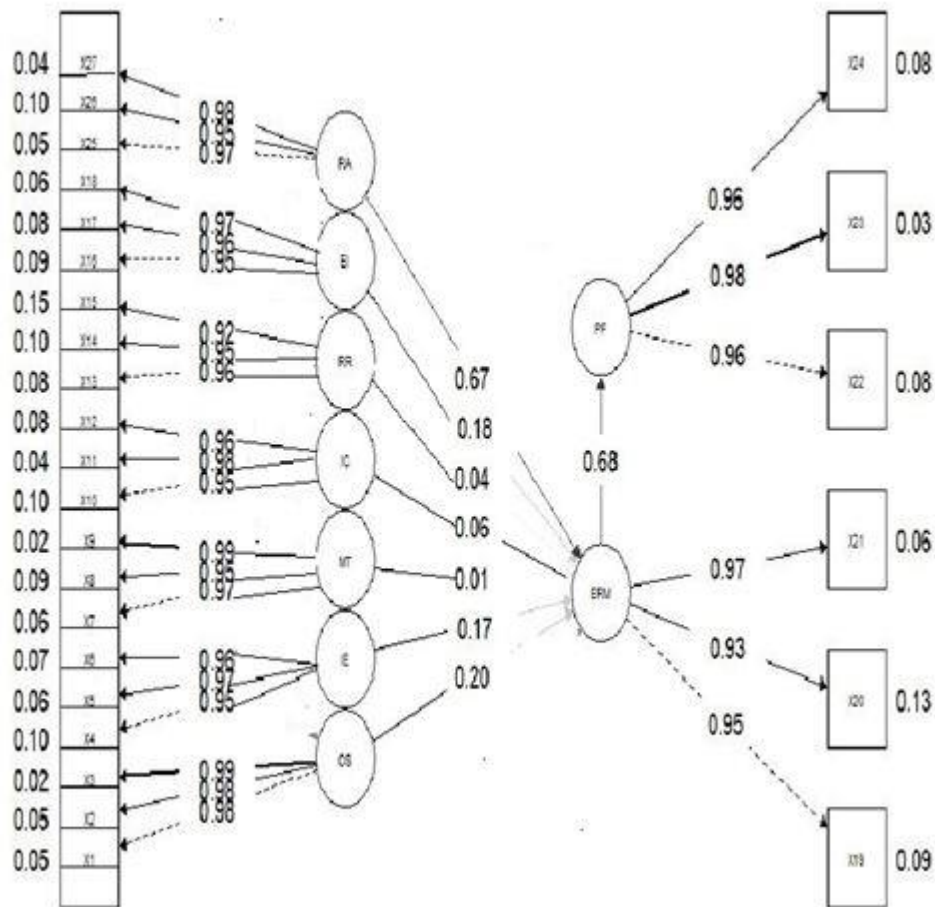
Parameters of the model	Output
Number of observations	105
Comparative Fit Index (CFI)	0.981
Tucker-Lewis Index (TLI)	0.978
Root Mean Square Error of Approximation (RMSEA)	0.052
Standardized Root Mean Square Residual (SRMR)	0.127
Chi square test	$\chi^2 = 379.198$ , $df = 295$ , $p < 0.001$

The model relationship as shown in Table 4:13 demonstrated that the relationship between ERM & information communication and ERM and objective setting was not statistically significant as indicated by P values of 0.072 and 0.056 respectively at a 95% confidence level. The relationship between ERM and internal environment (IE), Monitoring (MT), Event Identification (EI), Risk Response (RR), and Risk African Assessment (RA) was significant at 95% confidence level as indicated by P-values below 0.05 as seen from Table 4.13 below.

**Table 4: 12 Structural Model Assessment Results**

Structural relationships	Estimate,	Std.Err,	z-value,	P(> z ),	Std.lv,	Std.all
OS----->ERM	0.155,	0.081,	1.915,	0.056,	0.198,	0.198
IE----->ERM	0.161,	0.049,	3.766,	0.000,	0.227,	0.227
MT----->ERM	0.179,	0.075,	2.135,	0.008,	0.170,	0.170
IC----->ERM	0.115,	0.062,	1.677,	0.072,	0.230,	0.230
RR----->ERM	0.196,	0.064,	2.721,	0.006,	0.192,	0.192
EI----->ERM	0.127,	0.046,	2.853,	0.004,	0.181,	0.181
RA----->ERM	0.265,	0.064,	3.729,	0.000,	0.266,	0.266
ERM ----->PF	0.752,	0.088,	8.561,	0.000,	0.679,	0.679

Additionally, the study sought to establish the relationship between ERM and organizational performance of listed non – financial firms in NSE. The study established that, ERM significantly influenced the organizational performance with a beta estimate of 0.752 and a P-value of (0.0000) at 95% confidence level of significant (Table 4.13). This indicated with other factors remaining constant that each improvement in ERM would result to 0.752 increase in organizational performance of NSE listed non-financial companies. The findings of this study are consistent to past research (Hanggraeni et al., 2019; Linton & Kask, 2017).



**Figure 4 1.**Path analysis model showing Measurement and Structural Models.

**Table 4: 13** Correlations between the latent variables

	OS	IE	MT	IC	RR	EI	RA	ERM	PF
OS	1.0000,								
IE	0.4829,	1.0000,							
MT	0.5900,	0.4600,	1.0000						
IC	0.5680,	0.4021,	0.5870,	1.0000,					
RR	0.4260,	0.4233,	0.5390,	0.5180,	1.0000,				
EI	0.4310,	0.3597,	0.4300,	0.4600,	0.3630,	1.0000,			
RA	0.5230,	0.3165,	0.5430,	0.4650,	0.4870,	0.4300,	1.0000,		
ERM	0.6298,	0.6033,	0.7841,	0.6874,	0.6942,	0.6069,	0.7247,	1.0000,	
PF	0.6300,	0.6258,	0.7400,	0.6980,	0.6500,	0.6200,	0.7390,	0.9000,	1.0000

Table 4:14 above shows the correlation coefficients between ERM components, ERM, and organizational performance of listed non-financial firms in NSE. Generally, the results indicate that there is a positive correlation between ERM components and ERM. Further, the results indicate that there is a substantial association between ERM and organizational performance (0.900) hence ERM had an impact on organizational performance.

The correlation matrix derived from the confirmatory factor analysis (CFA) demonstrated significant correlations between organizational performance and various risk management factors. Notably, organizational performance exhibited strong correlations with risk monitoring (0.74) and risk assessment (0.7390). These findings emphasize on the importance of adopting proactive measures in assessing risks and maintaining continuous monitoring practices to enhance the overall organizational performance of listed non-financial firms. Additionally, objective setting, internal environment, information and communication, risk response, and event identification displayed moderate positive correlations with organizational performance, as depicted in Table 4.14.

The correlation analysis revealed a positive correlation coefficient of 0.5870 between information and communication and monitoring. This finding suggests that efficient monitoring practices are contingent upon the seamless flow of information and communication, facilitating timely responses to identified risks. Moreover, the correlation coefficients between risk response and both monitoring (0.5390) and information and communication (0.5180) were also positive. This implies that firms can enhance their responsiveness to risks by prioritizing monitoring activities and ensuring effective information exchange within the organization. Additionally, a moderate correlation was observed between risk assessment (0.5230) and objective setting (0.5430) as well as monitoring. This indicates the importance of accurately assessing risks, which necessitates a robust framework encompassing objective setting and ongoing monitoring practices.

#### **4.5 Objective Two - Moderating effect of firm characteristics**

This objective sought to examine the moderating influence of firm characteristics on the association between ERM practices and organizational performance. To achieve this objective, data from all four perspectives of the Balanced Scorecard (Financial, Customer, Internal

Business Process, and Learning and Growth were aggregated to calculate a composite score representing organizational performance. Furthermore, the eight components of ERM were condensed into three categories: risk culture, risk identification and governance, and risk assessment, mitigation, and control. These refined constructs facilitated a comprehensive analysis of the interplay between ERM practices and organizational performance, while considering the potential moderating effects of firm characteristics.

#### 4.5.1 Diagnostic test

##### 4.5.1.1 Normality test

Prior to conducting a regression analysis, the data used in the study underwent a diagnostic test. All variable used in the study were normally distributed as shown in Table. 4.14. However firm ownership showed contrary results when Shapiro-Wilk test was used. To reduce contradictions the use of Shapiro-wilk test was ignored and instead Kolmogorov-Smirnov<sup>a</sup> was used and normality plot was adopted.

**Table 4: 14 The test of normality of the dependent and independent variable**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Total assets	.104	90	.018	.974	90	.066
Organizational performance composite	.064	90	.200*	.988	90	.568
Firm ownership characteristics	.091	90	.065	.964	90	.014
Risk Assessment Mitigation, Control	.083	90	.166	.982	90	.251
Risk identification governance	.064	90	.200*	.983	90	.292
Risk Culture	.064	90	.200*	.978	90	.141

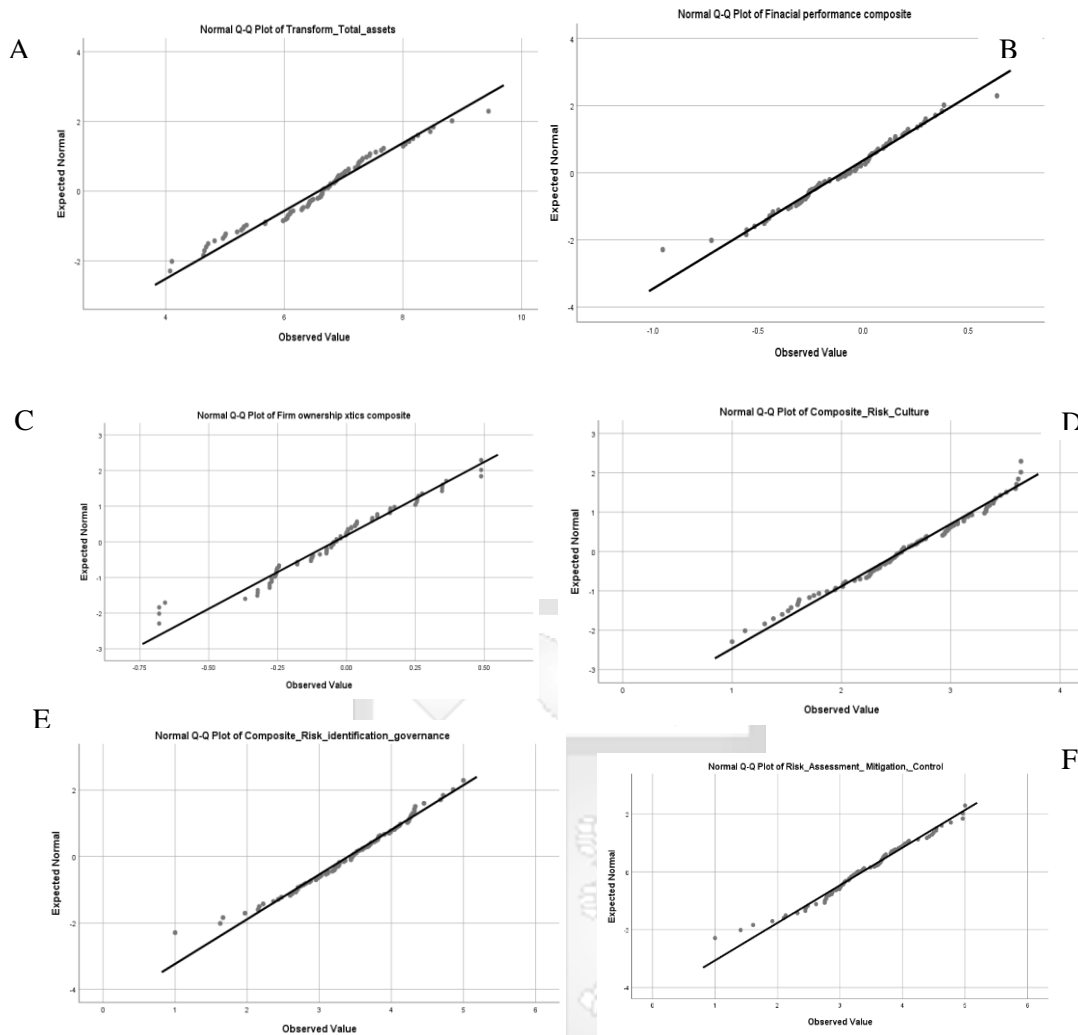


Figure 4:1 Graphs showing a distribution of observation in a normal plot: A-Total assets, B-Organizational performance, C-Firm Ownership, D-Risk Culture, E-Risk identification and Governance-Risk Assessment Mitigation and Control

#### 4.5.1.2 Multicollinearity and autocorrelation test

To test the assumption of multicollinearity Statistics, the Variance inflationary factor and tolerance were used. Multicollinearity is a challenge that arises when variable in the correlation matrix have a correlation coefficient that general exceed (i.e. 0.90 and above) (Ahamed et al., 2016). The VIF from this study varied from 1.128 to 7.438 while Tolerance ranged from 0.191 to 0.816 at 95% confidence level. These values were below the threshold of 10 and 0.2 for VIF and Tolerance, indicating the suitability of these variable for the multiple regression model.

The test of autocorrelation was conducted using the Durbin-Watson. All the variable had a Durbin-Watson ranging 1.5 to 1.3 which was acceptable. The multicollinearity results are presented in Table 4.15.

**Table 4: 15 Multicollinearity of the independent variables**

Variables	Collinearity Statistics	
	Tolerance	VIF
Risk Culture	.332	3.016
Risk Identification and Governance	.134	7.438
Risk Assessment Mitigation and Control	.191	5.225
Firm Ownership characteristics	.886	1.128
Firm Size	.816	1.226

#### 4.5.1.3 Heteroscedasticity

To examine the Heteroscedasticity the Modified Breusch-Pagan Test was used. This Test evaluated the null hypothesis that the variance of the errors does not depend on the values of the independent variables. As a rule of thumb rejecting the null hypothesis when the p value (Prob>chi2) is less than 0.05, while the opposite applies. The Modified Breusch-Pagan Test produced a chiq value of 4.465 and a P value of 0.485 (Table 4.16).

**Table 4: 16 Heteroscedasticity of the independent variables**

**Modified Breusch-Pagan Test for  
Heteroskedasticity<sup>a,b,c</sup>**

Chi-Square	df	Sig.
4.465	5	.485

#### 4.5.1.4 Test of linearity

The study also investigated linearity of the study variables using the ANOVA test of linearity. All variables of interest had a p value greater than 0.05 while the deviation from linearity was

also not significant  $P > 0.05$ . A P-Value showed that the deviation from linearity was not significant. Generally, a P value greater than 0.05 is considered acceptable. This suggested that the relationship of dependent variables and independent was linear. Deviation from linearity assess whether the relationship dependent variables and independent deviate from a linear pattern.

## 4.5.2 Models

### 4.5.2.1 Model one

#### 4.5.2.1.1 Direct effect of ERM practices on the dependent variable (Organizational performance)

This model was assessed to determine the direct effects of ERM practices and on the dependent variable (Organizational performance). From the regression results (Table 4.17) B0 (constant) had a significant positive effect on the dependent at variable with an unstandardized value of ( $B = 0.92492$ ,  $p < 0.05$ ). Equally risk culture had the highest, positive and significant effect on the dependent variable with standardized (Beta = 0.3569) and unstandardized ( $B = 0.3787$ ,  $p < 0.05$ ) indicating its larger contribution on change of organizational performance. Risk identification and governance ( $B = 0.2196$ ,  $p < 0.05$ ) and risk assessment, mitigation and control ( $B = 0.3656$ ,  $p < 0.05$ ) had a significant effect on the organizational performance as well.

**Table 4: 17 Effect of ERM practices on the dependent variable (organizational performance)**

Variables	Unstandardized coefficients		Standardized coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	0.9249	0.0821		3.2591	0.0000
Risk Culture	0.3787	0.0469	0.3569	4.0441	0.0000
Risk identification governance	0.2196	0.0424	0.2833	3.5967	0.0000
Risk assessment Mitigation Control	0.3656	0.0690	0.3246	2.3297	0.0300
Model summary					
R	0.8200				
R square	0.6700				
Adjusted R square	0.6600				
Std. error of the estimate	0.4100				
Durbin-Watson					
	2.0000				
ANOVA (F stat)					
	64.6400				
ANOVA (F prob)					
	0				

The variables explained 67% variation of organizational performance of listed non-financial firms. This showed that considering the three study independent variables, there is a probability of predicting organizational performance ( $R^2 = 0.67$ ). Further, the coefficient of determination was significant as evidenced by F ratio of 64.46 with p value 0.000.

#### 4.5.2.2 Model Two

##### 4.5.2.2.1 Determination of the unconditional effect of firm characteristics on organizational performance

This model evaluated the unconditional effect of moderator variables on the organizational performance. Firm size had a positive but a non-significant ( $B = 0.020$ ,  $P = 0.776$ ) (Table 4.18) effect on the organizational performance. Equally, firm ownership had a positive but non-significant ( $B = 0.015$ ,  $P < 0.963$ ) effect on organizational performance.

**Table 4: 18 Effect of the moderating variable on the relationship between ERM practices and the dependent variable (Organizational performance)**

Variables	B	Std. Error	Beta	T	Sig.	Variables	B	Std. Error	Beta	T	Sig.
B0	0.726	0.038		3.063	0.000	B0	0.764	0.037		3.045	0.000
(X1)	0.277	0.048	0.674	3.812	0.000	(X1)	0.247	0.058	0.37	5.748	0.000
(X2)	0.100	0.063	0.285	2.582	0.070	(X2)	0.090	0.067	0.07	1.573	0.060
(X3)	0.067	0.051	0.199	1.323	0.040	(X3)	0.170	0.058	0.200	1.440	0.050
Firm Size	0.005	0.016	0.020	0.285	0.776	Firm Ownership	0.003	0.074	0.015	0.046	0.963
<b>Model summary</b>						<b>Model summary</b>					
R	.777 <sup>a</sup>					R	.777 <sup>a</sup>				
R square	0.604					R square	0.60				
Adjusted R square	0.586					Adjusted R square	0.581				
Std. error of the estimate	0.166					Std. error of the estimate	0.310				
Durbin-Watson	2.00					Durbin-Watson	2.00				
ANOVA (F stat)	53.96					ANOVA (F stat)	56.86				
ANOVA (F prob)	.000 <sup>b</sup>					ANOVA (F prob)	.000 <sup>b</sup>				

Both the model had an R squared of 0.60 which indicating that 60.0 % of the variance in the dependent variable was explained by the model.

#### 4.5.2.3 Model Three

##### 4.5.2.3.1 Moderating effect of Firm Size

This section evaluated the moderating effect of Firm Size (FS) specifically on the relationship between Risk identification and governance (X2) and Organizational Performance (Y) (Table 4.19). The interaction of firm size with Risk identification and governance (X2) (Beta= 0.26451), had no significant effect on the model as evident by a p value greater than 0.05. This indicate that firm size did not moderate the relationship between Risk identification and governance (X2) and Organizational Performance (Y).

**Table 4: 19 The moderating effect of Firm Size (FS) specifically on the relationship between Risk identification and governance (X2) and Organizational Performance (Y).**

Variables	B	Std. Error	Beta	T	Sig.
(Constant)	0.6219	0.074		3.2573	0.020
Risk Culture(X1)	0.2791	0.0481	0.6782	3.7977	0.002
Risk identification and governance(X2)	0.0356	0.1715	0.1014	0.2078	0.040
Risk Assessment Mitigation, and Control (X3)	0.1686	0.0511	0.2035	1.3432	0.050
Firm size (FS)	0.0291	0.0846	0.12758	0.3441	0.700
X2*FS	0.0094	0.0233	0.26451	0.40581	0.685
Model summary					
R	0.800				
R square	0.6649				
Adjusted R square	0.5624				
Std. error of the estimate	0.3666				
Durbin-Watson	2.0000				
ANOVA (F stat)	56.948				
ANOVA (F prob)	.000b				

**Table 4: 20 Moderating effect of Firm size (FS) specifically on the relationship between Risk Culture (X1) and Risk Assessment Mitigation, and Control (X3) and Organizational Performance (Y)**

Variables	B	Std. Error	Beta	T	Sig.	Variables	B	Std. Error	Beta	T	Sig.
B0	0.668	0.067		2.13	0.019	B0	0.642	0.511		1.845	0.068
(X1)	0.097	0.045	0.236	0.55	0.003	(X1)	0.277	0.048	0.67	5.748	0.002
(X2)	0.094	0.063	0.269	1.48	0.080	(X2)	0.100	0.064	0.28	1.573	0.060
(X3)	0.068	0.050	0.202	1.34	0.040	(X3)	0.070	0.158	0.20	0.440	0.010
Firm Size	0.060	0.069	0.293	0.96	0.735	Firm Size	0.003	0.074	0.015	0.046	0.770
X1*FS	0.027	0.026	0.619	1.06	0.290	X3*FS	0.019	0.021	0.010	0.016	0.987
<b>Model summary</b>						<b>Model summary</b>					
R	.781a					R	.777a				
R square	0.609					R square	0.60				
Adjusted R square	0.589					Adjusted R square	0.581				
Std. error of the estimate	0.065					Std. error of the estimate	0.066				
Durbin-Watson	2.00					Durbin-Watson	1.450				
ANOVA (F stat)	57.43					ANOVA (F stat)	56.86				
ANOVA (F prob)	0					ANOVA (F prob)	.000b				

The interaction of firm size with risk culture (X1) (Beta= 0.619,  $p > 0.05$ ), had no significant effect on the model. This indicate that firm size did not moderate the relationship between risk culture (X1) and Organizational Performance (Y).

The interaction of firm size with Risk Assessment, Mitigation and Control (X3) (Beta= 0.010,  $p > 0.05$ ), had no significant effect on the model. This indicate that firm size did not moderate the relationship between Risk Assessment, Mitigation and Control (X3) and Organizational Performance (Y).

#### 4.5.2.3.2 Moderating effect of Firm Ownership

This section evaluated the moderating effect of Firm ownership (FO) specifically on the relationship between Risk Culture (X1) and Organizational Performance (Y) (Table 4.21). The interaction of firm ownership with Risk Culture (X1) (Beta= 0.297), had no significant effect on the model as evident by a p value greater than 0.05. This indicate that firm ownership did not moderate the relationship between Risk Culture (X1) and Organizational Performance (Y).

The interaction of firm ownership with Risk identification and governance (X2) (Beta= 0.014.), had no significant effect on the model as evident by a p value greater than 0.05. This indicate that firm ownership did not moderate the relationship between Risk identification and governance (X2) and Organizational Performance (Y).

**Table 4: 21 The moderating effect of Firm Ownership (FO) specifically on the relationship between Risk culture (X1), Risk identification and governance(X2) and Organizational Performance (Y).**

Variables	B	Std. Error	Beta	T	Sig.	Variables	B	Std. Error	Beta	T	Sig.
B0	0.901	0.080		5.721	0.000	B0	0.925	0.080		7.361	0.000
(X1)	0.292	0.049	0.706	5.903	0.000	(X1)	0.282	0.048	0.681	3.802	0.000
(X2)	0.189	0.064	0.255	1.391	0.040	(X2)	0.188	0.06	0.252	1.366	0.060
(X3)	0.259	0.051	0.172	1.138	0.050	(X3)	0.258	0.05	0.163	1.070	0.030
Firm ownership (FO)	0.294	0.334	0.276	0.880	0.977	Firm ownership (FO)	0.001	0.339	0.001	0.003	0.997
X1*FO	0.129	0.136	0.297	0.95	0.343	X2*FO	0.044	0.099	0.014	0.044	0.364
<b>Model summary</b>						<b>Model summary</b>					
R	.80a					R	.82a				
R square	0.64					R square	0.66				
Adjusted R square	0.66					Adjusted R square	0.64				
Std. error of the estimate	0.58					Std. error of the estimate	0.60				
Durbin-Watson	2.00					Durbin-Watson	2.00				
ANOVA (F stat)	62.40					ANOVA (F stat)	64.95				
ANOVA (F prob)	0					ANOVA (F prob)	0				

The interaction of firm ownership with Risk Assessment, Mitigation and Control (X3) (Beta=0.001, p > 0.05), had no significant effect on the model.

This indicate that firm ownership did not moderate the relationship between Risk Assessment, Mitigation and Control (X3) and Organizational Performance (Y).

**Table 4: 22 The moderating effect of Firm Ownership (FO) specifically on the relationship between Risk Assessment Mitigation, and Control (X3) and Organizational Performance (Y).**

Variables	B	Std. Error	Beta	T	Sig.
(Constant)	0.932	0.088		7.580	0.000
Risk Culture(X1)	0.282	0.049	0.681	5.805	0.000
Risk identification and governance(X2)	0.189	0.065	0.252	1.363	0.070
Risk Assessment Mitigation, and Control (X3)	0.056	0.052	0.164	1.070	0.050
Firm Ownership (FO)	0.011	0.298	0.010	0.037	0.971
X3*FO	0.001	0.091	0.003	0.010	0.992
Model summary					
R	.78a				
R square	0.604				
Adjusted R square	0.581				
Std. error of the estimate	0.168				
Durbin-Watson	2.000				
ANOVA (F stat)	55.95				
ANOVA (F prob)	0.000				

#### 4.5.2.4 Model Four

##### 4.5.2.4.1 Moderating effect of firm characteristics on the relationship between ERM practices and organizational performance

The fourth model evaluated the moderating effects of Firm size (FS) and firm ownership (FO) on the relationships between Risk Culture (X1) and Risk identification and governance (X2) individually, and Organizational Performance (Y).

The interaction between (X1FS and X2FO) indicated a combined effect of risk culture a(X1) and risk identification and governance (X2) on the organizational performance. The coefficient for X1\*FS was positive (B = 1.074) while X2\*FS had a positive (B = 0.656) as well. A positive coefficient indicated that the relationship between ERM practices do increase as the firm size increased. Nevertheless, the two interactions (X1\*FS and X2\*FS) were not significant.

**Table 4: 23 Represents the moderating effect of Firm size (FS) on the relationships between Risk Culture (X1) and Risk identification and governance (X2) individually, and Organizational Performance (Y).**

Similar observations were made when firm ownership replaced the firm size as a moderating variable. The interaction between Firm ownership (FO \*X1) (B = 0.823, P >0.05) were also positive while the interaction of firm ownership and X2 (FO\*X2) (B 0.652, P >0.05) was positive and non-significant. The B0 and the effect due to risk culture were has a positive (B = 0.938, P <0.05), and a positive (B = 0.306, P >0.05) but a significant effect on the dependent variable.

#### 4.5.2.5 Model five

Variables	B	Std. Error	Beta	T	Sig.	Variables	B	Std. Error	Beta	T	Sig.
B0	0.681	0.574		1.186	0.238	B0	0.938	0.088		10.60	0.000
(X1)	0.038	0.275	0.094	0.141	0.887	(X1)	0.306	0.051	0.740	6.047	0.000
X2)	0.250	0.251	0.713	0.999	0.320	X2)	0.082	0.065	0.232	1.264	0.210
(X3	0.065	0.0510	0.193	1.278	0.204	X3	0.064	0.052	0.188	1.237	0.220
Firm Size (FS)	0.035	0.084	0.156	0.422	0.673	Firm ownership (FO)	0.160	0.351	0.149	0.455	0.651
X1*FS	0.048	0.041	1.074	1.171	0.244	X1*F0	0.360	0.231	0.823	1.558	0.123
X2*FS	0.023	0.036	0.656	0.643	0.521	X2*F0	0.206	0.167	0.652	1.232	0.221
<b>Model summary</b>						<b>Model summary</b>					
R	.782a					R	.784a				
R square	0.6110					R square	0.615				
Adjusted R square	0.5842					Adjusted R square	0.588				
Std. error of the estimate	0.1663					Std. error of the estimate	0.1669				
Durbin-Watson	2.00					Durbin-Watson	2,00				
ANOVA (F stat)	52.78					ANOVA (F stat)	52.394				
ANOVA (F prob)	.000b					ANOVA (F prob)	0				

**4.5.2.5.1 Moderating effect of Firm Size (FS) on the relationships between all three ERM practices (Risk Culture, Risk identification and governance, Risk assessment, mitigation, and control) individually, and Organizational Performance (Y).**

The study also evaluated the moderating effect of Firm size (FS) on the relationships between all three ERM practices (Risk Culture, Risk identification and governance, Risk assessment, mitigation, and control) individually, and Organizational Performance (Y).

From the results ERM practices did not appear to have a direct statistical ( $p > 0.05$ ) effect on organizational performance when firm characteristics were considered as a moderator. (Table 4.24).

**Table 4: 24 Represents the moderating effect of Firm Size on the relationships between all three ERM practices and Organizational Performance (Y).**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.45255	0.606546		0.74611	0.457736
Risk Culture(X1)	0.1088	0.301588	0.26311	0.36075	0.719212
Risk identification and governance(X2)	0.229424	0.263295	0.652949	0.871355	0.386105
Risk Assessment Mitigation, and Control (X3)	0.04789	0.05333	0.14099	0.89807	0.37178
Firm size (FS)	0.07317	0.090143	0.28755	0.81165	0.419341
X1*FS	0.060369	0.045357	1.272239	1.330982	0.186884
X2*FS	0.02346	0.038462	0.62497	0.60998	0.543565
X3*FS	0.004938	0.024019	0.014977	0.205591	0.83762
Model summary					
R	.784a				
R square	0.615389				
Adjusted R square	0.582557				
Std. error of the estimate	0.168863				
Durbin-Watson	2.0000				
ANOVA (F stat)	58.74323				
ANOVA (F prob)	.000b				

Similarly, the study also evaluated the moderating effect of Firm Characteristics (M) on the relationships between all three ERM practices (Risk Culture, Risk identification and governance, Risk assessment, mitigation, and control) individually, and Organizational Performance (Y).

**4.5.2.5.2 Moderating effect of Firm Ownership (FO) on the relationships between all three ERM practices (Risk Culture, Risk identification and governance, Risk assessment, mitigation, and control) individually, and Organizational Performance (Y).**

From the results risk culture had a positive and a significantly beta coefficient of 0.741 and  $p = 0.000$  Table 4.25. On the contrary Risk Identification & Governance and Risk Assessment & Mitigation Control did not have a direct significant effect  $p > 0.05$  on organizational performance. The moderating variable Firm Characteristics, which were represented by the variable Firm Ownership characteristic, Risk Culture, Risk Identification & Governance and Risk Assessment & Mitigation Control interaction also did not show statistically significant coefficients ( $p > 0.05$ ). This indicated that firm characteristics had no moderating effect on the relationship between organizational performances and ERM practices. This suggests that these aspects of Firm Characteristics may not significantly moderate the relationships between ERM practices and Organizational Performance in this model.

**Table 4: 25 Represents the moderating effect of Firm Characteristics (M) on the relationships between all three ERM practices and Organizational Performance (Y).**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.939	0.090		10.495	0.000
Risk Culture(X1)	0.307	0.051	0.741	6.005	0.000
Risk identification and governance(X2)	0.081	0.065	0.231	1.247	0.216
Risk Assessment Mitigation, and Control (X3)	0.063	0.052	0.187	1.215	0.228
Firm ownership characteristics (FO)	0.167	0.358	0.155	0.465	0.643
X1*FO	0.360	0.232	0.824	1.551	0.125
X2*FO	0.175	0.308	0.555	0.570	0.570
X3*FO	0.030	0.255	0.093	0.119	0.905
Model summary					
R	.784a				
R square	0.615389				
Adjusted R square	0.582952				
Std. error of the estimate	0.167976				
Durbin-Watson	2.0000				
ANOVA (F stat)	58.97177				
ANOVA (F prob)	.000b				

## 4.6 Objective Three - Perceptions of the management

### 4.6.1 Relationship between ERM and organizational performance

This section sought to determine the perception of the respondents on the relationship between ERM practices and organizational performance. A Likert scale of 1-5 was used to assess the factors where 1 was assigned to indicate no extent, 2 for less extent, 3 for moderate, 4 for great extent and 5 for very great extent. The findings are presented in Table 4.26 below.

**Table 4: 26 Relationship between ERM practices on organizational performance**

Statement	Mean	Deviation	Rank
Risk culture improves organizational performance	4.45	0.96	1
Risk identification and governance improves organizational performance	3.01	0.81	3
Risk assessment, mitigation, and control improves organizational performance	3.97	0.87	2

The results showed that a significant majority of respondents perceived risk culture to have a considerable impact on organizational performance, as indicated by a mean score of 4.45. This consensus emphasizes on the prevalent belief among participants regarding the influential role of risk culture in shaping organizational outcomes. Similarly, the majority of respondents also expressed that risk identification and governance, along with risk assessment, mitigation, and control, had significant effects on organizational performance, with mean scores of 3.97 and 3.01 respectively. These results collectively indicate a widespread acknowledgment among participants regarding the relationship between ERM practices and organizational performance, highlighting a perceived connection between ERM implementation and favorable organizational outcomes.

### 4.6.2 Factors that motivate firms to adopt ERM practices

This section sought to determine the factors that motivate firms to adopt ERM practices. A Likert scale of 1-5 was used to assess the factors where 1 was assigned to indicate no extent, 2 for less extent, 3 for moderate, 4 for great extent and 5 for very great extent. The findings are presented in Table 4.27 below.

**Table 4: 27 Factors that motivate firms to adopt ERM practices**

<b>Factor</b>	<b>Mean</b>	<b>Deviation</b>	<b>Rank</b>
Creation of a more risk focused culture for the organization	4.67	0.97	1
Standardized risk reporting	3.72	0.86	3
Improved focus and perspective on risk	3.96	1.05	2
Efficient use of resources	3.24	1.24	4
Effective coordination of regulatory and compliance matters	3.21	0.73	5

The factors motivating firms to adopt ERM practices were ranked in accordance to the means. Factors with a mean higher than 4 were considered to be motivating factors while those with a mean of 3 were motivating factors but to a moderate extent. From the results, respondent's felt that firms majorly adopt ERM practices to create a more risk focused culture as indicated by the high mean of 4.67. On the other hand, the need for a standardized risk reporting, improved focus and perspective on risk, efficient use of resources and effective coordination of regulatory and compliance matters were considered to be motivating factors but only to a moderate extent. These findings implied that listed non-financial firms in Kenya are mainly motivated to adopt ERM practices for qualitative reasons.

#### **4.6.3 Factors that hinder firms from adopting ERM practices**

This section sought to determine the factors that hinder firms from adopting ERM practices. A Likert scale of 1-5 was used to assess the factors where 1 was assigned to indicate no extent, 2 for less extent, 3 for moderate, 4 for great extent and 5 for very great extent. The findings are presented in Table 4.28 below.

**Table 4: 28 Factors that hinder firms from adopting ERM practices**

<b>Factor</b>	<b>Mean</b>	<b>Deviation</b>	<b>Rank</b>
Insufficient Resources	4.04	0.76	2
Unsupportive Organizational culture	4.12	0.98	1
Lack of perceived value of benefits of ERM	2.56	1.13	5
Inadequate training on ERM	3.84	1.19	3
Lack of qualified personnel to implement ERM	3.64	0.98	4

The factors that hinder firms from adopting ERM practices were also investigated and ranked in accordance to the means. From the results, respondent's felt that firms are majorly hindered from adopting ERM practices by insufficient resources and unsupportive organizational culture as indicated by the mean of 4.04 and 4.12 respectively. It was also evident that the inadequate training on ERM and a lack of qualified personnel to implement ERM could also be major hindrances of firms adopting ERM practices as indicated by the mean of 3.84 and 3.64 respectively. On the other hand, the lack of perceived value of benefits of ERM was not considered to be a hindrance to adopting ERM practices since the mean was less than 3. These findings indicate that firms are aware of the importance of adopting ERM practices, however, in order to obtain the perceived ERM benefits, the firms need to create supportive organizational cultures as well as allocating adequate resources towards ERM implementation.

#### **4.7 Comparison of primary data and secondary data findings**

The findings from the primary data and the secondary data agree. The findings of the secondary data from the regression outputs showed that ERM practices had a positive and significant effect on organizational performance. In objective two, the direct effect of ERM practices and organizational performance was tested, it was established that, ERM positively and significantly influenced organizational performance. These findings were supported by results of primary data analysis where majority of the respondents were of the opinion that risk culture impacted organizational culture significantly to a great extent while risk identification and governance, risk assessment, mitigation, and control did impact organizational performance moderately.

#### **4.8 Chapter Summary**

This chapter presents the study findings based on three objectives which were, the relationship between ERM practices and organizational performance, the moderating effect of ERM on the interplay between ERM practices and organizational performance and the perception of management on relationship between ERM practices and organizational performance. The findings of the study establish that there was a positive correlation between all the eight ERM components and organizational performance. The second objective established that firm characteristics did not have a moderating effect on the relationship between ERM practices and

organizational performance. In the third objective the respondents perceived that risk culture greatly impacted organizational performance and thus creation of a more risk focused culture greatly motivated firms into adopting ERM practices.



## **CHAPTER FIVE: SUMMARY OF FINDINGS**

### **5.1 Introduction**

This chapter presents the summary, discussions, conclusions and recommendations from the study. Discussion of the findings based on the objectives is given in section 5.2, conclusions are given in section 5.3, recommendations in 5.4, and areas for further studies in 5.5 and limitations of the study are in section 5.6.

### **5.2 Discussion of the Findings**

The main objective of the study was to examine the effect of ERM practices on the organizational performance of non-financial firms listed on the NSE. The study focused on the organizational performance of the firms as measured by the balance scorecard since previous studies had focused on financial performance measured by financial ratios such as ROA. Data was collected from 32 listed non-financial firms in NSE. Questionnaire data was collected from 114 respondents from these firms. Below are discussions on the study's findings in comparison with previous studies empirical results.

#### **5.2.1 ERM practices and the organizational performance**

This objective sought to establish the relationship between ERM practices (risk culture, risk identification and governance, and risk assessment, mitigation, and control) and the organizational performance of non-financial firms listed on the NSE. P values from the structural model assessment were used to determine the association between ERM and its constituent elements, as well as between ERM and organizational performance. The findings indicated that the relationship between ERM and Information & Communication, as well as ERM and objective settings, lacked statistical significance. Conversely, it was observed that the components of internal environment, risk assessment, risk response, monitoring, and event identification exhibited statistically significant associations with ERM. Moreover, an examination was conducted to determine the connection between ERM and organizational performance, revealing a significant relationship between the two variables. Additionally, a correlation coefficient for the latent variables was computed. The results showed that there was a positive correlation between ERM components and ERM. Furthermore, the results indicated that there was a substantial association between ERM and organizational performance (0.900) suggesting that ERM significantly influences organizational performance.

These findings are consistent with Gateri's (2019) who established a significant relationship between the eight components of ERM and ERM itself. Additionally, the study identified a positive correlation between ERM and financial performance. Similarly, Kaliti (2019) found a significant positive correlation between

risk assessment, risk response, innovation and quality, internal environment and control activities, and the financial performance of firms in the hospitality industry in Nairobi County. Furthermore, Malik & Okumu's (2021) work emphasized the strong positive correlation between ERM and various aspects of firm performance, including shareholders' value, firm value, and liquidity. Likewise, Wanjiru (2020) highlighted the importance of fully integrating risk as a fundamental component of a comprehensive risk management strategy, as enterprises embracing ERM reported enhanced performance.

On the contrary, these findings contradict the results of Opiyo (2012), who did not establish a significant relationship between ERM practices and financial performance. It's worth noting that Opiyo's study was conducted during a different economic period, which could potentially account for the disparity in findings. Additionally, this study's results contrast with those of Otieno (2017), who found that risk identification, risk monitoring, risk response, and risk mapping had a positive but insignificant relationship with the financial performance of listed firms.

From the findings of this section, it can be deduced that several components of ERM, namely the internal environment, risk assessment, risk response, monitoring, and event identification, display statistically significant associations with ERM. This suggests their capacity to explain ERM practices effectively. Moreover, it can be inferred that ERM practices demonstrate a statistically significant relationship with the organizational performance of firms listed on the Nairobi Securities Exchange (NSE). Consequently, there exists a strong likelihood for non-financial firms to enhance their organizational performance upon the adoption of ERM practices.

### **5.2.2 Moderating effect of firm characteristics**

The second objective of this study examined the moderating effect of firm characteristics, specifically firm size and ownership, on the relationship between ERM practices and

organizational performance. The first model in this section focused on establishing the direct impact of ERM practices on organizational performance. The results revealed that risk culture, risk identification, governance, risk assessment, mitigation, and control exerted a significant positive influence on organizational performance.

These findings are consistent with prior research by Onyango (2018), who also identified a positive effect of ERM practices on firm performance. Similarly, Girangwa (2019) demonstrated that ERM practices contributed to enhancing the organizational performance of firms. In contrast, Cheruiyot (2018) reported a negative impact of ERM on firm performance. The study highlighted a noteworthy aspect, revealing that certain enterprises incurred substantial financial costs during ERM integration, leading to adverse performance outcomes. Additionally, Makau (2020) study on listed firms in Kenya found no statistical significance between any ERM practices and company performance. It can be deduced that organizations should allocate sufficient resources and investments in ERM practices to ensure they reap the benefits of long-term enhanced performance. Despite the mixed results in the literature, a strategic and well-implemented ERM framework has the potential to mitigate risks effectively and contribute positively to organizational success over time.

The moderating effects of firm characteristics, specifically firm ownership and firm size, were observed to be positive but insignificant upon interpretation of the unstandardized beta and p-values. Notably, all p-values exceeded 0.05 at a 95% confidence level. These results suggest that, overall, firm characteristics (firm size and ownership) positively influence the relationship between ERM practices and organizational performance. However, it is important to note that this effect is not statistically significant. According to Grace (2020), the positive impact of firm characteristics on the relationship between ERM practices and organizational performance can be attributed to various factors. For instance, larger-sized firms may possess greater resources and capabilities, which could facilitate a more effective implementation of ERM practices, consequently leading to enhanced organizational performance.

These findings contrast with those of Tahir and Razali (2021), who investigated the role of firm size as a predictor variable in the connection between enterprise risk management and firm value. Their findings underscored a positive correlation between firm size and firm value,

suggesting that larger firms may expedite their growth through earnings accumulation, thereby contributing to enhanced overall value. Similarly, Yegon, Mouni, and Wanjau (2014) explored the impact of firm size on enterprise risk management within the Kenyan context. Their results revealed a strong correlation between firm characteristics and ERM practices, with larger firms demonstrating improved efficiency in ERM implementation, reinforcing the relationship between size and risk management effectiveness.

Therefore, it can be deduced that firm characteristics, play an important role in influencing the effectiveness of ERM practices and organizational performance. However, the lack of statistical significance indicates that the impact of firm characteristics on the relationship between ERM practices and organizational performance may be nuanced and subject to other influencing factors.

### **5.2.3 Perceptions of the management**

This objective assessed management's perceptions regarding the relationship between ERM practices and organizational performance. A majority of respondents asserted that listed non-financial firms were driven to adopt ERM practices primarily to cultivate a more risk-focused culture within their organizations.

Additionally, the desire for standardized risk reporting, enhanced focus on risk, and improved coordination of regulatory and compliance matters were cited as motivating factors, albeit to a moderate extent.

These findings are consistent with the research conducted by Jose (2018), who argued that firms adopt ERM practices with the objective of creating a more risk-focused culture. Furthermore, the emphasis on improving focus and perspective on risk aligns with the findings of Mohamed (2020). The study similarly highlighted the importance of enhancing organizations' understanding and management of risks through ERM practices.

Additionally, the majority of respondents argued that firms were hindered from adopting ERM practices mainly due to unsupportive organizational cultures. This sentiment is confirmed by Maito (2019), who established that firms with supportive organizational cultures tend to have smoother and more successful implementations of ERM initiatives. Conversely, organizations

with unsupportive cultures may face resistance to change, lack of buy-in from key stakeholders, and insufficient resources allocated to ERM efforts. Therefore, fostering a culture that values risk management and promotes collaboration across departments is crucial for the effective adoption and implementation of ERM practices.

### **5.3 Conclusion**

The study investigated the relationship between ERM practices and organizational performance among non-financial firms listed on the Nairobi Securities Exchange (NSE). Findings revealed a significant association between various ERM components and organizational performance as measured by BSC, emphasizing the importance of effective risk management strategies in enhancing overall firm performance.

However, while positive associations between firm characteristics (e.g., size and ownership) and ERM practices were observed, the lack of statistical significance underscores the nuanced nature of this relationship. Management perceptions highlighted the motivation behind ERM adoption and identified challenges related to unsupportive organizational cultures. Overall, the study underscores the importance of addressing organizational barriers to fully leverage the benefits of ERM implementation.

The study's findings validate the principles of ERM Theory by revealing a significant relationship between various ERM components and organizational performance, thereby supporting the notion that effective risk management practices enhance overall firm performance. The study's evaluation of organizational performance across multiple dimensions, including both financial and non-financial measures, aligns in part with Balanced Scorecard Theory. Additionally, the findings reinforce Stakeholder Theory, emphasizing the importance of managing risks to meet stakeholder expectations and ensure the long-term viability of organizations.

The establishment of a significant association between ERM practices and organizational performance demonstrates the necessity for organizations to prioritize the interests and needs of all stakeholders, further validating Stakeholder Theory.

## **5.4 Recommendations**

### **5.4.1 Recommendation for policy**

The study's findings hold specific policy implications for firms listed on the NSE and regulatory bodies overseeing them such as CMA. Firstly, regulators should develop tailored guidelines and regulations to incentivize and enforce the adoption of robust ERM practices among non-financial firms listed on the NSE. This may involve mandating the disclosure of ERM frameworks and practices in annual reports to enhance transparency and accountability to investors. Additionally, policymakers should allocate resources to promote ERM awareness and provide training opportunities for stakeholders within NSE-listed firms, ensuring effective implementation and integration of ERM into organizational strategies. Furthermore, regulatory bodies, such as the CMA in Kenya, should actively monitor and evaluate the effectiveness of ERM practices within NSE-listed firms, using insights from the study to inform regulatory interventions and support continuous improvement in risk management practices. By prioritizing ERM adoption and oversight within NSE-listed firms, policymakers and regulators can enhance risk management capabilities, bolster investor confidence, and contribute to the stability and resilience of the NSE.

### **5.4.2 Recommendation for listed firms**

Listed firms on the Nairobi Securities Exchange (NSE) should prioritize the implementation of comprehensive ERM frameworks tailored to their specific organizational characteristics and risk profiles. This includes fostering a strong risk-aware culture through regular training, ensuring transparent communication of ERM practices to stakeholders, leveraging technology for efficient risk management, and actively participating in knowledge-sharing platforms to exchange best practices. By investing in robust ERM practices, listed firms can enhance resilience, protect shareholder value, and maintain competitiveness in today's dynamic business landscape.

### **5.4.3 Recommendation for practice**

For listed non-financial firms in Kenya, prioritizing the development of tailored ERM frameworks is crucial to address specific risk profiles and organizational characteristics.

Fostering a risk-aware culture should be a top priority, achieved through regular training, open communication, and recognition of risk management efforts across all levels of the organization. These firms should promote collaboration and integration to ensure a holistic approach to risk management, leveraging technology and data analytics tools for efficient risk identification and monitoring. Engagement with stakeholders and sharing best practices through industry forums and knowledge-sharing platforms is essential for staying abreast of emerging

### **5.4.3 Areas of further research**

This study, which concentrated on non-financial firms, suggests conducting further research that includes a comparative analysis across industries within the NSE. Such an analysis would enable the identification of sector-specific risk management approaches. This comparative approach could offer valuable insights into how different industries within the NSE manage risks and inform tailored risk management strategies for specific sectors. Furthermore, this study limited its focus to only two firm characteristics, firm ownership and firm size, to assess their impact on the relationship between ERM practices and organizational performance. Future research should explore additional factors beyond these two variables that could influence this relationship. The current study solely utilized a composite score for organizational performance. Future research could extend this by examining the direct impact of ERM practices on the four perspectives of the Balanced Scorecard (BSC): Financial, Customer, Internal Business Processes, and Learning & Growth perspectives.

### **5.5 Limitations of the study**

This study focused exclusively on non-financial firms listed on the NSE, highlighting the need for future research to conduct a comparative analysis across different industries within the NSE to identify sector-specific risk management approaches. Such analysis would provide valuable insights into how various industries manage risks and inform the development of tailored risk management strategies. Additionally, the study examined only two firm characteristics that is firm ownership and firm size in assessing the impact of ERM practices on organizational performance, suggesting that future research should explore additional factors such as market conditions, management structure, and technological adoption. Moreover, the study used a

composite score to measure organizational performance, indicating that future research could benefit from examining the direct impact of ERM practices on the four perspectives of the Balanced Scorecard (BSC): Financial, Customer, Internal Business Processes, and Learning & Growth. Addressing these limitations would enhance the understanding of ERM practices and their impact on organizational performance, leading to more effective risk management strategies across various sectors.



## REFERENCES

- Alawattagama, K. K. (2019). Enterprise Risk Management Practices and its Impact on Firm Performance: Evidence from Sri Lankan Insurance Industry. *International Journal of Engineering Technologies and Management Research* 6(12), 11-21.
- Altanashat, M. j., & Alheety, S. N. (2019). The relationship between ERM practices and performance in selected companies in Jordan. *International Journal of Management and Commerce Innovations* 17(1), 209 - 217.
- Amah, O. E., & Oyetunde, K. (2019). Determinants of high-performance organizations in Africa: A conceptual framework and research propositions. *International Journal of Management, Economics and Social Sciences*, 8(4), 319–333.
- Angeline, Y. K., & Teng, Y. (2016). Enterprise Risk Management: Evidence from Small-Medium Enterprises. *Malaysian Accounting Review* 15 (2), 151-170.
- Apaloo, S. (2022). The Effect of Risk Management Practices on Performance of Small and Medium Scale Enterprises. *Enterprise Risk Management* 7(1), 1-16.
- Asamoah, E. O., & Arkoh, P. (2019). Impact of Enterprise Risk Management Practices on Financial Performance of Rural and Community Banks in Ghana. *International Journal of Economics, Business and Management Research* 3(5), 37-56.
- Aven, T. (2016). Risk assessment and risk management: Review of recent advances on their foundation. *European Journal of Operational Research* 1(1), 1-13.
- Balasundaram, N., & Valnampy, T. (2007). Balance score card and organisational performance: A comparative study of state and private sector banks in north and eastern provinces of Sri Lanka. *SSRN Electronic Journal*, 24(1), 1–23.
- Beasley, M. S., R. C., & D. R., H. (2018). The Impact of Enterprise Risk Management on the Internal Audit Function. *Journal of Forensic Accounting* 1(2), 50-72.
- Boțoc, C. (2015). Risk and firm value in European companies: A dynamic data approach. *Economic Science Series, West University of Timișoara, Romania* 32(1), 29-  
*International Small Business Journal: Researching Entrepreneurship* 34 (1), 70-
- Bui, D. G., Fang, Y., & Lin, C. Y. (2018). The Influence of Risk Culture on Firm Returns in Times of Crisis. *International Review of Economics & Finance* 57(1), 291-306.

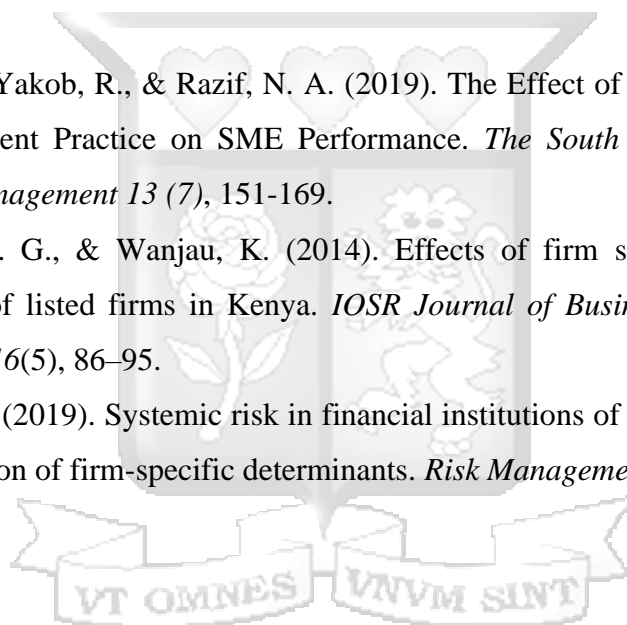
- Cera, E., & Kasaku, A. (2020). Factors influencing organizational performance: Work environment, training-development, management and organizational culture. *European Journal of Economics and Business Studies*, 6(1), 16–17.
- Chege, S. M., Wanyembi, G., & Nyamboga, C. M. (2023). Enterprise risk management practices in Kenya. *Journal of International Business Research and Marketing*, 8(1), 15–26.
- Cheplel, S. (2013). The impact of ERM practices on the financial performance of Commercial Banks in Kenya. *Unpublished MBA Project Paper, University of Nairobi*, 1-64.
- Cooper, W. E. (2019). Risk assessment and risk management: An essential integration. *Human and Ecological Risk Assessment: An International Journal*, 4(4), 931–937.
- Dickinson, G. (2001). Enterprise risk management: Its origins and conceptual foundation. *Geneva Papers on Risk and Insurance - Issues and Practice*, 26(3), 360–366.
- Edesiri, O., & Oniovosa, J. (2023). Enterprise risk management and firm value: Evidence from selected commercial banks in Sub-Saharan Africa. *International Journal of Applied Economics, Finance and Accounting* (16)2, 199-207.
- Ewertowski, T., & Butlewski, M. (2022). Managerial perception of risk in an organization in a post-covid-19 work environment. *International Journal of Environmental Research and Public Health*, 19(22), 1–15.
- Falkner, E. M., & M. R., H. (2015). Risk Management in SMEs: A Systematic Review of Available Evidence. *Journal of Risk Finance* 16(2), 122 -144.
- Fraser, J., & Simkins, B. (2013). Enterprise risk management: Today's leading research and best practices for tomorrow's executives. *Journal of Applied Finance* 18(1), 73-91.
- Gao, S. S., Sung, M., & Zhang, J. (2013). Risk Management Capability Building in SMEs: A Social Capital Perspective. *International Small Business Journal* 31(6), 677-700.
- Gatzert, N., & Martin, M. (2015). Determinants and Value of Enterprise Risk Management: Empirical Evidence from the Literature. *Risk Management and Insurance Review* 18(1), 29-53.

- Girangwa, K. G. (2020). The Influence of Enterprise Risk Management Practices on Organizational Performance: Evidence from Kenyan State Corporations. *Journal of Accounting, Business and Finance Research* 8(1), 11-20.
- Girangwa, K. G., Mose, J., & Rono, L. (2019). Enterprise risk management practices and organizational performance. does intellectual capital make a difference? *Expert Journal of Finance*, 7(1), 1–16.
- Grondys, K., Androniceanu, A., Hussain, H. I., & Ślusarczyk, O. (2021). Risk Assessment of the SME Sector Operations during the COVID-19 Pandemic. *International Journal of Environmental Research* 18(8), 63-77.
- Hollman, K., & Mohammad-Zadeh, S. (2014). Risk Management in Small Businesses. *Journal of Small Business Management* 22(1), 7-55.
- Hoyt, R. E. (2011). The value of enterprise risk management: Evidence from the US insurance industry. *Journal of Risk and Insurance* 3(1), 25-38.
- Hoyt, R. E., & Liebenberg, A. (2013). The Value of Enterprise Risk Management. *Journal of Risk and Insurance* 78(4), 795-822.
- Jankensgård, H. (2019). A Theory of Enterprise Risk Management. *Corporate Governance* 19(3), 565-579.
- Jeevarathinam, S. (2023). *Unveiling the complexities: Unraveling scientific and technological uncertainties in forensic auditing of IT production infrastructure*. Diamond Foyer Inc.
- Jenya, B., & Sandada, M. (2017). Enhancing Success of SMEs through Risk Enterprise Management: Evidence from a Developing Country. *Pakistan Journal of Applied Economics* 27(2), 174-188.
- Kimotho, G. W. (2015). Relationship between Enterprise Risk Management Practices and the Financial Performance among Commercial State Corporations in Kenya. *Unpublished MBA Dissertation: University of Nairobi*, 1-74.
- Kumar, S. (2021). Risk culture is a necessary condition for enterprise risk management to succeed. *Academia Letters*, 1–10.
- Laisaikorn, N., R., & Laisaikorn, K. (2014). A Study of the Relationship between a Successful Enterprise Risk Management System, a Performance Measurement System and the Financial Performance of Thai Listed Companies. *The Journal of Applied Business and Economics* 16(2), 81-105.

- Lima, F. d., Crema, M., & Verbano, C. (2020). Risk Management in SMEs: A Systematic Literature Review and Future Directions. *European Management Journal* 38(1), 78-94.
- Maity, P., & Chakraborty, I. (2020). COVID-19 Outbreak: Migration, effects on Society, Global Environment and Prevention. *Science of the Total Environment* 728(1), 50-65.
- Malik, F., Zaman, M., & Buckby, S. (2019). Enterprise Risk Management and Firm Performance: Role of the Risk Committee. *Journal of Contemporary Accounting & Economics* 16(1), 1-44.
- Malik, M. F., & Zaman, M. (2020). Enterprise Risk Management and Firm Performance: Role of the Risk Committee. *Journal of Contemporary Accounting and Economics* 16(1), 97-118.
- Moeller, R. (2017). Enterprise Risk Management Integrated Framework. *The Committee of Sponsoring Organizations of the Treadway Commission* 1(1), 112-143.
- Moriasi, E. B. (2023). Determinants of organisational performance in the cement manufacturing industry in Kenya: A case of Savannah Cement Ltd. *Global Scientific Journals*, 11(2), 439–461.
- Munyalo, E. M. (2020). Effect of Enterprise Risk Management on Financial Performance of Supermarkets in Nairobi County. *Unpublished MCOM (Finance) Dissertation: KCA University*.
- Namanya, D., Nzibonera, E., Nuwagaba, G., & Ogema, J. (2023). Enterprise risk management and company performance: Evidence from East Africa. *Advanced International Journal of Banking, Accounting, and Finance*, 5(16), 01-15.
- Nasir, N. (2018). Effect of Enterprise Risk Management on Firm Value: Empirical Evidence from Non-Financial Firms in Pakistan. *International Journal of Financial Management* 8(4), 15-28.
- Ntare, P. C., Shau, I. R., & Ojwang, E. (2022). Effects of enterprise risk management practices on performance of small and medium scale enterprises: A case of Dar Es Salaam City, Tanzania. *African Journal of Applied Research*, 8(1), 182–199.
- Nyamongo, L. K. (2019). *Influence of sustainability on regulation and credit risk management among commercial banks in Kenya*. Kenya Bankers Association.

- Nyongesa, J. M. (2017). Influence of Enterprise Risk Management Strategies on Performance of Medium Scale Businesses in Kisumu City, Kenya. *Unpublished MBA dissertation: Maseno University.*
- Onyango, V. A. (2018). Impact of Enterprise Risk Management Practice on the Financial Performance of Insurance Firms in Kenya. *Unpublished MBA Dissertation: University of Nairobi.*
- Otieno, M. (2017). The Relationship Between Enterprise Risk Management Practices and Financial Performance of Financial Firms Listed in Nairobi Securities Exchange. *Unpublished MBA.*
- Otieno, O. J. (2012). The relationship between Enterprise Risk Management Practices and Financial Performance of Non-Financial Firms Listed in Nairobi Securities Exchange. *Unpublished MBA*, 1-64.
- Pagach, D., & Kosmala, M. W. (2020). The Challenges and Opportunities for ERM Post-COVID-19: Agendas for Future Research. *Journal of Risk and Financial Management* 13(2), 323-343.
- Polinkevych, O., Khovrak, I., & Trynchuk, V. (2021). Business Risk Management in Times of Crises and Pandemics. *Montenegrin Journal of Economics* 17(3), 99-110.
- Prewett, K. (2018). COSO's Updated Enterprise Risk Management Framework—A Quest For Depth And Clarity. *The Journal of Corporate Accounting & Finance* 29(3), 16-23.
- Rasid, S. Z. A., Isa, C. R., & Ismail, W. K. W. (2014). Management accounting systems, enterprise risk management and organizational performance in financial institutions. *Asian Review of Accounting*, 22(2), 128–144.
- Sax, J., & Andersen, T. J. (2019). Making Risk Management Strategic: Integrating Enterprise Risk Management with Strategic Planning. *European Management Review* 16(3), 719-740.
- Silva, J. R., Silva, A. F. da, & Chan, B. L. (2018). Enterprise risk management and firm value: Evidence from Brazil. *Emerging Markets Finance and Trade*, 55(3), 687–703.
- Singh, S., Darwish, T. K., & Potočník, K. (2015). Measuring organizational performance: A case for subjective measures. *British Journal of Management*, 27(1), 214–224.

- Sprčić, N., K. I., & Lacković, D. (2022). Three-factor model of Enterprise Risk Management implementation: Exploratory study of non-financial companies. *Risk Management* 24 (2),101-122.
- Suttipun, M., Siripong, W., & Wichianrak, J. (2018). The Influence of Enterprise Risk Management on Firm Performance Measured by the Balanced Scorecard: Evidence from SMEs in Southern Thailand. *CMU Journal of Social Sciences and Humanities* 5(1), 33- 53.
- Syrová, L., & Špička, J. (2023). Exploring the indirect links between enterprise risk management and the financial performance of SMEs. *Risk Management* 25(1), 1-27.
- Verbano, C., & Venturini, K. (2013). Managing Risks in SMEs: A Literature Review and Research Agenda. *The Journal of Technology Management & Innovation* 8 (3), 67-81.
- Yakob, S., Syah, H., Yakob, R., & Razif, N. A. (2019). The Effect of Enterprise Risk Management Practice on SME Performance. *The South East Asia Journal of Management* 13 (7), 151-169.
- Yegon, C., Mouni, J. G., & Wanjau, K. (2014). Effects of firm size on enterprise risk management of listed firms in Kenya. *IOSR Journal of Business and Management (IOSR-JBM)*, 16(5), 86–95.
- Zeb, S., & Rashid, A. (2019). Systemic risk in financial institutions of BRICS: Measurement and identification of firm-specific determinants. *Risk Management*, 1–12.



## APPENDICES

### Appendix I: Ethical Approval



25<sup>th</sup> March 2024

Ms Robert Mutanu Hope,  
mutanuh@gmail.com

Dear Ms Robert,

**RE: The Effect of Enterprise Risk Management and Firm Characteristics on Organizational Performance among Listed Non-Financial Firms in Kenya**

This is to inform you that SU-ISERC has reviewed and **approved** your above **SU-masters** research proposal. Your application reference number is **SU-ISERC2093/24**. The approval period is from **25<sup>th</sup> March 2024 to 24<sup>th</sup> March 2025**.

This approval is subject to compliance with the following requirements:

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

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

Yours sincerely,

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

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



## Appendix II: List of Listed Non-Financial Firms

### Agricultural

1. Eaagads Ltd
2. Kapchorua Tea Co. Ltd
3. Kakuzi
4. Limuru Tea Co. Ltd
5. Rea Vipingo Plantations Ltd
6. Sasini Ltd
7. Williamson Tea Kenya Ltd

### Automobiles and Accessories

1. Car and General (K) Ltd

### Commercial and Services

1. Express Ltd
2. Sameer Africa PLC
3. Kenya Airways Ltd - Suspended
4. Nation Media Group
5. Standard Group Ltd
6. TPS Eastern Africa (Serena) Ltd
7. Scangroup Ltd
8. Uchumi Supermarket Ltd -Suspended
9. Longhorn Publishers Ltd
10. Deacons (East Africa) Plc - Suspended
11. Nairobi Business Ventures Ltd

### Construction and Allied

1. Athi River Mining - Suspended
2. Bamburi Cement PLC
3. Crown Paints Kenya PLC
4. E.A.Cables PLC
5. E.A.Portland Cement Ltd

### Energy and Petroleum

1. Total Kenya Ltd
2. KenGen Ltd
3. Kenya Power & Lighting Co Ltd
4. Umeme Ltd

### Manufacturing and Allied

1. B.O.C Kenya Ltd
2. British American Tobacco Kenya Ltd
3. Carbacid Investments Ltd
4. East African Breweries Ltd
5. Mumias Sugar Co. Ltd - Suspended
6. Unga Group Ltd
7. Eveready East Africa Ltd
8. Kenya Orchards Ltd
9. Flame Tree Group

### Telecommunication and Technology

1. Safaricom Plc



## Appendix IV: Secondary Data Collection Sheets

### SECTION A: FIRM CHARACTERISTICS

#### 1. Firm Size

Financial data for the Years 2020, 2021 and 2022

Particulars	KES	KES	KES
	2020	2021	2022
Total Assets			

#### 2. Firm Ownership structure

##### a. Financial Leverage

Particulars	KES	KES	KES
	2020	2021	2022
Total Debt			
Shareholder's Equity			

### SECTION B: FINANCIAL PERFORMANCE

Particulars	KES	KES	KES
	2020	2021	2022
ROA			
Net Operating Revenue Return			
Solvency ratio (long term liability/ Assets)			
Liquidity - current ratio			

**Appendix V: A Letter of Introduction**  
**Hope Mutanu Robert.**

Strathmore University Business School,  
P.O Box 59857 – 00200,  
Nairobi.

**Dear Respondent,**

**RE: REQUEST FOR COLLECTION OF RESEARCH DATA**

I am a Master's student at Strathmore University Business School, pursuing a Master of Commerce degree with a specialization in finance.

I am currently conducting research on **the effect of enterprise risk management practices on the organizational performance of non-financial firms listed at the NSE: The Moderating Role of Firm Characteristics**. This research counts as part of the master's degree requirements. I humbly request your participation in this study.

I would like to assure you that all the information shared in this study will be kept confidential and used solely for the purpose of this research. To ensure strict confidentiality, I respectfully request that you not write your name in the questionnaire. Your involvement and assistance in this study will be highly appreciated.

Yours Sincerely,



Hope Mutanu Robert

## Appendix VI: Survey Questionnaire

The goal of this questionnaire is to collect information on the effect of enterprise risk management practices and firm characteristics on the organizational performance of non-financial firms listed on the NSE. Your firm was specifically chosen because it will provide valuable information to this study by helping it answer its research questions. You are kindly asked to respond to the questions as directed. As stated in the introductory letter, this information will be kept confidential and used solely for academic purposes.

(Kindly tick inside the box where appropriate)

### SECTION A: THE DEMOGRAPHIC PROFILE OF RESPONDENTS

1. Name of your firm and industry \_\_\_\_\_

2. What is your gender

Male

Female

3. Your designation.

Chief Executive Officer

Chief Finance Officer

Chief Risk Officer

4. What is your highest level of education?

Doctorate Degree

Bachelor's Degree

Master's Degree

Diploma

Other

5. For how long has the firm been in operation?

Less than two years

6 – 10 Years

2 – 5 Years

Over 10 Years

**SECTION B: ENTERPRISE RISK MANAGEMENT PRACTICES USING COSO MODEL 2004**

**INTERNAL ENVIRONMENT**

6. Rate the extent to which the internal environment is set up to enable managing risks in your firm. Use a scale of 1 to 5 where;

**(1)- No Extend (2)- Less Extent (3)- Moderate (4)- Great Extent and (5)- Very Great Extent**

<b>ERM Supportive Internal Environment</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
There is a clear communication of risk management mission statement to senior managers.					
There is shared information on the firm's innovations.					
The firm has incorporated responsibility for risk management into the manager's position.					
The board of directors is actively involved in the management process.					
Managers possess adequate appraisal and monitoring skills, experience and good knowledge of risk management.					

**OBJECTIVE SETTING**

7. Rate the extent of use of objective setting in managing enterprise risks in your firm. Use a scale of 1 to 5 where;

**(1)- No Extent (2)- Less Extent (3)- Moderate (4)- Great Extent (5)- Very Great Extent**

<b>Risk Aligned Objective Setting</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

The firm has aligned its business risks with its corporate level and business unit level goals and objectives.					
The firm has established explicit corporate and wide risk tolerance levels or limits for all major risk categories.					
The firm has clearly communicated its expectations for risk taking to senior managers.					
The firm has aligned its strategic objectives to compliance objectives.					

## EVENT IDENTIFICATION

8. Rate the extent to which event identification is used in managing enterprise risks in your firm.

Use a scale of 1 to 5 where;

**(1)- No Extent (2)- Less Extent (3)- Moderate (4)- Great Extent (5)- Very Great Extent**

Event Identification	1	2	3	4	5
The firm has a comprehensive list of business risks that managers are expected to manage.					
Business units within the firm utilize facilitated self-evaluation and/or survey techniques to map risks.					
The firm has competent staff that predict risks based on losses incurred and devise mitigation measures.					
The firm has a policy governing information collection and quantification of risks.					

**RISK ASSESSMENT**

9. Rate the extent of use of risk assessment in managing risks in your firm. Use a scale of 1 to 5 where;

**(1)- No Extent (2)- Less Extent (3)- Moderate (4)- Great Extent (5)- Very Great Extent**

<b>Risk Assessment</b>	1	2	3	4	5
The firm has a risk evaluation committee to determine risks in business activities.					
People who understand the risks faced are usually involved in assessing probability and impact of occurrence of risks.					
The firm assess the efficiency of and leverage of business before venturing into it.					
The firm classify risks based on the amount of damage they cause and applies the correct measure to manage the risks.					
A risk with a large potential loss and a low probability of occurring is often treated differently from one with a low potential loss and a high likelihood of occurring.					
Risks are subdivided into individual levels for further analysis.					

**Risk Monitoring**

10. Rate the extent of use of risk monitoring in managing risks in your firm. Use a scale of 1 to 5 where;

**(1)- No Extent (2)- Less Extent (3)- Moderate (4)- Great Extent (5)- Very Great Extent**

<b>Risk Monitoring</b>	1	2	3	4	5

The firm has established written risk policy and procedure manuals that are consistent across all major risk.					
The firm's business units monitor and report on current status of key risks.					
The firm has identified the key metrics required for reporting on risk management performance.					
The firm monitors all significant risks on a regular basis, with timely and accurate measures of risk.					

### Risk Response

11. Rate the extent to which your firm uses risk response in managing enterprise risks. Use a scale of 1 to 5 where;

(1)- No Extent (2)- Less Extent (3)- Moderate (4)- Great Extent (5)- Very Great Extent

Risk Response	1	2	3	4	5
The firm conducts formal risk assessment across the company on a regular basis.					
The firm's risk management department analyze the root cause, impact and interrelationships of risks.					
The firm has quantified its key risks to a large extent.					
The firm's business units develop and determine risk mitigation strategies.					

### Control Activities

12. Rate the extent of use of the risk control activities in managing risks in your firm. Use a scale of 1 to 5 where;

**(1)- No Extent (2)- Less Extent (3)- Moderate (4)- Great Extent (5)- Very Great Extent**

<b>Control Activities</b>	1	2	3	4	5
The firm has established policies executed to help ensure the risk responses management selects are effectively carried out.					
The firm has clear authorizations and approvals on business operations.					
The firm has policies governing verification, reconciliations and company performance reviews in managing risks.					
The firm applies change management in managing occurrence of risks.					

### **Information & Communication**

**13.** Rate the extent of use of the information and communication in managing enterprise risks in your company. Use a scale of 1 to 5 where;

**(1)- No Extent (2)- Less Extent (3)- Moderate (4)- Great Extent (5)- Very Great Extent**

<b>Information &amp; Communication</b>	1	2	3	4	5
The firm has a corporate wide common language for communicating risk type exposures.					
The firm has regular briefs to the board and executive committee on risk management issues.					
The firm has communication system to communicate risk control activities and monitoring effort.					
The firm has adequate risk communication capabilities to identify, measure, and manage most major risk exposures and losses.					

## SECTION C: Organizational Performance

14. To what extent does Enterprise Risk Management practices contribute to the performance of your organization?

(1)- No Extent (2)- Less Extent (3)- Moderate (4)- Great Extent (5)- Very Great Extent

<b>Financial Perspective</b>	1	2	3	4	5
Perceived benefit of ERM practices to improved average economic profitability (ROA)					
Perceived benefit of ERM practices to improved financial liquidity ratio (current assets/current liabilities)					
Perceived benefit of ERM practices to improved average financial profitability (Net Operating Revenue Return)					
Perceived benefit of ERM practices to improved financial solvency ratio (long term liability/ Assets)					

(1)- No Extent (2)- Less Extent (3)- Moderate (4)- Great Extent (5)- Very Great Extent

<b>Customer Perspective</b>	1	2	3	4	5
Perceived benefit of ERM practices to customer satisfaction.					
Perceived benefit of ERM practices to customer acquisition.					
Perceived benefit of ERM practices to customer retention.					
Perceived benefit of ERM practices to increased market share.					

<b>Internal Business Process Perspective</b>	1	2	3	4	5
Perceived benefit of ERM practices to increased awareness of process improvement initiatives among employees in the firm.					
Perceived benefit of ERM practices to increased creativity and unexpected ideas.					

Perceived benefit of ERM practices to improved knowledge distribution.					
Perceived benefit of ERM practices to improved external communication.					

<b>Learning and Growth Perspective</b>	1	2	3	4	5
Perceived benefit of ERM practices to increased employee retention.					
Perceived benefit of ERM practices to increased employee satisfaction.					
Perceived benefit of ERM practices to increased employee training.					
Perceived benefit of ERM practices to improved alignment of employee incentives with overall organization success factors.					

**SECTION D: MANAGEMENT’S PERCEPTION OF ENTERPRISE RISK MANAGEMENT**

**15.** Please indicate the extent to which you believe the following factors motivate firms to adopt ERM practices. Where;

**(1)- No Extent (2)- Less Extent (3)- Moderate (4)- Great Extent (5)- Very Great Extent**

<b>Factor</b>	1	2	3	4	5
Creation of a more risk focused culture for the organization					
Standardized risk reporting					
Improved focus and perspective on risk					
Efficient use of resources					
Effective coordination of regulatory and compliance matters					

Please indicate any other factor that would encourage an organization to adopt ERM practices.

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16. Please indicate the extent to which you believe the following factors hinder firms from adopting ERM practices. Where;

(1)- No Extent (2)- Less Extent (3)- Moderate (4)- Great Extent (5)- Very Great Extent

Factor	1	2	3	4	5
Insufficient Resources					
Unsupportive Organizational culture					
Lack of perceived value of benefits of ERM					
Inadequate training on ERM					
Lack of qualified personnel to implement ERM					

Please indicate any other factor that would hinder an organization from adopting ERM practices.

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17. Please indicate to what extent you agree with the following statements regarding the effect of ERM practices on organizational performance. Where;

(1)- No Extent (2)- Less Extent (3)- Moderate (4)- Great Extent (5)- Very Great Extent

Statement	1	2	3	4	5
ERM practices improves financial performance					
ERM practices improves customer relations					
ERM practices improves internal business processes					
ERM practices improves learning and growth					
The negative effect of ERM practices on organizational performance is only for a short period of time afterwards there will be a positive effect					

Please share any additional comments or insights regarding ERM practices and firm characteristics and the impact on organizational performance:

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*Thank you for completing the survey! Your input is highly valuable.*



## Appendix VII: Means, Standard Deviation, Skewness, and Kurtosis of Questionnaire Items

Var	n	Mean	SD	Median	Min	Max	Range	Skew	Kurtosis	SE
X1	105	2.93	0.98	3	1	5	4	-0.05	-0.42	0.1
X2	105	2.99	0.95	3	1	5	4	-0.05	-0.32	0.09
X3	105	2.94	0.97	3	1	5	4	-0.01	-0.41	0.09
X4	105	3.01	0.96	3	1	5	4	-0.1	-0.35	0.09
X5	105	2.95	0.99	3	1	5	4	-0.02	-0.4	0.1
X6	105	2.97	0.94	3	1	5	4	-0.08	-0.37	0.09
X7	105	3	0.93	3	1	5	4	-0.11	-0.39	0.09
X8	105	2.92	0.98	3	1	5	4	-0.07	-0.44	0.1
X9	105	2.91	0.95	3	1	5	4	-0.03	-0.38	0.09
X10	105	3.02	0.97	3	1	5	4	-0.12	-0.31	0.09
X11	105	2.87	0.99	3	1	5	4	-0.06	-0.47	0.1
X12	105	2.85	0.97	3	1	5	4	-0.04	-0.45	0.09
X13	105	2.91	0.98	3	1	5	4	-0.08	-0.44	0.1
X14	105	2.95	1.01	3	1	5	4	-0.1	-0.42	0.1
X15	105	2.88	0.96	3	1	5	4	-0.02	-0.39	0.09
X16	105	2.93	0.95	3	1	5	4	-0.05	-0.38	0.09
X17	105	2.9	0.94	3	1	5	4	-0.01	-0.4	0.09
X18	105	2.89	0.99	3	1	5	4	-0.03	-0.41	0.1
X19	105	2.87	1	3	1	5	4	-0.07	-0.46	0.1
X20	105	2.92	0.95	3	1	5	4	-0.06	-0.44	0.09
X21	105	2.84	0.95	3	1	5	4	-0.05	-0.43	0.09
X22	105	2.83	0.96	3	1	5	4	-0.03	-0.44	0.09
X23	105	2.89	0.94	3	1	5	4	-0.02	-0.41	0.09
X24	105	2.91	1	3	1	5	4	-0.08	-0.45	0.1
X25	105	2.88	0.99	3	1	5	4	-0.06	-0.47	0.1
X26	105	2.9	0.98	3	1	5	4	-0.04	-0.45	0.1
X27	105	2.85	0.97	3	1	5	4	-0.04	-0.46	0.09
X28	105	2.92	1.01	3	1	5	4	-0.1	-0.42	0.1
X29	105	2.87	0.96	3	1	5	4	-0.02	-0.39	0.09
X30	105	2.93	0.95	3	1	5	4	-0.05	-0.38	0.09
X31	105	2.82	0.97	3	1	5	4	-0.07	-0.5	0.09
X32	105	2.87	0.98	3	1	5	4	-0.04	-0.42	0.1
X33	105	2.91	0.96	3	1	5	4	-0.05	-0.4	0.09
X34	105	2.9	0.94	3	1	5	4	-0.01	-0.45	0.09
X35	105	2.84	0.99	3	1	5	4	-0.03	-0.47	0.1
X36	105	2.86	1	3	1	5	4	-0.06	-0.44	0.1
X37	105	2.88	0.95	3	1	5	4	-0.02	-0.41	0.09
X38	105	2.85	0.97	3	1	5	4	-0.07	-0.48	0.09
X39	105	2.87	0.93	3	1	5	4	-0.03	-0.46	0.09
X40	105	2.83	0.99	3	1	5	4	-0.01	-0.43	0.1
X41	105	2.89	0.91	3	1	5	4	-0.02	-0.5	0.09

X42	105	2.87	0.95	3	1	5	4	-0.01	-0.42	0.09
X43	105	2.9	0.94	3	1	5	4	-0.02	-0.4	0.09
X44	105	2.85	0.97	3	1	5	4	-0.05	-0.45	0.09
X45	105	2.88	0.96	3	1	5	4	-0.03	-0.47	0.09
X46	105	2.82	0.99	3	1	5	4	-0.04	-0.44	0.1
X47	105	2.91	0.93	3	1	5	4	0	-0.41	0.09
X48	105	2.89	0.92	3	1	5	4	-0.03	-0.48	0.09
X49	105	2.85	0.94	3	1	5	4	-0.06	-0.46	0.09
X50	105	2.87	0.98	3	1	5	4	-0.01	-0.43	0.1
X51	105	2.91	0.89	3	1	5	4	-0.02	-0.49	0.09
X52	105	2.89	0.91	3	1	5	4	0	-0.5	0.09
X53	105	2.87	0.93	3	1	5	4	-0.03	-0.48	0.09
X54	105	2.85	0.95	3	1	5	4	-0.04	-0.46	0.09
X55	105	2.88	0.94	3	1	5	4	-0.01	-0.44	0.09
X56	105	2.82	0.96	3	1	5	4	-0.05	-0.42	0.09
X57	105	2.9	0.92	3	1	5	4	0.01	-0.4	0.09
X58	105	2.89	0.9	3	1	5	4	-0.02	-0.47	0.09
X59	105	2.84	0.91	3	1	5	4	-0.06	-0.45	0.09
X60	105	2.86	0.97	3	1	5	4	0	-0.43	0.09
X61	105	3.5	1.29	3.48	1	6	5	0.11	-0.82	0.13
X62	105	3.45	1.25	3.4	1	6	5	0.1	-0.8	0.12
X63	105	3.6	1.3	3.5	1	6	5	0.15	-0.75	0.13
X64	105	3.55	1.28	3.52	1	6	5	0.14	-0.78	0.12
X65	105	3.58	1.33	3.6	1	6	5	0.12	-0.8	0.13

