

Performance of Real Estate Companies in Nairobi City County, Kenya: The Paradoxical Effects of Risk Management Strategies

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Abstract: Inadequate application of risk management strategies typically results in poor performance of real estate projects. The dismal risk management contributes to cost overruns, project delays, and substandard construction quality all factors that undermine investor confidence and threaten the overall sustainability of the real estate sector. The achievement of real estate projects often falls short due to insufficient application of risk management practices. Although numerous established methods and tools exist for managing risks in large-scale projects, the real estate sector faces unique challenges. Notably, the widespread development of properties on disputed land presents substantial risks to both buyers and investors. In Nairobi City, approximately 30% of property transactions involve unresolved legal disputes. This research aimed to explore how risk management strategies affected the performance of selected real estate companies within Nairobi City County, Kenya. Specifically, it sought to evaluate the impact of risk identification, risk assessment, risk mitigation, and risk monitoring on company performance. The research was grounded in Prospect Theory, Contingency Theory, and Control Theory. A descriptive research design was employed. The population comprised 149 registered real estate firms operating in Nairobi City County. The unit of analysis was the companies themselves, while the unit of observation was one project manager from each organization. The target sample size was 109 participants, chosen through simple random sampling. Primary data collection was conducted using structured questionnaires. An initial pretest involved 11 participants representing approximately 10% of the sample to ensure instrument validity. Expert review and content validation were used to verify validity, and Cronbach's Alpha was utilized to evaluate dependability, with an internal consistency requirement of at least 0.7. The primary analysis did not use data from the pilot test. The research utilized SPSS version 26 to analyze the quantitative data in descriptive and inferential statistics. The results were exhibited through tables and figures to enhance clarity and comprehension. The study found that the performance of real estate firms in Nairobi City County is greatly impacted by risk management techniques, including risk identification, risk assessment, risk reduction, and risk monitoring. According to descriptive data, participants strongly agreed that these tactics are commonly used, with risk identification and mitigation receiving the highest mean scores. All four tactics have a statistically significant beneficial effect on organizational performance, according to correlation and regression analysis, with risk identification showing up as the best predictor. These findings highlight the strategic value of proactive and organized risk management techniques in raising project completion rates, financial success, and competitiveness. The study recommends institutionalizing formal risk identification systems, adopting adaptive assessment tools, operationalizing mitigation plans with adequate resources, and digitizing monitoring systems to promote sustainable performance in the real estate sector.

Keywords: Risk management strategies, Risk identification, Risk assessment, Risk mitigation, Risk monitoring, Performance, Real estates

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1. Introduction

The real estate sector is a significant driver of economic development, contributing 6% to 8% of GDP in many countries and forming a global industry worth \$1.9 trillion

[1]. It underpins national development by delivering essential built infrastructure such as housing and healthcare facilities. However, poor performance in construction projects, especially in developing countries, often results in reduced returns and human casualties due to weak risk management [2] Kimani&Mwenda, 2022. Studies have shown that inadequate management of

uncertainties such as cost escalations, delays, and quality degradation negatively affects project outcomes, with and Yinghua [3] and Nyoni [4] emphasizing the importance of systematic risk identification, assessment, mitigation, and monitoring.

Structured risk management techniques have proven instrumental in improving project outcomes and overall firm performance. Risk management enhances organizational resilience by helping teams meet goals despite market volatility [5]. According to Kolo [6], ineffective risk controls lead to operational setbacks such as delays and cost overruns, while Wanjohi [7] stresses the need for professional risk management to ensure project sustainability. Empirical evidence supports this, as Omondi and Njoroge [8] link robust risk practices with higher profitability, customer satisfaction, and project success. Conversely, weak practices often result in legal disputes, losses, and eroded investor trust [9].

Globally, research reinforces the critical role of risk management in project execution. For example, Evans [10] observed that failure to identify risks early led to cost overruns in Canada, while Akui [11] demonstrated that structured monitoring and planning significantly improved performance in Nigerian construction. Similarly, Van der Walt and De Lange [12] found that comprehensive risk assessments enhanced profitability in South Africa. In Nairobi City County, Kenya, despite rapid sectoral growth driven by urbanization [13], the real estate industry faces persistent hurdles, including ambiguous regulations, financing difficulties, and poor risk management, which contribute to project failures [2,7]. Firms applying structured risk strategies are better able to maintain timelines, control costs, and boost performance [14].

Despite its relevance, there remains limited research specifically examining the impact of risk management strategies on private real estate firms in Nairobi [15]. Most existing studies focus on large infrastructure projects, overlooking the dynamic and risk-prone real estate sector [16]. Given the financial and regulatory uncertainties in Nairobi's market, there is a critical need to explore how systematic risk management supports performance and long-term viability [17]. Nairobi's firms, ranging from budget housing providers like Karibu Homes to high-end developers such as Centum and Cytonn [18], face risks like cost inflation and technical failures. Informal risk practices and minimal stakeholder engagement have worsened the situation (Trench, 2023), while rising site accidents highlight the urgency for stronger safety and risk frameworks [19]. This study aimed to address these gaps by evaluating the impact of structured risk strategies on organizational outcomes within Nairobi's dynamic real estate landscape.

2. Statement of the Problem

Inadequate application of risk management techniques typically results in poor performance of real estate projects. Few studies have focused on applying established risk management techniques and tools for large-scale projects to small and medium-sized real estate developments, and even fewer have examined the performance results that follow [20,21]. Research indicates that poor risk

management contributes to cost overruns, project delays, and substandard construction quality all factors that undermine investor confidence and threaten the overall sustainability of the real estate sector [2]. However, as most research has focused on large infrastructure projects, there is a knowledge vacuum about how risk management strategies impact the execution of private real estate firms operating in Nairobi City County.

Public scrutiny has highlighted persistent delays and escalating costs in government-funded construction projects, primarily driven by fluctuating material prices, design changes, and unforeseen financial challenges [22,23]. Furthermore, the increasing demand for housing and commercial spaces has led developers to compromise on quality, encroach on public areas, and overlook safety standards, resulting in unsafe and dysfunctional buildings. The 2019 audit report by the National Construction Inspectorate revealed that only 44% of assessed housing projects were considered safe for occupancy, underscoring widespread structural and safety issues. Despite these concerning findings, there remains a lack of comprehensive research on the effectiveness of risk management frameworks in enhancing project safety and financial outcomes in Nairobi's real estate sector.

In the private sector, legal disputes over land ownership and fraudulent property transactions pose significant risks to investors and buyers, with about 30% of property deals in Nairobi involving unresolved legal issues [24]. Fraudulent activities such as misrepresented titles and unauthorized sales diminish buyer confidence and increase financial exposure [25,26]. Additionally, the volatile nature of the market, influenced by economic fluctuations, interest rate changes, and regulatory adjustments, further complicates risk management for developers and investors [14]. Despite acknowledgment of these risks, there is a notable gap in research on how risk mitigation strategies such as compliance, due diligence, and risk assessment affect the operational success of real estate firms in Nairobi, leading to project inefficiencies, financial instability, and declining investor trust when such measures are absent [27]. Therefore, this research aimed to evaluate the influence of risk management strategies on the performance of selected real estate companies in Nairobi city county, Kenya.

1.2. Research Objectives

1.2.1. General Objective

The overall goal of the study was to evaluate how risk management strategies impact the performance of specific real estate firms in Nairobi City County, Kenya.

1.2.2. Specific Objectives

- i. To analyze how risk identification influence the performance of selected real estate firms in Nairobi City County, Kenya.
- ii. To investigate the influence of risk assessment on the performance of selected real estate companies in Nairobi City County, Kenya.
- iii. To assess the influence risk mitigation one the performance of selected real estate firms in Nairobi City County, Kenya.

- iv. To determine the influence risk monitoring on the performance of selected real estate companies in Nairobi City County, Kenya.

3. Literature Review

3.1. Theoretical Literature Review

3.1.1. Prospect Theory

The theory was created by Kahneman and Tversky in 1979. This behavioral economic paradigm explains how people and organizations make decisions in the face of risk and uncertainty. Prospect Theory suggests that individuals evaluate potential outcomes against a reference point, often their current situation, instead of in absolute values, differing from conventional economic models that assume rational decision-makers base their choices solely on expected utility. This reference-dependent assessment results in an asymmetrical perception of gains and losses, with losses feeling more impactful than equivalent gains a concept known as loss aversion [28]. The theory is particularly relevant in uncertain contexts, such as real estate investment and project management, where risk considerations significantly influence organizational outcomes.

Prospect Theory highlights that individuals tend to be risk-averse when it comes to gains, preferring certain, smaller rewards over uncertain, larger ones. Conversely, when facing losses, they are more willing to take risks to avoid undesirable outcomes. This decision-making process involves two stages: framing choices based on contextual cues and evaluating the relative value of gains and losses before making a decision [29]. In the real estate sector, managers' responses to risks such as market fluctuations, rising costs, or legal issues are influenced by how these risks are presented. When risks are seen as threats to profits, firms tend to adopt rigorous risk mitigation strategies; however, if risks are perceived as unnecessary costs, organizations may neglect risk management, exposing themselves to financial and market volatility [10].

Furthermore, Prospect Theory explains how perceptions of low probability losses can lead managers to underestimate risks, while the potential for significant financial losses may cause risk-seeking behavior and overly speculative investments. Organizations with previous financial setbacks may implement stricter controls to prevent future losses, whereas those with steady positive outcomes might become complacent, reducing their risk monitoring efforts [30]. Recognizing these behavioral tendencies is crucial for understanding decision-making patterns in the real estate industry, such as Nairobi City County. Awareness of these dynamics can help organizations adopt more structured risk management practices that promote stability and long-term success, rather than reactive or overly risky strategies that increase vulnerability.

3.1.2. Contingency Theory

The theory was created by Lawrence and Lorsch [31]. The theory asserts that there is no universally applicable

method for organizing, managing, or making administrative decisions within an organization. Unlike traditional management theories that promote fixed principles of leadership and organizational structure, Contingency Theory emphasizes that the most effective strategies and management styles are contingent upon both external and internal factors influencing the organization. This perspective suggests that organizational structures, leadership approaches, and decision-making procedures should be flexible and tailored to the specific context in which a company operates. The core idea is that optimal management practices depend on a combination of internal characteristics and external environmental conditions [32].

Contingency theory emphasizes that organizational effectiveness depends on the ability to adapt and respond to both internal and external factors. Internally, factors such as employee relations, operational issues, and information systems influence decision-making, while external influences include regulatory frameworks, economic conditions, and competitive pressures [33]. Originally centered on leadership, as exemplified by Fiedler's Contingency Model, the theory has expanded to encompass broader organizational processes like strategic planning and risk management. It posits that there is no universal management approach; instead, organizations must tailor their strategies to the specific circumstances they face, adapting their leadership styles and structures accordingly [34,35]. This flexibility is vital in dynamic industries such as real estate, where market conditions, project risks, and regulatory environments are constantly changing.

In the context of real estate, particularly within Nairobi's unpredictable market environment, the theory underscores the importance of customizing risk management practices to suit individual projects and the broader market conditions. Effective management involves identifying, assessing, mitigating, and monitoring risks in a manner that responds to the specificities of each project and external factors. For example, legal risks may be prioritized in regions with frequent disputes, while financial and operational risks may take precedence in large commercial developments. By adopting an adaptive, situational approach, firms can enhance decision-making, reduce vulnerabilities, and improve overall performance. Aligning risk strategies with the unique demands of each project and the wider market enables real estate companies to better manage uncertainty, remain competitive, and respond effectively to actual challenges.

3.1.3. Control Theory

Control Theory, originally formulated within engineering disciplines and later adapted to organizational management by Ouchi [36], offers a framework for ongoing oversight and adjustment of processes to achieve desired objectives. Its core idea is that effective control mechanisms are vital for detecting deviations from planned targets and implementing corrective measures promptly. The theory emphasizes the significance of feedback loops, which facilitate continuous monitoring, assessment, and realignment of strategies to maintain efficiency and goal achievement. The theory is especially

relevant to risk monitoring, highlighting the significance of ongoing assessment and modification of risk management strategies in reaction to changing project circumstances [36].

Control Theory is grounded in the concept of a feedback loop, enabling organizations to regulate their activities by comparing actual performance with set standards or objectives [37]. Deviations occur when there are discrepancies between expected and actual results, prompting interventions aimed at realignment. This process involves goal-setting, performance measurement, identifying deviations, and implementing corrective actions. Feedback can be positive, eliminating underperforming options, or negative, addressing deficiencies to reduce inefficiencies [32]. This continuous cycle of evaluation and adjustment is particularly vital in the dynamic real estate sector, which faces rapid changes in market conditions, regulations, and operational factors.

The effectiveness of Control Theory relies on several assumptions, including that organizations operate based on specific goals, performance can be accurately measured, and feedback is accepted and acted upon by individuals and organizations [38,39]. Its emphasis on ongoing supervision and adaptability makes it especially relevant for risk management in real estate, where proactive monitoring allows project managers to continuously evaluate risks, assess controls, and make timely adjustments. In Nairobi's volatile market environment, applying Control Theory facilitates a structured approach to risk mitigation, ensuring project resilience and sustained success. This research aims to explore how real estate companies leverage feedback mechanisms to enhance project execution and adapt their risk management practices, highlighting the importance of continuous monitoring and flexible decision-making for long-term achievement.

3.2. Empirical Literature Review

3.2.1. Risk Identification and Project Performance of Real Estate Companies

A survey by Hopkinson [28] in the Swedish construction sector revealed that during project risk identification and analysis, there was more reliance on structural techniques to gauge risk impact and its likelihood. Professionals working on such projects had used checklists and manuals to identify different risk factors at an organizational level. At other times, older data from previous projects, especially those that were not carried out well, was viewed as a potential risk source. It was prioritized in the study that the project be given early attention for all adverse outcomes since each project is different and team members may not share the same view. Since project scope varies, using checklists and manuals becomes imperative. The group handling project risk management relied on discussion methods more than anything else to identify the hazards and potential issues. Group discussions, in particular, were seen as more effective because they fostered the generation of diverse ideas, thereby enhancing risk identification and management. However, the survey identified a conceptual gap, as it mainly concentrated on procedural techniques

without examining how these methods influence overall project performance outcomes. Additionally, a contextual gap exists since the findings are specific to Sweden; it remains uncertain whether these practices are applicable in developing countries like Kenya, where project conditions and risk factors differ substantially.

In Kenya, Mburu, Njagi, and Ogolla [29] investigated how supply chain performance in manufacturing firms was impacted by identification of risk and management techniques. A descriptive cross-sectional design was embraced in this study. The researchers were able to collect insights from many viewpoints thanks to the technique, which permitted a flexible and thorough investigation of the subject. The population was made up of all Kenyan manufacturing companies, particularly the 153 members of the Kenya Association of Manufacturers, which is headquartered in the industrial region of Nairobi [40]. Data collection involved questionnaires administered by the researchers and research assistants, capturing both secondary and primary data. The outcomes uncovered that most risk management strategies serve as key drivers of successful organizational performance. The study concluded that organizations must identify their strengths and core competencies in the market, and actively manage risks across the supply chain. Applying effective risk management practices helps reduce vulnerabilities, especially given the volatility of today's competitive global markets.

Latagat [41] explored the connection between risk identification and the execution of financial institutions. A total of 239 participants chosen through stratified random sampling for the research included managers from 52 microfinance institutions (MFIs), 46 commercial banks, and 200 SACCOs as part of an explanatory research design. Data was gathered via questionnaires, and descriptive statistics along with Pearson correlation were employed for inferential analysis. While risk identification helps organizations pinpoint activities and areas where their resources face threats, the study uncovered no significant relationship between risk identification and financial success. It was determined that risk assessment procedures are a powerful predictor of financial institution performance and that risk identification positively correlates with organizational performance.

3.2.2. Risk Assessment and Project Performance of Real Estate Companies

Darnall and Preston [42] stress that project teams need to strictly adhere to operational risk management procedures, even if many hazards can seem predictable. Negligent risk management might result in major cost overruns or project failure. Similar to this, Banaitiene and Banaitis (2019) emphasized the significance of efficient risk management in Lithuanian projects, pointing out that it helps businesses to precisely identify and evaluate possible hazards. They advocate for incorporating risk reduction and control policies. This study presents a conceptual gap by broadly discussing risk management without detailing specific risk assessment practices that influence project outcomes. Additionally, there is a methodological gap, as the research mainly relies on qualitative insights without comprehensive quantitative

validation to support its conclusions.

A study of the effects of risk management techniques on the effectiveness of new product development plans was carried out by Oehmen [43]. The research founded on a survey of 291 programs, examined how risk management strategies correlated with five performance metrics: overall NPD project success, program stability, quality decision-making, collaborative problem-solving environment, and general product success. The outcomes uncovered that most successful risk management techniques include: building risk management capabilities and resources; customizing and incorporating risk management into the creation of new products; measuring the effects of risks on primary goals; using risk data to support important decisions; keeping an eye on risks and mitigation measures; and fostering transparency about risks. The findings demonstrated a clear correlation between these behaviors and enhancements in problem-solving, program stability, and decision-making.

An empirical investigation of how project risk management affects project execution was done by Roque and Carvalho [34]. A total of 415 projects from a variety of industries and geographical areas in Brazil were included in their survey. The findings showed that implementing risk management techniques greatly improves project success. Furthermore, project outcomes are positively impacted by having a committed risk manager. Effective risk management and the presence of a risk professional were shown to be two interrelated characteristics linked to perceived success. In practice, this means that in order to enhance project execution, project managers should designate specialized staff to supervise risk management operations.

3.2.3. Risk Mitigation Practices and Project Performance of Real Estate Companies

Pimchangthong and Boonjing [44] examined the risk management strategies effect on the achievement of IT projects. By means of questionnaires, data was gathered from 200 project managers, working in IT firms. The research embraced Multiple Linear Regression and One-way ANOVA establishing a significance level of 0.05. The outcomes uncovered that although the size of an organization affects success regarding product performance and overall outcomes, the type of organization impacts IT project success in every regard. Also, it was found that efficient risk management strategies are crucial for the achievement of IT projects. However, there is a contextual restriction because the research only looks at IT projects, which have quite different risk drivers and mitigation strategies than building projects. This restricts the results' direct relevance to Nairobi real estate projects.

In Kenya, Mwangi and Ngugi [32] explored the linkage between strategies for risk mitigation and the execution of building projects. Using a descriptive study approach, 190 participants were chosen through the use of purposeful sampling from a target sample of 380 people working on construction projects. Self-administered questionnaires were used to collect the data, and both descriptive and inferential statistical techniques were used for analysis. The outcomes revealed that the execution of projects is affected by risk management strategies. A methodological

limitation is evident, as the exclusive use of descriptive analysis restricts indulgent of the complex interactions between risk mitigation measures and project outcomes. The study also lacks a theoretical framework, as it does not connect its findings to established risk management theories.

Mardiana, Puji, and Ayyu [39] examined how risk management affects monetary execution, incorporating operative corporate governance as a moderating variable. The data was sourced from the financial statements of Islamic banks registered on the Indonesia Stock Exchange for the years 2011 to 2016. By purposive sampling process, five businesses for the final sample were selected. The study found that NPL and CAR had a negative callback on ROA, but the impact was statistically insignificant. ROA was, on the other hand, negatively and significantly influenced by Operating Efficiency (BOPO). It has been stated that in order to enhance profitability and hence better financial performance of banks, more emphasis should be put on operational efficiency.

3.2.4. Risk Monitoring and Project Performance of Real Estate Companies

In Nigeria, Aku [38] performed research into the impact of risk monitoring on the construction industry. The research was based on case studies and focused on consultants, clients, and contractors in the industry. SPSS was used for analyzing data, with results indicating significant relationships between project success and risk monitoring. The results thus demonstrate that risk monitoring techniques can improve on project outcomes by assuring that projects are completed within pre-set budgets and timelines. A contextual gap emerges since these results relate particularly to Nigeria, an environment where industry dynamics might differ from the Kenyan context. Moreover, the study lacks an attempt to link its findings with any theoretical framework, thereby creating a theoretical gap that inhibits broader insight into risk monitoring practices.

Njuguna [45] investigates the evolution of risk monitoring techniques and project execution in Nairobi City County, Kenya. The survey sampled 135 participants, with the data obtained through survey instruments. It was found that risk monitoring techniques affect project execution significantly and positively. The study uncovered that risk transfer had a better effect on project outcomes in Nairobi City County and was commonly used among local firms. Though, a theoretical gap exists in that the research fails to link its findings with existing theories, and thus limits understanding of how these practices are grounded. Another gap is methodological, in that reliance on survey data alone is questionable when the mixed-method approach might have yielded richer insights into the dynamics of risk monitoring.

Obondi [46] evaluated risk monitoring and control implementation methods vis-a-vis achievement in building projects. A digital questionnaire was distributed to fifty construction project managers to collect data. It was established that project performance was meaningfully and positively correlated with all risk management practices such as risk assessments, risk reviews, contingency reserve evaluations, and risk status meetings. To enhance the success rate of projects, the study was

recommending that construction firms should ensure that they always implement and practice these approaches.

3.3. Conceptual Framework

Figure 1 shows the study's conceptual framework which shows the interrelation between the independent variable and the dependent variable.

Independent Variables

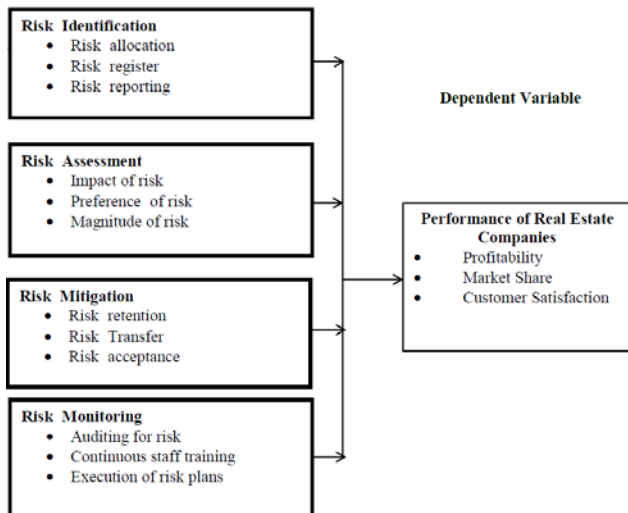


Figure 1. Conceptual Framework

4. Research Methodology

4.1. Research Design

The research embraced a descriptive research design. According to Kasomo [47], the descriptive research method attempts to examine, identify, classify, compare, or analyze the attributes or components of a specific problem or situation.

4.2. Target Population

The target population in this research comprised of the 149 real estate firms listed with the Estate Agents Registration Board [24] in Nairobi City County, Kenya. Real estate companies were treated as the units of analysis, while project managers working within each company were the units of observation. Since every company were supposed to have at least one project manager charged with directing risk management activities, all 149 project managers constituted the total population under consideration.

4.3. Sampling Design

The Yamane formula (1967) was used for sample size determination. The confidence level selected for this research was 95%, and the margin of error was 5%. The degree of variability (p) was assumed to be 50% (0.5), so the maximum sample size was required to be insured for adequate representation. Targeting 149 individuals as the population, the sample size is computed concerning the parameters.

$$n = \frac{N}{1 + Ne^2}$$

N= Population Target (149)

E= Margin error of 5%

The sample size for the research was determined with a 5% precision level (e = 0.05).

The sample size was explored as follows;

$$n = \frac{149}{1 + (149 * 0.05^2)} = 108.56102$$

Thus, 109 participants made up the research's sample size. To choose the sample, the study used basic random sampling.

4.4. Data Collection Instruments

Primary data was utilized for this research. A questionnaire, a quantitative data-gathering instrument, was deployed to obtain such information. Structured questionnaires served to collect primary data because they make data analysis straightforward and, to some extent, reduce the time and resources required for data gathered. Kultar [48] observed that questionnaires remain an economical and efficient way of collecting data from large populations. Moreover, since questionnaires ensured participant anonymity, the data gathered is less likely to be biased.

4.5. Data Analysis and Presentation

SPSS (Statistical Package for Social Sciences) version 26 was utilized to examine the quantitative data with descriptive and inferential statistics. Descriptive statistics were utilized to present the demographics, whereas participants' statements about the working of the research variable were laid out descriptively. Pearson's correlation coefficient and multiple regression analysis were used for inferential analysis purposes. These inferential tests help make inferences about the probability that the observation did not occur by chance, and comment upon the relationship between variables in the survey proposal. Multivariate regression models were applied to investigate the interrelationships among study variables.

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

Whereby; Y= Performance of real estate companies

β_0 = Constant

$\beta_1, \beta_2, \beta_3, \beta_4$ = Coefficients of determination

X_1 = Project risk identification

X_2 = Project risk assessment

X_3 = Project risk mitigation

X_4 = Project risk monitoring

ε = Error term

5. Results and Discussion

5.1. Descriptive Statistics

5.1.1. Risk Identification

Risk identification is a fundamental step in the risk management process, as it helps organizations to recognize, document, and prepare for potential uncertainties that may affect project outcomes. Participants rated each item on a five-point Likert scale, where 1 = Strongly Disagree and 5 = Strongly Agree. Table 1 presents the means and standard deviations for each statement related to risk identification.

Table 1. Findings for Risk Identification

Statements	Mean	Std. Dev.
External experts are engaged in identifying risks for large-scale projects.	3.891	.999
Risk identification processes are regularly updated to reflect emerging threats.	3.861	1.114
Our company has a structured process for identifying risks in real estate projects.	3.861	1.123
Delays in risk identification negatively impact project performance.	3.782	1.073
Employees receive regular training on risk identification.	3.762	1.141
We actively encourage employees to report potential risks.	3.743	1.074
Early detection of risks significantly improves project outcomes.	3.584	1.259
Aggregate Score	3.783	1.112

The highest-rated item, with a mean of 3.891, indicates that participants generally agree that external experts are engaged in identifying risks for large-scale projects. This implies that real estate companies recognize the intricacies of large projects and bring in specialized experts to mitigate such risks. The statements "Risk identification processes are regularly updated to reflect emerging threats" and "Our company has a structured process for identifying risks in real estate projects" shared a mean of 3.861. Participants generally very strongly agreed that risk identification practices are formalized and dynamic in nature—a system of adaptation to changes in the operating environment. This indicates a proactive and systematic approach to risk management.

The statement "Delays in risk identification negatively impact project performance" received a mean score of 3.782, further implying that the timely identification of risks is considered crucial for project success. Participants also believe that employees receive regular training in risk identification (mean = 3.762) and are encouraged to report risks (mean = 3.743), thus indicating an enabling organizational culture for risk awareness. Lastly, the item "Early detection of risks significantly improves project outcomes" got the lowest average of 3.584, although it still fell within the Agree range. The relatively lower score could indicate variation in early detection practices across firms, which might hinge on the rigor of their internal monitoring systems or as much on the attentiveness of their managers.

The aggregated mean for risk identification stands at 3.783, implying that participants were generally in agreement that their organizations somewhat strongly practice risk identification. This is broadly in line with the Mburu, Njagi, and Ogolla [29] study which viewed the need for effective risk identification strategies as imperative to supply chain performance in Kenyan manufacturing firms. Their emphasis was on harnessing core competencies and managing potential threats in an organized manner. Further, Hopkinson [28], in his study

of the construction industry in Sweden, found that a structured approach to risk identification, including the use of checklists, manuals, or expert consultation, played a noteworthy role in identifying potential threats early on in the project lifecycle. Although conducted in a different context, Hopkinson's findings can be taken to reinforce the high worth of structured and emerging identification practices that are supported in this study by the high-ranking structured processes and regular updates.

5.4.2. Risk Assessment

Risk assessment is the systematic process of identifying and examining potential risks to a project and evaluating how these risks would affect the project's success. The participants were required to respond to seven statements on a five-point Likert scale where 1 corresponded to Strongly Disagree, and 5 corresponded to Strongly Agree. The descriptive statistics on the responses are shown in Table 2.

Table 2. Findings for Risk Assessment

Statement	Mean	Standard Deviation
Both qualitative and quantitative methods are used for risk assessment.	4.069	0.982
Risks are assessed at every stage of the project lifecycle.	3.812	1.056
Risk evaluation criteria are periodically reviewed based on industry standards.	3.743	1.189
We have clear criteria for assessing the severity of risks.	3.733	1.085
Our company has a formal process for evaluating risks in projects.	3.693	1.129
Risk impact analysis is conducted to assess the effect on project performance.	3.693	1.093
Our risk assessment methodologies are updated based on market changes.	3.614	1.157
Aggregate Score	3.765	1.099

The highest-rated item, with a mean of 4.069, reveals strong agreement that both qualitative and quantitative methods are used for risk assessment. This demonstrates that firms are not relying on intuition or ad hoc processes but instead adopting structured, multi-dimensional approaches to evaluating risks, which enhances objectivity and decision-making accuracy. The statement "*Risks are assessed at every stage of the project lifecycle*" followed with a mean of 3.812, suggesting that risk assessment is perceived as a continuous and integral part of project management. This points to maturity in risk management, where assessments are not just performed at initiation but carried out throughout implementation.

Participants also showed agreement with statements like "*Risk evaluation criteria are periodically reviewed*" (mean = 3.743) and "*We have clear criteria for assessing the severity of risks*" (mean = 3.733), indicating a commitment to ensuring that the assessment tools remain relevant and context-sensitive over time. The presence of formal processes is moderately supported, with "*Our company has a formal process for evaluating risks*" and "*Risk impact analysis is conducted to assess effect on performance*" both scoring a mean of 3.693. While these

are within the "Agree" range, they suggest that there may still be room for improving formalization and integration into strategic planning. The lowest-rated item, *"Our risk assessment methodologies are updated based on market changes,"* with a mean of 3.614, implies that fewer organizations are regularly adapting their risk assessment models to reflect market dynamics. This might expose them to outdated methods in rapidly evolving project environments.

The average score garnered by risk assessment is 3.77, indicating that the majority of participants agreed that their organizations conduct active and systematic risk assessments. These results corroborate those given by Banaitiene and Banaitis [49], who stressed the importance of both qualitative and quantitative approaches in construction risk management to yield better project outcomes and enhanced decision-making. These findings further bolster the high ranking apparently received by integrated risk analysis techniques in this research. In addition, Roque and Carvalho [34] found that regular and structured risk assessment practices greatly promote project success. They also announced that steeping performance is enhanced by appointing dedicated risk managers and updating risk assessment tools from time to time, which tallies with the findings indicating that Kenyan real estate firms perform periodic evaluations using multiple risk assessment approaches.

5.4.3. Risk Mitigation

Risk mitigation involves the implementation of actions and strategies to reduce the likelihood or impact of identified risks. This component is crucial to ensuring projects are completed successfully, on time, and within budget. Participants were asked to evaluate seven statements related to their organization's risk mitigation practices using a five-point Likert scale, where 1 = Strongly Disagree and 5 = Strongly Agree. Table 3 presents the descriptive statistics for these statements.

Table 3. Findings for Risk Mitigation

Statement	Mean	Standard Deviation
We have established strategies to mitigate risks in real estate projects.	3.990	1.015
Employees are trained to execute risk mitigation strategies.	3.911	0.971
Proactive measures are taken to minimize risk impacts before they occur.	3.901	1.118
Risk mitigation strategies are implemented across all real estate projects.	3.772	1.148
Risk mitigation plans are regularly evaluated for effectiveness.	3.772	1.094
Adequate resources are allocated for risk mitigation in project planning.	3.762	1.069
Effective risk mitigation has led to improved project performance.	3.723	1.258
Aggregate Score	3.833	1.096

The highest-rated statement was *"We have established strategies to mitigate risks in real estate projects,"* which recorded a mean of 3.990. This strong score suggests that

most firms in Nairobi's real estate sector have structured mitigation plans in place, signaling a deliberate and organized approach to handling potential threats. Closely following was the statement *"Employees are trained to execute risk mitigation strategies"* with a mean of 3.911, indicating that human capacity is also being developed alongside policy frameworks. This reflects a workforce that is not only aware of risk but is also empowered to act upon mitigation measures. The statement *"Proactive measures are taken to minimize risk impacts before they occur"* scored 3.901, emphasizing that real estate firms prioritize preventive rather than reactive approaches. This mindset is critical for reducing project uncertainty and avoiding costly disruptions.

Both *"Risk mitigation strategies are implemented across all projects"* and *"Risk mitigation plans are regularly evaluated for effectiveness"* recorded means of 3.772, showing that these strategies are not just theoretical but are applied and reviewed in practical contexts. These responses reflect commitment to both execution and continuous improvement. Statements regarding resource allocation (3.762) and the impact of mitigation on performance (3.723) received slightly lower but still solid agreement scores. While organizations may believe in the importance of mitigation, the relatively lower mean on effectiveness suggests a potential disconnect between implementation and observed outcomes.

An aggregate mean score of 3.833 is tabulated for risk mitigation, which lies within the "Agree" region. This can therefore imply that companies dealing with real estate in Nairobi are actively channeling their energies into structured risk mitigation, workforce preparedness, as well as forward-looking practices to ensure the success of their projects. These conclusions harmonize well with those of Mwangi and Ngugi [32], who found out that the effective aspect of risk mitigation plays a positive role in the performance of construction projects in Nairobi City County. Their study emphasized employee training, resource allocation, and project planning as critical mitigation variables—a consideration that is also of course salient in the present study.

Furthermore, Obade [35] established that risk mitigation affected the project cost, completion, and quality in Nairobi road infrastructure projects. Likewise, in the real estate domain, mitigation approaches such as early identification of threats and appraisal of mitigation strategies were identified as success factors. These empirical studies support the observation that real estate companies benefit from increased project stability and organizational performance when they employ seriously strong and proactive mitigation strategies that are backed by relevant training of staff and ongoing reviews.

5.4.4. Risk Monitoring

Risk monitoring is an ongoing process for keeping track of identified risks, evaluating their level, reporting them, and ensuring their proper management while also keeping an eye on the occurrence of new risks so they can be procured in time. Participants responded to seven statements related to risk monitoring using a five-point Likert scale, where 1 indicated strong disagreement and 5 indicated strong agreement. A summary of these responses is provided in Table 4.

Table 4. Findings for Risk Monitoring

Statement	Mean	Standard Deviation
Identified risks are reviewed regularly to assess their potential impact.	3.901	1.015
We have clear reporting mechanisms for risk tracking and analysis.	3.891	1.038
Timely risk monitoring reduces uncertainties and project disruptions.	3.822	1.081
Risk monitoring is an integral part of our project management practices.	3.772	1.076
Our company has specific tools for tracking and reviewing risks.	3.743	1.214
Our risk monitoring techniques are updated based on industry best practices.	3.733	1.182
Risk monitoring activities follow a structured and scheduled process.	3.634	1.222
Aggregate Score	3.785	1.118

The highest-rated item, with a mean of 3.901, was *“Identified risks are reviewed regularly to assess their potential impact.”* This indicates a strong culture of periodic evaluation of risks, which is essential for real-time decision-making and adjusting risk responses as projects progress. Closely following was the statement *“We have clear reporting mechanisms for risk tracking and analysis,”* with a mean of 3.891. This finding suggests that many organizations have established formal channels for documenting and communicating risk-related information, contributing to transparency and accountability in project oversight. The statement *“Timely risk monitoring reduces uncertainties and project disruptions”* recorded a mean of 3.822, implying broad agreement among participants that consistent monitoring plays a preventive role by minimizing the likelihood of risk escalation.

Statements such as *“Risk monitoring is an integral part of our project management practices”* (3.772) and *“Our company has specific tools for tracking and reviewing risks”* (3.743) also received positive ratings, indicating that risk monitoring is not treated as an isolated activity but is embedded within broader project management systems. The lowest-scoring items *“Our risk monitoring techniques are updated based on industry best practices”* (3.733) and *“Risk monitoring activities follow a structured and scheduled process”* (3.634) still fall within the “Agree” range, though they suggest some inconsistencies in standardization and benchmarking. These lower scores may imply a reactive rather than proactive stance toward updating tools and routines, leaving room for improvement in institutionalizing best practices.

Given the (3.785) mean score, the participants agreed that risk monitoring is integrated with project operations within real estate firms in Nairobi. This corroborates the results of Aku [38] that affirmed the existence of a strong relationship between success of projects and risk monitoring in the Nigerian construction sector. The high mean ratings for impact evaluation and reporting in this study supported the idea that ongoing monitoring ensures projects remain on schedule and on budget and meet the expected quality. Similarly, Njuguna [45] revealed that

risk monitoring mechanisms had an influence on project performance in Nairobi City County.

5.4.5. Performance of Real Estate Companies

Performance was evaluated using various indicators, including project delivery, profitability, client satisfaction, and market competitiveness, which collectively represent both financial and operational success. Participants assessed seven statements related to these factors using a five-point Likert scale, where 1 indicated strong disagreement and 5 indicated strong agreement. The summary of the descriptive findings is displayed in Table 5.

Table 5. Findings for Performance of Real Estate Companies

Statement	Mean	Standard Deviation
The number of successfully completed projects exceeds initial forecasts.	3.891	0.989
Effective risk management has improved overall project profitability.	3.851	1.099
Projects are completed on time and within budget.	3.832	1.158
Our company maintains a strong market position in the real estate sector.	3.832	1.078
Client satisfaction with project quality is high.	3.792	1.143
Customer feedback indicates a high level of satisfaction with our services.	3.743	1.137
The company's market share has increased over the last few years.	3.703	1.162
Aggregate Score	3.806	1.109

The highest-rated item, with a mean of 3.891, was *“The number of successfully completed projects exceeds initial forecasts,”* suggesting that many firms are outperforming their original plans. This may indicate strong project planning, execution, and perhaps, effective risk management support structures. Closely following, *“Effective risk management has improved overall project profitability”* scored 3.851, which directly supports this study's premise that risk management positively contributes to performance. Participants clearly acknowledge the financial gains derived from minimizing exposure to threats and optimizing decision-making. The dual statements *“Projects are completed on time and within budget”* and *“Our company maintains a strong market position in the real estate sector”* both scored 3.832, reinforcing operational efficiency and competitive strength. This implies that the firms are not only delivering projects efficiently but are also sustaining a solid reputation in the local market.

Statements related to client satisfaction also ranked highly: *“Client satisfaction with project quality is high”* (mean = 3.792) and *“Customer feedback indicates a high level of satisfaction”* (mean = 3.743), confirming that stakeholder experiences and service quality remain a focus area for most organizations. The lowest score, *“The company's market share has increased over the last few years”* (mean = 3.703), while still within the “Agree” range, suggests that although firms are performing well operationally, growth in market share may be influenced by broader economic, regulatory, or competitive

conditions beyond project-level control.

The aggregate mean score of 3.806 suggests that participants generally perceive their organizations as performing well above average across key indicators. These findings validate the central hypothesis of this study that effective risk management contributes to improved organizational performance. When compared with earlier sections on risk identification, assessment, mitigation, and monitoring, a pattern emerges: firms that institutionalize risk strategies are better positioned to achieve strong outcomes in project delivery, profitability, and client satisfaction. The findings are more or less consistent with the findings of Roque and Carvalho [34], who have empirically established that the structured management of risk enhances the success of projects across disparate industries. This notion is supported by Mburu, Njagi and Ogolla [29], who argued that the implementation of risk strategies supports organizational competitiveness and efficiency within Kenya, thus appealing locally to this study's findings.

These findings, therefore, further support the assertion that, while performance in Nairobi's real estate sector is based partly upon market opportunities, it is also risk-conscious in planning and execution, with the management of risk emerging as a key catalyst for sustained performance.

5.2. Correlation Analysis

Correlation analyses were performed to examine the direction and strength of the linear relationships between the four main risk strategies; risk identification, risk assessment, risk mitigation, and risk monitoring and the organizational performance of real estate in Nairobi City County. For this, Pearson's product-moment correlation coefficient which ranges from -1 to +1—was utilized.

There is a high and statistically significant positive association between risk identification and real estate

company success, as indicated by the Pearson correlation coefficient of $r = 0.808$ and p -value of 0.017. This infers that companies are more likely to see better performance results when they proactively identify risks through organised procedures, staff participation, and expert consultations. This result aligns with that of Lagat and Tenai [41], who found a positive relationship between risk identification and the Kenyan financial institutions' performance.

The risk assessment shows a strong positive correlation of 0.731 with performance, with a p -value of 0.02. This means that when companies carry out risk evaluation consistently throughout the project lifecycle through either qualitative or quantitative approaches, they tend to attain good results. This relationship supports the conclusions of Roque and Carvalho [34], who showed that structured project risk management, including continuous assessment, positively influences project success in industries from various fields.

The correlation between risk mitigation and performance is strong, at $r = 0.695$, with a p -value of 0.006. It follows, therefore, that risk mitigation strategies such as proactive measures, training, and resource allocation affect associated performances. This outcome is consistent with that arrived at by Obade [35], who found risk mitigation to significantly impact road infrastructure projects concerning completion, cost control, and quality in Nairobi.

A robust and statistically significant positive association was found between risk monitoring and performance, with a correlation of 0.665 and a p -value of 0.016. This implies that improved project and business outcomes result from ongoing risk tracking, evaluation, and reporting. These results are consistent with those of Aimable [50], who discovered that risk monitoring improved the performance of building projects in Rwanda.

Table 6. Correlations

		Performance	Risk Identification	Risk Assessment	Risk Mitigation	Risk Monitoring
Performance of Real Estate Companies	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	101				
Risk Identification	Pearson Correlation	.808*	1			
	Sig. (2-tailed)	.017				
	N	101	101			
Risk Assessment	Pearson Correlation	.731*	.024	1		
	Sig. (2-tailed)	.020	.811			
	N	101	101	101		
Risk Mitigation	Pearson Correlation	.695*	-.062	.056	1	
	Sig. (2-tailed)	.006	.538	.576		
	N	101	101	101	101	
Risk Monitoring	Pearson Correlation	.665*	.035	.236*	.006	1
	Sig. (2-tailed)	.016	.730	.018	.952	
	N	101	101	101	101	101

*. Correlation is significant at the 0.05 level (2-tailed).

6. Conclusion

The study remarked that risk identification plays a

foundational role in improving the performance of real estate firms. The ability to proactively detect potential risks through structured processes, employee engagement, and expert consultations contributes significantly to improved planning, reduced uncertainty, and project

success. This supports Prospect Theory's assertion that recognizing potential losses early drives more rational and strategic responses among decision-makers.

Risk assessment emerged as another strong predictor of firm performance. Companies that apply both qualitative and quantitative risk evaluation techniques especially when these assessments are conducted regularly across the project lifecycle are better equipped to prioritize threats and implement timely interventions. This reflects the adaptability principle embedded in Contingency Theory, where risk evaluation is customized to fit changing market and project environments.

The research uncovered that proactive mitigation strategies like resource allocation, employee training, and strategy evaluation, positively impact firm performance. Effective risk mitigation not only prevents disruption but also enhances organizational efficiency and customer satisfaction. The findings support the notion that pre-emptive action reduces uncertainty and improves cost, time, and quality performance.

Risk monitoring was also found to significantly influence performance, although with a relatively smaller beta coefficient. This underscores its importance as a supporting function that ensures risk responses remain effective throughout the project lifecycle. Regular reviews, structured reporting, and feedback mechanisms help firms maintain alignment with evolving threats and project goals. These findings affirm the value of Control Theory's feedback loops in sustaining project success.

7. Recommendations

Given that risk identification emerged as the most influential predictor of performance, real estate firms should formalize and institutionalize robust risk identification frameworks. These frameworks should be based on structured processes such as the use of risk registers, project-level risk audits, and expert risk panels for large-scale developments. Organizations should invest in training programs that sensitize employees at all levels to report potential risks, encouraging a culture of transparency and early warning. Organizations should also move towards integrated risk modeling tools that combine qualitative judgment with quantitative analysis such as Monte Carlo simulations, risk matrices, and probability-impact charts. Importantly, companies must review and update their risk criteria regularly to respond to evolving market dynamics, policy changes, and macroeconomic trends.

Firms should regularly train their project staff and contractors on how to implement these mitigation measures in real time. Human resource departments should integrate risk training into their professional development programs. To facilitate these changes, industry associations like KPDA (Kenya Property Developers Association) and ISK (Institution of Surveyors of Kenya) can develop certified training modules on risk mitigation tailored to the local construction and property market context. Real estate firms should invest in automated monitoring tools and dashboards that provide real-time feedback on risk exposure, contractor performance, budget variance, and regulatory compliance. These systems should be aligned with project management

software such as Primavera or Microsoft Project to ensure seamless integration into workflows. Moreover, companies should adopt structured reporting schedules and key risk indicators (KRIs) to facilitate timely communication with stakeholders.

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