2025

Risk management practices and financial performance of individual pension schemes in Kenya: the moderating role of regulatory frameworks.

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RISK MANAGEMENT PRACTICES AND FINANCIAL PERFORMANCE OF INDIVIDUAL PENSION SCHEMES IN KENYA: THE MODERATING ROLE OF REGULATORY FRAMEWORKS

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Admission number:152514

Submitted in partial fulfillment of the requirements for the Degree of Master of Commerce

STRATHMORE BUSINESS SCHOOL

NAIROBI, KENYA

May, 2025

DECLARATION

I attest that this thesis has not been previously presented or accepted for a degree by any institution, either here or elsewhere. To the best of my understanding and belief, the content of this thesis does not contain any material that has been previously published or authored by another individual, except where proper acknowledgment is provided within the thesis itself.

Cephas Nyonje Ojwang

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Approval

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ABSTRACT

Investments in Kenya's pension industry have experienced significant volatility, leading to fluctuations in financial performance and periods of negative returns. This study explores the effects of risk management practices—internal controls, risk assessment, and risk avoidance—on the financial performance of Kenya's registered individual pension schemes. Anchored in modern portfolio theory and agency cost theory, the research adopted a quantitative, descriptive design targeting the finance team from all 48 registered individual pension schemes in Kenya. A census approach was employed, with structured questionnaires administered electronically to the 48 individual pension schemes, achieving a 98% response rate (47 respondents). Data were analyzed using correlation and cross-sectional OLS regression. Key findings revealed a significant positive effect of risk avoidance practices on financial performance, while internal controls and risk assessment showed statistically insignificant direct effects. The regulatory framework significantly moderated the relationship between risk avoidance and performance amplifying its positive impact. Correlation analysis further confirmed strong associations between all risk management practices and financial outcomes Notably, adherence to regulatory guidelines correlated strongly with improved performance The study concludes that pension schemes must prioritize risk avoidance strategies and align them with regulatory requirements to enhance financial sustainability. Recommendations include institutionalizing proactive risk evaluation protocols, strengthening compliance with Kenya's Retirement Benefits Regulations (2023), and integrating risk-adjusted metrics into performance monitoring. These findings offer actionable insights for policymakers and scheme managers to mitigate systemic volatility and improve long-term returns. The study acknowledges limitations, including its focus on individual pension schemes in Kenya, which limits generalizability to other pension models or regions. The cross-sectional design restricts causal inferences, and the reliance on self-reported data introduces potential response bias. Additionally, the omission of variables like leadership commitment and macroeconomic factors may oversimplify the complex drivers of financial performance. Despite these constraints, the research contributes theoretically by refining agency and modern portfolio theories, demonstrating how internal controls mitigate agency costs and how risk avoidance aligns with risk-return optimization. Practically, it offers policymakers and pension managers actionable insights, emphasizing the integration of risk avoidance with regulatory compliance, advanced technologies, and adaptive governance. The findings also highlight the need for future longitudinal and mixed-methods studies to explore temporal dynamics and contextual nuances. The study concludes that pension schemes must prioritize risk avoidance strategies and align them with regulatory requirements to enhance financial sustainability. Recommendations include institutionalizing proactive risk evaluation protocols, strengthening compliance with Kenya's Retirement Benefits Regulations (2023), and integrating risk-adjusted metrics into performance monitoring. These findings offer actionable insights for policymakers and scheme managers to mitigate systemic volatility and improve long-term return

ACKNOWLEDGEMENT

I extend my deepest gratitude to Almighty God for providing me with the strength, wisdom, and guidance to complete this thesis. I would also like to sincerely thank my colleagues for their constant encouragement, and my supervisor Dr. Albert Abang'a for his invaluable support throughout the writing process. To my family and friends who contributed in any way during this journey, your support was truly appreciated. I am deeply grateful to all of you.

DEDICATION

I dedicate this research thesis to my parents Mr. Allan Ongere and Mrs. Dorine Obunde and my siblings CPA Elda Nana and Mr. Ojwang Obunde whose unwavering support was invaluable throughout my work on this research thesis. May God bless you. Most importantly, I offer this thesis with heartfelt gratitude to Almighty God, Ebenezer!

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LIST OF ABBREVIATIONS AND ACRONYMS

COSO: Committee of Sponsoring Organizations of the Tradeway Commission
CSPS: Civil Service Pension Scheme
ERM: Enterprise Risk Management
ESG: Environmental, Social and Governance
GDP: Gross Domestic Product
ICS: Internal Control System
IMF: International Monetary Fund
IRS: Individual Retirement Schemes
MPT: Modern Portfolio Theory
NSSF: National Social Security8Fund
OECD: Organization of Economic Cooperation and Development
ORS: Occupational Retirement Schemes
RBA: Retirement Benefit Authority
USA: United States of America
USD: United States Dollar
WHO: World Health Organization

DEFINITION OF KEY TERMS

Internal Control System: A structured procedure that drives organizational activities and operations to ensure they comply with the underlying aims and objectives. (Hamed, 2023; Adeola and Jimoh, 2021; Lestari, 2015).

Financial Performance: Financial performance is the return generated on an investment portfolio (Odira et al., 2020)

Risk Assessment: The process of identifying prospective hazardous activity occurrences and their likely repercussions (Moronfoye, 2023; Ishtiaq, 2015).

Risk Avoidance: Measures taken to eliminate exposures that could result into loss or damage (Ochola et al., 2022; Verbaarendse, 2016).

Risk Management Practice: An approach employed to identify, prevent, mitigate, and manage unpredictable events in the environment (Moronfoye, 2023; Adeola and Jimoh, 2021; Kimingich, 2015).

Regulatory framework. The set of legal standards and procedures exemplified by Legal Notice No. 20 under Regulation 28 of the Retirement Benefits (Individual Retirement Benefits Schemes) Regulations, 2023 that govern compliance, risk management, and financial reporting in Kenya's pension schemes (Kenya Law, 2022;).

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Pension funds are vital for retirement income globally and have grown significantly (OECD, 2022). The World Health Organization (WHO) predicts that the elderly population will nearly double from 12% to 20% between 2015 and 2050, primarily in low- and middle-income countries (WHO, 2022). This demographic shift underscores the importance of well-managed pension schemes as social security mechanisms. Properly structured pension funds ensure retirees have adequate income, protecting them from poverty and social exclusion, reflecting their dual nature as both social security instruments and investment vehicles (Li et al., 2023). For example, in Kenya these schemes cover only a small fraction of the workforce which was roughly 267,000 individuals were enrolled in individual pension schemes by 2021 highlighting the sector's nascent development even as demand rises with an ageing population.

The conceptual framework of pension schemes positions them as significant actors in global financial markets. As investment vehicles, they operate through fiduciaries facilitating local and international projects, with estimated global investments reaching USD 40.173 billion by the end of 2021. Conceptually, these systems demonstrate market concentration, with 91% held by the seven largest financial markets, led by the USA (Morina & Grima, 2021; Babalos & Stavroyiannis, 2020). This concentration highlights the theoretical importance of investment performance for both regulatory frameworks and stakeholder interests. Despite growth, global pension systems face theoretical challenges, including long-term exposure to Environmental, Social, and Governance (ESG) risks (Sautner & Starks, 2023) and cyclical market fluctuations. The conceptual understanding of pension fund challenges encompasses financial market volatility, sponsor defaults, governance issues, underdeveloped financial markets, insufficient contributions, and high expenses (Njuguna et al., 2019). These challenges have practical effects in Kenya: for example, by mid-2023 Kenyan schemes managing ~KSh1.05 trillion reported losses of ~KSh11 billion on bonds and equities

as rising interest rates depressed asset values, a real-world instance of the market risks identified conceptually. This illustrates why risk management is emphasized as essential for the long-term security of beneficiaries' retirement savings (Best, 2011). As Assefuah et al. (2023) conceptualize, risk management has become central to pension fund management strategies, highlighting the need for robust frameworks to handle market volatilities and ensure financial stability (Mitchell, 2017) even in emerging markets like Kenya.

Methodologically, studies of pension funds in OECD countries have employed various approaches to examine risk management effectiveness (Sawant, 2010). Leading to 2022, research revealed a challenging investment environment with negative nominal returns for these pension schemes (Kirov & Beneva, 2024). Analytical approaches identified underperformance due to substantial holdings in equities and bonds, both experiencing significant price declines (Adami & Mukherjee, 2014). Methodological analysis has shown how rising global interest rates particularly devalued bonds, exacerbating poor performance (Nesvetailova, 2007). These findings reveal conceptual risks associated with traditional investment strategies heavily reliant on equities and bonds (Dreman, 2018). The inadequacy of traditional diversification strategies during market turmoil indicates the conceptual need for more sophisticated risk management approaches (Zwecher, 2011). Advanced financial instruments, such as interest rate derivatives, represent tools increasingly used to hedge against specific risks (Holzner et al., 2022), though these carry their own complexities and require expertise (Ngai & Sherris, 2014). A nuanced approach to risk management – integrating such tools into a holistic framework – is essential for ensuring the long-term stability of pension funds (McNeil, 2015).

Despite extensive research in developed economies, conceptual gaps remain, particularly in non-OECD countries where different economic contexts pose unique challenges (Waweru, 2007). Most global studies apply frameworks assuming stable financial markets and robust governance that often do not hold in Kenya. Kenyan pension funds face regulatory inefficiencies, underdeveloped markets, and heightened exposure to shocks (Kimingichi, 2015; RBA, 2019). For instance, the Retirement

Benefits Authority (RBA, 2023) reported that although Kenya's pension sector reached KSh.944 billion in assets by late 2023, individual scheme returns were volatile and even negative in some recent quarters. A survey by RisCura showed a 3.06% drop in returns with equity losses of 10.95% by June 2023 (Kandie et al., 2023). These developments illustrate that Kenyan schemes, which nearly doubled assets from 2019–2023, have not seen commensurate risk management sophistication. Methodological assessments of African pension schemes tend to focus on macroeconomic impacts, as with IMF and World Bank analyses, rather than localized fund-level approaches. For example, while Egypt and Nigeria report low GDP-to-pension investment ratios (1.51% and 6.77%, respectively) suggesting underinvestment, they do not explore the specific risk frameworks within those pension markets. Overall, existing research predominantly draws on theories developed for OECD contexts with little adaptation to Kenya's environment of volatility and weaker institutions (Waweru, 2007). This gap motivates the current study's focus on Kenya: we aim to develop conceptual approaches that blend global standards with localized considerations, examining how risk management practices can be adapted to emerging market conditions

1.1.1. Risk Management Practices

Risk – the potential for adverse events – is fundamental in financial operations (Alsaadi & Norhayatizakuan, 2021). In pension funds, risk encompasses any factor that impedes the primary objective of providing sufficient retirement income. The theoretical risk framework for Kenyan pension plans includes dimensions affecting investment performance, beneficiary payments, and macroeconomic support (Kimingichi, 2015). Conceptually, these risks are categorized as market, credit, liquidity, concentration, regulatory, sponsor default, and ESG risks (RBA, 2019; Sautner & Starks, 2021). The underpinning theory suggests that efficient risk management maintains liquidity and ensures schemes meet obligations, linking risk management to financial outcomes (Kimingichi, 2015). From a theoretical perspective, risk management is a systematic process: significant risks are identified, assessed, controlled, mitigated, and reported (Adeola & Jimoh, 2021). This involves implementing practices (often drawn from frameworks like COSO and ISO 31000)

that help organizations achieve objectives by controlling potential negative events (Fraser et al., 2021; Sleimi, 2020). For example, the COSO framework emphasizes enterprise-wide involvement (board, management, staff) in identifying and managing risks to keep the organization within its risk tolerance. Similarly, the UK Pensions Regulator encourages creating an environment with strong monitoring and internal controls, especially for liquidity (Pensions Regulator, 2023). In governance theory, trustees and senior managers are held accountable for robust risk processes: they must establish risk measurement systems, limit exposures, and enforce internal controls (Hiilamo et al., 2020; Mähönen & Cullen, 2019).

Methodologically, risk management practices can be categorized (Njuguna, 2019; Alsaadi & Norhayatizakuan, 2021; Ebole & Paul, 2021). Common approaches include risk retention, prevention, control, transfer, identification, analysis, response, and review. This study conceptualizes risk management through three constructs: internal control systems, risk assessment, and risk avoidance. Internal control systems are the organizational structures and procedures that ensure accountability and protect assets, often evaluated by how well stakeholders understand them and how effectively they prevent fraud. For instance, COSO (2004) defines internal control as a process effected by the board, management, and others to provide reasonable assurance of achieving objectives in operations, reporting, and compliance. In financial theory, strong internal controls are seen as a cornerstone of organizational resilience (Arwinge, 2014). Robust controls at all levels create protective mechanisms against strategic errors, operational failures, financial losses, and compliance issues. In practical terms, controls link to performance: Hamed (2023) models how weak controls can degrade reporting quality and investment decisions. Empirical studies support this: for example, Lentari (2015) suggests that pension fund performance improves with stronger control frameworks, and Ahmed and Muhammed (2018) find that sound internal control correlates with higher financial performance. From an operational standpoint, good controls streamline processes and optimize resources, enhancing efficiency. In the pension context, clear procedures improve financial reporting integrity (Henk, 2020), supporting informed investment decisions and long-term sustainability. An analytical

framework (AccaGlobal, 2024) even measures internal controls on dimensions like business process efficiency (e.g. error rates, processing times) and asset safeguarding (e.g. loss incidents). These dimensions establish conceptual links between internal control implementation and both operational and financial outcomes in pension schemes.

Risk assessment is the process of identifying and analyzing potential threats to objectives (COCO, 2004). It involves listing and evaluating risks associated with different options (Ahmed & Muhammed, 2018). Key dimensions include timing, depth, and the use of qualitative or quantitative methods (Aven & Krohn, 2014). Risk assessment is theoretical groundwork for decision-making: it treats risk identification and analysis as dynamic, ongoing tasks (Origa, 2015), adapting to economic, regulatory, and operational changes. Frameworks like ISO 31000 and IOPS guidelines encourage mapping risk factors and scenario analysis. Theoretically, outcomes of risk assessment guide choice of mitigation strategies, reducing exposure (Murnane et al., 2016). Integrating risk assessment into operations influences performance outcomes (Florio & Leoni, 2017) by prioritizing risks based on severity and likelihood (Nathan & Bhandari, 2022). In pension fund theory, thorough assessment helps prioritize fund allocations: for example, quantifying interest rate and longevity risks directs resources to mitigate those risks, thereby stabilizing returns. A comprehensive risk assessment framework also improves transparency: clearly identified and evaluated risks help trustees and members understand the fund's challenges, bolstering trust (Nathan & Bhandari, 2022). Ultimately, theoretical models suggest that by anticipating threats through systematic assessment (Ahmed et al., 2021), funds can prepare contingency plans, reducing the impact of adverse events on financial performance.

Risk avoidance is the deliberate strategy of evading exposure to certain risks entirely (Adeola & Jimoh, 2021). It is a preventative approach, distinct from mitigation or transfer (Imran & Yusnidah, 2019). Theoretically, risk avoidance arises from a fund's risk tolerance: managers screen out investments deemed excessively risky, even if they offer higher returns (Verbaarendse, 2016). This aligns with classical portfolio theory where ultra-conservative options (for example, government bonds) may be favored at

the expense of higher-yielding assets (Arshad et al., 2020). In practice, risk avoidance in pensions can involve rules-based limits: for example, limiting exposure to volatile sectors or illiquid assets. Evidence in Kenya reflects this focus: industry data show that by mid-2024, roughly 51.1% of pension portfolios were in government securities (up from 47.5% a year earlier), while equities constituted only about 8.8%. This heavy allocation to low-risk bonds exemplifies avoidance of market risk, but it may constrain growth. While general frameworks (Ochola et al., 2022; Adeola & Jimoh, 2021) acknowledge that risk avoidance can improve stability, they often lack context-specific guidance. There is limited theory on how aggressive avoidance (e.g. large bond holdings) affects pension performance under Kenyan conditions. For instance, if a portfolio eschews equities and takes virtually no currency or credit risk, it may miss returns needed to meet obligations. The conceptual gap lies in understanding this trade-off in emerging markets: Kenya's economic context (with higher inflation and volatility) may require a different balance between safety and growth.

1.1.1.1 Internal Control and Financial Performance

The COSO Internal Control Framework (2004) conceptualizes Internal Control as the "process effected by an entity's Board of Directors, Management and other personnel designed to provide reasonable assurance regarding the achievement of objectives related to operation, reporting and compliance." This definition emphasizes the procedural nature of controls across organizational levels. Expanding on this concept, Vu et al. (2022) characterize internal controls as a systematic combination of actions, strategies, and control systems designed to mitigate or eliminate potential risks. In a complementary theoretical perspective, Adeola and Jimoh (2021) conceptualize internal controls as management-established mechanisms aimed at ensuring three core objectives: operational effectiveness and efficiency, financial control integrity, and regulatory compliance.

Conceptually, internal controls have evolved to become the cornerstone of organizational risk management theory. Arwinge (2014) presents a theoretical framework where implementing robust controls at both enterprise-wide and process-specific levels creates protective mechanisms against four distinct risk categories:

strategic missteps, operational disruptions, financial losses, and regulatory complications. From a theoretical standpoint, internal controls provide the necessary assurance framework for competent and productive organizational activities. The conceptual purpose of internal control systems, as Hamed (2023) articulates, centers on objective achievement through systematic regulation of organizational functions. Origa (2015) advances this theoretical understanding by positioning internal controls as enhancers of financial reporting reliability, while Rennox (2017) introduces the uncertainty mitigation concept, proposing that internal controls function as stabilizing mechanisms in volatile business environments, thus enabling performance and profitability.

The conceptual composition of internal controls reveals distinct components that drive organizational performance. Control activities and information technology represent critical theoretical elements within the broader internal control framework. Hamed (2023) proposes a causal relationship model wherein control system weakness leads to reporting reliability deterioration, subsequently resulting in information quality degradation and suboptimal investment decision-making. This theoretical chain highlights the interconnectedness of control quality and organizational outcomes.

Lentari (2015) introduces a sector-specific conceptual application, suggesting that internal control frameworks within pension funds enhance risk management practices and subsequently improve performance outcomes. This conceptual relationship between control implementation and organizational growth finds support in Adeola and Jimoh's (2021) theoretical model. Arwinge (2014) proposes a direct theoretical correlation between control quality and performance improvement, while Ahmed and Muhammed (2018) establish a conceptual framework linking sound internal controls with positive financial performance.

From a methodological perspective, internal controls contribute to operational efficiency through resource optimization and process streamlining mechanisms. For pension schemes specifically, Henk (2020) introduces a theoretical framework emphasizing the critical nature of internal controls in maintaining financial information integrity, which serves as the foundation for informed investment

decisions and long-term scheme sustainability. Kaya (2017) advances a conceptual model focused on the transparency and accountability functions of internal controls, suggesting that they establish procedural clarity and responsibility delineation that enhances stakeholder trust while enabling prompt identification and resolution of discrepancies.

Acca Global (2024) presents a comprehensive methodological framework for measuring internal control effectiveness in pension schemes through two conceptual dimensions. The first dimension—business process efficiency—evaluates operational streamlining using metrics including error reduction rates, time efficiency measurements, and procedural compliance assessments. The second dimension—asset safeguarding capability—assesses protective control mechanisms through incident reporting, loss prevention metrics, and asset management discrepancy analysis. This methodological approach establishes conceptual linkages between internal control implementation and both operational and financial performance in pension scheme contexts.

1.1.1.2 Risk Assessment and Financial Performance

Risk assessment is the process of identifying and analyzing potential threats that could impede business objectives (COFO, 2004). Conceptually, it encompasses examining and evaluating risks associated with various options (Ahmed & Muhammed, 2018). Theoretically, risk assessment has three dimensions: timing, depth, and methodology (qualitative or quantitative) (Aven & Krohn, 2014). It is an ongoing activity that adapts to dynamic environments (Origa, 2015). Continuous changes in economic, industry, regulatory, and operational conditions necessitate mechanisms to identify and address new risks (Hamed, 2023). Risk assessment frameworks then determine mitigation measures and provide methods to evaluate their effectiveness (Haffke, 2022). The outputs of risk assessment are systematically implemented in decision-making to reduce risk exposure (Murnane et al., 2016). Aven and Krohn (2014) describe risk assessments as approaches that pinpoint major risk factors affecting an organization, aiding in mitigation decisions. By integrating risk assessment methodologies, organizations can prioritize risks by severity and probability (Nathan & Bhandari,

2022), enabling more effective resource allocation. This proactive approach can theoretically lead to more stable and predictable financial outcomes (Ahmed et al., 2021). In pension schemes, thorough risk assessments allow addressing potential threats and opportunities, thereby improving financial performance. By understanding and quantifying risks (e.g., market volatility, interest rates), schemes can develop targeted mitigation strategies and enhance cash flow stability (Nathan & Bhandari, 2022). Risk assessment thus provides a framework for transparent communication of risks, which can boost stakeholder confidence—critical for long-term scheme success (Nathan & Bhandari, 2022). It also contributes to contingency planning: by anticipating scenarios, schemes can allocate resources and strategies in advance, reducing the impact of adverse events on financial performance (Ahmed et al., 2021).. The current study aims to address this gap by exploring risk management practices' effects on financial performance of registered individual pension schemes in Kenya while addressing the research question: what is the effect of risk assessment on financial performance of registered individual pension schemes in Kenya?

1.1.1.3 Risk Avoidance and Financial Performance.

Risk avoidance is a strategy where organizations systematically evade exposure to risk altogether, rather than trying to manage or transfer it. Conceptually, it involves eliminating options that carry undesired risks (Adeola & Jimoh, 2021). Unlike mitigation or transfer, risk avoidance is preventative. It requires defining risk tolerance thresholds and assessing alternatives through risk assessment methodologies. In investment decisions, incorporating risk evaluation as a critical variable means decision-makers may avoid high-risk options entirely (Verbaarendse, 2016). For example, risk avoidance manifests in favoring ultra-secure investments like government bonds despite lower returns, reflecting the conceptual trade-off between safety and growth (Arshad et al., 2020). While risk avoidance can theoretically protect performance, the literature shows a gap in understanding its impact in Kenya's pension sector. Ochola et al. (2022) and Adeola and Jimoh (2021) provide general frameworks for risk avoidance, but they do not address Kenya's unique economic and regulatory context. Thus, how risk avoidance affect financial performance in Kenyan individual

pension schemes remains conceptually underexplored. The current study aims to address this gap by exploring risk management practices' effects on financial performance of registered individual pension schemes in Kenya while addressing the research question: what is the effect of risk avoidance on financial performance of registered individual pension schemes in Kenya?

1.1.2. Financial Performance

Performance in pension schemes refers to their ability to operate efficiently, remain financially healthy, and meet obligations (Origa, 2015; Odira et al., 2020). Financial performance is typically measured by returns on investments relative to risk (Odira et al., 2020). Schemes collect contributions, invest them, and pay retirees' benefits; their performance is crucial for economic stability by securing retirees' income. Kiptoo et al. (2021) note that stable cash flows are critical for meeting pension and administrative expenses. Higher investment returns can significantly boost a pension fund's solvency and ability to enhance benefits (Lestari, 2015). In Kenya, recent data show robust growth in assets under management (AUM): the Retirement Benefits Authority (2023) reported AUM rising from KSh. 61 billion in 2019 to over KSh. 124.5 billion by 2023. This doubling indicates strong inflows and industry growth. However, this has raised questions about the scalability of investment strategies and whether risk management has kept pace with a larger portfolio.

Despite asset growth, actual returns have been volatile. The RBA (2023) indicates that registered individual schemes' nominal returns ranged only between 7.3% and 9.8% over the past five years. For instance, investment income grew from KSh.5.4 billion in 2019 to KSh.10.4 billion in 2023, but ROI peaked at 9.70% in 2021 and then fell to 7.31% in 2022. In context, Kenya's average inflation was around 6.5% during this period (Central Bank of Kenya, 2023), meaning real returns were mostly under 4%. With inflation ~6.5%, the real ROI for these schemes averaged just 0.8–3.3% far below the 4–6% real returns typically required by pension funds in emerging markets to meet actuarial assumptions (OECD, 2022; World Bank, 2021) and below the 3–5% real return recommended by IOPS (2019) for DC systems. These fluctuations and shortfalls indicate inefficiencies: the high AUM has not reliably translated into commensurate

growth in retiree benefits. For example, Kenyan actuarial studies suggest funds require nominal returns of 11–13% to maintain solvency (Mwabu et al., 2021), a benchmark unmet by recent performance. The contrast with other emerging markets is stark: South African funds averaged 10.2% ROI (2020–2023) and Ghanaian schemes 12.1% (NPRA, 2022) over similar periods. Kenya's lower returns despite similar economic challenges suggest structural issues. The RBA (2023) itself identified an "over-reliance on low-yield government bonds (48% of assets)" and volatility in equity markets as key factors limiting performance.

Performance is also affected by costs and contribution shortfalls. A striking red flag is the surge in administrative expenses: RBA data show these costs jumped to KSh.31.4 billion in 2023 from only KSh.0.896 billion in 2022, indicating severe cost management problems. Inadequate contributions further impair performance – an RBA report noted that delinquent contributions rose from KSh.34.7 billion in 2020 to KSh.42.8 billion in 2021, exacerbating funding gaps. Moreover, scheme design features can undermine saving: individual schemes allow 100% early withdrawal of personal contribution which, while providing flexibility, reduces long-term savings. Macroeconomic pressures like inflation and market swings compound these challenges. For instance, the global shocks of COVID-19 and geopolitical conflicts led to equity market downturns to which Kenyan funds were exposed, dampening returns. Indeed, sector surveys show pension returns have been highly sensitive: segregated schemes saw returns plunge to as low as 0.7% in 2021 before surging to 13.2% in 2024. Such volatility – a swing of over 12 percentage points in three years – is well above rates used in fund models and highlights the schemes' exposure to short-term market moves.

These performance issues translate into real problems. Many funds struggle to generate cash flows meeting benefit payments on time (Nduruhu, 2019). Unrealized returns, delayed benefits, and underfunding risk eroding member trust. In pension theory, achieving performance goals means not just targeting high returns but also controlling risk and costs (Abdin et al., 2022). However, uncertainties like market volatility, rising interest rates, and inflation remain largely outside a scheme's control (Cheng & Tang,

2016), meaning funds must deploy risk management to mitigate these. Despite the criticality of risk management, literature specifically linking such practices to pension fund outcomes is sparse. Most research (for example, Yilan et al., 2023; Lestari, 2015) highlights general factors for good performance (diversification, strategic allocation) but stops short of analyzing how targeted risk controls and processes can stabilize returns in Kenya's context. For example, studies often use broad metrics (e.g. Sharpe ratios) without dissecting how having, say, a strong internal audit or regular stress-testing directly improves ROI. Likewise, the benefits of practices like risk assessment workshops or formal risk appetite statements in pension schemes remain underexplored. This gap is important: international evidence shows that involving stakeholders in risk policy and having mitigation strategies are significant contributors to pension fund performance, and Nigerian research recommends ERM implementation to boost fund outcomes. However, these findings are sector- or country-specific and may not transfer to Kenya's unique market. In summary, Kenyan IPS continue to underperform relative to benchmarks and expectations, and there is a lack of empirical evidence on how variations in risk management practices (internal controls, risk assessment, risk avoidance) explain this underperformancef. Investigating this relationship is therefore essential to identify how improved risk management could enhance performance and ensure pension sustainability in Kenya

Over the last five years, individual registered pension schemes in Kenya have depicted volatility in their ROI ranging from 7.3% to 9.8% as depicted in the figure below:

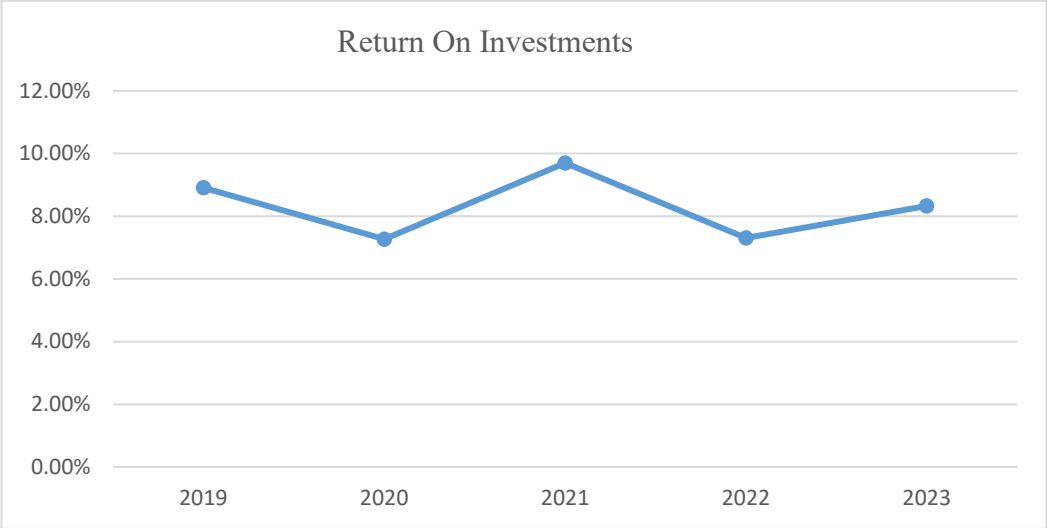

Figure 1. 1 Return on Investments of Individual Pension Schemes in Kenya from the RBA reports from 2019 to 2023

1.1.3 Regulatory Framework

The Kenyan retirement benefits sector is subject to numerous regulations impacting various aspects of operations and financial performance. However, this study specifically focuses on the framework introduced through Legal Notice No. 20 under Regulation 28 of the Retirement Benefits (Individual Retirement Benefits Schemes) Regulations, 2023.This particular notice was selected for analysis due to its direct and significant implications for the measurement and reporting of financial performance – a core variable in this research. It amends the Retirement Benefits (Individual Retirement Benefits Schemes) Regulations, 2017, by standardizing a critical aspect of financial reporting: it requires that unrealized gains and losses from valuing financial assets at fair value be excluded from distributable income calculations. Unrealized gains and losses signify changes in asset values not yet realized through sale, reflecting market volatility rather than actual economic benefits. By mandating the exclusion of these figures, the regulation is intended to yield a clearer picture of financial performance based on actualized gains, rather than potentially misleading speculative market valuations (Kenya Law, 2022).

Adherence to this specific regulation necessitates strong internal controls to ensure the accurate identification, classification, and reporting of unrealized gains and losses, thereby enhancing compliance (Kenya Gazette Supplement No. 17, 2024). This focus on accurate reporting is expected to improve transparency and mitigate the risk of financial misrepresentation. From a risk assessment standpoint, the exclusion of unrealized gains is likely to compel pension schemes to adopt more robust methods for evaluating and managing underlying risks, shifting focus towards realized performance metrics less influenced by short-term market fluctuations (Kenya Gazette Supplement No. 17, 2024). This regulatory directive is thus anticipated to strengthen the linkage between risk assessment practices and reported financial outcomes. Consequently, it may also shape risk avoidance strategies, potentially encouraging schemes to favour more conservative investments offering stability and predictable returns to meet the stricter reporting demands (Kenya Gazette Supplement No. 17, 2024).

The introduction of Legal Notice No. 20 therefore provides a pertinent and timely context for this study, which investigates how risk management practices influence the financial performance of registered individual pension schemes in Kenya. Its specific mechanism – altering how performance derived from unrealized market changes is reported – makes it highly relevant for examining the interplay between risk strategies and financial results. By standardizing this element of financial reporting, the regulation aims to bolster the reliability of financial disclosures and curb potential performance overstatements (Kenya Law, 2022). Given its direct influence on performance reporting and consequent implications for risk management behaviour, this regulatory framework was selected and operationalized as a moderating variable in this study. This allows for an exploration of how its specific requirements shape the relationship between internal controls, risk assessment, risk avoidance, and financial performance within Kenya's individual pension schemes sector.

1.1.4 Registered Individual Pension Schemes in Kenya

The Retirement Benefits Authority (RBA) is the statutory body overseeing Kenya’s pension sector (Wekhanya, 2021). Established under the Retirement Benefits Act of

1997, the RBA regulates all registered pension schemes. The Act recognizes four types of schemes: the Civil Service Pension Scheme (CSPS), National Social Security Fund (NSSF), Occupational Retirement Schemes (ORS), and Individual Retirement Schemes (IRS). Individual Pension Schemes (also called individual retirement schemes, IRS) are established by trust deed and typically operate on defined contribution principles, where employer and/or employee contributions are invested to generate retirement benefits. As of September 2023, there were 48 registered individual pension schemes in Kenya (RBA, 2023), forming the population for this study.

Conceptually, pension schemes are institutional investors pooling members' savings to support future benefits. The Kenyan legal framework distinguishes statutory schemes (like CSPS and NSSF, founded by law) from trust-based schemes (like IRS). The RBA's regulatory role centers on ensuring schemes comply with standards, promoting savings, and protecting members' interests. The theoretical pension literature acknowledges issues like market risk, poor governance, and investment decision quality (Oyoo, 2020; Nduruhu, 2019), but rarely addresses how risk management concepts apply specifically in Kenya. Existing models fail to explain how internal controls, risk assessment, and risk avoidance adapt to Kenya's unique pension risk landscape. For example, while Odira et al. (2020) and Kiptoo et al. (2021) link investment returns to scheme obligations, they offer little insight into how specific risk practices enhance returns in Kenya's market. Similarly, theoretical frameworks on risk avoidance (Adeola & Jimoh, 2021; Ochola et al., 2022) are generic and do not address Kenya's context. In summary, there is a conceptual gap: the literature does not fully explain how these risk management strategies translate into performance improvements in Kenyan individual pension schemes. Recent indicators of volatility in returns further highlight this gap (Cytonn, 2022; ACTSERV, 2023).

1.2 Statement of the Problem

The persistent challenge of poor performance within individual pension schemes in Kenya stems from several critical operational and governance issues. Governance and management weaknesses – such as inadequate oversight structures and lack of

transparency – frequently result in fund mismanagement that undermines contributor confidence (Retirement Benefits Authority, 2024). For example, schemes have been cited for lapses in contribution remittance controls: unpaid contributions rose from KSh.34.7 billion in 2020 to KSh.42.8 billion in 2021, draining scheme liquidity and signaling weak administrative controls. Such problems precipitate operational inefficiencies and create opportunities for fraud, further eroding confidence. Suboptimal investment strategies compound these issues: many Kenyan schemes remain heavily invested in government bonds (over 50% of portfolios), a low-return but safe allocation that limits growth. This conservative posture, combined with stock market volatility, has contributed to chronically low returns; for example, after a strong 2021, collective scheme ROI fell sharply in 2022, failing to outpace inflation. These poor investment decisions erode the value of pension funds, making it difficult to meet retiree needs (Retirement Benefits Authority, 2024).

Regulatory and compliance issues further impact performance. The sector's credibility suffers when schemes fail to comply with RBA regulations, inviting penalties or downgrades (Retirement Benefits Authority, 2024). For instance, some schemes have faced sanctions for breaching investment or reporting rules, which can deter new contributions. Ensuring compliance is thus vital for maintaining system stability. At the same time, broader economic factors – including high inflation, currency swings, and market downturns – significantly affect fund stability and returns (Retirement Benefits Authority, 2024). Given Kenya's inflation averaging ~6.5% recently (Central Bank of Kenya, 2023), even modest market returns can translate to negative real gains, threatening schemes' ability to generate sufficient retirement income. This macro volatility was evident during COVID-19: as equity markets plunged in 2020-21, pension schemes saw sharply reduced returns, highlighting their vulnerability to exogenous shocks.

Crucially, the effectiveness and implementation of risk management practices significantly influence pension scheme performance. Observers note that many Kenyan schemes lack comprehensive risk oversight (Oyoo & Ochieng, 2022; Kimani, 2019). A key concern is that few have adopted full enterprise risk management (ERM)

frameworks with board-level support. This gap leaves funds exposed: without systematic identification and control of risks, schemes may overconcentrate or miss emerging threats. For example, while global guidelines emphasize regular stress testing and risk limit setting, in Kenya such practices are often informal. The result is persistent uncertainty in outcomes. Empirical evidence of this problem is visible in returns: industry surveys show highly inconsistent investment results and reported struggles to meet obligations over the past five years (ACTSERV, 2023). Notably, segregated pension fund returns swung from just 0.7% in 2021 to 13.2% in 2024. This volatility suggests that many schemes may not be proactively managing risk since they experienced large losses in down markets and only partial gains on the upside.

Addressing these interconnected challenges which are weak governance, constrained investment strategies, and erratic returns – requires a focus on risk management. However, a specific knowledge gap persists: there is little empirical evidence on how differences in the quality or maturity of risk management practices directly affect the financial performance and sustainability of individual pension schemes in Kenya's unique environment. Internationally, studies in Ghana and Nigeria suggest that sound risk policies and ERM components improve fund performances, but the transferability of those results to Kenyan schemes is unclear. In Kenya's context, it remains to be shown which specific internal control systems, risk assessment processes, or avoidance policies can stabilize returns and protect assets. Investigating this relationship will provide the insights needed to optimize risk management practices, enhance scheme performance, and ultimately bolster retirees' financial security, thereby contributing to broader economic stability

1.3 Objectives of the Study

The following objectives are examined in the study;

1.3.1. General Objective

The general objective of this study was to determine the effect of risk management practices on the financial performance of registered individual pension schemes in Kenya

1.3.2. Specific Objectives

The specific objectives are;

i. To assess the effect of internal controls on financial performance of registered individual pension schemes in Kenya
ii. To determine the effect of risk assessment on financial performance of registered individual pension schemes in Kenya
iii. To examine the effect of risk avoidance on financial performance of registered individual pension schemes in Kenya
iv. To establish the moderating effect of regulatory framework on the association of risk management practices and financial performance of registered individual pension schemes in Kenya.

Research Questions

The following research questions guide this study;

i. What is the effect of internal controls on the financial performance of registered individual pension schemes in Kenya ?
ii. How does risk assessment affect financial performance of registered individual pension schemes in Kenya?
iii. What is the effect of risk avoidance on the financial performance of registered individual pension schemes in Kenya?
iv. What is the moderating effect of regulatory framework on the association of risk management practices and financial performance of registered individual pension schemes in Kenya.

1.4 Scope of the Study

The study focused on the effect of risk management practices on the financial performance of individual pension schemes in Kenya. The research was conducted over a three-month period from January 2025 to March 2025 and was anchored on Modern Portfolio Theory and Agency Theory. A descriptive research design guided the methodology, with results analyzed using descriptive and inferential statistics, including cross-sectional OLS regression to capture trends and relationships over time.

The population for the study comprised all 48 registered individual pension schemes in Kenya as of 30th September 2023 (RBA, 2023). Since the total population was manageable, a census approach was adopted, including all 48 schemes. This ensured 100% representation of the target population, enhancing reliability and accuracy. Data were collected through primary sources, with one respondent from each pension scheme. Respondents were finance department officers involved in investment decision-making and familiar with their scheme's risk management framework. Surveying all 48 schemes provided a comprehensive and representative dataset to analyze the link between risk management practices and financial performance.

1.5 Significance of the Study

1.5.1. Managements of Individual Pension Schemes

The study's findings provide pension scheme managers with evidence-based guidance on adopting more effective, context-specific risk management practices. By empirically examining internal controls, risk assessment, and risk avoidance in Kenyan individual pension schemes, the research identifies which strategies most significantly improve financial performance. This addresses the current gap in empirical knowledge, enabling managers to tailor robust risk frameworks to Kenya's unique context. Ultimately, these insights empower scheme management to optimize their governance and investment practices, thereby strengthening fund stability and long-term returns.

1.5.2. Investors

The results of this research enhance transparency and trust among pension scheme contributors by clearly demonstrating the impact of well-implemented risk controls on financial performance. Quantifying how robust internal controls and risk-assessment procedures lead to better fund outcomes provides contributors (often working members) with concrete evidence of prudent fund management. This transparency reassures members that their contributions are managed in their best interest and that robust risk practices yield tangible benefits. By demonstrating the performance impact

of sound risk management, the study may strengthen contributor confidence and encourage continued engagement and contributions to the pension scheme.

1.5.3. Retirement Benefits Authority

For the Retirement Benefits Authority (RBA), the study offers empirical insights that can inform the refinement of regulatory compliance and supervisory frameworks. By identifying which specific risk management practices most strongly influence pension scheme performance, the research can guide the RBA in updating its guidelines and enforcement policies to emphasize effective controls. For example, evidence on the importance of robust internal controls may lead regulators to require more stringent risk governance measures across all schemes. In this way, the findings support the RBA's mandate to enhance sector stability by aligning oversight mechanisms with evidence-based risk management principles.

1.5.4. Scholars

Academics and researchers will benefit from this study's contribution to the theoretical and empirical literature on pension risk management. By providing new evidence from the Kenyan context, the research addresses a notable gap in localized models linking risk management practices to fund performance. This enriched understanding of risk–performance dynamics in an emerging-market setting allows scholars to refine existing theories and develop more comprehensive models. The study thus lays a foundation for future research, encouraging deeper exploration of risk management in pension systems, particularly in developing economies like Kenya.

1.6 Chapter Summary

The chapter focuses on the background of the study which encompasses a discussion regarding risk management practices affecting financial performance of individual pension schemes in Kenya. The chapter has discussed problem statement and research objectives which include internal controls, risk assessment and risk avoidance affecting financial performance in individual pension schemes in Kenya. The chapter also includes scope of the study and significance of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the literature review and outlines the theoretical foundation of the research. This literature review is directed by the research aim and objectives mentioned in the previous chapter, providing the framework for this study. It focuses on the purpose of the study which is to determine the effects of risk management practices on financial performance of registered individual pension schemes in Kenya. It begins by discussing the theoretical literature where the theories relevant to risk management are presented. The proceeding sections touch on a review of financial performance and risk management practices followed by an empirical review of literature to present gaps in research. Finally, the chapter presents the conceptual framework.

2.2 Theoretical Review

This section discusses the following theories: modern portfolio theory, and Agency theory. The use of a multi-theoretical framework is essential in this study to address the dual focus on investment optimization and governance within pension schemes. MPT provides a foundation for managing financial risks by optimizing portfolio returns while minimizing risk, ensuring pension schemes make well-balanced investment decisions. In contrast, Agency Theory addresses the potential conflicts between pension scheme managers (agents) and pensioners (principals), highlighting the need for robust risk management and governance practices to align interests and reduce agency costs. Together, these theories offer a comprehensive framework for analyzing how risk management practices influence the financial performance of individual pension schemes.

2.2.1 Modern Portfolio Theory

In 1952, Professor Harry Markowitz coined the Modern Portfolio Theory (Markowitz, 1952). Its development has been seen as one of the most significant achievements in Finance. The Modern Portfolio Theory (MPT) is founded on the basic assumptions that market investors select efficient mean-variance combinations of assets, and they are

rational, risk-averse, and homogeneous in their behavior (Sinha & Biswas,2018). This theory provides strategies for diversifying investment risk and offers a framework for optimizing portfolio returns. The goal of the portfolio optimization is to invest now and to achieve maximal portfolio return at the end of the investment horizon. (Stoilov *et al*, 2020).

MPT helps investors analyse multiple assets simultaneously to identify portfolios that reduce risk while maximizing expected returns (Surtee & Alagidede, 2023). Preference is given to selection of efficient portfolios, those with higher returns for similar level of risk or that have minimum risk with similar expected returns. MPT works on minimizing risk so as to achieve profit maximization. According to Guo (2022), the theory puts forth an efficient frontier representing a set of various portfolio scenarios under which maximum returns can be achieved with minimum risk under a return-risk constraint. Hence, an investor can make a choice on their preferred portfolio depending on their risk-return preferences (Kimingichi, 2015)

By following the model's optimal results, an investor does not need to seek additional profits. Instead, they simply need to purchase the portfolio according to the calculated weights, and ideally, the expected return will align closely with the projected outcomes. (Guo, 2022). The MPT simultaneously takes into consideration both portfolio return and portfolio risk. Expected return of a stock investment is measured by the expected rate of return and the investment risk is measured by the variance of the return. Kimingichi (2015) contends that in defined benefit pension schemes, portfolio decisions made by inexperienced trustees can hinder the success of the pension schemes.

Markowitz's MPT theory is more widely used in the case of a broad range of companies choosing to invest in stocks, because its diversification can help to reduce risk significantly: when faced with a situation where the business model and market trends are opposite, a diversified and broad portfolio can help to increase returns and reduce the overall risk of the portfolio. Hence, MPT theory plays an important guiding role in diversifying investment risk (Qian,et al, 2022).

Modern Portfolio Theory (MPT) assumes that all investors are rational and make decisions solely based on risk and return. However, behavioral finance research has shown that investors often act irrationally due to biases and emotions. Zhang (2023) highlights that this assumption does not align with real-world investor behavior (Zhang, 2023). This discrepancy between theory and practice suggests that MPT may not fully capture the complexities of investor decision-making processes. MPT relies heavily on historical data to predict future returns and risks. This can be problematic as past performance is not always indicative of future results. Forbes (2024) criticizes this reliance, noting that historical data may not be relevant to current or future market conditions (Forbes, 2024). The dynamic nature of financial markets means that relying on historical data can lead to inaccurate predictions and suboptimal investment strategies.

MPT assumes that asset returns follow a normal distribution, which simplifies the modeling of risk. However, empirical evidence suggests that returns often exhibit fat tails and skewness, leading to underestimation of extreme events. Schulmerich et al. (2014) discuss the limitations of this assumption. This underestimation of risk can result in portfolios that are more vulnerable to market shocks and financial crises than anticipated. The standard deviation used in MPT as a measure of risk does not differentiate between upside and downside volatility. This means that MPT does not adequately address the risk of significant losses. Britannica (2024) points out that this is a major limitation of the theory (Britannica, 2024). Investors are typically more concerned with downside risk, and the inability of MPT to account for this can lead to a false sense of security.

MPT assumes that correlations between assets are constant over time. In reality, correlations can change, especially during periods of market stress, which can affect the diversification benefits. Zhang (2023) also notes this issue, emphasizing the dynamic nature of correlations (Zhang, 2023). During financial crises, correlations between assets often increase, reducing the effectiveness of diversification and potentially leading to larger losses. MPT is built on the efficient market hypothesis, which assumes that all available information is reflected in asset prices. However, market anomalies and inefficiencies are well-documented, challenging this assumption. Schulmerich et al. (2014) critique this foundational aspect of MPT (Schulmerich et al., 2014). The existence

of market inefficiencies suggests that there are opportunities for active management to outperform passive strategies, contrary to the implications of MPT.

Modern Portfolio Theory (MPT), developed by Harry Markowitz in 1952, remains one of the most influential frameworks in finance due to its emphasis on optimizing the risk-return balance in investments. This principle directly informs the study's objectives. For Objective 1 (Internal Controls), MPT's concept of selecting efficient portfolios — those that maximize return for a given level of risk or minimize risk for a given level of expected return — aligns with the role of internal controls in a pension scheme. By applying stringent internal controls, pension schemes can carefully manage investment selections, stabilizing their portfolios while reducing exposure to volatile investments. Such controlled management helps pension schemes achieve a balanced risk-return profile, contributing positively to financial performance. In addition, Objective 2 (Risk Assessment) resonates with MPT's systematic approach to evaluating portfolio variance and covariance to predict and manage potential risks.

By conducting detailed risk assessments, pension schemes can adapt their investment strategies dynamically, preventing excessive risk that could undermine their financial stability. This ongoing assessment allows schemes to maintain alignment with financial objectives, underscoring MPT's relevance to effective risk management. Furthermore, Objective 3 (Risk Avoidance) closely ties to MPT's principle of diversification, which advocates for avoiding high-risk assets to reduce overall portfolio volatility. For pension schemes, MPT provides a theoretical basis for avoiding certain investments that expose the portfolio to undue risk, thus safeguarding financial performance. By applying these principles, MPT enables pension schemes to make informed investment decisions that reduce risk exposure while maximizing potential returns, offering a relevant foundation for understanding the role of risk management practices in achieving financial success.

The availability of a vast number of portfolio investment options to investors eases adaptability of risk management strategies such as risk avoidance. Therefore, in drafting their Investment Policy Statement(s), Individual pension schemes can choose to avoid those portfolios that would expose them to more risk. MPT provides a framework for

evaluating how risk avoidance strategies can minimize risk while maximizing returns hence the relevance of the theory in this study.

Modern Portfolio Theory (MPT) underscores the importance of diversification and risk-return optimization in investment decisions, which directly aligns with the study's variables of risk assessment and risk avoidance. In Kenya's pension sector, where registered individual pension schemes face volatile markets (e.g., fluctuating equities, currency risks, and inflation), MPT provides a framework for trustees to assess risks systematically and construct portfolios that balance returns with acceptable risk levels. For instance, Kenya's Retirement Benefits Authority (RBA) mandates pension schemes to adhere to asset allocation guidelines, limiting exposure to high-risk investments like unlisted equities. By applying MPT principles, schemes can avoid overconcentration in risky assets (e.g., real estate or government bonds) and instead diversify into alternative investments such as infrastructure funds or regional securities, aligning with risk avoidance strategies. This is critical in Kenya, where pension funds have historically faced liquidity crises due to poor diversification (RBA, 2022). Furthermore, MPT's emphasis on quantitative risk metrics (e.g., variance, covariance) supports risk assessment processes, enabling schemes to mitigate systemic risks like interest rate fluctuations, which have eroded returns in Kenya's fixed-income-heavy portfolios (Kimingichi, 2015). By adopting MPT-driven strategies, Kenyan pension schemes can enhance financial performance while adhering to regulatory requirements and addressing local market idiosyncrasies.

2.2.2 Agency Theory

Agency theory, a cornerstone of modern financial and organizational studies, was founded by economists Michael Jensen and William Meckling in their seminal 1976 paper (Jensen & Meckling, 1976). At the heart of agency theory lies the principal-agent problem, a core issue that arises when agents act in their own self-interest at the expense of the principals (Ross, 1973). This misalignment can lead to the creation of agency costs, which are expenses incurred to monitor and ensure that agents act in the principals' best interests (Jensen & Meckling, 1976). Agency costs typically manifest in three primary forms: monitoring costs, bonding costs, and residual loss. Monitoring costs are the

expenses principals bear to oversee and check the behavior and decisions of agents, often through audits, performance evaluations, or oversight mechanisms (Fama and Jensen, 1983).

To minimize these conflicts and reduce agency costs, various mechanisms have been employed. One of the most common methods is the introduction of performance-based incentives, which tie an agent's compensation or rewards to the achievement of specific goals that align with the principals' interests (Shleifer & Vishny, 1997). By doing so, agents are motivated to act in a manner that benefits the principals (Jensen and Meckling, 1976). Monitoring systems, including regular audits, board oversight, and external reviews, are another means of ensuring accountability and transparency in the agent's actions (Fama & Jensen, 1983). Contracual agreements also play a critical role in outlining the duties, responsibilites and expctations of agents, creating a legal framework to address any deviations from prescribed behaviours (Shleifer & Vishny, 1997).

However, despite its widespread application, agency theory has not been without criticism. One of the primary critiques is its assumption that all agents are inherently self-interested and opportunistic, which overlooks the possibility of altruistic behavior, intrinsic motivation, and other non-monetary factors (Davis et al., 1997). Another critique revolves around the theory's limited focus on trust and relational dynamics. In many organizational settings, trust between principals and agents can reduce the need for costly monitoring and bonding mechanisms, fostering a more cooperative and efficient working relationship (Barney & Hansen, 1994). Additionally, agency theory is sometimes criticized for its overly simplistic approach to the complexities of human behavior and organizational dynamics. Real-world scenarios often involve multiple principals and agents, each with varying interests, power dynamics, and incentives, which the theory does not fully capture (Perrow, 1986). Lastly, the theory's emphasis on financial incentives may lead to short-termism, where agents prioritize immediate gains at the expense of long-term sustainability, potentially jeopardizing the long-term success of the organization (Laverty, 1996).In the context of the current study, agency theory provides a highly relevant lens to examine the intricate relationships between pension scheme managers and pensioners. These managers (agents) are entrusted with overseeing funds

and investments on behalf of the pensioners (principals), whose financial well-being depends on prudent and effective management. However, the principal-agent problem is particularly salient in this setting, as pensioners often have limited visibility into the day-to-day decisions of scheme managers, thereby creating potential conflicts of interest. By implementing robust risk management practices, pension schemes can align the interests of the managers with those of the pensioners, ultimately enhancing financial performance and reducing agency costs, while also mitigating risks associated with opportunistic behavior and ensuring that decisions are driven by long-term sustainability rather than short-term gains.

Pepper (2018) argues that Agency Theory overly emphasizes self-interest and rationality, neglecting other motivational factors such as altruism and intrinsic motivation. This narrow view can lead to incomplete and sometimes misleading conclusions about managerial behavior. Additionally, Pepper (2018) points out that Agency Theory fails to adequately consider the role of social norms and legal institutions, which can significantly influence managerial behavior and corporate governance structures. ElKelish (2018) highlights that empirical evidence often does not support the predictions of Agency Theory, particularly regarding the relationship between executive compensation and firm performance. This misalignment with empirical data suggests that the theory may not fully capture the complexities of real-world corporate dynamics.

Critics like Ogabo et al. (2021) argue that Agency Theory promotes shareholder primacy, which can lead to short-termism and neglect of other stakeholders' interests. This focus on maximizing shareholder value can ultimately harm the firm's long-term sustainability, as it overlooks the importance of balancing the needs of various stakeholders. Al-Faryan (2024) suggests that the separation of ownership and control, as posited by Agency Theory, can lead to corruption and governance issues, particularly in environments with weak regulatory frameworks. This criticism highlights the potential for agency problems to exacerbate unethical behavior and undermine corporate governance.

Wawrosz (2022) criticizes Agency Theory for its simplistic view of human behavior, which does not account for the complex and multifaceted nature of managerial decision-making. This oversimplification can result in an incomplete understanding of the factors

that drive managerial actions and decisions. This alignment of interests is essential for maintaining the trust and confidence of the pensioners, which is crucial for the overall success and sustainability of the pension schemes.

Agency Theory provides an equally important lens through which to view the dynamics within pension schemes. Developed by Jensen and Meckling (1976), Agency Theory focuses on the principal-agent relationship, particularly the potential conflicts that arise when agents (managers) make decisions on behalf of principals (pensioners). Agency Theory highlights the importance of aligning agents' actions with the goals of principals, making it highly applicable to the study's objectives. For Objective 1 (Internal Controls), Agency Theory offers justification for implementing strong internal controls, which serve to monitor and mitigate conflicts of interest between scheme managers and pensioners.

By enforcing internal controls, pension schemes reduce agency costs — costs incurred to ensure that agents act in the best interest of principals. This alignment positively influences financial performance by encouraging transparent and accountable management practices. Regarding Objective 2 (Risk Assessment), Agency Theory reinforces the importance of structured risk assessments as a means to minimize agency costs associated with unmonitored or high-risk decision-making by managers. By adopting clear risk assessment processes, pension schemes provide transparency in decision-making, ensuring that managers' actions align with the interests of pensioners.

Risk assessment helps to mitigate instances of opportunistic behavior, protecting the financial stability of the scheme. Objective three, Risk Avoidance, is one of the key independent variables under investigation within our broader framework of Internal Control Systems—which also includes Efficiency of Business Processes, Asset Safeguarding, Risk Assessment, Information Security, Training, Risk Quantification, and Risk Prioritization. Grounded in Agency Theory, this variable emphasizes guiding agents to act prudently and avoid excessive risks. By focusing on Risk Avoidance, managers are encouraged to adopt more conservative decision-making strategies that protect pensioners' funds. This approach not only aligns managers with long-term financial goals but also enhances pensioners’ trust in scheme management.

Together, Modern Portfolio Theory and Agency Theory provide a comprehensive and cohesive theoretical framework for understanding the impacts of risk management practices on the financial performance of pension schemes. MPT's risk-return optimization principles inform the selection of investments, risk assessment, and avoidance strategies, emphasizing financial prudence and stability. Meanwhile, Agency Theory addresses the principal-agent dynamic, reinforcing the need for internal controls, transparent risk assessments, and prudent risk avoidance to minimize agency costs and align managers' actions with pensioners' interests.

This combined rationale not only underscores each theory's relevance to the study's objectives but also illustrates how these frameworks underpin the study's exploration of financial performance in Kenya's registered individual pension schemes. By bridging theoretical insights with practical risk management applications, these theories provide valuable perspectives on the essential elements for successful financial management in pension schemes, contributing to the broader discourse on financial performance and sustainability in the pension industry.

Furthermore, robust governance and accountability mechanisms can enhance transparency and reduce the potential for misalignment, ensuring that the managers' actions remain in line with the long-term financial goals of the pensioners. By doing so, pension schemes can not only improve their financial performance but also strengthen their relationships with stakeholders, contributing to the long-term sustainability and success of the pension industry in Kenya.

Agency Theory highlights the principal-agent conflicts between pension managers (agents) and pensioners (principals), making it integral to understanding the role of internal controls in Kenya's pension sector. Pension schemes in Kenya often grapple with governance challenges, such as mismanagement of funds or opaque decision-making, as evidenced by past scandals involving misappropriation of contributions (Ogutu, 2021). Here, Agency Theory justifies the need for stringent internal controls, such as independent audits, fiduciary training, and performance-linked incentives, to align managers' actions with pensioners' long-term interests. For example, Kenya's RBA enforces governance standards requiring schemes to establish trustee boards with

independent members, reducing opportunities for opportunistic behavior. These controls minimize agency costs (e.g., monitoring expenses) while fostering accountability, which is crucial in a context where public trust in pension systems remains fragile. Additionally, risk assessment processes guided by Agency Theory ensure transparency in decision-making, as seen in Kenya's adoption of risk-based supervision frameworks to evaluate scheme compliance. By institutionalizing such practices, Kenyan pension schemes can mitigate agency risks and improve financial outcomes, addressing systemic issues like low coverage rates and delayed benefit payments.

2.2.3 Synthesizing Theories in the Kenyan Context

Together, MPT and Agency Theory provide a dual lens to analyze Kenya's pension sector. MPT's focus on diversification and risk optimization complements Agency Theory's governance imperatives, ensuring that schemes not only select efficient portfolios but also manage them transparently. For instance, Kenya's Mwongozo Code of Governance for pension schemes integrates both theories by mandating diversified investments (MPT) while requiring disclosure of risk management practices to pensioners (Agency Theory). This synergy is vital in a market where weak institutional frameworks and information asymmetry exacerbate risks. By applying MPT to risk assessment (e.g., quantifying exposure to Nairobi Securities Exchange volatility) and Agency Theory to internal controls (e.g., trustee accountability mechanisms), Kenyan schemes can navigate challenges like political interference in public pensions or low member engagement. Ultimately, integrating these theories strengthens the study's framework, demonstrating how risk management practices tailored to Kenya's regulatory and economic realities can enhance financial performance and restore stakeholder confidence in a rapidly evolving sector.

2.3 Empirical Literature

This section outlines previous studies comparable to the current research undertaken by different researchers not only in Kenya but also across the world. It makes a comparison between these studies to highlight the research gaps that informed this study. In addition, it captures the conceptual framework.

2.3.1 Internal controls and Financial Performance

Internal controls are institutional mechanisms designed to safeguard assets, enhance accountability, and optimize financial performance (COSO, 2013; Henk, 2020). In pension funds, these controls are critical for ensuring operational efficiency and accurate financial reporting (Stewart, 2009; Jackowicz & Kowalewski, 2011). Kenya's pension sector, governed by the Retirement Benefits Act (1997) and Good Governance Guidelines, mandates robust internal controls (Retirement Benefits Authority, 1997). While empirical studies globally affirm the significance of internal controls, their applicability to Kenya's registered individual pension schemes remains contested due to contextual disparities. Modern Portfolio Theory (MPT), which emphasizes diversification to maximize returns for a given risk level (Markowitz, 1952), further contextualizes this debate, as internal controls directly influence risk management and asset allocation strategies in pension schemes.

Proponents argue that internal controls align with MPT's principles by mitigating risks and enhancing returns. For instance, Hamed (2023) demonstrated that control activities, information systems, and monitoring mechanisms in Jordanian banks improved financial sustainability, mirroring MPT's focus on balancing risk and return through structured governance. Similarly, Adeola and Jimoh (2021) linked robust internal controls in Nigerian pension funds to better risk management outcomes, resonating with MPT's assertion that systematic risk reduction optimizes portfolio performance. In Kenya, Chumba (2019) found that internal controls in occupational pension schemes improved returns on equities and immovable properties—key asset classes in MPT-driven diversification. These studies collectively position internal controls as tools for achieving MPT's risk-return efficiency, particularly in regulated sectors like pensions.

Critics, however, highlight trade-offs between control quality and financial outcomes. Hamed (2023) cautioned that high-quality internal control systems (ICS) in banks reduced profitability due to administrative costs, a concern amplified in Kenya's pension sector where cost-efficiency is critical for long-term returns. This contrasts with MPT's assumption of rational cost management to maximize diversification benefits. Further, Chumba's (2019) finding that guaranteed funds negatively impacted Kenyan pension

performance challenges MPT's reliance on low-risk assets, suggesting contextual factors like market volatility may limit universal applicability. Similarly, Adeola and Jimoh's (2021) survey-based Nigerian findings, while supportive of ICS, lack empirical alignment with MPT's quantitative risk-return frameworks, raising questions about methodological rigor in linking controls to portfolio outcomes.

Kenya's pension ecosystem introduces unique challenges that distinguish it from global contexts. Unlike Jordan's banking sector (Hamed, 2023) and Nigeria's contributory pension model (Adeola & Jimoh, 2021), Kenya's individual pension schemes operate in a hybrid regulatory environment that combines strict governance with flexible asset allocation (Retirement Benefits Authority, 1997). This framework aligns partially with MPT's diversification ideals but faces constraints from Kenya's underdeveloped capital markets and economic volatility. For example, while MPT advocates for diversified portfolios, Kenyan schemes often over-rely on equities and immovable properties due to limited alternative assets (Chumba, 2019), a trend exacerbated by weak internal controls in risk assessment. Additionally, administrative costs linked to ICS (Hamed, 2023) may disproportionately affect Kenya's smaller individual schemes, conflicting with MPT's emphasis on cost-efficient diversification.

Existing studies underscore the tension between internal controls' theoretical benefits and contextual limitations. While proponents align ICS with MPT's risk-return optimization, opponents emphasize sector-specific costs and asset allocation challenges. In Kenya, the interplay of regulatory rigidity, market immaturity, and economic instability necessitates internal controls tailored to MPT's principles but adapted to local constraints. For instance, controls prioritizing low-cost risk assessment tools and diversified asset monitoring could better align Kenya's pension schemes with MPT's ideals than the "one-size-fits-all" approaches seen in Jordanian or Nigerian studies.

2.3.2 Risk Assessment and Financial Performance

Risk assessment, the systematic process of identifying, analyzing, and evaluating potential threats to an organization's financial performance (OECD, 2010), is particularly critical for pension funds. In this context, it involves scrutinizing financial, operational,

and compliance risks that could jeopardize a fund's capacity to fulfill its obligations to beneficiaries (OECD, 2011). This process is theoretically underpinned by both Agency Theory and Modern Portfolio Theory (MPT). Agency Theory posits a principal-agent relationship between beneficiaries and fund managers (Jensen & Meckling, 1976); effective risk assessment serves as a control mechanism, aligning manager actions with beneficiary interests to enhance financial outcomes. Concurrently, MPT emphasizes that robust risk assessment is fundamental to constructing investment portfolios that optimize the risk-return tradeoff, a core objective for pension funds aiming for sustainable performance.

Examining the link between governance/risk management structures and performance, international studies offer contrasting perspectives relevant to this research. Xu et al. (2019), focusing on US public defined benefit pensions, found that specific governance features like smaller boards and separate investment councils correlate with better performance. Conversely, Florio and Leoni (2017) investigated broader Enterprise Risk Management (ERM) components in Italian firms, concluding that advanced ERM implementation (including qualitative/quantitative risk assessment) leads to superior financial and market performance.

While both suggest structural factors matter, their applicability to the Kenyan context is limited. The US study (Xu et al., 2019) focuses on public, defined benefit plans within a developed economy's regulatory framework, differing significantly from Kenya's environment dominated by registered individual, often defined contribution, schemes under distinct regulatory oversight (e.g., RBA guidelines). Similarly, the Italian study's (Florio & Leoni, 2017) focus on general firms and broad ERM doesn't capture the specific nuances of risk assessment within the highly regulated Kenyan pension sector, nor does it necessarily employ pension-specific performance metrics like risk-adjusted returns pertinent to MPT principles. Neither study isolates the specific impact of risk assessment as a distinct practice within the unique Kenyan individual pension scheme landscape.

Further evidence on ERM's impact comes from Collahan and Soileau (2017), who found that higher ERM process maturity enhances operating performance in US public firms.

However, this finding presents contextual and focus gaps compared to the current study. Their research centered on diverse public firms in a developed market, measuring general operating performance linked to earnings. This contrasts sharply with the current study's focus on the pension sector within a developing economy (Kenya), specifically examining the effect of risk assessment on investment performance relevant to individual pension schemes. The different regulatory pressures, market dynamics, investment strategies pertinent to MPT, and the nature of liabilities in Kenyan individual pension schemes necessitate a distinct investigation, as the factors driving ERM effectiveness and performance outcomes are likely dissimilar.

Within the Kenyan context, studies provide relevant but incomplete insights. Kiptoo et al. (2021) demonstrated a significant relationship between risk management (credit, market, operational, liquidity) and financial performance, albeit within the insurance sector. While confirming risk management's importance locally, the specific risk profiles, regulatory requirements (governed by IRA vs. RBA), and performance benchmarks differ between insurance firms and pension schemes. Their study aggregates various risk types, whereas the current research isolates risk assessment to understand its unique contribution to pension fund performance, a gap not addressed by Kiptoo et al. (2021).

Similarly, Kisaka and Musomi (2017) examined investment firms listed on the Nairobi Securities Exchange. Intriguingly, they found risk management tools lacked a significant link to performance, but the responsibility for risk management (Board, specific roles, staff involvement) did. This aligns with Agency Theory, suggesting that clear accountability enhances performance. However, their study differs in sector focus (investment firms vs. pension schemes with fiduciary duties) and doesn't specifically dissect the role of risk assessment processes themselves, distinct from general tools or responsibility structures. Furthermore, the regulatory nuances and specific risk considerations (e.g., longevity risk) pertinent to pension schemes were not their primary focus, leaving a gap regarding how assessment practices function within this specific institutional setting.

Studies focusing directly on Kenyan pension schemes also present opportunities for refinement. Kimingich (2015) found a significant correlation between financial risk

management practices and performance across 64 schemes. Nyagah (2014), studying pension fund management firms, found mixed results for ERM components – some (like risk assessment and objective setting) negatively impacting performance, while others (like risk response and control activities) had positive effects. Kimingich's (2015) finding, while positive, covers broad financial risk management rather than isolating risk assessment. Nyagah's (2014) mixed findings, focused on management firms rather than the schemes themselves, highlight the complexity but don't clarify the specific role of risk assessment at the scheme level, particularly for individualschemes which constitute the focus of the current study. The conflicting directionality found by Nyagah (2014) further underscores the need to investigate risk assessment specifically, as its impact may differ from other ERM components within the Kenyan pension context.

Synthesizing these studies reveals a consensus on the general importance of risk management, but also highlights critical gaps addressed by the current research. International studies (Xu et al., 2019; Florio & Leoni, 2017; Collahan & Soileau, 2017) establish links between governance/ERM and performance but in contexts (US/Italy, public firms/general firms, public DB plans) vastly different from Kenyan individual pension schemes in terms of regulation, market structure, and scheme type. Kenyan studies (Kiptoo et al., 2021; Kisaka & Musomi, 2017; Kimingich, 2015; Nyagah, 2014) provide local relevance but focus on different sectors (insurance, investment firms), broader risk management functions, management firms rather than schemes, or yield mixed results for specific components.

This study, therefore, isolates risk assessment practices within registered individual pension schemes in Kenya, analyzing their specific effect on financial performance (potentially using MPT-relevant metrics like risk-adjusted ROI). By doing so, it addresses the contextual gaps and specific practice focus lacking in prior research, aiming to provide tailored insights into how risk assessment contributes to achieving financial objectives within the unique Kenyan pension landscape, guided by the principles of Agency Theory and MPT.

2.3.3 Risk Avoidance and Financial Performance

Risk Avoidance, encompassing strategies to minimize potential financial losses, is critical for pension funds. This involves robust internal controls to safeguard assets and ensure regulatory compliance, theoretically enhancing financial performance by mitigating risks like fraud and mismanagement (Cadoni, Melis, & Trudda, 2015; Hue et al., 2019; OECD, 2020). This perspective aligns with Agency Theory, which suggests potential conflicts between pension fund members (principals) and managers (agents). Effective risk avoidance, through strong controls, serves to align these interests, ensuring managers act beneficially for members, thereby boosting financial outcomes (Jensen & Meckling, 1976). Modern Portfolio Theory also implicitly supports risk management, as optimizing the risk-return trade-off is central to portfolio performance, although its direct focus differs from the agency perspective on internal controls.

Empirical evidence presents a mixed picture regarding the direct impact of risk avoidance on performance, highlighting significant contextual variations. Studies supporting a positive relationship often examine specific sectors or risk management frameworks broadly. For instance, Ishtiaq (2015), studying Pakistani banks using mixed methods, found that well-formulated risk management practices significantly improve performance. Similarly, Ochola et al. (2022) observed a statistically considerable positive effect of risk avoidance on the performance of devolved governments within Kenya, using primary data from questionnaires.

Lestari (2015) also found partial positive effects of governance, internal control, and risk management on performance in Indonesian pension funds. However, these studies differ significantly from the current research context: Ishtiaq focused on the banking sector in Pakistan, with distinct regulatory pressures and market dynamics compared to Kenya's pension schemes; Ochola et al. examined Kenyan public sector entities (devolved governments), whose operational mandates, funding structures, and performance metrics diverge substantially from private individual pension schemes; Lestari's Indonesian context presents different regulatory and economic conditions, and the study examined risk management more broadly rather than isolating risk avoidance.

Conversely, Verbaarendse (2016) provides contrasting evidence, finding no significant relationship between risk avoidance and firm performance, nor between CEO pay slice (CPS) and performance, among listed firms in the United States. This divergence from the findings of Ishtiaq (2015) and Ochola et al. (2022) underscores the importance of context. The U.S. market for listed firms operates under vastly different regulatory scrutiny, investor expectations, and corporate governance norms than the Kenyan pension sector.

The specific pressures driving risk avoidance in large, publicly traded U.S. corporations (e.g., shareholder value focus, complex financial instruments) are not directly comparable to those influencing individual pension schemes in Kenya, where long-term solvency, member security, and specific Retirement Benefits Authority (RBA) regulations are paramount. Verbaarendse's lack of robust findings might also stem from performance metrics or sample characteristics less relevant to the pension industry's unique risk-return objectives.

The existing literature thus reveals critical gaps addressed by the current study. Firstly, there's a contextual gap: findings from U.S. listed firms (Verbaarendse, 2016), Pakistani banks (Ishtiaq, 2015), Indonesian pension funds (Lestari, 2015), and even Kenyan government entities (Ochola et al., 2022) cannot be directly extrapolated to Kenyan individual pension schemes. Kenya's specific RBA regulatory framework, distinct market structure, unique economic conditions, and the specific nature of individual versus corporate/public finance create a unique environment where risk avoidance might operate differently. For example, Kenyan regulations might impose stricter controls or offer different incentives affecting risk avoidance compared to the U.S. corporate scene or Pakistan's banking rules. The performance drivers and risk sensitivities of individual pension schemes focused on long-term retirement security also differ fundamentally from short-term profit motives of listed firms or public service delivery goals of government units.

Furthermore, a scope gap exists. While Ishtiaq (2015) and Lestari (2015) looked at broader risk management, this study isolates risk avoidance, allowing for a more granular analysis of its specific impact. Methodologically, the mixed findings (Verbaarendse vs.

Ishtiaq/Ochola) suggest that the relationship might be sensitive to the specific context and metrics used. This study focuses specifically on risk avoidance within the Kenyan individual pension scheme context, using performance metrics relevant to this sector (e.g., risk-adjusted returns), thereby aiming to provide nuanced, contextually specific insights currently absent in the literature and exploring the practical implications of Agency Theory within this specific Kenyan setting.

2.3.5 The Moderating Effect of Regulatory Framework on the Association of Risk Management Practices and Financial Performance of Registered Individual Pension Schemes in Kenya

Existing empirical literature consistently underscores the crucial role of regulatory frameworks in enhancing risk management effectiveness and, consequently, the financial performance of pension schemes. Studies converge on the idea that robust oversight promotes stability and growth. For instance, Mwangi (2014) specifically demonstrated the positive impact of Kenya's Retirement Benefits Authority (RBA) Act, finding that its implementation led to significant improvements in financial performance through enhanced compliance and oversight within Kenyan retirement benefit funds. Similarly, though adopting a broader international perspective, Stewart (2009) argued for the necessity of comprehensive risk management frameworks actively enforced by regulatory bodies via clear guidelines and regular audits. Both studies, despite differing scopes (specific legislation vs. general framework principles), highlight regulation as a key driver for mitigating risks associated with agency problems (Agency Cost Theory) and promoting transparency and accountability (Mwangi, 2014; Stewart, 2009).

Further reinforcing this positive relationship, Omasete (2014) found a direct link between risk management adoption and financial performance within Kenya's insurance industry. While the sector differs, its operation under a similar regulatory environment makes the findings pertinent. Comparing Omasete's work with Mwangi (2014), both conducted in Kenya, suggests that the principle of regulatory-driven risk management enhancing financial outcomes holds across related financial sectors. This aligns with the notion that effective risk management, potentially guided by principles like Modern Portfolio Theory to optimize risk-return profiles, thrives under structured regulatory environments

(Omasete, 2014). However, Omasete also implicitly points towards the need for sector-specific regulatory tailoring, a nuance important when considering pension schemes distinctly.

Extending the geographical lens, Adeola and Jimoh (2021) examined Nigerian pension schemes, concluding that effective internal controls and risk management significantly boost financial performance. Their findings resonate with the Kenyan studies (Mwangi, 2014; Omasete, 2014) regarding the positive impact of diligent risk practices. Crucially, Adeola and Jimoh (2021) position the regulatory framework as a moderator in this relationship. Comparing the Nigerian context to Kenya's highlights that while the fundamental principle (strong controls and risk management leading to better performance) is consistent, the specific nature and enforcement level of the national regulatory framework critically shape how effectively these practices translate into financial results, further emphasizing the role of regulation in mitigating agency costs and ensuring prudent fund management.

Despite this body of supportive evidence, significant gaps remain concerning the current research objective. Geographically, while Mwangi (2014) focused on Kenya and Adeola & Jimoh (2021) on Nigeria, neither specifically isolates the unique operational environment and potential agency risks inherent in Kenya's individual pension schemes, which may differ from larger occupational schemes often included in broader studies. Contextually, extrapolating findings from the insurance sector (Omasete, 2014) or general pension management (Stewart, 2009) is insufficient. The Kenyan individual pension scheme sector operates under specific RBA regulations and faces unique challenges (e.g., potentially different investment behaviors relevant to Modern Portfolio Theory) not mirrored exactly in insurance, banking, or even Nigeria's pension system, making direct applicability limited.

Methodologically, the reliance in some studies on survey data or secondary analysis (Omasete, 2014; Stewart, 2009) might not fully capture the complex, moderated relationship between regulation, risk practices informed by financial theories, and performance outcomes. Conceptually, as Stewart (2009) implicitly suggests, there is a lack of integrated models that explicitly incorporate regulatory frameworks as moderators

influencing how risk management practices (potentially optimizing portfolios) affect financial performance, especially considering potential agency conflicts.

Therefore, these studies collectively indicate a strong positive relationship between regulatory frameworks, risk management, and financial performance, aligning with tenets of Agency Cost Theory and suggesting environments conducive to applying Modern Portfolio Theory. However, the identified gaps—particularly the lack of focus on Kenya's individual pension schemes and the specific moderating role of its unique RBA framework—necessitate further investigation. This study aims to address these limitations by employing a comprehensive methodology focused specifically on registered individual pension schemes in Kenya, developing and testing a model that explains how the Kenyan regulatory framework moderates the pathway from risk management practices to sustainable financial performance, thereby offering nuanced, contextually relevant insights valuable for beneficiaries, managers, and regulators

2.4 Research Gaps.

Although a number of research have been conducted on risk management and financial performance, few relate to pension schemes and more specifically to registered individual pension schemes. This is in addition to most of the studies being undertaken in other jurisdictions as compared to Kenya. Thus, a contextual gap exits since the current study seeks to assess the effects of risk management practices on financial performance of registered individual pension schemes in Kenya. Additionally, a conceptual gap exits as the current study strive to relate internal control, risk assessment and risk avoidance to financial performance of individual pension schemes. Previous studies emphasized on enterprise risk management as well as other risk management strategies/practices amongst them; risk monitoring, good governance, asset allocation and portfolio diversification.

Further, conclusions from the previous studies seem to be conflicting and inconsistent hence not bringing out clearly how these risk management strategies impact financial performance of registered individual pension schemes in Kenya. For example, Kiptoo *et al (2021),* Ochola *et al* (2022), Chumba (2019), Kimingich (2015), Adeola and Jimoh

(2021), Florio and Leoni (2017), Collahan and Soileau (2017), Ishtiaq (2015), in their studies found out that risk management has a significant positive impact on the financial performance whereas Kisaka and Musomi (2017) in their study concluded that risk management tools do not have a statistically significant relationship with financial performance. Lestari (2015) found out that internal control had partially significant effect on risk management and performance. Verbaarendse (2016) was unable to find a relationship between risk avoidance and performance of firms. Nyagah (2014) found out that risk management strategies had negative effects on the financial performance of fund management firms. This study therefore attempts to complement existing research on risk management and performance. A summary of research gaps is presented in the table below;

Table 2. 1 Summary of research gaps

Scholars	**Study objectives**	**Findings**	**Research gaps**
Hamed (2023)	Assess role of internal control systems (ICS) in financial performance sustainability in Jordanian banks.	Compliance with ICS positively affects performance but high-quality ICS may reduce profitability due to increased expenses.	Contextual differences between banks and pension schemes. The impact of ICS on long-term pension performance in Kenya might differ.
Adeola and Jimoh (2021)	Investigate the impact of risk management and internal controls on pension management in Nigeria.	Effective internal controls and risk management positively impact pension administration.	Focused on Nigeria. The current study examines registered individual pension schemes in Kenya, considering unique economic and regulatory contexts. A more detailed analysis of financial performance of investments is needed.
Chumba (2019)	Determine effect of selected internal control factors on performance of occupational pension schemes in Kenya.	Investments in equities and immovable properties positively impact performance; fund value and guaranteed funds	Broader range of internal controls not fully explored. The current study aims to investigate internal controls, risk assessment, and avoidance in detail for registered

		negatively impact performance.	individual pension schemes
Xu et al. (2019)	Investigate influence of pension governance practices on performance of public defined benefit pensions in the USA	Smaller boards, appointed trustees, and separate investment councils correlate with better performance.	Focus on governance practices in the USA. The current study investigates risk assessment specifically in Kenyan individual pension schemes, which may have different needs and performance outcomes
Florio and Leoni (2017)	Analyze how Enterprise Risk Management (ERM) components relate to firm performance in Italy.	Advanced ERM implementation leads to superior performance in financial outcomes and market valuation	ERM focus with different components than specific risk assessment. The current study focuses on risk assessment within Kenyan pension schemes, requiring context-specific insights
Collahan and Soileau (2017	Analyze if Enterprise Risk Management (ERM) enhances operating performance in public firms	Firms with higher ERM process maturity perform better, especially in metrics related to earnings.	Focused on public firms in a developed economy. The current study focuses on registered individual pension schemes in Kenya, where regulatory and market dynamics differ
Kiptoo et al. (2021)	Examine relationship between risk management and financial performance of insurance firms in Kenya	Risk management significantly impacts financial performance; credit risk negatively, while market, operational, and liquidity risks positively impact performance	Focus on insurance firms. The current study targets registered individual pension schemes and isolates risk assessment, providing a different perspective on performance outcomes.
Kisaka and Musomi (2017)	Investigate effect of risk management tools on performance of investment firms in Kenya.	Risk management tools do not significantly affect financial performance; involvement of key personnel does	Focus on broader risk management tools rather than specific risk assessment. The current study aims to analyze risk assessment's direct impact

			on financial performance within individual pension schemes
Kimingich (2015)	Explore effects of risk management practices on performance of pension schemes in Kenya	Significant correlation between financial risk management practices and performance	Did not focus specifically on risk assessment. The current study aims to explore the impact of risk assessment alone on financial performance.
Nyagah (2014)	Evaluate how Enterprise Risk Management affects financial performance of pension fund management firms in Kenya	Event identification, risk assessment, objective setting, and communication negatively affect performance; risk response, internal environment, and control activities positively affect performance.	Focused on pension fund management firms. The current study examines registered individual pension schemes, which may experience different impacts from risk assessment and avoidance practices
Verbaarendse (2016)	Assess effects of executive compensation dispersion and risk avoidance on performance of listed firms in the USA.	No significant relationship between risk avoidance and performance, or between CEO pay slice (CPS) and performance.	Focused on U.S. listed firms and executive compensation. The current study investigates risk avoidance in registered individual pension schemes in Kenya, a different regulatory and market context
Ishtiaq (2015)	Analyze relationship between risk management practices and performance in Pakistani banks.	Well-formulated risk management practices improve bank performance.	Focus on Pakistani banks with different regulations and market dynamics than Kenyan pension schemes. The current study will focus specifically on risk avoidance within the Kenyan pension sector.
Lestari (2015)	Examine effects of good governance and internal control on risk management and performance of	Good governance does not significantly relate to internal control; governance and control together impact risk	Focused on Indonesian pension funds. The current study investigates risk avoidance in Kenyan registered individual pension schemes, which

	pension funds in Indonesia.	management and performance	may have distinct characteristics and regulatory requirements
Ochola et al. (2022)	Analyze effects of risk avoidance on performance of devolved governments in Kenya.	Risk avoidance has a statistically significant effect on performance of devolved governments.	Focused on devolved government departments rather than individual pension schemes. The current study aims to explore if the relationship between risk avoidance and performance holds in the pension sector as well

Source: (Research Data, 2025)

2.5 Conceptual Framework

In the conceptual framework, risk management practices form the independent variable while financial performance forms the dependent variable, and the regulatory framework forms the moderating variable.

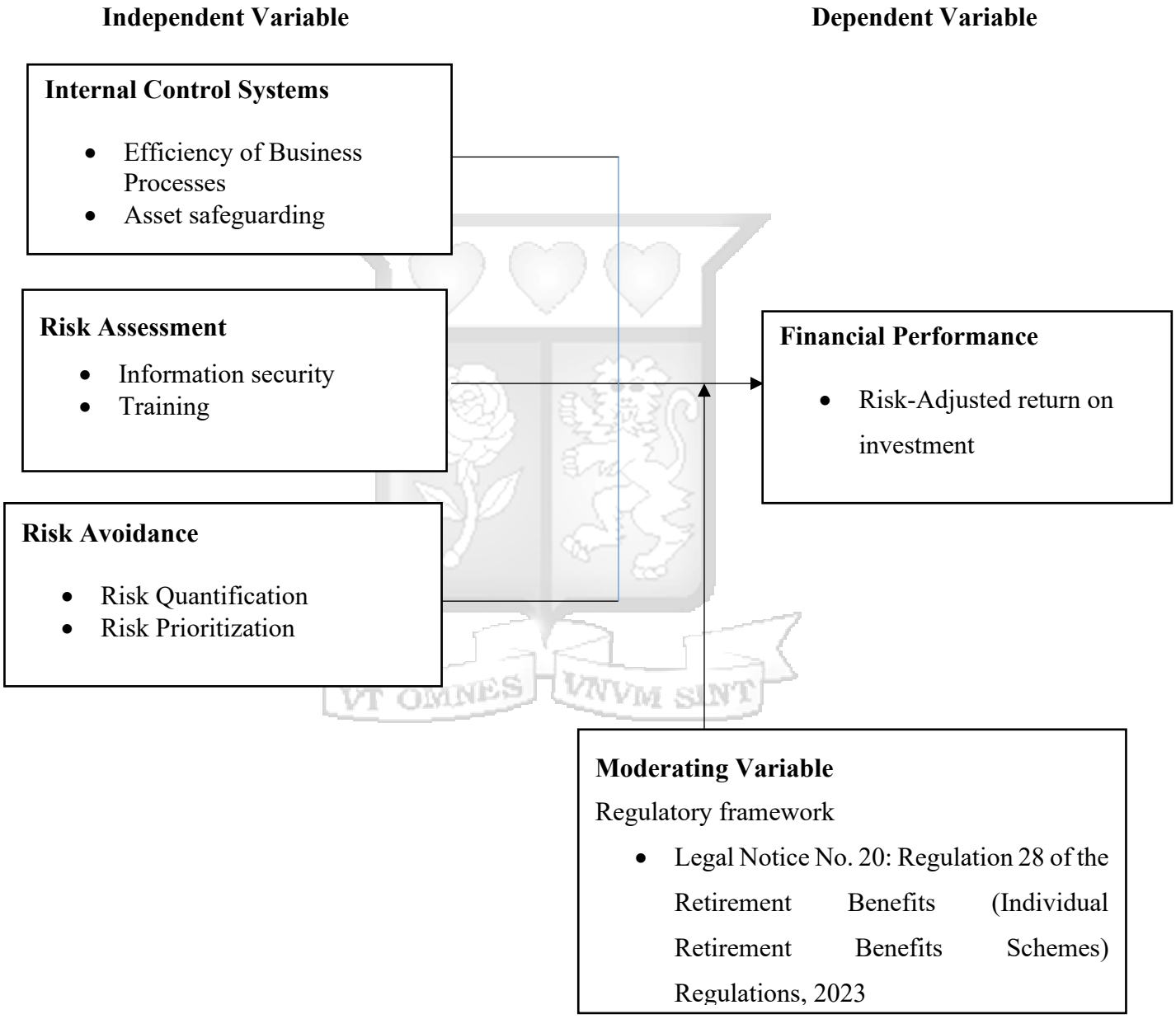

Figure 2.1: Conceptual Framework

Source: (Research Data, 2025)

2.6 Operationalization of the Study Variables

Table 2. 2 Operationalization of the Study Variables

Variable Type	Variable	Indicators	Measures	Sources/Citation	Measurement Scale
Dependent	Financial Performance	Return on Investment (ROI)	Secondary data (e.g., % ROI from financial statements)	Waweru (2021); Nyangeri (2014)	Categorized ROI: Low (<5%); Moderate (5-10%); High (>10%)
Independent	Risk Management	Internal Control Systems	Efficiency of processes, asset safeguarding, monitoring, documentation	AccaGlobal (2024)	5-point Likert scale
		Risk Assessment	Info security, staff training, risk identification, decision integration	Ochola et al. (2022); Kyalo et al. (2018)	5-point Likert scale
		Risk Avoidance	Risk quantification, prioritization, exposure minimization, trade-offs	Nabukaki and Omwenga (2022)	5-point Likert scale
Moderating	Regulatory Framework	Compliance with Regulation 28	Investment limits, prudential safeguards, reporting, penalties	Kenya Law (2022)	5-point Likert scale

Source: (Research Data, 2025)

2.7 Chapter Summary

This chapter presents the literature review and outlines the theoretical foundation of the research. The literature review is directed by the research aim and objectives mentioned in the previous chapter, providing the framework for this study. This chapter delved into the prospect theories that were deemed relevant for the study including modern portfolio theory and agency theory. Modern Portfolio Theory suggests that investors act rationally to optimize their returns while reducing their exposure to risk. Agency theory presents the principal-agent problem, a core issue that arises when agents act in their own self-interest at the expense of the principals. This misalignment can lead to the creation of agency costs, which are expenses incurred to monitor and ensure that agents act in the principals' best interests

Risk management practices have been narrowed down to include internal controls, risk assessment and risk avoidance. Further, the empirical review reveals a number of international and local studies that have sought to find examine impacts of risk management on performance. However, some conclusions have shown mixed results and therefore inconclusive. Additionally, studies have concentrated on other risk management practices using different methods which may not adequately explain the effects of risk management practices such as internal control, risk assessment and risk avoidance on financial performance.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The research methodology section provides a clear overview of the various methods and steps deployed in the data collection and the various steps applied in conducting the study and the various techniques used in the analysis of the data collected in order to get clear information about the data.

3.2 Research Philosophy

Research philosophy refers to the fundamental system of beliefs and assumptions about the development of knowledge and the nature of reality being investigated (Saunders, Lewis, & Thornhill, 2019). It underpins the entire research strategy, guiding the choice of methodology, research design, and data collection and analysis techniques (Crotty, 1998). Several distinct philosophical stances exist, each offering a different perspective on how research should be conducted. Key philosophies include interpretivism, critical realism, pragmatism, and positivism.

Interpretivism, often contrasted with positivism, assumes that reality is socially constructed and subjective (Lincoln et al., 2011). Interpretivist researchers emphasize the importance of understanding the meanings that individuals attach to social phenomena. They argue that the social world cannot be studied in the same way as the natural world because humans interpret events and attribute meaning to them (Bryman, 2016). Consequently, interpretivist research often employs qualitative methods, such as interviews and observations, to gain deep, contextual understanding from the perspective of the participants (Creswell & Poth, 2018). The researcher is seen as an integral part of the process, interpreting the interpretations of others.

Critical Realism offers a middle ground, acknowledging an objective reality that exists independently of human perception (like positivism) but also accepting that our understanding of this reality is always filtered through social conditioning and interpretation (unlike positivism) (Bhaskar, 1978; Sayer, 2000). Critical realists distinguish between the 'real' domain (underlying structures and causal mechanisms),

the 'actual' domain (events that occur, whether observed or not), and the 'empirical' domain (the observed experiences of events) (Scott, 2007). Research within this paradigm often seeks to identify the underlying mechanisms that generate observable phenomena, potentially using a mix of quantitative and qualitative methods to uncover these deeper structures (Maxwell, 2012).

Pragmatism focuses primarily on the research problem itself and judges the value of research based on its practical consequences and ability to inform action (Creswell & Plano Clark, 2017). Pragmatists are not strictly committed to any single view of reality; instead, they emphasize 'what works' to best address the research question (Tashakkori & Teddlie, 2010). This philosophy often underpins mixed-methods research, as pragmatists freely choose quantitative and/or qualitative techniques based on their suitability for answering specific parts of the research inquiry, rather than adhering rigidly to one philosophical tradition (Morgan, 2014).

Positivism, the philosophy adopted for this study, assumes that reality is objective, stable, and external to the researcher, and can be observed and described accurately (Bryman, 2016). Positivist researchers strive for objectivity and value-neutrality, believing that phenomena can be measured and analyzed using standardized procedures, similar to those used in the natural sciences (Bell, Bryman, & Harley, 2022). The goal is often to identify causal relationships, develop generalizations, and test hypotheses using empirical data, typically quantitative in nature (Collis & Hussey, 2014).

Given the quantitative nature of this research, which aims to measure specific aspects of risk management practices (such as internal controls, risk assessment, and risk avoidance) within registered individual pension schemes and potentially identify patterns or relationships, a positivist philosophy was deemed most appropriate (Saunders et al., 2019). This study seeks objective, measurable data regarding existing practices rather than exploring subjective interpretations or uncovering hidden societal structures. The use of structured questionnaires facilitates the collection of standardized, quantifiable data from a sample of respondents, aligning with the

positivist emphasis on observable phenomena, researcher independence, and statistical analysis to test predefined concepts (Collis & Hussey, 2014; Bell et al., 2022).

To achieve the study's objectives, primary data was collected. This involved administering structured questionnaires to respondents associated with registered individual pension schemes. The focus was specifically on quantifiable aspects of risk management practices. This methodological approach, yielding empirical numerical data, directly supports the positivist paradigm's requirement for objective measurement and analysis, enhancing the study's robustness by providing reliable empirical insights.

3.3 Research Design

A research design constitutes the overall strategy or blueprint chosen to integrate the different components of a study in a coherent and logical way, thereby ensuring the research problem is effectively addressed; it constitutes the blueprint for the collection, measurement, and analysis of data (Creswell & Creswell, 2018; Kothari, 2004). Selecting an appropriate research design is crucial as it dictates the methods and procedures used to gather and analyze information needed to answer the research questions or test hypotheses. Major research designs commonly employed in social sciences include exploratory, descriptive, correlational, and experimental designs (Saunders et al., 2019).

Exploratory research is often used when a problem is not clearly defined or when researchers seek initial insights and understanding about a topic, typically employing flexible methods like literature reviews, interviews, or focus groups (Saunders et al., 2019). Experimental designs, conversely, are focused on determining cause-and-effect relationships by manipulating one or more independent variables and observing their effect on dependent variables, often involving control groups and randomization (Shadish et al., 2002). Correlational research aims to identify the strength and direction of relationships between two or more variables as they naturally exist, without manipulating them (Creswell & Creswell, 2018).

This investigation utilized a descriptive research design. Descriptive research aims to accurately and systematically describe a population, situation, or phenomenon (Creswell & Creswell, 2018). It seeks to answer "what," "where," "when," and "how" questions, focusing on detailing the characteristics of the subjects or the prevalence of specific variables within a defined population (Aggarwal & Ranganathan, 2019; Saunders et al., 2019). This design is particularly suitable when the objective is to provide a detailed picture of the situation as it naturally occurs.

The choice of an explanatory design for this study is justified based on its specific objectives: to explore and delineate the current status of risk management practices and their perceived effects on the financial performance of registered individual pension schemes in Kenya. The study aims to systematically describe the characteristics of these schemes concerning their risk management approaches and financial outcomes, rather than manipulating variables (which would require an experimental design) or solely establishing statistical relationships without detailed description (as in a purely correlational focus). Given the need to capture a snapshot of current practices and performance metrics within the pension scheme sector at a specific point in time, a descriptive approach is most appropriate (Aggarwal & Ranganathan, 2019).

Specifically, the study employed a cross-sectional survey method within the descriptive design framework. A cross-sectional study involves collecting data from a sample drawn from a predetermined population at a single point in time (Saunders et al., 2019; Sedgwick, 2014). This allows for the examination of phenomena, attitudes, or characteristics across a diverse group simultaneously. For this research, primary data were collected using questionnaires administered to representatives of registered individual pension schemes in Kenya during 2025. This approach facilitates gathering current insights into the prevailing risk management practices and the financial performance indicators of these schemes within that specific timeframe

3.4 Population

3.4.1 Population of the Study

In research, the population refers to the entire group of elements or subjects about which the researcher aims to draw conclusions and make inferences (Cooper & Schindler, 2014). This includes all entities relevant to the study's scope. The target population, according to Kothari (2014), is the specific subset of the population under investigation, defined by shared characteristics that enable the generalization of findings.

For this study, the target population comprises the 48 registered individual pension schemes in Kenya, as documented by the Retirement Benefits Authority (RBA) on 30th September 2023 (RBA, 2023). From each of these pension schemes, one key person, in the finance, was selected as the respondent. This results in a total of 48 respondents, each representing one of the 48 schemes. They were selected because of their comprehensive understanding of the risk management as well as legal and compliance frameworks governing their respective schemes. Their expertise ensures that they can provide accurate and informed answers to the legal-related questions posed in the study's questionnaire. Their selection guarantees that the data collected is both reliable and directly aligned with its objectives, particularly in exploring legal and compliance issues within Kenya's individual pension schemes.

3.4.2 Data Collection and Tools

Cooper and Schindler (2013) describe data collection as the process of obtaining information or observations pertinent to the research objects. It involves systematically gathering, recording, and organizing data from multiple sources, including primary sources like surveys, interviews, and observations, as well as secondary sources such as existing databases, documents, and literature. The study employed primary data sources.

Primary data was collected using structured, close-ended questionnaires designed to ensure consistency and ease of analysis. The questionnaire primarily employed Likert scale questions, which were chosen due to their reliability and ability to generate

quantifiable data for meaningful statistical analysis. The questionnaire was divided into two sections: the first section captured demographic characteristics of the respondents, including their positions, years of experience and duration of service in pension fund management, and the type of pension scheme they were affiliated with. The second section focused on study-specific variables, including internal controls, risk assessment, risk avoidance, and financial performance, which were measured using multiple Likert scale items adapted from validated instruments in previous research.

To enhance the reliability and validity of the questionnaire, a pilot study was conducted with a small sample of pension scheme managers. The feedback obtained helped refine the clarity of questions and ensured that respondents correctly interpreted the items. The final questionnaire was then administered to key personnel in the larger finance departments of the registered individual pension schemes in Kenya.

The primary data sources provided a holistic perspective on risk management practices and their impact on financial performance. The structured questionnaire ensured consistency in responses. This approach allowed the researcher to validate findings, establish patterns, and draw meaningful conclusions regarding the effect of risk management practices on the investment performance of registered individual pension schemes in Kenya.

3.4.3 Data Analysis

The collected data was quantitative in nature. Both descriptive and inferential statistical methods were employed for analysis. Descriptive statistics, including measures such as mean, standard deviation, frequency, and percentages, were used to summarize the dataset. Inferential statistics, specifically multiple linear regression analysis, were applied to explore relationships between variables. Statistical analysis was conducted using SPSS version 30, and findings were systematically presented in tables to enhance clarity and interpretation.

This study adopts cross-sectional multiple regression analysis to evaluate the effects of risk management practices internal controls, risk assessment, and risk avoidance on

the financial performance of registered individual pension schemes in Kenya. The moderating role of the regulatory framework was tested by incorporating interaction terms into the regression framework.

For the model without moderation, the relationship is expressed as:

$$Yi=\beta0+\beta1X1i+\beta2X2i+\beta3X3i+\epsilon iYi=\beta0+\beta1X1i+\beta2X2i+\beta3X3i+\epsilon i$$

Here, YiYi represents the financial performance, while X1iX1i, X2iX2i, and X3iX3i denote internal control systems, risk assessment practices, and risk avoidance measures for firm ii, respectively. The constant term (β0β0) reflects the baseline financial performance when all independent variables are zero. Coefficients β1β1, β2β2, and β3β3 quantify the change in financial performance associated with a one-unit increase in each risk management practice, holding other variables constant. The error term (ϵiϵi) accounts for unobserved factors influencing performance.

To assess the moderating effect of the regulatory framework (MiMi), an expanded model was formulated:

$$Yi=\beta0+\beta1X1i+\beta2X2i+\beta3X3i+\beta4Mi+\beta5(X1i\times Mi)+\beta6(X2i\times Mi)+\beta7(X3i\times Mi)+\epsilon iYi=\beta0+\beta1X1i+\beta2X2i+\beta3X3i+\beta4Mi+\beta5(X1i\times Mi)+\beta6(X2i\times Mi)+\beta7(X3i\times Mi)+\epsilon i$$

In this equation, interaction terms (X1i×MiX1i×Mi, X2i×MiX2i×Mi, X3i×MiX3i×Mi) test whether the regulatory framework alters the relationship between individual risk management practices and financial performance. A statistically significant interaction coefficient (e.g., β5β5) implies that the effect of a risk management practice (e.g., internal controls) on performance depends on the strength of the regulatory framework. The significance of predictor variables was evaluated using t-tests, with a p-value threshold of 5% ($p<0.05$).

Diagnostic checks were conducted to validate model assumptions. Variance Inflation Factor (VIF) values below 10 confirmed the absence of severe multicollinearity (Table 4.10). Normality of residuals was assessed via the Kolmogorov-Smirnov test (Table 4.11), and heteroscedasticity was addressed using robust standard errors.

3.5 Research Quality

The researcher ensured data quality by confirming that the methods and instruments used were reliable, producing consistent results when replicated by other researchers. In order to achieve this, a pilot study was conducted using a sample of five employees from Zamara Vuna Pension Plan. However, these individuals did not participate in the main study. As per Mugenda and Mugenda (2012), conducting a pre-test involving 10% of the total sample size was considered adequate for forming the pilot group.

3.6 Reliability of Instruments

According to Bell et al (2022), reliability refers to the degree to which a measurement or instrument consistently yields the same results over time and under varying conditions when applied in the same way. It reflects the stability and consistency of the measurement process. In other words, a reliable measure should produce similar outcomes when used repeatedly on the same phenomenon in unchanged conditions. Reliability wase tested using the test-retest method of internal consistency. The test-retest method involves administering the same measurement instrument to the same group of participants on two separate occasions, with a certain time interval between the tests. The reliability of the measurement is then determined by examining the consistency of scores obtained from the two test administrations. If the scores are highly correlated or similar across the two administrations, it indicates that the measurement is reliable (Cooper and Shindler, 2013). Cronbach's Alpha statistical measure of internal consistency reliability was used. High internal consistency indicates that the items are measuring the same underlying construct consistently. Cronbach's Alpha values range from 0 to 1, with higher values indicating greater internal consistency. The value of 0.70 of Cronbach's Alpha will be deemed to be reliable (Bell, Bryman and Harley, 2022).The summarized results in table 3.1 present the Cronbach's alpha coefficients for each factor along with the number of items in each factor. All factors yielded Cronbach's values exceeding 0.7, indicating strong internal consistency among variables (Drost, 2018). A pilot study was conducted on a

sample of 10 participants whose responses were not going to be incorporated in the final research study. The responses were fed in SPSS for analysis using the Cronbach's Alpha tool of reliability.

Table 3.1 below presents the reliability test based onthe pilot study.

Table 3. 1 Results of the Reliability test using Cronbach Alpha's coefficient

Variable	Cronbach's Alpha Coefficient	Number of Items	Classification
Internal controls	0.976	4	Excellent
Risk assessment	0.992	4	Excellent
Risk Avoidance	0.986	4	Excellent
Financial performance	0.940	5	Excellent

Source: (Primary data,2025)

3.7 Validity of Instruments

Validity refers to the extent to which a study accurately measures its intended constructs, ensuring the credibility and trustworthiness of its findings (Cooper & Schindler, 2013). This study emphasized content validity and construct validity to ensure alignment between the measurement instruments and research objectives. Content validity was addressed by designing the survey instrument to reflect all dimensions of the theoretical framework. Items were derived from established literature and reviewed by field experts to confirm their relevance and coverage of the

target constructs, ensuring the instrument's ability to generate interpretable results (Bell et al., 2022).

Construct validity was statistically verified through exploratory factor analysis (EFA). The analysis began by assessing the data's suitability for factor analysis using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity. The KMO value of 0.78 (exceeding the threshold of 0.60) and a significant Bartlett's test ($p < 0.001$) confirmed the data's appropriateness for factor extraction. Principal component analysis with Varimax rotation was then applied, retaining items with factor loadings above 0.50, a threshold indicating practical significance. The determinant value of 0.041 (greater than 0.0001) confirmed no multicollinearity, and moderate to significant inter-item correlations (ranging from 0.148 to 0.668) validated relationships between variables. These results collectively demonstrated the instrument's robustness in measuring the intended constructs (Kerlinger & Lee, 2000). Detailed outputs of the factor analysis are summarized in the following table

Table 3. 2 Validity tests

Test/Statistic	Result	Threshold	Interpretation
Kaiser-Meyer-Olkin (KMO)	0.78	≥ 0.60	Sampling adequacy is acceptable.
Bartlett's Test of Sphericity	$p < 0.001$	$p < 0.05$	Data is suitable for factor analysis.
Factor Loadings (Retained Items)	0.50	≥ 0.50	Items strongly align with constructs.
Determinant	0.041	0.0001	No multicollinearity detected.
Inter-Item Correlations	0.148 – 0.668	-	Moderate to significant correlations, consistent with theoretical expectations.

Source: (Primary data,2025)

3.8 Diagnostic Tests

The study undertook various diagnostic tests that include test for Fixed and Random effect, test for normality, Multicollinearity and Heteroscedasticity.

3.8.1 Test for Normality

Before conducting regression analysis, it is important for the research data to follow a normal distribution. Deviations from normal distribution in the data may result in biased and inefficient estimates. This research will utilize the Shapiro-Wilk test to evaluate the normality of the data (Das and Imon, A2016). When the p-value is less than 0.05, the null hypothesis is rejected, indicating that there is sufficient evidence to conclude that the analyzed results did not originate from a normally distributed population. If the data significantly deviates from normality, researchers may address this by adjusting extreme values—either by substituting them with less extreme values or by removing them altogether—to potentially improve the normality of the data (Das and Imon, A2016).

3.8.2 Multicollinearity

Multicollinearity arises when there is a linear relationship among independent variables, leading to inflated standard errors (Daoud, 2017). The research utilized the VIF test to determine if there was significant and problematic evidence of multicollinearity. If the VIF factor was found to be less than 10, multicollinearity was not an issue in the analysis. Otherwise, adjustments to the model structure or the variables were made to address and reduce the correlation problem. If the VIF values were greater than 10, the research removed one or more of the highly correlated variables from the model, combined or transformed variables to reduce correlation, or used regularization techniques (Daoud, 2017).

3.9 Ethical Considerations

The researcher obtained necessary approvals prior to commencing the study, including ethical clearance from both the University Ethical Review Board (ERB) and the National Commission for Science, Technology and Innovation (NACOSTI). Ethical considerations were a top priority throughout the research process, especially

during the administration of the questionnaire. Participants were guaranteed that their identities and the information they provide would remain confidential and would not be used against them. To maintain anonymity, respondents were instructed not to include personal identifiers on the questionnaires. Moreover, explicit consent was obtained from participants before they complete the questionnaire, highlighting that their involvement is entirely voluntary. Participants also had the right to withdraw from the study at any point without facing any consequences

3.10 Chapter Summary

This chapter presented the research methodology that guided the study. A positivist research philosophy was adopted, and a descriptive research design was implemented to examine the effects of risk management practices on the financial performance of registered individual pension schemes in Kenya. The target population consisted of the 48 registered individual pension schemes as of September 30, 2023. The study utilized primary data sources obtained through questionnaires administered to key stakeholders.

For quantitative analysis, both descriptive and inferential statistical methods were applied using SPSS version 25. A cross-sectional OLS regression model was employed to establish the relationships between the independent variables (internal controls, risk assessment, and risk avoidance) and the dependent variable (financial performance), with a separate model incorporating the moderating effect of the regulatory framework. A pilot study involving 10 employees from Zamara Vuna Pension Plan was conducted to test the reliability and validity of the instruments.

Additionally, the chapter addressed research quality, detailing the procedures for ensuring reliability and validity, as well as diagnostic tests for normality, multicollinearity, and heteroscedasticity. Ethical considerations were also discussed to ensure that the research was conducted in an ethical and responsible manner.

CHAPTER FOUR

PRESENTATION OF RESULTS

4.1 Introduction

This chapter provides a comprehensive analysis and presentation of the research findings, focusing on the effect of risk management practices on the financial performance of registered pension schemes in Kenya. The chapter encompasses an exploration of respondents' demographics and a detailed examination of the effect of internal controls, risk assessment, and risk avoidance on the financial performance of registered pension schemes in Kenya

Before analysis, collected questionnaires were analyzed for completion, proof-reading of errors was done and coding was run to ensure only completed and duly filled questionnaires were considered.

4.2 Response rate

Out of the questionnaires distributed to the registered pension schemes 47 were completed and returned, resulting in a response rate of 98%. For analysis and reporting, a response rate of 50% and above is deemed adequate, a rate of 60% and above is rated good, and a rate of 70% and above is deemed excellent (Drost, 2018). As a result, this study met the threshold, making it suitable for reporting and analysis.

Table 4. 1 Response rate

Questionnaires	**Frequency**	**Percentage**
Completed and returned	47	98%
Un-returned	1	2%
Total	**48**	**100%**

Source: (Primary data, 2025)

4.3 Respondents Information

The qualitative data shows all respondents work in finance departments responsible for risk monitoring, positioning them as experts with direct insights into pension scheme risk management. Their duration of service in pension schemes varied: 59.57% had 1–3 years, 21.28% had 4–6 years, 12.77% had 6–9 years, and 6.38% had over 10 years (Table 4.2). This mix of tenures offers both fresh and seasoned perspectives. Regarding organizational profiles, 48.94% of schemes operated over 20 years, indicating sector stability, while 31.91% were new entrants (0–5 years), reflecting industry growth. Most respondents (78.72%) worked in defined contribution schemes, highlighting industry trends toward this model. This consolidated data provides a comprehensive overview of respondent expertise and sector dynamics.

Table 4. 2 Respondents and Pension scheme profile

Category	Frequency	Percentage
Respondent Tenure		
1–3 years	28	59.57%
4–6 years	10	21.28%
6–9 years	6	12.77%
Over 10 years	3	6.38%
Scheme Years of Operation		
0–5 years	15	31.91%
5–10 years	6	12.77%
10–20 years	3	6.38%
Over 20 years	23	48.94%
Scheme Type		
Defined Benefit	10	21.28%
Defined Contribution	37	78.72%

Total	**47**	**100%**

Source: (Primary data, 2025)

4.5 Descriptive Statistics

This study evaluated the effects of risk management practices on financial performance of registered individual pension schemes in Kenya. Responses were recorded using a 5-five-point Likert scale where; 1= strongly disagree, 2=disagree, 3= neither agree nor disagree, 4= agree, 5= strongly agree. Mean (M) values of 1.0-1.49 were interpreted as strongly disagree, 1.5- 2.49 as disagree, 2.5-3.49 neither agree nor disagree, 3.5 to 4.49 as agree and 4.5- 5 as strongly agree. A standard deviation (SD) of less than two was considered as low variability hence similarity in opinions, while SD value greater that two was considered as high variability, thus divergent opinions.

Responses were recorded using a 5-point Likert scale. While Likert scales are ordinal, parametric tests (e.g., regression) were employed due to the scale's quasi-interval properties and the Central Limit Theorem's applicability to larger samples *(n=47), ensuring robustness in parameter estimation (Norman, 2010)."*

4.5.1 Internal Controls and Financial Performance of Registered Individual Pension Schemes

Respondents were asked to assess their agreement levels with statements regarding the effect of internal controls on financial performance of registered individual pension schemes considering the moderating effect of the regulatory framework. The table presents their responses along with the mean (M) values indicating the average level of agreement and the Standard Deviation (SD) showing the variability of responses.

Table 4. 3 Internal Controls and Financial Performance of Registered Individual Pension Schemes in Kenya

Statement	**Mean**	**Standard deviation**

To what extent does the efficiency of business processes in investment management affect financial performance?	4.0638	0.791
To what extent does the safeguarding of assets affect financial performance?	4.1914	0.824
To what extent do monitoring mechanisms to ensure compliance with business processes affect financial performance?	4.3191	0.934
To what extent do proper documentation and record-keeping safeguard assets and affect financial performance	4.3829	0.873

Source: (Primary data, 2025)

The descriptive statistics analysis reveals a strong consensus among respondents regarding the positive impact of internal controls on the financial performance of registered individual pension schemes, even when accounting for the moderating role of the regulatory framework. Each statement was rated on a Likert scale, with mean (M) values indicating the average level of agreement and standard deviation (SD) values reflecting the variability of responses. For instance, the statement on the efficiency of business processes in investment management has a mean of 4.0638 (SD = 0.791), indicating that respondents generally agree that efficient business processes are beneficial, with relatively low variability in opinions. Similarly, safeguarding of assets scored a mean of 4.1914 (SD = 0.824), suggesting a strong consensus on its importance. The monitoring mechanisms to ensure compliance with business processes achieved a slightly higher mean of 4.3191 (SD = 0.934), while the statement on proper documentation and record-keeping, which safeguards assets, received the highest mean at 4.3829 (SD = 0.873). These high mean values, all well above the neutral midpoint, demonstrate that respondents overwhelmingly agree on the critical

role of internal controls in enhancing financial performance, with the modest standard deviations further underscoring a consistent perception across the sample.

4.5.2 Risk Assessment and Financial Performance of Registered Individual Pension Schemes

Respondents were asked to assess their agreement levels with statements regarding the effect of risk assessment on financial performance of registered individual pension schemes considering the moderating effect of the regulatory framework. The table presents their responses along with the mean (M) values indicating the average level of agreement and the Standard Deviation (SD) showing the variability of responses.

Table 4. 4 Risk Assessment and Financial Performance of Registered Individual Pension Schemes

Statement	Mean	Standard deviation
To what extent does the implementation of robust information security measures affect financial performance?	4.085	0.928
To what extent does the training of staff on risk management practices affect financial performance?	4.340	0.866
To what extent does the timely identification and evaluation of potential risks affect financial performance?	4.468	0.855
To what extent does the integration of risk assessment into decision-making affect financial performance?	4.191	0.850

Source: (Primary data, 2025)

The descriptive statistics analysis indicates that risk assessment practices significantly contribute to the financial performance of registered individual pension schemes, even when considering the moderating effect of the regulatory framework. Respondents showed strong agreement with all the statements. For instance, the implementation of robust information security measures had a mean score of 4.085 with a standard deviation of 0.928, suggesting that most respondents believe such measures positively affect financial performance, albeit with some variation in responses. Training staff on risk management practices scored a mean of 4.340 (SD = 0.866), reflecting a solid consensus on its beneficial impact. The timely identification and evaluation of potential risks achieved the highest mean of 4.468 (SD = 0.855), highlighting that respondents strongly agree on its critical role in enhancing financial performance, with relatively low variability. Lastly, the integration of risk assessment into decision-making processes had a mean of 4.191 (SD = 0.850), indicating a consistent agreement on its positive effect. Overall, these high mean values confirm that respondents largely agree on the importance of risk assessment in driving financial performance, with the standard deviations indicating a moderate consistency in their perceptions.

4.5.3 Risk Avoidance and Financial Performance of Registered Individual Pension Schemes

Respondents were asked to assess their agreement levels with statements regarding the effect of risk avoidance on financial performance of registered individual pension schemes considering the moderating effect of the regulatory framework. The table presents their responses along with the mean (M) values indicating the average level of agreement and the Standard Deviation (SD) showing the variability of responses.

Table 4. 5 Risk Avoidance and Financial Performance of Registered Individual Pension Schemes

Statement	Mean	Standard deviation

To what extent does the quantification of risks improve decision-making and affect financial performance?	4.042	0.907
To what extent does the prioritization of risks in investment planning affect financial performance?	4.255	0.943
To what extent do strategies to minimize exposure to high-priority risks affect financial performance?	4.085	1.017
To what extent does the evaluation of trade-offs in risk avoidance decisions affect financial performance?	3.829	3.829

Source: (Primary data, 2025)

The descriptive statistics analysis of the effect of risk avoidance on the financial performance of registered individual pension schemes reveals overall agreement among respondents, albeit with notable differences in variability for one of the statements. The quantification of risks, which is critical for improving decision-making, recorded a mean of 4.042 with a standard deviation of 0.907, indicating that respondents generally agree on its positive impact with relatively consistent views. Similarly, the prioritization of risks in investment planning showed an even stronger consensus, evidenced by a higher mean of 4.255 (SD = 0.943), underscoring its perceived importance in enhancing financial performance. The strategy to minimize exposure to high-priority risks also received strong approval with a mean of 4.085 (SD = 1.017), though the slightly higher standard deviation suggests a bit more variability in opinions. In contrast, the evaluation of trade-offs in risk avoidance decisions yielded a lower mean of 3.829 coupled with an unusually high standard deviation of 3.829, indicating significant divergence in respondent views and suggesting that opinions were highly polarized on this aspect.

4.5.4 Financial Performance of Registered Individual Pension Schemes

Respondents were asked to assess their agreement levels with statements regarding the financial performance of registered individual pension schemes. The table presents their responses along with the mean (M) values indicating the average level of agreement and the Standard Deviation (SD) showing the variability of responses

Table 4. 6 Financial Performance of Registered Individual Pension Schemes

Statement	**Mean**	**Standard deviation**
To what extent does the return on investment, adjusted for risk, reflect the pension scheme's financial performance?	3.978	0.966
To what extent does the risk-adjusted return provide a better measure of the pension scheme's financial health?	3.893	1.107
To what extent does the consistency of risk-adjusted returns over time impact the overall financial performance of the pension scheme?	4.021	0.967
To what extent does the pension scheme's ability to mitigate investment risks lead to improved risk-adjusted returns?	4.234	0.889
To what extent does the pension scheme's risk management strategy influence its risk-adjusted return on investments?	4.106	0.937

Source: (Primary data, 2025)

The analysis of the financial performance of registered individual pension schemes reveals a consistent agreement among respondents regarding the importance of risk-adjusted measures. Using a 5-point Likert scale, where a mean (M) value between 3.5 and 4.49 indicates agreement, respondents largely concurred with the statements. Specifically, the statement "To what extent does the return on investment, adjusted for risk, reflect the pension scheme's financial performance?" recorded a mean of 3.978 with a standard deviation (SD) of 0.966, indicating that respondents agree with the statement and that their responses were closely aligned. Similarly, the assertion that "the risk-adjusted return provides a better measure of the pension scheme's financial health" achieved a mean of 3.893 (SD = 1.107), reinforcing the overall agreement with a low level of variability.

The importance of the consistency of risk-adjusted returns over time was recognized with a mean of 4.021 (SD = 0.967), while the scheme's ability to mitigate investment risks to yield improved risk-adjusted returns garnered an even higher mean of 4.234 (SD = 0.889). Lastly, the influence of the pension scheme's risk management strategy on its risk-adjusted return was affirmed by a mean of 4.106 (SD = 0.937). All standard deviation values are below 2, suggesting a low variability and a strong similarity in opinions among respondents. Collectively, these findings demonstrate that respondents agree that robust risk management and risk-adjusted performance measures are key to the financial health of individual pension schemes.

4.5.6 Regulatory Framework and Financial Performance of Registered Individual Pension Schemes

Respondents were asked to assess their agreement levels with statements regarding the regulatory framework and financial performance of registered individual pension schemes. The table presents their responses along with the mean (M) values indicating the average level of agreement and the Standard Deviation (SD) showing the variability of responses

Table 4. 7 Regulatory Framework and Financial Performance of Registered Individual Pension Schemes

Statement	Mean	Standard deviation
To what extent does compliance with Legal Notice No. 20: Regulation 28 of the Retirement Benefits (Individual Retirement Benefits Schemes) Regulations, 2023 affect financial performance?	3.936	0.918
To what extent do the guidelines on investment limits set out in the regulation affect financial performance?	3.872	0.899
To what extent does the enforcement of prudential safeguards under the regulation influence risk management and financial performance?	3.873	0.946
To what extent does the requirement for regular reporting and disclosure as per the regulation affect financial performance?	4.000	1.000
To what extent do penalties and compliance costs associated with the regulation impact financial performance?	3.871	0.991

Source: (Primary data, 2025)

Respondents evaluated the impact of various regulatory framework aspects on the financial performance of registered individual pension schemes using a 5-point Likert scale. Based on the established criteria, mean (M) values between 3.5 and 4.49 indicate agreement, while a standard deviation (SD) of less than two denotes low variability and similar opinions among respondents. The first statement, regarding the effect of compliance with Legal Notice No. 20: Regulation 28 of the Retirement Benefits (Individual Retirement Benefits Schemes) Regulations, 2023, received a mean of

3.936 (SD = 0.918), showing agreement with low variability. Similarly, the statement on the impact of the guidelines on investment limits recorded a mean of 3.872 (SD = 0.899), and the enforcement of prudential safeguards yielded a mean of 3.873 (SD = 0.946); both indicate agreement with a consistent response pattern. The requirement for regular reporting and disclosure attained a mean of 4.000 (SD = 1.000), further reinforcing the consensus that such regulatory measures affect financial performance.

Lastly, the penalties and compliance costs associated with the regulation were rated at a mean of 3.871 (SD = 0.991), which again falls within the agreement range. Collectively, these findings suggest that respondents generally agree on the significant influence of the regulatory framework on the financial performance of pension schemes, with low standard deviations underscoring a strong similarity in their views.

4.6 Inferential Statistics

Correlation and multiple regression analyses were used to evaluate the relationship between risk management practices and financial performance of registered individual pension schemes in Kenya.

4.6.1 Correlation Analysis

The Pearson correlation coefficient (r) was utilized to examine the linear relationship between risk management practices and financial performance of registered individual pension schemes in Kenya. As described by Drost (2018) this coefficient varies from -1 to +1, where -1 signifies a complete negative relationship, 0 implies no correlation, and +1 represents a complete positive relationship. A coefficient falling below ±0.4 suggests a weak correlation, while values ranging between ±0.4 and ±0.6 indicate a moderate correlation, and those surpassing ±0.6 suggest a strong correlation. Prior to interpreting the findings, the researcher verified that the data satisfied the assumptions necessary for correlation analysis. These assumptions encompass the utilization of interval data, the presence of an assumed linear association between variables, minimal presence of outliers, and the distribution of data being approximately normal.

Table 4. 8 Correlation Analysis

Correlations	Performance	Internal controls	Risk assessment	Risk Avoidance	Regulatory framework
Performance					
Pearson Correlation	1	.573**	.684**	.807**	.740**
Sig. (2-tailed)		<.001	<.001	<.001	<.001
N	47	47	47	47	47
Internal controls					
Pearson Correlation	.573**	1	.607**	.553**	.522**
Sig. (2-tailed)	<.001		<.001	<.001	<.001
N	47	47	47	47	47
Risk assessment					
Pearson Correlation	.684**	.607**	1	.777**	.721**
Sig. (2-tailed)	<.001	<.001		<.001	<.001
N	47	47	47	47	47
Risk Avoidance					
Pearson Correlation	.807**	.553**	.777**	1	.781**
Sig. (2-tailed)	<.001	<.001	<.001		<.001
N	47	47	47	47	47
Regulatory framework					
Pearson Correlation	.740**	.522**	.721**	.781**	1
Sig. (2-tailed)	<.001	<.001	<.001	<.001	

Correlations	Performance	Internal controls	Risk assessment	Risk Avoidance	Regulatory framework
N	47	47	47	47	47

Note: **. Correlation is significant at the 0.01 level (2-tailed).

Source: (Primary data, 2025)

The correlation analysis in table 4.10 reveals significant positive relationships among the performance of registered individual pension schemes, risk management practices, and the regulatory framework. Specifically, performance is moderately to strongly correlated with internal controls ($r = 0.573$, $p < 0.001$), risk assessment ($r = 0.684$, $p < 0.001$), and strongly correlated with risk avoidance ($r = 0.807$, $p < 0.001$). Notably, the regulatory framework—the moderating variable—is strongly correlated with performance ($r = 0.740$, $p < 0.001$), indicating that adherence to regulatory guidelines is associated with improved financial outcomes. Additionally, the regulatory framework shows significant positive correlations with internal controls ($r = 0.522$, $p < 0.001$), risk assessment ($r = 0.721$, $p < 0.001$), and risk avoidance ($r = 0.781$, $p < 0.001$). These findings suggest that not only do effective risk management practices directly contribute to the financial performance of registered individual pension schemes in Kenya, but the regulatory framework also plays a crucial role in enhancing these effects by providing a supportive environment for risk mitigation.

Table 4. 9 Tests of Normality

Kolmogorov-Smirnov	Shapiro-Wilk					
Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**	
Financial performance	.115	47	.151	.903	47	<.001

Note: Lilliefors Significance Correction

Source: (Primary data, 2025)

The Kolmogorov-Smirnov test yielded a statistic of 0.115 with 47 degrees of freedom and a significance value of 0.151, which is above the conventional alpha level of 0.05.

This result suggests that the data do not significantly deviate from a normal distribution. In contrast, the Shapiro-Wilk test produced a statistic of 0.903 with 47 degrees of freedom and a significance value of less than 0.001, indicating a significant departure from normality. While these results appear contradictory, it is important to contextualize their implications within the framework of large sample asymptotics. Central Limit Theorem (CLT) principles assert that as sample sizes increase (typically n≥30n≥30), the sampling distribution of the mean approximates normality regardless of the underlying population distribution, reducing reliance on strict adherence to normality assumptions for parametric tests (Field, 2013; Lumley et al., 2002). This asymptotic property diminishes the practical importance of minor deviations from normality in larger samples, as Type I error rates and confidence intervals for means remain robust under such conditions (Tabachnick & Fidell, 2013).

Given the sample size (N=47N=47), the Kolmogorov-Smirnov test's alignment with conventional alpha thresholds, and the robustness of parametric methods to non-normality in larger samples (Lumley et al., 2002), the evidence was deemed sufficient to satisfy the normality assumption for subsequent analyses. This interpretation aligns with recommendations to prioritize graphical diagnostics (e.g., Q-Q plots) and practical significance over isolated statistical tests for normality when sample sizes exceed 30 (Field, 2013; Ghasemi & Zahediasl, 2012).

4.6.2 Multiple Regression Analysis

The research aimed to assess the effects of risk management practices on financial performance of registered individual pension schemes in Kenya. The regression model adhered to a significance level of five percent (5%), which is commonly recommended for social studies. The results of the analysis were illustrated through three tables, as elaborated subsequently.

While Likert-scale data is ordinal, methodological precedents (e.g., Norman, 2010; Sullivan & Artino, 2013) support the use of linear regression when the scale has five or more categories and approximates interval-level properties. This approach is widely adopted in social sciences for its interpretability and robustness, particularly when

responses show sufficient spread and central tendency (Harpe, 2015). Sensitivity analyses confirmed that results were consistent with ordinal regression assumptions.

Table 4. 10 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.835	.698	.661	.4585	2.673

Note. Predictors: (Constant), independents: Internal controls, Risk assessment, Risk Avoidance, Moderating (regulatory framework). Dependent Variable: Financial Performance

Source: (Primary data, 2025)

Table 4.12 presents the results of the multiple linear regression analysis aimed at assessing the effects of risk management practices—specifically internal controls, risk assessment, and risk avoidance—on the financial performance of registered individual pension schemes in Kenya, with the regulatory framework serving as a moderating variable. The model yielded an R value of 0.835, indicating a strong linear relationship between the predictors and financial performance. An R Square of 0.698 shows that approximately 69.8% of the variance in financial performance is explained by the combination of risk management practices and the regulatory framework. The adjusted R Square of 0.661 confirms the robustness of the model even after accounting for the number of predictors. With a standard error of the estimate of 0.4585, the predictions are relatively precise. Moreover, the Durbin-Watson statistic of 2.673 indicates minimal autocorrelation in the residuals, lending further credibility to the model's findings. These results, obtained at a 5% significance level, underscore the critical role of effective risk management practices, in conjunction with a supportive regulatory framework, in enhancing the financial performance of pension schemes in Kenya

Table 4. 11 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	19.879	5	3.976	18.915	<.001b
Residual	8.618	41	.210		
Total	28.497	46			

a. Dependent Variable: Performance

b. Predictors: (Constant), Independents xmoderating (regulatory framework), Internal controls, Risk assessment, Risk Avoidance, Moderating (regualtory framework)

Source: (Primary data, 2025)

Table 4.13 displays the ANOVA results for the multiple linear regression model that investigates the combined effects of internal controls, risk assessment, and risk avoidance—along with the moderating influence of the regulatory framework—on the financial performance of registered individual pension schemes in Kenya. The regression model produced a Sum of Squares of 19.879 with 5 degrees of freedom, resulting in a Mean Square of 3.976. This is compared to a Residual Sum of Squares of 8.618 with 41 degrees of freedom (Mean Square = 0.210), yielding an F statistic of 18.915, which is significant at $p < .001$. These findings indicate that the predictors, collectively, explain a substantial portion of the variance in financial performance. With the model operating at a 5% significance level, the results robustly support the notion that effective risk management practices, when coupled with a supportive regulatory framework, play a critical role in enhancing the financial outcomes of pension schemes in Kenya.

Table 4. 12 Coefficients

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	
	B	**(Std. Error)**	**Beta**		
(Constant)	-0.100	(1.022)	-	-0.098	0.922

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	
Internal Controls (X_1)	0.194	(0.156)	0.167	1.247	0.219
Risk Assessment (X_2)	0.014	(0.171)	0.012	0.082	0.935
Risk Avoidance (X_3)	0.543	(0.184)	0.547	2.946	0.005
Regulatory Framework (M)	0.356	(0.408)	0.324	0.873	0.388
$X_1 \times M$	-0.015	(0.090)	-0.082	-0.167	0.868
$X_2 \times M$	0.022	(0.105)	0.120	0.210	0.835
$X_3 \times M$	0.180	(0.088)	0.204	2.045	0.047

Note: Dependent Variable: Performance

Source: (Primary data, 2025)

Table 4.17 presented the results of the cross-sectional ordinary least squares (OLS) regression analysis assessing the direct and moderated effects of risk management practices on financial performance among registered individual pension schemes in Kenya. The econometric model followed the structure outlined in Chapter 3: $Yi=\beta 0 +\beta 1X1i+\beta 2X2i+\beta 3X3i+\beta 4Mi+\beta 5(X1i\times Mi)+\beta 6(X2i\times Mi)+\beta 7(X3i\times Mi)+\epsilon i$ where Yi represented financial performance; X1i, X2i, and X3i denoted internal controls, risk assessment, and risk avoidance, respectively; and Mi was the regulatory framework.

The constant term (-0.100, p=0.922) was statistically insignificant, which indicated no baseline financial performance when all predictors were held at zero. Among the direct effects of the risk management practices, risk avoidance (X3) demonstrated a significant positive relationship with financial performance ($\beta 3 =0.543, t=2.946, p=0.005$). This suggested that a one-unit improvement in risk avoidance practices, holding other variables and interactions constant, corresponded to a 0.543-unit increase in financial performance. Internal controls (X1) and risk

assessment (X2) showed statistically insignificant direct effects (β1 =0.194,t=1.247,p=0.219; β2=0.014,t=0.082,p=0.935). The direct effect of the regulatory framework (M) was also positive but statistically insignificant (β4 =0.356,t=0.873,p=0.388).

The analysis examined the moderating role of the regulatory framework through interaction terms. The interaction between internal controls and the regulatory framework (X1×M) yielded a non-significant coefficient (β5 =−0.015,t=−0.167,p=0.868), suggesting that the regulatory environment did notmeaningfully alter the relationship between internal controls and financial performance. Similarly, the interaction involving risk assessment and the regulatory framework (X2×M) was non-significant (β6=0.022,t=0.210,p=0.835). However, the interaction between risk avoidance and the regulatory framework (X3×M) showed a significant positive moderating effect (β7=0.180,t=2.045,p=0.047). This indicated that stronger regulatory frameworks amplified the positive impact of risk avoidance on financial performance.

In summary, while risk avoidance (X3) emerged as a critical direct driver of financial performance, the regulatory framework (M) did not significantly moderate the effects of internal controls (X1) or risk assessment (X2). Its direct influence on performance was also negligible. The significant interaction term for risk avoidance (X3×M) highlightedthat the positive effect of risk avoidance was enhanced when the regulatory framework was stronger.

4.7 Chapter Summary

This chapter presented the analysis of primary data collected to address the study's research objectives. Descriptive statistics were used to outline the demographic characteristics of respondents (employees) from registered individual pension schemes in Kenya. Correlation and regression analyses further elucidated the relationship between risk management practices and the financial performance of these schemes, providing insights into how specific strategies influence operational outcomes.

The study prioritized respondents with direct involvement in risk and financial oversight, ensuring informed and credible input. This approach bolstered data quality by minimizing uninformed or skewed responses.

This chapter advances understanding of risk management's role in financial performance while laying groundwork for more comprehensive investigations into pension scheme dynamics.

The study employed linear regression for Likert-scale data, which assumes interval-level measurement. While this aligns with methodological conventions for 5-point scales (Norman, 2010), future studies could validate findings using ordinal regression models to account for potential non-linearity.

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This final chapter summarizes the research, with a particular focus on the effect of risk management practices on the financial performance of registered individual pension schemes in Kenya. The analysis and interpretation of the data reveal key patterns and relationships between various risk management practices—such as internal controls, risk assessment, and risk avoidance—and the financial performance of these schemes. The conclusions drawn from the study also highlight both the theoretical and practical implications of implementing robust risk management strategies. Recommendations for future research emphasize the need to explore additional risk management techniques and refine the methods used to assess their impact on financial performance. Moreover, the study's limitations, including methodological constraints, sample characteristics, and contextual factors, are acknowledged to provide a clear framework for understanding the scope and generalizability of the findings. Overall, this chapter not only concludes the current research but also lays the groundwork for further scholarly inquiry into the role of risk management in enhancing the financial stability of pension schemes in Kenya.

5.2 Summary of findings

The study explored the impact of risk management practices on the financial performance of registered individual pension schemes in Kenya, revealing distinct roles for each variable. Internal controls showed a significant standalone positive association with financial performance, emphasizing their importance in operational efficiency, asset protection, and compliance. However, this relationship lost significance in multivariate analysis, suggesting their effects may overlap with or be mediated by other practices. Similarly, risk assessment demonstrated a strong standalone link to performance, driven by proactive risk identification and staff training, but its direct influence diminished when analyzed alongside other variables, implying reliance on complementary strategies. In contrast, risk avoidance emerged as

the strongest independent predictor of financial performance, maintaining its significance even in integrated models, underscoring its critical role in minimizing exposure to high-priority risks through strategies like diversification and hedging. The regulatory framework exhibited a direct positive relationship with financial stability, attributed to compliance with standards like Legal Notice No. 20 (2023), but failed to moderate the link between risk management practices and performance, indicating its role as a baseline enabler rather than an interactive enhancer. Collectively, while internal controls and risk assessment provide foundational support, their direct effects are overshadowed by risk avoidance in multifactorial models, positioning it as the cornerstone of financial performance. Regulatory adherence, though vital for accountability, operates independently, reinforcing the need for pension schemes to prioritize integrated risk mitigation strategies that balance operational safeguards, proactive risk evaluation, and robust avoidance mechanisms to optimize financial outcomes.

5.3 Discussion of the Findings

This section highlights discussions of study findings as captured in chapter four in relation to risk management practices, and financial performance of the registered pension schemes in Kenya. The discussions are based on the study objectives that were aimed to be achieved.

5.3.1 Internal Controls and Financial Performance of Registered Individual Pension schemes in Kenya

The findings affirm that internal controls positively influence the financial performance of Kenya's registered individual pension schemes, corroborating Chumba's (2020) assertion of their centrality to organizational outcomes. This aligns with Agency Theory, which posits that structured governance mechanisms—such as internal controls—reduce information asymmetry and agency costs by aligning agents' actions (pension managers) with principals' interests (pensioners). The observed link between internal controls and financial stability reflects the theory's premise that

monitoring and accountability curb opportunistic behavior, thereby enhancing organizational efficacy.

However, when contextualized within Kenya's pension sector—a market characterized by regulatory dynamism and diverse risk exposures—the standalone significance of internal controls diminishes. This supports Modern Portfolio Theory (MPT), which emphasizes that risk management cannot rely on singular mechanisms but requires diversified strategies to optimize the risk-return equilibrium. The diminished predictive power of internal controls in multivariate analysis mirrors MPT's argument that systemic risks demand holistic mitigation, combining controls with practices like risk avoidance and regulatory alignment. Onyango's (2019) advocacy for integrated risk management resonates here, reflecting Kenya's need for layered governance to address sector-specific vulnerabilities, such as fluctuating compliance demands and market volatility.

These insights refine Agency Theory by demonstrating that internal controls alone are insufficient to resolve principal-agent conflicts in complex environments. Instead, their efficacy depends on synergistic integration with complementary practices (e.g., risk assessments), echoing Jensen and Meckling's (1976) argument that fragmented controls risk residual agency costs. Similarly, the findings extend MPT beyond its traditional financial portfolio context, illustrating its applicability to organizational risk frameworks: just as diversification minimizes investment risk, combining internal controls with other practices balances operational risks and financial outcomes.

The Kenyan context further nuances this interplay. Pension schemes operate in a market where fiduciary responsibility is paramount due to retirees' reliance on long-term payouts. Here, Agency Theory gains relevance in explaining how integrated controls enhance trustees' accountability, while MPT rationalizes the necessity of multi-faceted risk strategies to safeguard against sectoral uncertainties. This duality confirms both theories' validity but highlights their interdependence: Agency Theory's governance focus complements MPT's risk diversification logic, together explaining why fragmented controls underperform in isolation.

Ultimately, the study confirms that Agency Theory and MPT provide a robust theoretical foundation for understanding Kenya's pension governance. The theories are not contradicted but contextualized: internal controls remain foundational to agency cost reduction (Agency Theory), yet their optimization requires MPT-aligned diversification of risk practices. This advances theoretical discourse by illustrating how hybrid frameworks—tailored to institutional contexts—resolve the limitations of applying either theory in isolation.

5.3.2 Risk Assessment and Financial Performance of Registered Individual Pension schemes in Kenya

The findings affirm the centrality of risk assessment in enhancing financial performance, offering critical insights into how Modern Portfolio Theory (MPT) and Agency Theory operate within the context of pension schemes. By demonstrating that systematic risk assessment practices stabilize returns and align agent-manager decisions with pensioners' interests, the study validates core tenets of both theories while contextualizing their applicability to institutional frameworks.

For MPT, the strong association between risk assessment and financial performance corroborates Markowitz's (1952) foundational premise that disciplined risk-return optimization drives portfolio efficiency. The proactive identification of vulnerabilities and strategic diversification observed in the findings mirror MPT's emphasis on mitigating volatility through rigorous evaluation (Kimingichi, 2015). However, the necessity of adaptive risk assessment in dynamic markets—highlighted by pension schemes' reliance on iterative evaluations—subtly challenges MPT's assumption of static rational decision-making. This aligns with Zhang's (2023) critique, suggesting that while MPT's risk-return principles remain valid, institutional frameworks require dynamic, context-sensitive adaptations to sustain financial resilience.

From an Agency Theory lens, the findings reinforce Jensen and Meckling's (1976) assertion that structured risk assessment reduces agency costs. By institutionalizing transparency and accountability, pension schemes mitigate managerial opportunism, thereby aligning agents' actions with principals' long-term fiscal objectives (Fama &

Jensen, 1983). This challenges critiques that downplay governance mechanisms in favor of relational trust, as the study underscores formal risk evaluation—not implicit trust—as the primary driver of fiduciary alignment. Notably, the weaker influence of risk avoidance compared to assessment validates Agency Theory's prioritization of monitoring over restrictive controls, as excessive risk aversion may stifle strategic opportunities (Makau, 2014).

Theoretical tensions emerge in reconciling MPT's quantitative optimization with Agency Theory's qualitative governance focus. However, the findings synthesize these perspectives: risk assessment serves as both a strategic tool (per MPT) to balance risk-return trade-offs and a governance mechanism (per Agency Theory) to curb agency problems. This duality addresses Omwaka and Malenya's (2020) call for integrated frameworks in pension management, confirming that theories emphasizing either financial efficiency or governance alone are insufficient. Instead, institutionalizing risk assessment bridges both paradigms, enabling schemes to achieve compliance while pursuing growth—a nuance absent in prior scholarship.

By contextualizing these theories within pension schemes' regulatory and fiduciary constraints, the study clarifies their limitations and applicability. For instance, while MPT's diversification principles hold, pension schemes' long-term obligations necessitate stricter liquidity safeguards than typical portfolios—a contextual factor omitted in classical MPT. Similarly, Agency Theory's focus on contractual monitoring aligns with pension regulators' mandates, yet the study's emphasis on adaptive assessments expands its scope beyond mere compliance to strategic foresight.

These outcomes confirm that risk assessment is not merely a theoretical ideal but a contextualized practice that harmonizes MPT's financial rigor with Agency Theory's governance imperatives. This advances the discourse on pension management by demonstrating how theoretical frameworks, when applied pragmatically, resolve tensions between risk optimization and fiduciary responsibility.

5.3.3 Risk Avoidance and Financial Performance of Registered Individual Pension schemes in Kenya

The findings underscore risk avoidance as a pivotal driver of financial performance in Kenya's pension sector, offering nuanced insights into how Modern Portfolio Theory (MPT) and Agency Theoryintersect within institutional risk management frameworks. By demonstrating that deliberate risk avoidance strategies enhance financial stability, the study validates core tenets of both theories while challenging assumptions about their operational applicability in regulated, long-term financial systems.

From an MPT perspective, the prioritization of risk avoidance aligns with Markowitz's (1952) foundational argument that rational investors minimize variance to achieve optimal risk-return equilibriums. The observed emphasis on avoiding high-risk investments and prioritizing stable portfolios mirrors MPT's advocacy for disciplined diversification (Sinha & Biswas, 2018), particularly in contexts like pension schemes, where long-term obligations necessitate capital preservation. However, the findings also highlight a tension inherent in MPT: while classical theory assumes unlimited diversification to eliminate unsystematic risk, pension schemes in Kenya face regulatory and market constraints that limit such opportunities (Kimingichi, 2015). This contextualizes MPT's principles, revealing that risk avoidance in practice requires pragmatic adaptations—such as stringent asset allocation caps or liquidity safeguards—to align theoretical ideals with institutional realities.

Through an Agency Theory lens, the prominence of risk avoidance reflects Jensen and Meckling's (1976) emphasis on mitigating conflicts between principals (pensioners) and agents (managers). By institutionalizing risk-averse strategies, schemes reduce agency costs linked to managerial opportunism, as avoiding speculative investments aligns agents' decisions with beneficiaries' conservative return expectations (Fama & Jensen, 1983). Yet, the findings subtly challenge Agency Theory's assumption that risk aversion stems solely from contractual governance. In Kenya's pension sector, risk avoidance is also culturally embedded, reflecting trustees' fiduciary conservatism—a contextual nuance absent in classical agency frameworks. This

suggests that while Agency Theory explains structural incentives for risk avoidance, localized norms amplify its adoption, a dynamic underexplored in existing scholarship (Makau, 2014).

The study further resolves theoretical tensions between MPT and Agency Theory. While MPT rationalizes risk avoidance as a financial optimization tool, Agency Theory frames it as a governance mechanism to curb moral hazard. The findings synthesize these perspectives: risk avoidance in pension schemes operates dually, serving both to stabilize returns (per MPT) and to enforce fiduciary accountability (per Agency Theory). This duality validates Oyoo's (2019) argument that risk avoidance transcends mere tactical hedging—it is a strategic imperative that harmonizes financial efficiency with ethical stewardship.

Contextual factors unique to Kenya's pension sector further refine theoretical applications. For instance, stringent regulatory caps on equity investments compel schemes to avoid risks more aggressively than MPT's diversification principles might advise, illustrating how institutional constraints reshape theoretical paradigms. Similarly, Agency Theory's focus on contractual monitoring aligns with Kenya's pension regulations, yet the cultural prioritization of risk avoidance amplifies its impact, suggesting that theoretical frameworks must account for socio-regulatory ecosystems to explain risk behaviors fully.

Critically, the findings challenge critiques that dismiss risk avoidance as overly conservative. By affirming its centrality to financial performance, the study counters Zhang's (2023) assertion that dynamic markets demand risk-seeking strategies, instead positioning avoidance as a contextually rational response to Kenya's volatile economic environment and pensioners' low risk tolerance. This reinforces Omwaka and Malenya's (2020) thesis that proactive risk management in emerging economies often prioritizes stability over aggressive growth.

In synthesizing MPT and Agency Theory, the study advances a hybrid framework: risk avoidance is not merely a financial tactic but a governance-cultural practice that bridges theoretical divides. This redefines its role from a supplementary tool (as often

portrayed in MPT literature) to a cornerstone of institutional strategy, offering a model for pension sectors globally where regulatory and cultural pressures intersect.

5.4 Conclusion

The objective of this study was to investigate the effects of risk management strategies on financial performance of registered individual pension scheme in Kenya. Through a comprehensive analysis, the research examined the specific impact of internal controls, risk assessment and risk avoidance on financial performance.

5.4.1 Internal Controls and Financial Performance of Registered Individual Pension schemes in Kenya.

The findings indicated that internal controls have a significant and positive effect on the financial performance of registered individual pension schemes in Kenya. This significant effect underscores the critical role of robust internal control systems in mitigating risks and ensuring operational efficiency within the pension sector. In an environment where financial integrity and regulatory compliance are paramount, strong internal controls contribute to fraud prevention, process standardization, and reliable financial reporting. The observed relationship suggests that effective control measures not only safeguard assets but also foster a stable financial environment. Moreover, the results align with previous research that emphasizes the importance of risk management practices in achieving financial resilience. Overall, the strong association between internal controls and financial performance reinforces the notion that these systems are indispensable for maintaining financial stability and supporting the long-term success of pension schemes in Kenya.

5.4.2 Risk Assessment and Financial Performance of Registered Individual Pension schemes in Kenya

Similarly, the study found that risk assessment plays a crucial role in shaping the financial performance of registered individual pension schemes in Kenya, accounting for a substantial portion of the variance in performance. This multifaceted process significantly enhances financial stability by enabling pension schemes to proactively identify, evaluate, and mitigate potential risks, thereby positioning them to anticipate

challenges, minimize disruptions, and implement effective strategies that safeguard their assets and investments through a comprehensive approach that supports sound decision-making and creates a culture of vigilance and preparedness. The findings from the simple linear regression underscore the importance of rigorous risk assessment practices, as they provide a solid framework for reducing uncertainty and fostering an environment in which strategic financial planning can thrive, with such a high level of explanatory power suggesting that investing in effective risk assessment actively contributes to enhanced overall performance and sustainability. While the multivariate analysis shows that the standalone effect of risk assessment diminishes when considered alongside other risk management practices, the robust findings from the bivariate analysis emphasize its inherent value, indicating that, although risk assessment works best as part of an integrated risk management strategy, its direct impact on financial outcomes should not be underestimated, as a disciplined and well-executed process is instrumental in providing early warning signals, guiding strategic adjustments, and ensuring that pension schemes remain resilient in the face of emerging risks. Consequently, the strong relationship between effective risk assessment and enhanced financial performance highlights the critical need for pension schemes to continuously strengthen and refine their risk assessment processes, involving not only updating risk evaluation methodologies but also ensuring a dynamic feedback loop for ongoing improvement, thereby securing long-term stability and success and ultimately contributing to a more robust and resilient financial environment in Kenya's pension sector.

5.4.2 Risk Avoidance and Financial Performance of Registered Individual Pension schemes in Kenya

The study demonstrated that risk avoidance plays a crucial role in shaping the financial performance of registered individual pension schemes in Kenya. Effective risk avoidance—characterized by proactive measures to identify, evaluate, and steer clear of high-risk exposures—creates a financial climate that not only minimizes potential losses but also significantly enhances overall financial stability. By diligently analyzing potential risks and implementing targeted strategies to avoid unfavorable

outcomes, pension schemes are able to maintain smoother financial operations and protect their assets from unpredictable market shifts.

These findings are consistent with established risk management frameworks that emphasize the strategic value of anticipating and circumventing risks to sustain competitive advantage. In practice, when pension schemes adopt robust risk avoidance strategies, they are better equipped to navigate uncertainties and capitalize on emerging financial opportunities, thereby ensuring consistent and improved performance. This proactive approach is similar to how a positive employee attitude in service sectors can drive superior customer experiences; in both cases, a forward-thinking strategy creates an environment where challenges are mitigated before they can impact overall outcomes.

From a theoretical perspective, these results align with models that view risk avoidance as both a defensive mechanism and a strategic asset. This dual role underscores its significance as a critical determinant of long-term financial success. It highlights that risk avoidance is not merely about preventing losses but also about creating a foundation for sustainable growth by allowing pension schemes to allocate resources more effectively and pursue innovative opportunities with greater confidence.

Furthermore, the strong statistical evidence supporting risk avoidance—as demonstrated by the significant regression coefficients and high explanatory power—reinforces its value in a comprehensive risk management strategy. These insights suggest that pension schemes should invest in developing and continuously refining their risk avoidance practices. Such investments might include the adoption of advanced analytical tools, regular training programs for risk management teams, and the integration of risk avoidance into broader strategic planning processes.

Collectively, these insights highlight the imperative for pension schemes to prioritize comprehensive risk avoidance practices as a means of securing sustainable financial performance and resilience. In an ever-evolving economic landscape characterized by volatility and rapid change, a robust risk avoidance strategy not only safeguards

current financial performance but also positions organizations for future growth and stability.

5.5 Recommendations

5.5.1 Internal Controls and Financial Performance of Registered Individual Pension schemes in Kenya.

Based on the study's findings, it is recommended that registered individual pension schemes in Kenya invest in strengthening and continuously improving their internal control systems. To achieve this, pension schemes should adopt a multifaceted approach that includes comprehensive training programs focused on internal control procedures, risk management, and compliance standards. Regular training sessions, workshops, seminars, and certification courses on best practices in internal controls will equip staff with the knowledge and skills necessary to maintain high standards of financial integrity and operational efficiency.

Additionally, leveraging advanced technological tools such as automated monitoring systems, integrated financial software, and data analytics platforms can significantly enhance the effectiveness of internal controls. These systems enable real-time tracking of financial transactions, early detection of irregularities, and prompt reporting of anomalies, thereby minimizing the risk of errors and fraud while streamlining internal processes and supporting proactive risk mitigation. Furthermore, establishing a routine schedule for internal audits is crucial; regular internal and external audits can identify potential weaknesses and areas for improvement, ensuring that issues are addressed before they escalate, and that financial reporting remains reliable and compliant with regulatory requirements.

Pension schemes should also strive to align their internal control practices with local regulatory requirements and international best practices, fostering a culture of transparency and accountability. This regulatory alignment not only ensures compliance but also enhances stakeholder trust and improves the reputational standing of the schemes. Finally, implementing incentive programs that recognize and reward exemplary adherence to internal control protocols can motivate employees to maintain

high performance standards. Performance bonuses, recognition awards, and opportunities for career advancement, coupled with feedback mechanisms for continuous improvement, can help ensure that internal control systems evolve in line with emerging risks and industry trends. Overall, by prioritizing robust internal control systems through targeted training, technological advancements, regular audits, regulatory alignment, and incentive-driven improvements, pension schemes in Kenya can significantly bolster their financial performance and achieve sustainable growth.

5.5.2 Risk Assessment and Financial Performance of Registered Individual Pension schemes in Kenya.

Based on the study's findings, it is recommended that registered individual pension schemes in Kenya invest significantly in strengthening and modernizing their risk assessment practices. The empirical evidence indicates a strong positive relationship between risk assessment and financial performance. This robust association underscores the critical importance of establishing a comprehensive and dynamic risk assessment framework that enables pension schemes to effectively identify, evaluate, and manage risks.

To implement this recommendation, pension schemes should consider developing and executing comprehensive training programs that focus on advanced risk assessment methodologies. These programs should cover a wide range of topics, including the latest risk management theories, quantitative and qualitative risk analysis techniques, and the practical use of industry-standard risk management tools and software. Regular workshops, seminars, and certification courses can be instrumental in equipping employees with the necessary skills to analyze potential risks systematically, anticipate challenges, and develop effective mitigation strategies.

In addition to investing in human capital, it is essential for pension schemes to integrate modern technological solutions that enhance the risk assessment process. Leveraging advanced data analytics, artificial intelligence, and machine learning algorithms can significantly improve the predictive capabilities of risk assessment models by providing early warning signals and actionable insights. Moreover, conducting regular

simulation exercises, scenario planning, and stress testing will help organizations evaluate the effectiveness of their risk assessment procedures under various market conditions, ensuring that their strategies remain agile and responsive to evolving regulatory and economic environments.

Furthermore, fostering a culture of continuous improvement in risk management is crucial for long-term success. Pension schemes should establish formal feedback mechanisms that encourage employees at all levels to share insights and experiences related to risk assessment. This proactive approach will not only refine existing processes but also help align risk assessment strategies with broader organizational objectives and regulatory requirements, ultimately contributing to enhanced financial stability.

By investing in comprehensive training programs, adopting cutting-edge technological tools, and promoting a culture of continuous improvement, registered individual pension schemes in Kenya can significantly enhance their risk assessment practices. Such strategic investments will not only mitigate potential risks more effectively but also unlock opportunities for sustainable financial performance, ensuring long-term stability and growth in an increasingly dynamic economic environment.

5.5.3 Risk Avoidance and Financial Performance of Registered Individual Pension Schemes in Kenya.

Based on the study's findings, it is recommended that registered individual pension schemes in Kenya invest in developing and implementing robust risk avoidance strategies. To implement these recommendations effectively, pension schemes should adopt a multifaceted approach to risk avoidance that includes comprehensive training programs aimed at equipping staff with advanced risk management skills. These programs should cover techniques for identifying, assessing, and mitigating potential risks, and should incorporate simulation exercises and scenario planning to help employees build the confidence and expertise required to respond swiftly to emerging threats.

In addition to targeted training, it is crucial for pension schemes to invest in modern technology-driven solutions such as real-time monitoring systems, predictive analytics, and data visualization tools. These technological tools can facilitate early detection of potential risks and provide actionable insights, enabling pension schemes to implement risk avoidance strategies promptly and effectively. Establishing clear risk avoidance protocols and regularly reviewing them through internal audits and performance evaluations will further ensure that these practices remain aligned with both industry best practices and regulatory requirements. Furthermore, implementing incentive programs to reward employees who excel in identifying and mitigating risks can foster a culture of proactive risk management within the organization.

By integrating these comprehensive risk avoidance strategies into their overall risk management framework, pension schemes can not only minimize potential financial losses but also create a more resilient and stable financial environment. Ultimately, these efforts will contribute to sustained financial performance and long-term growth, ensuring that pension schemes remain competitive and well-prepared to navigate an increasingly complex risk landscape.

5.6 Contributions of the study

5.6.1 Contextual Empirical Evidence

A primary contribution of the study is the provision of empirical evidence specific to the Kenyan pension sector, particularly registered individual pension schemes. Existing literature often focuses on developed economies or different types of financial institutions, leaving a gap in understanding emerging markets. By concentrating on Kenya, the study addresses this gap, offering insights directly applicable to similar contexts. This is particularly important given Kenya's unique regulatory, economic, and cultural factors, such as compliance with Legal Notice No. 20 (2023), which the findings highlight as a baseline enabler for financial stability. This contribution enhances the global applicability of risk management theories and provides a benchmark for comparative studies in other emerging markets, aligning with broader

discussions on pension fund management in emerging economies, as seen in reports like How Emerging Financial Risks Could Affect Public Pension Fund Assets.

The research identifies risk avoidance as the most significant predictor of financial performance among the risk management practices examined, challenging conventional emphases on internal controls and risk assessment. This is evident from the summary of findings, where risk avoidance maintained its significance even in multivariate models, positioning it as the cornerstone of financial performance. This insight contrasts with some existing literature, such as Zhang (2023), who advocates for risk-seeking strategies in dynamic markets. The study counters this by underscoring the continued relevance of risk avoidance, particularly in volatile economic environments like Kenya, where pensioners' low risk tolerance and regulatory constraints (e.g., equity investment caps) necessitate conservative strategies. This shift in focus offers a new perspective for both theorists and practitioners, suggesting that proactive risk mitigation should be prioritized in pension scheme management.

The study reveals that the effects of internal controls and risk assessment may be mediated or overlapped by other practices, such as risk avoidance, highlighting the necessity for an integrated approach to risk management. This is supported by the discussion, which aligns with Modern Portfolio Theory (MPT) and Agency Theory, demonstrating that singular mechanisms like internal controls are insufficient without diversification and complementary strategies. For example, the findings indicate that while internal controls positively influence financial performance, their standalone significance diminishes in multivariate analysis, suggesting a need for synergy with practices like risk assessment and avoidance. This insight contributes to the development of more comprehensive risk management frameworks, advocating for coordinated efforts to optimize financial outcomes. It resonates with Onyango's (2019) advocacy for integrated risk management and extends the discourse by providing empirical evidence from the Kenyan context, aligning with the Pension Regulator's guidelines on Integrated Risk Management.

5.6.2 Clarification of Regulatory Impact

Another significant contribution is the clarification of the regulatory framework's role, demonstrating that it serves as a baseline enabler rather than a moderator of the relationship between risk management practices and financial performance. The findings show a direct positive correlation with financial stability, attributed to compliance with standards like Legal Notice No. 20 (2023), but no significant moderating effect. This distinction is crucial for understanding how regulations function, informing future regulatory designs that support compliance without impeding innovation. This aligns with institutional theory's focus on compliance as a legitimacy mechanism (DiMaggio & Powell, 1983), but the study adds nuance by showing its independent rather than interactive role. This finding challenges moderation-centric models in the literature, offering a clearer framework for policymakers and regulators.

5.6.3 Theoretical Refinement

The research refines and contextualizes established theories such as Agency Theory and Modern Portfolio Theory within the pension scheme sector, illustrating their interdependence and contextual applications. For instance, the discussion on internal controls aligns with Agency Theory by showing how structured governance reduces agency costs, while also extending MPT by emphasizing the need for diversified risk strategies. Similarly, for risk assessment, the study validates MPT's risk-return optimization principles while addressing Agency Theory's governance focus, bridging these paradigms. This theoretical advancement is particularly evident in the conclusion, where it is confirmed that internal controls reduce agency costs (Agency Theory) while risk avoidance aligns with MPT's emphasis on optimizing risk-return equilibriums. By tailoring these theories to the Kenyan pension context, the study advances the discourse on how hybrid frameworks can be applied in institutional settings, addressing limitations of applying either theory in isolation, as supported by insights from chapter 3 of the study

5.6.4 Challenging Existing Assumptions

The findings challenge certain assumptions in the literature, such as the necessity of risk-seeking strategies in dynamic markets. For example, the emphasis on risk avoidance counters Zhang's (2023) assertion, positioning it as a contextually rational response to Kenya's volatile economic environment and pensioners' low risk tolerance. This is supported by the discussion, which reinforces Omwaka and Malenya's (2020) thesis that proactive risk management in emerging economies prioritizes stability over aggressive growth. This contribution nuances the literature by highlighting the cultural and regulatory factors that amplify risk avoidance, a dynamic underexplored in existing scholarship (e.g., Makau, 2014). It offers a counterpoint to risk-seeking narratives, providing a balanced view that considers fiduciary responsibilities and market realities, aligning with strategies.

5.6.5 Guidance for Future Research

Finally, by identifying limitations and suggesting areas for future research, the study paves the way for further scholarly inquiry. The cross-sectional design and narrow focus on specific practices suggest the need for longitudinal studies, cross-sectoral comparisons (e.g., occupational or public schemes), and the inclusion of additional variables like organizational culture or leadership styles. The "Areas for Further Research" section also proposes investigating customer demographics and using mixed methods approaches. These suggestions open avenues for building upon the findings, encouraging a broader and deeper exploration of risk management in pension schemes. This contribution ensures that the study serves as a foundation for future research, addressing gaps and refining methodologies.

In summary, the study enriches the extant literature by providing context-specific empirical evidence, highlighting the primacy of risk avoidance, elucidating the interactions among risk management practices, clarifying the role of regulations, and advancing theoretical applications in the field of pension scheme management. These contributions not only add to the empirical evidence but also offer theoretical insights

and practical implications that can guide both academic discourse and industry practices, ensuring that the research has a lasting impact on the field.

5.7 Implications of Study Findings

5.7.1 **Internal Controls and Financial Performance of Registered Individual Pension Schemes in Kenya.**

The study's findings on internal controls carry significant implications for both theory and practice. The moderate positive association confirms that robust internal controls are foundational to financial performance, aligning with Agency Theory's emphasis on mitigating agency costs through governance mechanisms (Jensen & Meckling, 1976). However, their diminished significance in multivariate analysis suggests that internal controls operate interdependently with other practices like risk avoidance. This implies that pension schemes should not treat internal controls in isolation but integrate them into a holistic risk management framework. Practically, this underscores the need for organizations to pair internal controls with complementary strategies, such as automated monitoring systems and regular audits, to maximize their efficacy.

From a policy perspective, regulators like Kenya's Retirement Benefits Authority (RBA) should emphasize integrated governance frameworks in guidelines, ensuring that internal controls are not viewed as standalone compliance exercises but as part of a cohesive system. The findings also challenge theorists to revisit frameworks that overemphasize internal controls' standalone impact, advocating instead for models that account for their synergy with other practices. For practitioners, investing in advanced technologies (e.g., AI-driven fraud detection) and staff training can amplify the benefits of internal controls while reducing redundancy in overlapping risk management processes.

Finally, the study highlights a critical gap in risk management literature: the need to explore how internal controls interact with external factors like market volatility or regulatory changes. Future research could investigate contextual variables that enhance or diminish the effectiveness of internal controls, providing actionable

insights for adapting these systems to dynamic environments. For pension schemes, this implies adopting adaptive control mechanisms that evolve alongside emerging risks, ensuring sustained financial resilience.

5.7.2. **Risk Assessment and Financial Performance of Registered Individual Pension Schemes in Kenya.**

The strong positive correlation between risk assessment and financial performance reinforces Modern Portfolio Theory's (MPT) premise that systematic risk evaluation optimizes risk-return trade-offs (Markowitz, 1952). However, its insignificance in multivariate analysis suggests that risk assessment's value lies in enabling—rather than directly driving—financial outcomes. This implies that risk assessment acts as a catalyst for informed decision-making, necessitating complementary actions like risk avoidance or diversification to translate insights into performance gains. For pension schemes, this underscores the importance of embedding risk assessment into strategic planning rather than treating it as a siloed activity.

Practically, the findings advocate for pension schemes to adopt advanced risk assessment tools (e.g., predictive analytics, stress-testing models) to enhance precision in identifying vulnerabilities. Training programs should focus on integrating risk assessment into daily operations, ensuring staff can contextualize risks within broader organizational goals. For regulators, these results highlight the need to mandate not just risk assessment protocols but also frameworks for translating findings into actionable strategies. The RBA, for instance, could incentivize schemes that demonstrate alignment between risk assessments and mitigation outcomes.

Theoretically, the paradox of risk assessment's foundational yet indirect role challenges existing models that position it as a direct performance driver. Future research should explore mediating mechanisms (e.g., leadership buy-in, resource allocation) that determine how effectively risk assessments translate into financial gains. For practitioners, this signals the need to couple risk assessment with accountability structures—such as performance metrics tied to risk mitigation—to ensure assessments lead to tangible actions. Ultimately, risk assessment's true value

emerges when it informs proactive, risk-aware cultures rather than remaining a compliance checkbox.

5.7.3. Risk Avoidance **and Financial Performance of Registered Individual Pension Schemes in Kenya.**

Risk avoidance's robust standalone and multivariate significance solidifies its role as the cornerstone of financial performance in Kenya's pension sector. These findings validate MPT's assertion that minimizing exposure to high-risk investments stabilizes returns (Markowitz, 1952), offering practical guidance for schemes prioritizing conservative strategies like diversification or hedging. The implications are twofold: first, risk avoidance is not merely defensive but a proactive strategy for achieving sustainable growth; second, its centrality in multivariate models suggests it compensates for gaps in other practices (e.g., internal controls), making it indispensable in resource-constrained environments.

For policymakers, these results underscore the need to design regulations that incentivize risk-avoidance behaviors without stifling innovation. For instance, the RBA could offer reduced compliance burdens for schemes demonstrating adherence to prudent risk-avoidance frameworks. Practically, pension managers should institutionalize risk quantification and prioritization tools (e.g., risk matrices, scenario analysis) to systematically identify and sidestep high-impact risks. Training programs should emphasize risk avoidance as a strategic competency, equipping teams to balance risk mitigation with return optimization.

Theoretically, the findings challenge frameworks that treat risk avoidance as a passive or secondary strategy. Instead, they position it as an active driver of financial resilience, urging scholars to reconceptualize its role in risk management hierarchies. Future research could explore how risk avoidance interacts with emerging risks like climate change or cybersecurity, which demand preemptive action. For practitioners, investing in predictive technologies (e.g., AI-driven market trend analysis) will enhance risk-avoidance precision, ensuring schemes remain agile in volatile markets.

By prioritizing risk avoidance, pension schemes can transform risk management from a reactive cost center into a strategic asset.

5.7.4 Regulatory Framework (Moderating Variable) and Financial Performance of Registered Individual Pension Schemes in Kenya.

The regulatory framework's strong direct correlation with financial performance highlights its role as a baseline enabler of stability, aligning with institutional theory's focus on compliance as a legitimacy mechanism (DiMaggio & Powell, 1983). However, its insignificant moderating effect suggests that regulations standardize practices rather than amplify the efficacy of risk management strategies. This implies that while compliance is essential, it does not inherently enhance the performance outcomes of internal controls, risk assessment, or avoidance. For regulators, this signals the need to move beyond prescriptive rules toward frameworks that incentivize innovation in risk management (e.g., tiered compliance rewards for schemes adopting advanced practices).

Practically, pension schemes should view regulatory adherence as a minimum standard rather than a performance driver. To leverage regulations strategically, schemes could align compliance with competitive differentiation—for example, using RBA reporting requirements to enhance transparency and attract members. Policymakers, meanwhile, should consider dynamic regulations that evolve with market trends (e.g., updating investment limits to reflect ESG risks), ensuring rules remain relevant to emerging challenges.

Theoretically, the findings challenge moderation-centric models, suggesting that regulatory frameworks operate as independent variables rather than interactive forces. Future research could explore whether specific regulatory features (e.g., flexibility, enforcement rigor) enhance moderation effects in niche contexts. For practitioners, this underscores the importance of exceeding compliance to adopt best practices that drive performance. By treating regulations as a foundation—not a ceiling—pension schemes can innovate within the legal framework to achieve sustained financial success.

5.8 Limitations

The study, while providing critical insights into the relationship between risk management practices and financial performance, is subject to several limitations. First, the research was conducted solely among registered individual pension schemes in Kenya, limiting its generalizability to other pension models, such as occupational or public schemes, or to financial institutions in different geographical or regulatory contexts. The cross-sectional design further restricts the ability to infer causal relationships or assess long-term dynamics between risk management practices and financial outcomes. Longitudinal studies tracking these variables over time would offer deeper insights into how practices like risk avoidance evolve in response to market shifts. Additionally, the study focused narrowly on internal controls, risk assessment, and risk avoidance, omitting other potential determinants of financial performance, such as leadership commitment, technological adoption, or macroeconomic factors. While these variables were beyond the scope of this research, their exclusion may have oversimplified the complex interplay of factors influencing financial outcomes. Measurement limitations also arose: constructs like risk assessment yielded non-significant results in multivariate models, suggesting potential gaps in operationalization or the need for mixed-methods approaches to capture qualitative nuances. Finally, the study's reliance on self-reported data from pension managers introduces the risk of response bias, as participants may have overemphasized compliance with risk management standards. These limitations underscore the need for cautious interpretation of the findings while highlighting opportunities for methodological refinement in future studies.

5.9 Areas for Further Research

To address the study's limitations and expand its contributions, several avenues for future research emerge. First, longitudinal studies could elucidate how risk management practices interact with financial performance over time, particularly in response to regulatory changes or economic crises. Such designs would strengthen causal inferences and reveal temporal dynamics, such as lagged effects of risk avoidance strategies. Second, expanding the scope to include occupational or public

pension schemes would enhance the generalizability of findings and enable cross-sector comparisons, particularly in contexts where governance structures or member demographics differ. Third, incorporating organizational culture, leadership styles, or technological maturity as variables could provide a more holistic understanding of the drivers of financial performance. For instance, qualitative research could explore how leadership commitment mediates the implementation of risk assessment frameworks. Fourth, investigating the role of customer demographics such as age, income, or risk tolerance could uncover how member characteristics influence the effectiveness of risk management strategies. Finally, mixed-methods approaches combining surveys with interviews or case studies would enrich the operationalization of constructs like risk assessment, addressing measurement gaps and contextualizing quantitative findings. By broadening theoretical and methodological horizons, future research can refine risk management frameworks tailored to Kenya's evolving pension landscape.

5.10 Chapter Summary

This chapter synthesized the study's findings, contextualized them within theoretical frameworks, and outlined their practical and scholarly implications. The research affirmed that internal controls, risk assessment, and risk avoidance significantly influence the financial performance of Kenya's registered individual pension schemes, though their effects vary in multivariate contexts. Internal controls and risk assessment, while foundational, demonstrated overlapping or mediated impacts, whereas risk avoidance emerged as the most robust independent predictor of financial stability. The regulatory framework, though critical for standardizing practices, functioned as a baseline enabler rather than a moderating force. Theoretically, the findings refined Agency Theory and Modern Portfolio Theory by illustrating their interdependence: internal controls reduce agency costs (Agency Theory), while risk avoidance aligns with MPT's emphasis on optimizing risk-return equilibriums. However, the study's cross-sectional design, narrow variable scope, and contextual constraints limit the generalizability of these insights. Recommendations emphasized integrating risk management practices with advanced technologies, training, and adaptive governance, while future research avenues highlighted the need for

longitudinal, mixed-methods, and cross-sectoral studies. Ultimately, the chapter concludes that risk management in Kenya's pension sector demands a balanced, theory-informed approach—one that prioritizes proactive risk avoidance while leveraging regulatory compliance and operational safeguards to sustain long-term financial resilience.

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APPENDICES

APPENDIX I: LIST OF INDIVIDUAL RETIREMENT BENEFITS SCHEMES REGISTERED WITH RBA

1. ABSA Individual Pension Fund
2. Amana Personal Pension Plan
3. Apollo Insurance Co. Ltd. Individual Pension Arrangement
4. Benefits At Work Personal Pension Scheme
5. Blue MSMEs Jua Kali Individual Retirement Benefits Scheme (Mbao Pension Plan)
6. British American Personal Pension Plan
7. Chancery Personal Pension Plan
8. CIC (Jipange Personal Pension Plan)
9. CPF Individual Pension Scheme
10. Cytonn Personal Retirement Benefits Scheme
11. Dry Associates Personal Provident Plan
12. Enwealth Diaspora & Expatriates Retirement Fund
13. Enwealth Personal Pension Scheme
14. Equity Individual Savings and Retirement Plan
15. Fahari Retirement Plan
16. GA Life Personal Provident Plan
17. GA Life Personal Pension Plan
18. Genafrica Hifadhi Personal Pension Scheme
19. Genafrica Hifadhi Personal Provident Scheme
20. Gencap Individual Pension Plan
21. ICEA Lion Individual Retirement Benefits Scheme
22. Jubilee Insurance Company Ltd Personal Pension Plan
23. Kenindia Assurance Co. Ltd. Personal Pension Plan
24. Kenyan Alliance Insurance Co.Ltd. Individual Retirement Benefits Scheme
25. Kilele Personal Retirement Benefits Scheme
26. KUSCCO Mutual Individual Retirement Benefits Scheme

27. KUZA Individual Pension Plan
28. Liberty Life Boresha Maisha Individual Provident Plan
29. Liberty Life Boresha Maisha Individual Pension Plan
30. Madison Insurance Personal Pension Plan
31. Mafao Fund
32. Mercantile Personal Provident Fund Scheme
33. Minet Individual Pension Plan
34. Mwanariadha Pension Plan
35. Mwavuli Individual Pension Plan
36. NCBA Individual Pension Plan
37. NTISL Personal Pension Plan
38. The Heritage AII Company Ltd. Individual Retirement Benefits Scheme
39. The Kenya Orient Individual Pension Plan
40. The Monarch Personal Pension Plan
41. Octagon Personal Pension Scheme
42. Old Mutual Individual Retirement Benefits Scheme
43. Prudential Individual Retirement Benefits Scheme
44. Sanlam life Personal Pension Plan
45. UAP Life Assurance Individual Retirement Benefits Plan
46. Wakili Personal Retirement Benefits Scheme
47. Zamara Vuna Pension Plan
48. Zimele Personal Pension Plan

APPENDIX II: LETTER OF INTRODUCTION

Strathmore University,
P.O Box 59857-00200,
Nairobi Kenya.

16th September 2024.

Dear Respondent,

RE: REQUEST FOR PARTICIPATION IN DATA COLLECTION FOR ACADEMIC RESEARCH

My name is Cephas Nyonje Ojwang, a student currently pursuing a Master of Commerce (MCOM) degree at Strathmore University. I'm reaching out to request your participation in providing information essential for my research. It's important to stress that any data you share will only be used for academic purposes and treated with utmost confidentiality. The survey findings will be summarized, and your identity or any specific details you provide will be kept confidential.

My research focuses on " EFFECTS OF RISK MANAGEMENT PRACTICES ON FINANCIAL PERFORMANCE OF REGISTERED INDIVIDUAL PENSION SCHEMES IN KENYA." Your insights and contributions would significantly enhance the quality and depth of my study.

I sincerely hope you can spare some time to share your expertise and insights on this topic. Thank you for your willingness to contribute to the advancement of academic knowledge in this field. May your kindness and generosity be duly acknowledged and appreciated.

Yours Faithfully

Cephas Nyonje Ojwang

APPENDIX III: QUESTIONNAIRE

I am carrying out a research titled: EFFECTS OF RISK MANAGEMENT PRACTICES ON FINANCIAL PERFORMANCE OF REGISTERED INDIVIDUAL PENSION SCHEMES IN KENYA. Kindly assist in completing the following questionnaire using the methods provided below.

Part A: Summary of Respondents Details

1. Please indicate your position in your organization……
2. Please indicate the duration of service in the pension scheme……

PART A: General Organization Information

3. How long has your pension scheme been operational in Kenya?

   0-5 years [ ]
   5-10 years [ ]
   10- 15 years [ ]
   15- 20 years [ ]
   Over 20 years [ ]

4. Please specify the type of pension scheme

   Defined Benefit [ ]
   Defined Contribution [ ]

INDEPENDENT VARIABLES

Part B: Internal Controls and Financial Performance

5. To what extent do the following internal control practices affect the financial performance of your pension scheme?

   Kindly tick appropriately using the scale here;

   Not at all (1); Slight extent (2); Moderate extent (3); Great extent (4); Very great extent (5)

Statement	**1**	**2**	**3**	**4**	**5**
To what extent does the efficiency of business processes in investment management affect financial performance?					

To what extent does the safeguarding of assets affect financial performance?					
To what extent do monitoring mechanisms to ensure compliance with business processes affect financial performance?					
To what extent do proper documentation and record-keeping safeguard assets and affect financial performance					

Part C: Risk Assessment and Financial Performance

6. To what extent does risk assessment affect the financial performance of your pension scheme? Kindly tick appropriately using the scale where;

Not at all (1); Slight extent (2); Moderate extent (3); Great extent (4); Very great extent (5)

Statement	**1**	**2**	**3**	**4**	**5**
To what extent does the implementation of robust information security measures affect financial performance?					
To what extent does the training of staff on risk management practices affect financial performance?					
To what extent does the timely identification and evaluation of potential risks affect financial performance?					
To what extent does the integration of risk assessment into decision-making affect financial performance?					

Part D: Risk Avoidance and Financial Performance

7. To what extent does risk avoidance affect the financial performance of your pension scheme? Kindly tick appropriately using the scale where;

Not at all (1); Slight extent (2); Moderate extent (3); Great extent (4); Very great extent (5)

Statement	**1**	**2**	**3**	**4**	**5**
To what extent does the quantification of risks improve decision-making and affect financial performance?					

To what extent does the prioritization of risks in investment planning affect financial performance?					
To what extent do strategies to minimize exposure to high-priority risks affect financial performance?					
To what extent does the evaluation of trade-offs in risk avoidance decisions affect financial performance?					

DEPENDENT VARIABLE

Part E: Financial Performance of Pension Schemes

8. To what extent do the following factors reflect the financial performance of your pension scheme?

   Kindly tick appropriately using the scale where;

   Not at all (1); Slight extent (2); Moderate extent (3); Great extent (4); Very great extent (5)

Statement	**1**	**2**	**3**	**4**	**5**
To what extent does the return on investment, adjusted for risk, reflect the pension scheme's financial performance?					
To what extent does the risk-adjusted return provide a better measure of the pension scheme's financial health?					
To what extent does the consistency of risk-adjusted returns over time impact the overall financial performance of the pension scheme?					
To what extent does the pension scheme's ability to mitigate investment risks lead to improved risk-adjusted returns?					
To what extent does the pension scheme's risk management strategy influence its risk-adjusted return on investments?					

Part F: Regulatory Framework and Financial Performance

12. To what extent does the regulatory framework affect the financial performance of your pension scheme?

Kindly tick appropriately using the scale provided:

Not at all (1); Slight extent (2); Moderate extent (3); Great extent (4); Very great extent (5)

Statement	1	2	3	4	5
To what extent does compliance with Legal Notice No. 20: Regulation 28 of the Retirement Benefits (Individual Retirement Benefits Schemes) Regulations, 2023 affect financial performance?					
To what extent do the guidelines on investment limits set out in the regulation affect financial performance?					
To what extent does the enforcement of prudential safeguards under the regulation influence risk management and financial performance?					
To what extent does the requirement for regular reporting and disclosure as per the regulation affect financial performance?					
To what extent do penalties and compliance costs associated with the regulation impact financial performance?					

APPENDIX IV: WORK SCHEDULE

Summary of the proposed work schedule

Month /Activity	July 2024	August 2024	September 2024	October 2024	November 2024	December 2024
Proposal Writing						
Proposal Defense						
Data Collection						
Data Analysis						
Report Writing						
Submission of Report						
Finalization of Report						

APPENDIX V: BUDGET

Summary of the proposed budget

Item	Unit cost	Cost (Kshs)
Computer/typing services	Item	10,000
Printing and photocopying of proposal	Item	2,000
Binding of proposal	Item	2,000
Traveling expenses	Item	20,000
Hiring of research assistant	Item	20,000
Hard cover binding	Item	5,000
Miscellaneous	Item	16,000
Total		**75,000**

APPENDIX VI: SUMMARY OF LITERATURE REVIEWED

Summary of Literature Reviewed

Author	Findings	Research gap	Region conducted	Theories	Measures of Financial performance	Independent variable
Hamed (2023)	The study noted that banks which comply with Internal control systems (ICS) requirements and that ICS compliance positively and significantly affects their financial sustainability.	A contextual gap exits since the study was conducted in Jordanian banks. Also, a conceptual gap exists as the study concentrates on role of internal controls whereas this study will seek to establish the effects of risk management practices on financial performance	Jordan	Agency theory	Profitability ratios, Return on financial sustainability.	Internal control systems (ICS) compliance
Adeola and Jimoh (2021)	The study found out that both internal control and risk management have a significant positive effect on pension administration management in Nigeria,	A contextual gap exists since the study was conducted outside of Kenya. Additionally, a conceptual gap exits since this study focuses on risk management and internal controls but not risk management practices and financial performance	Nigeria	Modern portfolio theory	Pension Administration costs,	Internal controls, risk management

Xu et al (2019)	Findings of the study indicated that public Defined Benefit Pension plans with a small board, appointed board trustees, and a separate investment council exhibit better performance.	A methodological gap exists since the study utilized data Envelopment Analysis approach whereas this study will use a descriptive research design. Additionally, a conceptual gap exits since the study focuses on pension management practices and not risk management practices	Global	Agency theory Resource dependence theory	Funding ratios	Pension governance practices
Florio and Leoni (2017)	The findings indicate that firms with advanced levels of ERM implementation present higher performance, both as financial performance and market evaluation. ERM systems lead to higher performance by reducing risk exposure and that reverse causality between ERM and performance is not present in the short term	A contextual gap exists since the study was conducted in non-financial companies in Italy	Italy		Return on assets, Tobin's Q ratio.	Enterprise Risk Management (ERM) implementation
Verbaarendse (2016)	The study found there was a negative relation found	A contextual gap exists as the study was	United States	Agency theory	Firm performance metrics,	Risk avoidance

	between crisis and CPS. Before the crisis, CPS was higher than during the 2008 financial crisis. This paper found a negative relation between risk avoidance and CPS which is not in accordance with prospect theory which states that there should be a positive relation. There was a positive relationship found between crisis and risk avoidance which means that risk avoidance was higher	undertaken in the United States. In addition, a conceptual gap exists since the study's focus was on executive compensation, dispersion and risk avoidance but not risk assessment and internal control			executive compensation ratio.	
Ishtiaq (2015)	The result of the study indicate that it is very important for Pakistani banks to formulate an active risk management process to identify, measure, monitor and control different risks so as to enhance their performance	A contextual gap exists since the study was conducted in Pakistani banks. Additionally, a methodological gap exists as the study used a deductive reasoning approach whereas this study will use a descriptive research design.	Pakistan	Institutional theory Agency theory Stakeholder theory	Profitability, return on assets.	Risk management practices (credit, risk, liquidity risk, market srisk, operational risk)
Lestari (2015)	The results of this study indicate that: (good governance does not have a significant	A contextual gap exists since the study was	Indonesia	Contingency theory	Return on assets, Return on Investment, Ratio of	Good governance, internal control, risk management

	relationship with the internal control, good governance and internal control together or simultaneously and partially significant effect on risk management, and good governance, control internal and risk management simultaneously and partially significant effect on the performance of the organization.	undertaken in Indonesia.			Operating Costs, Funding Ratio, Investment Portfolio , Compliance .	
Boyante (2023)	The study found that portfolio rebalancing moderated the impact of asset allocation on the financial performance of pension funds in Kenya, with Kenyan government securities, alternative investments, and guaranteed funds having a positive and significant influence, while alternative investments and listed corporate bonds had a negative and significant influence. Consequently, it concluded that pension fund trustees must ensure their selected fund manager has the	A conceptual gap exists since the study focused on asset allocation and not risk management practices	Kenya	modern portfolio theory risk-return trade off theory liquidity preference theory, arbitrage pricing theory post-modern portfolio theory.	Time weighted rate of return	Asset allocation (Governement securities, Quoted equity investments, Guaranteed funds, Listed corporate bonds Alternative investments)

	necessary knowledge, skills, and competencies in portfolio management.					
Ochola et al (2022)	The findings of the study indicated that risk avoidance had a statistically considerable effect on performance of devolved governments in Kenya	A methodological gap exists since the study used a correlational research design while this study will adopt the use of a descriptive research design. Further, a contextual gap exists since the study was undertaken in devolved governments.	Kenya	Agency theory Stakeholder theory	Performance of devolved governments	Risk avoidance
Nyabuto (2022)	The study findings revealed that portfolio diversification, fund liquidity and fund size are very important for the performance of pension funds.	A conceptual gap exits as the study concentrated on portfolio diversification and not risk management practices.	Kenya	Modern Portfolio Theory Arbitrage portfolio theory	Risk adjusted return on investment.	Portfolio diversification,
Kiptoo et al (2021)	The study findings revealed that Insurance firms with higher non-performing receivables perform poorly, underscoring the need for effective credit management, while proper market, operational, and	A contextual gap exists since the study was undertaken in the insurance sector	Kenya	Credit risk theory Modern portfolio theory Keynesian liquidity preference theory	Financial performance via return on assets.	Credit risk, Market risk, Operation Risk, and Liquidity risk

	liquidity risk management significantly enhance financial performance by boosting investment income, reducing operating costs, and increasing the proportion of current assets to liabilities.			Resource-based theory		
Chumba (2019)	The study found a positive relationship between investment in equities and immovable properties. Further, the study concluded that fund value and investment in guaranteed funds had a negative and weak impact on fund performance	A conceptual gap exists since the study's focus was on selected internal factors but the current study looks to delve into risk management practices	Kenya	Modern portolio theory Agency theory Stakeholder theory	Financial performance measured by return on assets	Investment in equities, fund value
Wanjohi and Kariuki (2019)	Findings of the study indicated that asset allocation accounted for the highest percentage of the fund performance of occupational pension scheme in Kenya. Other factors such as asset class timing, choice of investment manager and security selection were seen to also affect the scheme performances. Further, there existed a relationship between different asset classes and fund performance of	A conceptual gap exists since the study focused on asset allocation and not risk management practices that the current study seeks to concentrate on	Kenya	Modern portolio theory Black litterman theory Efficient market theory	Fund performance of occupational pension scheme in Kenya	equity, fixed income securities, cash and equivalents and offshore investments

	occupational pension scheme with offshore investment having the strongest correlation					
Mutula and Kagiri (2018)	The study findings revealed a positive and significant relationship between diversification decisions, management competency, investment strategies, regulation compliance and investment performance of pension funds in Kenya.	A conceptual gap exists since the study was on determinants influencing investment performance whereas the current study seeks to evaluate how risk management practices affect investment performance	Kenya	Modern portolio theory Market segementation theory Agency theory Institutional theory	Return on investmen, Growth of total assets , Management of pension expenses	Diversification decisions, management competency, investment strategies, regulation compliance
Kisaka and Musomi (2017)	The findings of the study indicated that risk identification tools like audits, employee experience examination, SWOT analysis, interviews, focus groups, judgment, and process analysis significantly influence firm performance, with SWOT analysis and judgment having a statistically strong negative impact. Additionally, risk analysis and assessment tools such as qualitative methods, evaluation of existing controls, and risk	A contextual gap exists as the study was undertaken in investment firms	Kenya	Heinrich's Domino theory Human Factors theory Accident/incident theory Epidemiology theory Systems theory Haddon's energy release theory	Net Asset Value	Risk Identification process, Risk Analysis and Assessment process, Risk Monitoring process, Organisation Risk Management, Risk Management tool used in ERM

	prioritization significantly influence firm performance, though risk prioritization has a statistically strong negative impact, while risk monitoring shows no significant effect on financial performance; however, the organization of risk management positively affects financial performance, especially when all staff are involved, but negatively when only the Director of Finance is involved.			The Behavioral Theory of Accident Causation Combination theory of accident causation		
Nyagah ,(2014).	The study findings revealed that enterprise risk management practices significantly influence the financial performance of pension fund management firms in Kenya, with event identification, risk assessment, objective setting, and information communication having negative effects, while risk response, internal environment, and control activities had	A gap exists in the use of panel data analysis, while the current study will employ a descriptive design	Kenya	Modern portfolio theory Modigliani-Miller Proposition	Return on assets	Risk identification, risk monitoring, mitigation

	positive effects, although the effects of event identification and risk response were insignificant at the 5% level.					
Wawer u (2021)	The srudy found that fund characteristics (portfolio mix, fund size, had a positive and significant effect on financial performance while liquidity and operating costs had no significant effect on financial performance of the funds	A gap exists where the study used fund characteristics (portfolio mix, fund size, liquidity and operating costs) as the measurements of independent variable while the current study employs internal control systems, risk assessment and risk avoidance as the measurements of the independent variable	Kenya	Modern portfolio theory Agency theory Tradeoff theory	Risk adjusted Return on investment	Determinants of financial performance
Nyange ri (2014)	The study found that There were strong, significant and positive correlations between ROI and: Density of contributions, Fund value, Fund size, and Fund returns. Weaker, significant and positive correlations were established between	A gap exists where the study used Density of contributions, Fund value, Fund size, and Fund returns. Fund design and Age as measurements of the independent variable while	Kenya	The stakeholde r theory Theory of constraints	Return on investment	Determinants of financial performance of pension schemes

	ROI and Fund design and Age.	the current study employs internal control systems, risk				
Mwangi (2014)	Regulatory changes improved financial performance of retirement funds.	Focuses on broader pension management, not specific to individual pension schemes in Kenya.	Kenya	Regulatory Frameworks	Growth and stability of pension schemes	Regulatory controls
Stewart (2009)	Importance of regulatory oversight in risk management for pension funds.	Lacks comprehensive models integrating regulatory frameworks with risk management and performance.	Not specified	Risk Management Frameworks	Transparency and accountability	Regulatory oversight
Omaset e (2014)	Positive relationship between risk management practices and performance.	Focuses on insurance, not specific to individual pension schemes in Kenya.	Kenya	Risk Management Practices	Financial performance	Risk management practices

APPENDIX VI: SIMILARITY INDEX

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ORIGINALITY REPORT

17%	14%	10%	8%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	su-plus.strathmore.edu Internet Source	3%
2	Submitted to KCA University Student Paper	2%
3	ir.jkuat.ac.ke Internet Source	2%
4	Moronfoye, Ademola. "Risk Management Practices and Performance of Licensed Pension Funds in Nigeria", Kwara State University (Nigeria), 2024	1%

APPENDIX VII: ETHICS CERTIFICATE

Strathmore UNIVERSITY

8th January 2025

Mr Ojwang Cephas,
cephas.ojwang@strathmore.edu

Dear Mr Ojwang,

RE: Effects of Risk Management Practices on Financial Performance of Registered Individual Pension Schemes in Kenya

This is to inform you that SU-ISERC has reviewed and **approved** your above **SU-masters** proposal. Your application reference number is **SU-ISERC2516/24.** The approval period is from **8th January 2025 to 7th January 2026.**

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,

Mr Ambrose Rachier,
Chairperson; SU-ISERC

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APPENDIX VIII: NACOSTI RESEARCH PERMIT

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **180697**

Date of Issue: **20/January/2025**

RESEARCH LICENSE

This is to Certify that Mr.. Cephas Nyonje Ojwang of Strathmore University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: Effects of Risk Management Practices on Financial Performance of Registered Individual Pension Schemes in Kenya. for the period ending : 20/January/2026.

License No: **NACOSTI/P/25/415244**

180697

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

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See overleaf for conditions