RISK MANAGEMENT PRACTICES AND PERFORMANCE OF REAL ESTATE CONSTRUCTION PROJECTS IN NAKURU COUNTY, KENYA

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DECLARATION

This research project is my original work and has not been presented for a degree or other award in any university. No part of this research project should be reproduced without authority of the author or/and University.

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Declaration by supervisor:

I confirm that the work in this project was done by the candidate under my supervision

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DEDICATION

This project is dedicated to my parents Isack Hassan and Khadija Hassan.

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First, I want to thank God for the provision throughout my master's programme. Secondly, my supervisor Dr. Perris Chege deserves special thanks for her unflagging willingness to help and the exemplary patience while guiding me through this research work. I also appreciate my fellow student and friends who have been so kind and encouraging to me throughout my time of study.

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OPERATIONAL DEFINITION OF TERMS

Financial risk management practices: Financial management practice aimed at minimizing financial problems that arises during the designing, drawing and site location of the real estate project

Market Risk Management Practices: Risk management practice aimed at minimizing income cash flow crisis during the construction of the real estate projects in Nakuru County in Kenya through market demand and supply survey, prior feasibility study and Insurance policy.

Operational risks management practices: Risk management practice that ensures maximum yields from the construction projects. Operational risk management practices includes Lease management, Management skills, Solvency assessment, Training of project team.

Performance of projects : Real estate construction project success as assessed by completion date, planned construction cost, client satisfaction, occupancy uptake dates, and/or projected

income (from sales or rentals).In this study project performance has been measured in line with completion time, quality of the project, return on investment and client satisfaction.

Real Estate Construction Project: Development of Real estate land, anything attached to it permanently, and any of its natural resources, such as minerals or water. As part of this study's real estate construction projects, buildings for both commercial and residential properties are created, rented out, leased and managed.

Technical Risk Management Practices: This relates to real estate risk management approaches utilized in the activities of obtaining the development site, planning and building on it, procuring building supplies, managing the site, and working in general while it is being created.

ABSTRACT

Real estate development performance in Nakuru County continuously deteriorates, as evidenced by rising vacancy rates in outdated office buildings, restrained consumer spending due to the difficult economic climate, and competition from unofficial retail spaces in some submarkets. This poses a menace to the growth of the real estate market in Nakuru County. The study aimed at finding out how risk management practices influence the performance of real estate construction projects in Nakuru County. The research determined how technical risk management practices, financial risk management practices, market risk management practices and operational risk management practices affect the performance of real estate construction projects in Nakuru County. This research used a mixed-method study design with a population target of 45 ongoing and 25 completed real estate projects in Nakuru County. Using stratified simple sampling technique, a sample size of 25 ongoing and 15 completed real estate projects were selected. The study was affixed on strategic planning theory, Decision theory and risk/uncertainty bearing theory. The researcher used questionnaires to obtain data and suggestions from the respondents. A pilot study to assess the research instruments' accuracy and dependability was conducted in Nairobi County. The questionnaire's content, in particular, was reviewed by research specialists, including the project's supervisor to ensure that it was relevant and suitable for this research. The research utilized Cronbach's alpha to calculate the reliability coefficient of the questionnaires. Cronbach value greater than 0.7 was considered reliable. The gathered data was cleaned, coded, and accuracy checked to make analysis easier. The mean, frequency distribution and standard deviation of the cleaned data were calculated as part of a descriptive analysis. Using Pearson correlation analysis, the relationship between the dependent and independent variables was evaluated. Regression analysis was done using the analysis of variance technique (ANOVA). The results revealed that technical risk management practices had positive and substantial regression coefficient values of (0.451). Operation risk management practices had (0.313), market risk management practices (0.531), and financial risk management practices (0.273). Diagnostic test including multi-collinearity were conducted and this study found the data had no collinearity as shown by (VIF<10) for all variables. Constructed from the study findings, this study recommends that the Kenyan government should review all of the approvals that real estate developers need, formulate policies that regulate the construction sector by ensuring that real estate developers demonstrate their creditworthiness on their expected investments before granting any licenses. In addition, real estate developers should be encouraged to take advantage of staff empowerment through professional bodies that equips managers through risk management courses. Lastly, future studies conducted should concentrate on other risk variables not included in this study including legal and environmental risk management practices

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Construction of real estate projects contributes significantly to a nation's GDP expansion through its financial role and support of numerous production variables (Galati, 2011). This industry is well-known throughout the world for its efforts to raise the socio-economic wellbeing of its workforce and provide residents with better housing (Cytonn,2020). Whether it's land, buildings, or other permanent fixtures, as well as any minerals or water that may be present, everything that is permanently affixed to land is considered real estate. (Allessie, 2017). Development, leasing, and management of both commercial and residential properties are all part of real estate operations. Its development involves a great deal of uncertainties risks because of its distinctiveness, significant capital investment and complexity (Knight Frank, 2022). To increase the performance of the constructed real estate projects, it is crucial for stakeholders and investors involved to control these risks.

Globally, the UK is expected to continue on a growth trajectory in terms of real estate project performance (Raynor & Whitzman, 2020). In China, the real estate industry is one of dynamic business with high-risks (Dawson, 2019). In contrast to China and Malaysia, where real estate construction projects perform poorly in terms of completion delays, designs, and excessive costs, the United Kingdom’s and the United States’ real estate sectors have benefited from the construction industry. The reason herein being that China and Malaysia conform standard practices in the construction sector (Dawson, 2019)

Real estate industry in most African nations, including Ghana, Nigeria, Morocco and Ethiopia, has experienced problems with risk management. The real estate sector in Nigeria has experienced decreasing occupation demand since 2019 with the real estate developers reporting disparities between actual and expected income (Eroglu & Picak, 2018). Real estate construction projects in Africa are subject to a variety of hazards at every level of the project's execution; as a result, these threats should be recognized, assessed, and properly managed (Hessellund, 2017).

Despite the significance of real estate sector to the Kenyan economy, they face a variety of obstacles that call for reflection and knowledge of the necessary risk management practices (Smith, 2016). With many projects falling short of schedules, costs, quality, and targets, the industry has been painted as having a bad reputation at dealing with the unpleasant consequences of change. This study's specific objectives aimed at determining the influence of technical, financial, operational, and management market risks on how construction projects in Kenya's real estate industry perform. Specifically, the study was centered in Nakuru County and to recommend various policies based on the findings.

In contrast to having a strategic location and being accessible by road and rail networks, Nakuru County has lagged behind Nairobi, Kisumu, and Mombasa in the real estate development. This, however, is set to change because of various development initiatives that have been started in the city, such as the construction of 505 affordable homes in the Bondeni slums and the upgrading of the Lanet airstrip into an airport (GoK, 2019). Due to its greater and promising future, this would further open the county of Nakuru for real

estate development and investments (Knight Frank, 2022). This made it necessary to investigate how strategic risk management practices impacts the effectiveness of real estate development projects in Nakuru County.

1.1.1 Project Performance

A project, according to (Ghahramanzadeh,2013), is an endeavor undertaken in order to create a product that is useful and brings about change. Project performance in the real estate sector is defined in terms of time, cost, and quality. This aspect is qualified when it is performed well, finished within budget and on time. The project should also meet the expectations of the users, their quality requirements and technical specifications (Amoatey & Famiyeh, 2015). Quality, time, and cost are the foundations of project performance, yet they are insufficient for a fair assessment of project success (Koech,2013). Because different projects have varied performance measurements, organizations should avoid limiting performance assessment by utilizing efficiency measures as the sole indications of project performance. Other requirements include technology transfer, environmental friendliness, health and safety (Bredin & Söderlund, 2013). The performance of projects in this study was operationalized in terms of cost-completed within budget, Time criteria: completed on time, Quality criteria-completed within established guidelines, return on investment in terms of income yield and client satisfaction, (KPDA, 2022).

1.1.2 Risk Management Practices

Practicing risk management is crucial in the construction sector (Etges,2017).This aspect is important for timely completion of construction projects. Risk management practices is defined as the process of identifying, monitoring and managing risks and their harm to a project (Nissen, 2014). According to (KURA, 2019) these practices involved risk all systematically identified possible risks whose occurrences have an impression on the primary goals of the project; completion cost, time, quality, scope and yields. Risk management in construction to include technical risks, marketing risks, financial risks, and operational risks (Muriana & Vizzini,2017). The construction industry is more vulnerable to risk than other sectors due to the building processes. Long-term projects, complex processes, high financial intensity, an unpleasant environment, and flexible organizational structures are some of its distinguishing characteristics. The construction industry also has a bad image for risks since many projects fall short of their budgetary targets and deadlines, which has a negative impact on all stakeholders; contractors, clients, the public and others (Tesfayeet et. al., 2016).

The construction Authority of Kenya (2021) states that financial risk practices, technical risk identification, risk control practices, marketing risk assessment, and operational risk are the several types of risk management methods used in building projects. This study focused on technical risk management, market risk management, financial risk management, and operational risk management practices (KURA, 2019).

Technical risks management practices are the actions undertaken by the management team to prevent project failure from risks associated with the purchase of a development site (Mukhtar, 2017). Building materials, building components, designs, and improved services have all benefited from technological advancements, but they can also cause unforeseen loss or profit. To give an example, new technology advancements increases demand in rental values and sales, but they will also require business owners to refurbish or rebuild their units in order to stay competitive (Muteti, 2017). In this study technical risk management practices was conceptualized to include; Design, drawing and specification practices, availability of materials and Site investigation

Financial risk management practices are steps taken to prevent risks that arise during the delivery of a real estate project including costs influenced fluctuations the exchange rates, inflation as well as inadequate funds from an investor or funding agent (Anton, Rodriguez, & Lopez, 2011). In order to avoid financial shortages, clients with a history of late payments and bad financial standing should be avoided wherever possible. Costs associated with exchange rate fluctuations should be factored into the rates when estimating costs or pricing tender documents. Inflation can be unpredictable and have a significant impact on the price of materials and other costs, which ought to be factored (Njogu, Ahmad, & Gwaya, 2015).

The supply and demand situation are the focus of market risk management practice. It identifies the needs of potential clients (Wiegelmann, 2012). Many real estate developers continue to design and construct a product with little to no client interaction. As a result,

developments either do not have the amenities that consumers' desire. This oversight delays the occupancy of the completed project leading to cash flow problems (Nissen, 2014). Additionally, some real estate developers make huge mistakes in their planning stage by failing to account for any future changes in market conditions (Lewis, 2015).

The effectiveness of market risk management strategies is evaluated in two main ways (Njogu & Gwaya, 2015). A thorough feasibility study, which gives project managers the knowledge they need to comprehend market demands and, as a result, modify their products to meet those demands in terms of design, type, segmentation, and location. In this study, the market risk management practices has been measured in terms market demand and supply survey, Prior feasibility study and Insurance policy.

The real estate project must be operated and maintained when it is finished in order for it to generate the anticipated revenue and fulfill all of its responsibilities (Fletchers & Pendleton, 2014). The operational management practices include the appointment of qualified personnel to manage the property, yearly operating expenses including salaries, utilities, contract services, administrative and management charges, and insurance policies. The operational risk management practice has been measured and conceptualized in terms of Lease management, Management skills, Solvency assessment and Training of project team

1.1.3 Real Estate Construction Projects in Nakuru County

Real estate development performance in Nakuru County has continued to deteriorate. This fact is demonstrated by the rising vacancy rates in obsolete office buildings,

restrained consumer spending due to difficult economic circumstances, and competition from informal retail locations in some submarkets (Knight frank, 2019). Nakuru county had the lowest project performance node from 2013 to 2018, with an average yield of 5.9% compared to the market average of 6.7%. (KHC, 2029).

The poor performance of these construction projects may deter investors and financing institutions from investing in this sector, affecting the project's timely completion. In the long term, high-cost risks will result in poor quality projects and a low investment return (Hass consultant,2019). With a population of 2,162,202 (KNBS,2019), it is Kenya's third most populous county, hence bad construction project performance is a major issue for property developers and managers.

1.2 Problem Statement

According to Cytonn's real estate investment reports, (2021) Nakuru County had the lowest rental yields, which stood at a return-on-investment rate of 6.1 % per year despite the real estate sector being a high-return investment area. This is way below Mombasa County which had 8.4 % yield, Kisumu County 7.8 % Nairobi County 8.1% while Nyeri county had the highest yield at 8.6%. Nakuru County specifically comes amidst a rising population rates of 3.1% per annum in the county (KNBS, 2019) compared to Kenya’s average of 2.6%. The poor performance of real estate building projects has discouraged investors and financing institutions from investing in this sector, impacting the project's timely completion (Knight Frank, 2021).

High-cost risks as a result of limited credit facilities for investors in this industry have resulted in poor quality projects and low long-term investment returns (Hass consultant, 2019). This served as the foundation for this study, which sought to establish how risk management practices impact the performance of real estate building projects in Nakuru County and to make specific policy suggestions based on the findings.

Several risk management research strategies and the performance of real estate projects have been undertaken. (Wan, Daud Zainol, and Mumin,2017) evaluated the effects of technically managing risk and performance of real estate projects. They discovered that much of the failure in project performance was related to a lack of appropriate risk management. Because the preceding research were done in advanced nations, their findings cannot be applied to a developing country, highlighting the need to learn how risk management techniques in Kenya effect real estate developments. The findings of Fletchers and Peridleton (2014), Fraenkael and Wallen (2015) studies on operational risk management practices on project performance contradicted those of Fredrick, Connor, and Kuratko (2016), who established that Real estate construction is not significantly impacted by operational risk management techniques. The goal of this study was to assess the condition in Nakuru County. Nasidi, Nketekete, Emuze, and Smallwoods (2016), discovered that market and financial risk management measures have a positive impact on the success of building projects in developed countries. The studies employed a longitudinal research design, which does not explain how the variables are associated.

Effective risk management recognizes any potential disadvantages of a real estate transaction in order to create risk response and mitigation measures (Ding, 2014).

Similar research in Kenya focused on the road construction industry. Mwangi's (2019) research focuses on road building activities in Nairobi County. Odongo (2018) focused on Kisumu County's ICT development activities. The present study intended to address the existing gap by analyzing the impact of risk management practices on real estate construction projects' performance in Nakuru County. This study gave empirical evidence on the extent to which risk management practices affect performance in real estate projects in Nakuru County, Kenya, which was recently granted the charter to become a city.

1.3 Objectives of the study

1.3.1 General objective of the study

The study aimed at finding out how risk management practices affect real estate construction projects' performance in Nakuru County in Kenya.

1.3.2 Specific Objectives

The study focused on the following objectives:

i. To determine the effect of technical risk management practices on the performance of real estate construction projects in Nakuru county, Kenya

ii. To find how operational risk management practices on the performance of real estate construction projects in Nakuru county, Kenya

iii. To examine how market risk management practices influences the performance of real estate construction projects in Nakuru county, Kenya

iv. To evaluate how financial risk management practices influence the performance of real estate construction projects in Nakuru county, Kenya

1.3.3 Research Questions

i. To what extent does technical risk management practices influence performance of real estate construction projects in Nakuru County, Kenya

ii. What is the influence of operational risk management practices on the performance of real estate construction projects in Nakuru county, Kenya

iii. How does market risk management practices influence the performance of real estate construction projects in Nakuru county, Kenya

iv. How does financial risk management practices on the performance of real estate construction projects in Nakuru county, Kenya

1.4 Study Significance

Kenya's growth plan is centered on the real estate sector and, by extension, housing, and the government is heavily involved in guaranteeing the prosperity of real estate in the nation. This study will be an essential tool for helping the government and policymakers identify the key factors causing the country's low performance in the real estate industry. This study will be useful to policy makers since it will offer suggestions for risk

management and project performance. The study's conclusions are pertinent to parties engaged in various real estate construction projects.

The study also offers data that could be valuable for comparison studies in the future. Since the study's findings lay a foundation for understanding how risk management strategies affect project performance, they will be helpful in the decision-making process for investors, governing bodies, and stakeholders.

1.5 Scope of the Study

The research comprised 25 finalized real estate projects and 45 ongoing projects. The study used basic stratified technique to sample 25 real estate projects that were still in progress and 15 projects that were finished. Decision theory, risk/uncertainty bearing theory, and strategic planning theory served as the foundation for the research. The research design for the study was mixed-method. The study concentrated on projects in the sub-counties of Nakuru County, namely Nakuru Town West, Nakuru Town East, Gilgil, and Naivasha.

1.6 Study Limitations

Information for this study was collected through structured questionnaires. The respondents were concerned about the where the responses were to be taken. To get around this problem, the participants were assured by the researcher that their answers

would be kept private and utilized exclusively for scholarly purposes. The researcher was also aware that when the questions were asked respondents could be preoccupied. Therefore, prior to giving out the questionnaires, the researcher contacted the respondents to find out the appropriate time for them to fill the questionnaire

1.7 Organization of the Study

This research has five chapters; background, objectives, problem statement, research questions, applicability, scope, and limitations were all included in the first chapter. The literature review, which includes data on research gaps and the conceptual framework along with theoretical and empirical literature, was examined in the next chapter. The preceding chapter discussed the research methods that were used in this research. The findings and results are discussed in chapter four. Summary, conclusion, and recommendations derived from the study findings were discussed in the fifth chapter. The appendix contains the questionnaire, study budget and the list of the targeted population

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

To create a foundation for defining the gap in this research's problem statement and objectives, this chapter reviewed pertinent literature, concepts, and theories. There has been discussion of the literature regarding how strategic management techniques affect real estate project construction. System theory, strategic planning theory, and decision theory served as the study's guiding theories.

2.2 Theoretical Review

This part details the concepts that clarify how risk management approaches influences the outcomes of real estate construction projects. The strategic planning theory was used as the anchor theory in this research.

2.2.1 Strategic Planning Theory

Mintzberg advanced the theory in1994 placing an emphasis on risk management planning (Fredrick, O'Connor, & Kuratko, 2016).The theory states that , real estate developers need a plan that allows them to take advantage of opportunities while limiting exposure to threats (Quaye et al., 2015). According to the theory, risk management is choosing the best course of action from a range of options to reduce the potential impact of threats to a project's success. Strategic planning is essential for real estate developers because they

face numerous risks that could jeopardize the success of their construction projects. Hodgetts and Kuratko (2018).

This study finds relevance in this theory through its linkage on how limiting the exposure of a project to possible threats can save on cost involved in the construction of real estate project. The study ensures timely delivery and completion of the project while meeting the construction design and materials, which are clear measures of the success of a construction project (Kuratko, & Hodgetts, 2016). According to (Quaye et al., 2015) major risks involved in the real estate projects include financial, market, technical and operational risks. Therefore, the ideas in this theory served as a framework for defining how strategic risk management practices relate to real estate construction projects performance in Nakuru County.

2.2.2 Decision Theory

MacFarlane advanced the decision theory in 1995. According to the theory; property purchase and or development carry a lot of risk and are frequently characterized by a lot of complications and uncertainties (Roberts and Hennebery, 2017). Decision theory is relevant to real estate investment decisions because it allows one to make informed decisions by considering the risks, challenges and dangers associated with real estate development. In line with this theory Allessie (2017) argues that property development takes a long duration and because of the cyclical characteristic of macro-economic factors like taxation, interest rates and inflation changes

The study found relevance in the theory as it links how the performance of real estate construction project will be more achievable if real estate developer makes decision based on a comprehensive understanding of the country's macroeconomic environment and its impact on real estate investment. According to (Yosaporn ,2017), an investment risk could be mitigated using an appropriate real estate decision model that provides comprehensive data. According to the research, the decision theory could be used to describe how financial and technical risk management techniques affected real estate construction projects' performance.

2.2.4 Risk and Uncertainty -Bearing Theory

Professor Knight, an American economist, proposed this theory, in 1991 (Wood, 2015). The theory states that risks is divided into two categories; those that were predictable (quantifiable) and those that were not. The concept of risk and uncertainty theory, plays a crucial part in deciding how risk is to be handled. The theory states that a real estate developer doesn't necessarily choose the "best" plan, but rather the plan with the highest probability of success and the most profitable. A real estate developer must also be able to assess their surroundings through appropriate risk management practice.

Applying the concept of this theory on the two categories of risks ;predictable and unpredictable, (Wood ,2015) ,the research was able to explain the correlation between management practices and market risk management. This link is unpredictable and may be affected by unseen factors (unpredictable risk) and operational risk management

practices which is often determined by factors such as management skills (Foreseeable risks) on the performance of real estate construction projects.

2.3 Empirical Review

2.3.1 Real Estate Construction Projects Performance on Technical Risk Management

(Bouchellal,2016) looked at 277 French construction firms between 2006 and 2016 to determine the correlation between technical risk and real estate project success. The study used a Correlational research approach and established a negative relationship amongst home prices and site location, suggesting that bad site location and housing design will lead to a fall in real estate prices, negatively impacting the performance of real estate projects. Researchers found that poor management has a detrimental impact on property investments and suggested that businesses in the construction and real estate industries pay close attention to their managers. The real estate boom from 2010 to 2020 inspired us to conduct this research and determine if the same is true in Kenya.

(Gordon ,2011) conducted a study about the influence of technical management of risks in real estate in Ghana .The research method was descriptive, and the population of interest comprised 12 Accra-based construction firms. Companies' project managers, supervisors, and general managers completed the surveys. Descriptive analysis was used to the gathered data, and the results showed that poor site investigations, ineffective management, and a lack of raw materials all negatively impacted the real estate industry.

Because of its effect on ROI, technical risk impacts the real estate industry. This study aimed to inform policymakers and prospective real estate investors in Kenya about the dangers posed by technical issues that could compromise their investments.

(Dargis & Bardauskiene ,2015) did a study to determine how technical risk management affected the success of North American real estate construction projects. Qualitative data was gathered through in-depth interviews with key development players and municipal budget officers. The methodological approach taken was descriptive. According to the research results, mistakes made when creating a real estate entrepreneurial enterprise tend to snowball into insurmountable problems. As a result, the earliest phases of feasibility, appraisal, and planning are both the most crucial and susceptible to failure for the overall success of the entrepreneurial investment. The expense of developing new property is one of the risks that is often disregarded. Since the study included many North American countries, we cannot generalize their findings and recommendations. Thus, technically examining the role of risk management in the success of Kenyan and Nakuru County-specific real estate development projects is essential.

(Koirala ,2012) explored the impact of technical risk management in Nairobi County, Kenya, on information and communication technology (ICT) initiatives. In the research, case studies were utilized. With questionnaires and interviews as aid, the authors of this study determined how effective risk management practices are in ensuring the timely and profitable completion of building projects. Descriptive and content analysis were performed to examine the study's data, and the results showed that multiple factors

contribute to technical risk. Perhaps the construction team's management needed to be up to snuff and took the time to study and thoroughly comprehend all of the paperwork, which would explain why the real estate company venture didn't go off without a hitch. The second reason is that consultants and contractors who are inexperienced but win contracts sometimes produce designs and constructions that reflect more of the consultants' and contractors' individual tastes than the customers'. However, as this research focused on the information and communications technology (ICT) industry, it was vital to look at how technical risk management affects the outcomes of building projects in Nakuru County, Kenya.

In Kenya's real estate industry, (Mbugua ,2020) examined the impact of technical risks on project performance between 2015 and 2019. The study, which employed a causal research methodology, and discovered erratic relationships between real estate investment, client management, and design. Consumers positively correlate the introduction of new house models with a rise in housing demand. Previous research revealed a bidirectional connection between architectural plans and economic growth. Further investigation in a different study in Kenya was necessary to get credible data on the impact of technical risk on real estate investment in the country.

2.3.2 Operational Risk Management and Performance of Real Estate Construction Project

(Samad,2013) study on influence of operational risks on the execution of real estate construction projects in India between 2000 and 2012 using data from secondary sources found that decreased customer satisfaction is associated with decreased profitability and cash flow. The financial health of the involved firms was the focus of the analysis. Current study examined performance indicators like return on investment, cost, quality, and customer satisfaction.

Between 2010 and 2013, (Nissen ,2014) researched construction projects performance and the completion of infrastructure projects in Canada. The study used co-integration and causality tests on secondary data to identify several factors that contributed to the completion delays of infrastructure projects, including decreased funding from sponsors, a breakdown in communication, a delay in the disbursement of funds, subpar site management by contractors, and lengthy legislative processes. A pipeline project between Florida State and the Bahamas in the United States has been delayed due to design changes, according to SNL Financial (2010).

(Meseko ,2014) studied the connection between financial performance and operational risk management in Tanzania's real estate industry. With 36 certified real estate businesses as its target population, the study used a descriptive research methodology. Between 2009 and 2013, financial records of real estate companies provided secondary

data. The results of the study showed that there were the financial performance variations in the independent variables' correlations with real estate companies. The analysis's findings demonstrated a negative correlation between real estate firms' financial performance and credit risk and bankruptcy risk, but a positive correlation between working viability and real estate corporations' financial performance. The current study's goal is to collect data regarding the circumstances in Kenya because it was carried out in Tanzania.

Allessie (2017) examined the connection between operational risk management practices and real estate development in Uganda .The study's target group risk management employees. The study showed that operational risk management, the administrative environment, and administrative performance were significantly and favorably correlated. Additionally, regression analysis revealed that operational risk management and administrative structure were substantial determinants of organizational success. This analysis had to include additional operational risks because not all operational risk mitigation strategies were used in the previous study.

In a study on the impact of operational risk in Kenya from 2010 to 2015, Nketekete, Emuze, and Smallwood (2016) found that in Kenya, payment delays, sub-contractor management, material procurement delays, sub-technical performances, and material price increases were significant factors that accounted for approximately 80% of infrastructure project completion delays. Since the study was not restricted to a particular

region, it was necessary to ascertain how differently operational risk affected the financial performance of building projects in that region. This current study will provide that information.

Infrastructural project delays have significant financial ramifications, which in turn have far-reaching effects on citizens' lives, especially in developing nations like Nigeria and Kenya, according to a study by Aondohemba and Lawrence (2015) in the Kenyan county of Machakos on the impact of operation risk management and performance of construction projects. The study used the descriptive data analysis method with data acquired through questionnaires. By examining operational risks performance of well-established projects in the real estate industry in Nakuru County, this current study closed this gap. It is necessary to look into how operational risks affect the way real estate developments across different nations operate.

2.3.3 Market Risk Performance and Management of Construction Projects

Aarthipriya (2019) analyzed the influence of market risk on real estate projects in Pakistan from 2007 to 2017 and found that identifying and assessing market risks affects project outcomes such as completion under budget, on time. Research in a third-world country like Kenya was needed to compare the results. According to a study by Singh and Hong (2020) in Brazil on the effects of market risks and real estate project performance from 2011 to 2017. This study used regression analysis of data obtained from questionnaires. In addition, the research found that Brazilian real estate firms' approaches

to risk management were not formal or systematic but rather firefighting-based, emphasizing risk avoidance. Previous research was done in Brazil; therefore, understanding the situation in Kenya is essential.

Aimable, Shukla, and Oduor (2015) looked into how risk management programs affected the completion of construction projects in Rwanda. Using a descriptive research design, the research sample consisted of 300 project team members from four different counties. For the sample of this study, 142 participants in total were selected at random. The data for the study was gathered through a combination of structured questionnaires, reviews of pertinent literature, and in-depth interviews. Qualitative methods were then used for analysis. The research preventive method had an impact on construction companies' performance, according to the study. Nonetheless, the study on building projects was carried out in Rwanda, a country with a different political and historical context than Kenya.

Omondi (2016) examined how market risk management affected the results of road construction projects in Kenyan cities. The study drew on international data from 2005 to 2015. Regression analyses revealed that market management risks impact construction project outcomes in Kenya's real estate industry but that these risks make a negligible contribution to GDP growth. This study examined how market feasibility affects real estate investment in Kenya and found mixed outcomes. While the prior research utilized real estate data collected at a more modest real estate and infrastructure growth, the

current research will use information collected during the current real estate and infrastructure bubble in the country. Primary data sources will be used to get the necessary information for this project.

2.3.4 Financial Risk Management and Performance of Real Estate Construction Project

Odeyinka, Aladapo (2013) investigated Nigerian construction projects' pre- and post-contract phases to determine the relative likelihood and impact of financial risk variables. This research ranked the relative indices calculated from the survey responses. The research showed that financial worries significantly affect property performance. Determining how such hazards affect the growth of real estate in Nakuru city, and to suggest specific policy solutions for the highlighted problems was essential because the study above was conducted across a large geographical area, and its recommendations cannot be generalized.

By analyzing the effects of inflation on financial risk management strategies and property growth in Brazil from 2001 to 2011, Bittencourt (2011) shows that inflation undermines economic expansion and exacerbates income disparities in the country. Using a generational model with overlapping generations, the researchers found that the uncertainty around future inflation reduces returns and contributes to high house prices. The study's inability to predict outcomes is due to the inclusion of a panel time-series analysis. Since Kenya is the focus of this research, we will need to employ descriptive and correlational methods.

In his 2014 study, Debelle analyzed how loan rates influenced property growth in Italy. The research method was a case study; the participants were construction firms, their clients, and their consultants. It was determined that 104 respondents were adequate to represent the sample size. Fifteen different construction firms participated in the study by filling out questionnaires. After running the data through SPSS, the researchers found that rising interest rates have a statistically significant negative association with real estate profitability. According to the paper, a decline in demand for real estate assets occurs when interest rates rise because investors' purchasing power decreases. According to studies done in emerging markets, interest rates are the most critical factor in determining whether or not a real estate investment will provide a return. In order to objectively examine how financial risk has affected real estate development rates in Kenya, especially in Nakuru city, the current study is necessary because the findings cannot be extrapolated from a study conducted in a developed country to a developing country like Kenya.

Dabara (2014) looked into how changes in currency rates affected the profitability of Nigerian commercial real estate investments from 2005 to 2010. The study used a simple random selection technique to collect data from 169 participants. The study employed a combination of structured questionnaires, examinations of relevant literature, and in-depth interviews According to the numbers, changes in a country's currency value have little impact on real estate .The study found that real estate can act as a buffer against

erratic currency exchange rates. Since this study only looked at a small sample of Nigerian enterprises, its results cannot be extrapolated to the country as a whole.

Oguna (2018) examined the connection between debt, late payments, price, and real estate growth in Kenya from 2010-2018. 22 people were randomly selected for this study. The study gathered information through in-depth interviews, document analyses, and structured questionnaires. The study found that debts and late payments negatively affect the real estate market using qualitative analytical data analysis methods. The research also found that the loan repayment ratio significantly affects the relative selling price of real estate holdings. The report recommended the desired inflation rate and actual interest rates for reduction. The invisible hand of demand and supply forces, which significantly impact real estate prices, should have been accounted for in the study despite the policy above guidance. Before making policy recommendations, this research examined several factors, such as infrastructure growth, that affect Kenya's real estate market development.

Between 2000 and 2010, (Omboi,2011) studied the impact of debt, late payments, and project costs on the success of Kenya's real estate construction projects. The results showed that increased financial risks had a detrimental effect on real estate prices. The prior research focused on debt repayment and property development, which needs to capture their true long-term causality. This research shows a holistic perspective on financial risks associated with real estate development in Nakuru, Kenya, by including debt repayment as one of these variables.

2.4 Literature Review Summary and Research Gaps

(Gehner,2018) analyzed real estate as an investment in great depth, arguing that every time a real estate entrepreneur makes a purchase, he does so with full knowledge of the inherent dangers. Multiple researchers, including Wiegelmann (2012), Oguna (2018), Bittencourt (2011), and Mohamed and Mosa (2008), have examined the topic of real estate risk management in depth, with an eye on developing novel techniques to handling such issues. The results and criticisms of the existing research are summarized in Table 2.1.

Table 2. 1 Summary of Research Gaps

Author/Year	Title	Research Findings	Research gaps	Filling the gap
Gordon (2011) Liow & Ibrahim (2019)	Technical risks in Ghana	P>| t | = 0.000 -Inadequate site investigation, unavailability of materials	-The measurement of technical risk was limited to site and availability of materials.	- This study filled this conceptual gap by covering a wider frame for accurate findings
Bouchellal (2016)	technical risk management in France and Sweden	- Negative correlation between site location and rental income earnings	- Study conducted in a country with a different operating environment (Scope gap) thus limiting its application in Kenya.	- conducted at county level in Kenya
Mbugua (2020)	Technical risks on performance of projects	- the relationship between management and design from client and real estate investment was inconsistent	-Focused on the four cities hence recommend policy suggestions were too broad to be conclusive.	- This study filled this contextual gap by narrowing down to Nakuru city
Abdul-Rahman &Samad,(2013) Nissen, (2014).)	operational risks and development of real estate projects in developed countries	- reduced customer satisfaction leads to loss of profits and reduced cash flows - (1%) change in property tax rates causes a decline of -0.019 (-1.9%)	- The study was more inclined towards the fiscal position of the firms involved in the study.	- This current study filled this contextual gap by looking into the performance measures in terms of return on investment, cost, and quality and customers satisfaction.

Meseko (2014) Nketekete, Emuze & Smallwoods, (2016)	Operational risks management and fiscal performance in real estate sector in Tanzania.	- Operational risk management is positively correlated with construction project performance.	- Conceptual gap) hence the need to include	-
Debelle (2014) Dabara (2014)	Financial risks multinational firms in Italy.	-Inflation negatively affected the prices of real estate	The above study were conducted in wide areas (scope gap)	- the study was conducted in Nakuru county and suggested specific policy recommendations for the identified problems
(Oguna,2018)	Finance and real estate sector t in Nigeria	-P>| t | = 0.000 - exchange rates fluctuations had a little effect on real estate	-The inability to generalize the findings emphasizes the need to bridge this scope gap	-The current study examined how financial risk management strategies affect real estate investment in Kenya.
Aarthipriya et al., (2020) Lawrence (2015) Singh & Hong, 2020	market risk management practices and project construction in Oman	Positive influence	-Focused on the short-run which does not reflect the long run causality of their relationship.	- The study will filled this methodological gap by takin long period 2010-2020
Omondi (2016) Maina et al. (2016) Mbugua,(2020)	market management risks on the performance of construction project in real estate sector in Kenya	feasibility study on real estate investment in Kenya had minimal outcomes	-Carried out in four different cities hence recommended policies were too general .	- The study will fill this contextual gap by focusing in Nakuru county

Source (Research study, 2023)

2.5 Conceptual Framework

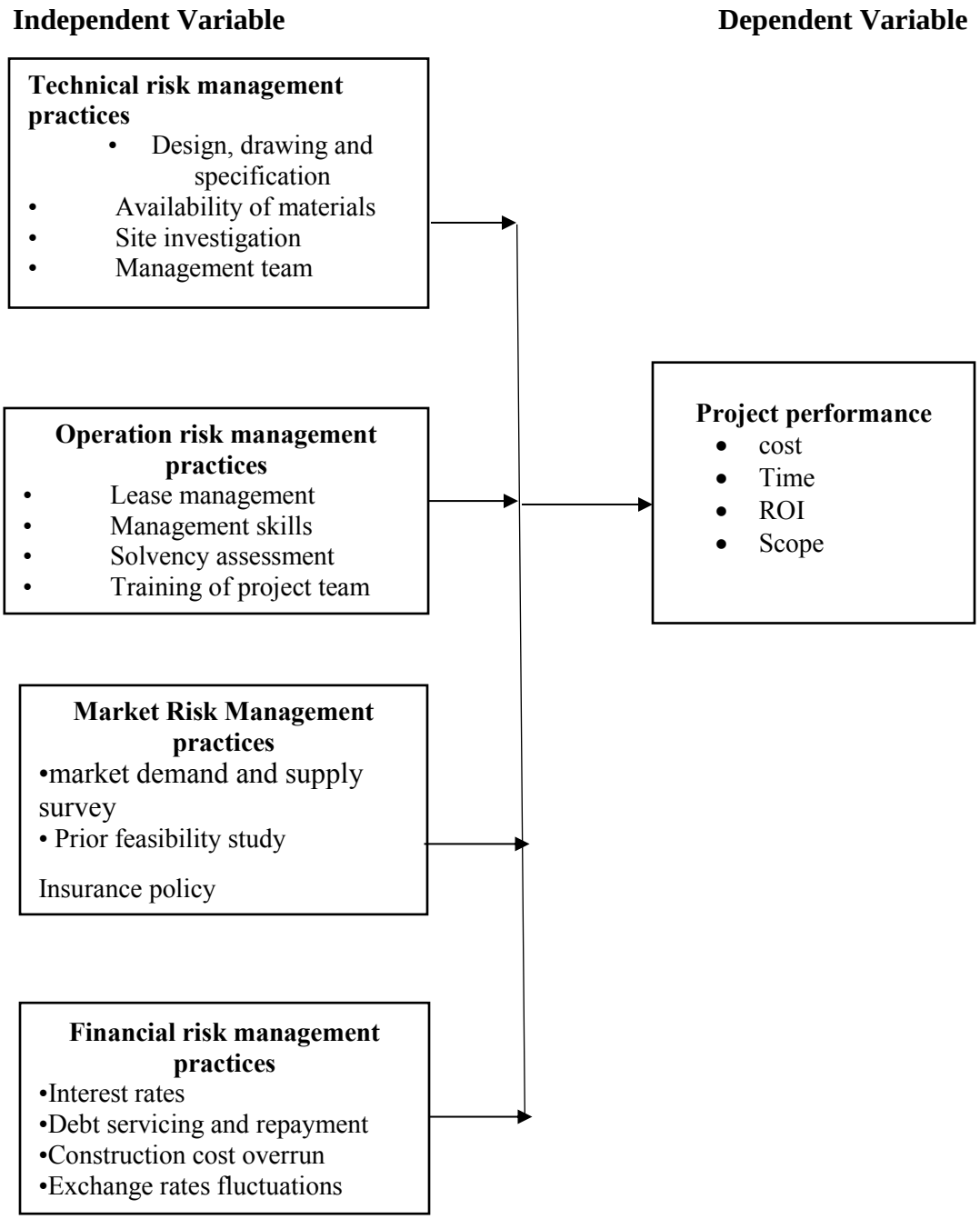

Figure 1 Conceptual framework

Source (Researcher, 2023)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Data collection and all of the techniques utilized in data analysis were covered in this chapter. Population sample and target population, data collection instruments and procedure, data analysis, validity and reliability testing, as well as ethical considerations were addressed.

3.2 Research Design

According to (Lewis ,2015), a research design is a plan that outlines the procedures followed during a study, the information gathered, and the manner in which the results are presented. Mixed-method research design was used for this research. Mugenda and Mugenda (2018) state that the mixed-method research design is the best approach for explaining the causal relationship between the independent and dependent variables in research.

3.3 Target Population

Mugenda (2017) defines a target population as a certain group in a population within which research is carried out. This study's target population comprised 45 ongoing and 25 completed real estate projects in Nakuru County as attached in appendix III. Target respondents for the study included 300 personnel involved in real estate construction

projects from nine different cadres who were considered to possess the necessary information for this study. The different categories included project managers, project supervisors, project engineers, and staffs from National construction authority (NCA), Architects, risk managers and environmentalist.

Table 3. 1 Respondents Target Population

Categories	**Target**
project managers	18
Project supervisors/foremen	50
Project Engineers	40
NCA staffs	35
Risk managers	30
Building and Contracting firm representatives	70
Architects	25
Environmentalist	12
Real estate agents	20
Total	**300**

Source: (Research study, 2023)

3.4 Sample size and sampling design

Sampling is the procedure of choosing a subset of a population to represent the whole (Barasa, 2015). In this study, stratified sampling technique was used. Creswell (2012) argues that an adequate representation of the population of interest should be the first consideration when choosing a sample size. According to Cooper and Schindler (2016), the ideal size of a study's sample can help ensure reliable results. Size matters, but it should not be too enormous or too small. Yamane's (1967) formula for a small population

The n $= {N}/{1 + N\ (e)^2}$ n $= {300}/{1 + 300\ (0.05)^2}$ = 300 ……..Equation 3.1

The strata samples were assigned using proportionate stratified sampling. To be proportional, the sampling fraction (or interval) must be the same in each stratum. ${n}/{N}$ Is

used to determine the sampling fraction which in this case is $^{171}/_{300}$= 0.57. The sampling fraction was then applied to each stratum to produce a proportionate stratified sample, as shown below. A sample size of 25 ongoing and 15 completed real estate project were selected by stratified and simple random technique.

Table 3. 2 Sample size

S/NO	Categories	Target	Sampling fraction	Sampling size
1	project managers	18	0.57	10
2	Project supervisors/foremen	50	0.57	29
3	Project Engineers	40	0.57	23
4	NCA staffs	35	0.57	20
5	Risk managers	30	0.57	17
6	Building and Contracting firm representatives	70	0.57	40
7	Architects	25	0.57	14
8	Environmentalist	12	0.57	7
9	Real estate agents	20	0.57	11
	Total	**300**		171

Source: (Researcher, 2023)

3.5 Data Collection instruments

According to Kothari (2014), a questionnaire allows respondents enough time to think about their responses. Questions in the survey was both free-form and matrix-based

(Likert-type scales). Creswell (2012) argues that more information can be obtained from surveys that include open-ended inquiries that motivate participants to express their viewpoints and ideas on the topic at hand as shown in Appendix II. The survey was split in sections: the first included demographic information about the participants, and the other part included statements regarding risk management strategies and project performance.

3.6 Pilot Study

In order to reduce potential biasness in the research questions a pilot study was conducted on both completed and ongoing real estate construction projects under Boma Yangu initiative Nairobi County. The test brought out the gaps and flaws in the data collection instrument that could limit accurate responses during the actual study. The model study also helped the researcher adjust the survey to better meet the objectives (Yin, 2017).

3.6.1 Validity of the Instruments

Construct validity describes how well a test measures the idea or concept under consideration. Construct validity is critical when it comes to turning concepts into quantitative features (Hair and Lukas, 2014). Construct validity, according to Mugenda (2016), determines how well a test measures up to its claims and gives broad subjects and concepts that can be articulated in theoretical terms. The dependent and independent variables were conceptualized into measurable qualities and synthesized into a conceptual framework to confirm the content and construct validity of the structured questionnaires.

Managers and supervisors were given the conceptual framework and questionnaires. Following the review process, invalid questions were eliminated from the final surveys.

3.6.2 Instruments Reliability

To prevent ambiguity and ensure that the items in the research instruments are consistent with the study's objectives, it was necessary to check the consistency and correlation of the instrument's items (Yin, 2017). During the pilot test, the reliability test was considered, and the research used Cronbach's alpha (α) to assess the data analysis (Yin, 2017).The research questionnaire items were consistent with the study objectives, as indicated by the alpha level of greater than 0.7 (Neuman,2013).

3.7 Data Collection Procedures

The study obtained approval from Kenyatta University and another one from NACOSTI. The researcher also secured approval from the relevant project's management before distributing the questionnaires. The researcher ensured that the respondents were free to answer the questions by informing them the objectives of this scholarly work and affirming to them that responses given would be private and confidential.

3.8 Data Analysis and Presentation

With SPSS version 20, the gathered questionnaires were coded and examined. Tables, graphs, and charts presented the summarized results. To find out how well the explanatory variables predicted the result, the ANOVA technique was applied. The correlation between procedures in performance and risk management practices of real estate construction projects in Nakuru County was examined using regression model displayed below.

$$Y = \beta 0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_1 + \beta_4 + \varepsilon$$

Initials are defined as:

Y = Project Performance

X_1 = Technical Risk

X_2=Financial risk

X_3=Market Risk

X_4=Operational risk

$\beta 0$ = Intercept,

$\beta 1$ = Beta coefficient and

ε = error term.

3.8.1 Diagnostic Tests

In this study the multi-collinearity test was carried out

3.8.2. Multi-collinearity Test

Using the Variance Inflation Factor (VIF) test, multi-collinearity was examined. The presence of multi-collinearity is evidenced when the VIF value is more than 10. All variables' VIF values were found to be less than 10, indicating the lack of multi-collinearity.

3.9 Ethical Consideration

Research authorization was acquired from NACOSTI. The respondents were accorded honesty and respect through informed consent, privacy and confidentiality. The researcher adhered to ethical guidelines to ensure the participants' privacy. No names or identifying numbers appeared on the questionnaires other than the question numbers used to identify responses during data editing. It was the responsibility of the researchers to make the methods and tools for collecting data as comfortable as possible. To avoid plagiarism and other forms of academic dishonesty, the researcher ensured proper citation all sources used.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter examined the researcher's findings beginning with the response rate, followed by the respondents' backgrounds, correlation findings, and regression findings. The tables, charts, and graphs were utilized to summarize the findings as explained in the following subsections.

4.2 Response rate

In addition to being a sign of a well-designed sample, a high response rate improves the accuracy of parameter estimate. One hundred and seventy one (171) respondents were chosen for sampling and given questionnaires using the procedures outlined in the previous chapter. A response rate of 85% was achieved out of the 145 surveys that were returned. In contrast, three questionnaires had little response variability, and five had more than 30% of missing responses. Eighty percent of the responses were left for analysis after the eight incomplete surveys were excluded from the analysis Dawson (2019). Summarized findings of the response rate was as detailed in Table 4.1 below.

Table 4. 1 Response Rate

Responses	N	Percentage
Response	137	80.12
No response	34	19.88
Total	**171**	**100**

Source: (Research study, 2023)

Building and contracting firm representatives accounted for 25.55% of all answers, followed by project managers, project engineers, and NCA staffs who accounted for 18.25%. 13.14% and 10.95% of all responses were received. Environmentalists and project managers constituted the smallest proportion of responses, accounting for 3.65% and 4.38%, respectively

Table 4.2 Sample size distribution based on responses

Categories	Sampling size	Response frequency	Valid percentage
project managers	10	6	4.38%
Project supervisors/foremen	29	25	18.25%
Project Engineers	23	18	13.14%
NCA staffs	20	15	10.95%
Risk managers	17	14	10.22%
Building and Contracting firm representatives	40	35	25.55%
Architects	14	10	7.3%
Environmentalist	7	5	3.65%
Real estate agents	11	9	6.57%
Total	171	137	80.12%

Source: (Research study, 2023)

4.3 Respondents Background Information

4.3.1 Gender

It was discovered that there was a bias in the gender distribution of respondents, with men accounting for 65% of all responses as shown in the pie-chart below

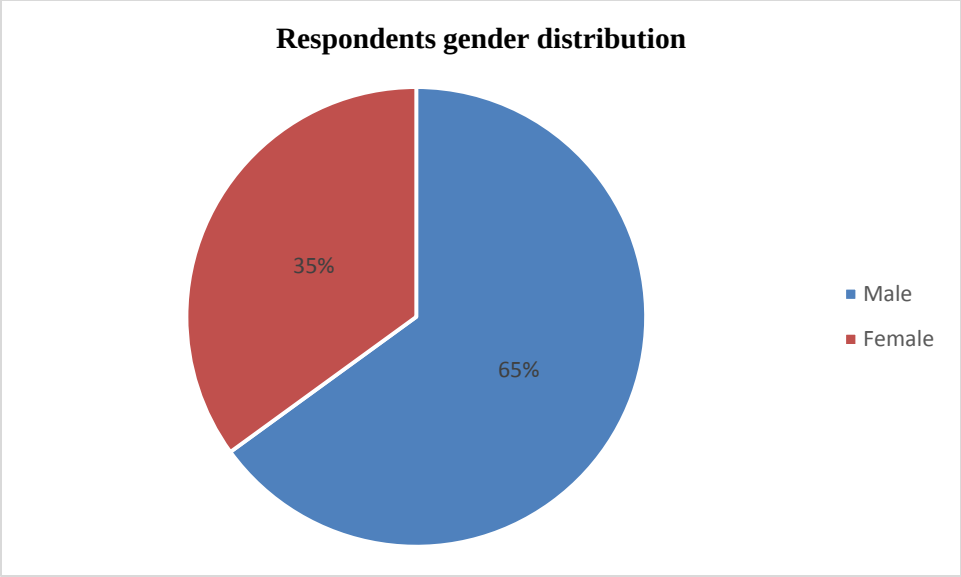

Figure 4.1 Respondents Gender distribution

This was a very accurate depiction of the construction industry in Kenya, where men employ more than 80% of the male labor force and own 71% of registered enterprises (National Construction Authority, 2014).

4.3.2 Respondents' Age

The majority of those who completed the questionnaires in this study—42% of the respondents—were between the ages of 31 and 40. A little more than 25% of participants were under 30, indicating that younger professionals are being drawn to the field. A greater percentage of responders (10.2%) were over 50, while those between the ages of 41 and 50 made up 20.4% of the total respondents. In addition to drawing in younger workers, particularly those in the middle class, the technical nature of the industry may also mean that older respondents, who frequently occupy managerial and advisory roles,

may have assigned the task of filling out the questionnaire to their less experienced colleagues.

Table 4.2. 1 Respondents' Distribution Age

Age of the respondent		
Less than 30 Years	36	26%
Between 31 and 40 Years	57	42%
From 41 to 50 years	29	21%
Over 50 years old	15	11%
Total	**137**	**100%**

Source: (Research study, 2023)

The high proportion of young responders helps to explain why young people in the county governments are now receiving a sizable portion of construction projects that were previously awarded to a small number of major construction companies under the federal government.

4.3.3 Level of Education

Nearly half (44%) of those who responded reported having an undergraduate degree. Those with postgraduate qualifications made up 19% of the responses, while diploma holders made up 37% of the responses. The majority of those surveyed held an undergraduate degree. This suggests that each respondent had a sufficient level of expertise. Based on their understanding, they comprehended the research questions. Thus, they provided an accurate and understandable interpretation of the research questions. The educational attainment of the interviewees also gave a clear indication of their comprehension of the research issue. Proper administration and discipline are correlated

with quality education. Morales (2018).The distribution of the respondents' educational level were summarized in the graph below

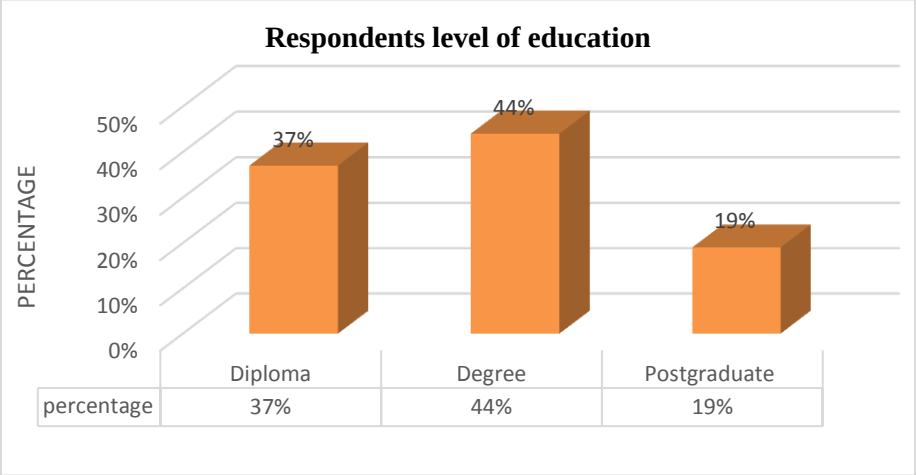

Figure 4.2: Respondents' Level of Education

4.3.4 Distribution of Respondents by Years of Experience

Majority of the respondents (38%) had 5-10 years' experience. Those with 10 to 15 years of experience accounted for 28% while twenty-two percent had worked more than fifteen years. The table below summarizes the experience of eleven percent of the respondents, who had less than five years in the field. This illustrates how the construction sector has expanded recently as a result of its significance to Kenya's Vision 2030 plan, the Big Four government strategy, and the passing of laws that have encouraged the sector's growth.

Table 4.2. 2 Respondents distribution by years of experience

Years of Experience		
5 years and below	15	11%
6 - 0 years	52	38%
11 - 15 years	39	28.5%
Over 15 years	31	22.5%

Total	137	100%

Source, (Research study, 2023)

4.4 Study Variables Descriptive Statistics

It was vital to carefully examine the common descriptive statistics of the research sample data before moving forward with the inferential analysis of the data. In this manner, the researcher made sense of the data by observing patterns and drifts within it through the use of descriptive analysis summarized below.

4.4.1 Performance of Real Estate Construction, Descriptive Statistics on Projects' Technical Risk Management Practices

The descriptive findings about how technical risk management techniques affect real estate construction projects in Kenya's Nakuru County are summarized as follows;

Table 4. 2 Descriptive statistics results on technical risk management practices on the performance of real estate construction projects

Technical risk management practices		S.A	A	U	D	S.D	Total	Mean	S.D
The company conducts a thorough site inspection.	F	49	67	4	6	9	137	3.84	1.84
	%	35.8	48.9	2.9	4.4	6.6	100		
The organization makes certain that there is always an appropriate quantity of building materials available.	F	34	66	10	10	7	137	3.79	1.74
	%	24.8	48.1	7.3	7.3	5.1	100		
The firm obtains duplicates of all land purchase, possession, and due diligence paperwork.	F	65	55	4	10	3	137	3.96	1.83
	%	47.4	40.1	2.9	7.3	2.1	100		
The real estate firm promptly receives the required building approvals.	F	34	63	6	21	13	137	4.05	1.98
	%	24.8	46	4.4	15.3	9.5	100		
Every phase includes a deadline within which the business must accept customer revisions to the plan and specifications.	F	22	71	8	25	11	137	3.78	1.75
	%	16.1	51.8	5.8	18.2	8	100		
The firm recruits a capable management team.	F	38	73	11	8	7	137	3.89	1.65
	%	27.7	53.3	8	5.8	5.1	100		
The firm keeps track of its maintenance, repair, and renovation spending.	F	23	67	5	29	11	137	2.52	1.186
	%	16.7	48.9	3.6	21.2	8	100		

Source (Research study, 2023)

When asked if the company performed a comprehensive site inspection, 116 (84.7%) of the respondents said they did, while only 21 (15.3%) disagreed, according to the study's findings. This was confirmed by the results (Mean=3.84 and SD=1.84). When asked if the organization makes sure that there is always an adequate supply of building supplies, the majority of respondents gave their answers. Out of 100 respondents, 73% agreed and 27% disagreed, according to the study's findings (Mean=3.79; SD=1.74). In addition, respondents were questioned about whether the business gets duplicates of all ownership, due diligence, and land purchase documents and the study's results, corroborated by the (Mean=3.96; SD=1.83), showed that 120 people (87.6%) agreed while 17 people (12.4%) disagreed. Furthermore, the study's findings demonstrated that, according to the mean of 4.05 and SD of 1.98), 40 (2.33%) of the feedback disagreed with the assertion that the real estate firm rapidly obtains the necessary building approvals (70.8%) of the respondents agreed. 93 respondents, or 67.9%, agreed, to limited deadlines in design specification by clients, while 44 respondents, or 32.1%, disagreed, with support from (Mean = 3.78 and S.D= 1.75).

Additionally the study's results showed that 111 respondents (81%) agreed that the company hires competent management personnel, whereas 26 respondents (19%) disagreed. The study's findings, taken together, indicate that 34 respondents (79.07%) agreed and 9 disagreed that requests for spending above the budget are tracked, and that 40 respondents (93.02%) agreed and 3 disagreed that budgets are tracked and modified all year long. The mean values of 4.03, 3.96, and 3.83, with SDs of 0.348, 0.341, and 1.072, respectively, are consistent with one another. The findings of the research show

that technical risk management techniques have a major impact on the real estate construction projects performance.

4.4.2 Descriptive Statistics on Real Estate Construction Projects Operational Risk Management Practices and Performance

Table 4.4 below provides a summarized descriptive analysis on operational risks management practices and real estate construction projects.

Table 4. 3Descriptive statistics results on operational risk management practices and performance of real estate construction projects

Statement		S.A	A	U	D	S.D	Total	Mean	S.D
The firm frequently evaluates the solvency of its current customers.	F	13	71	15	28	10	137	3.64	1.63
	%	9.5	51.8	10.9	20.4	7.3	100		
The firm continuously monitors the lease maturity assessment.	F	23	82	7	21	4	137	3.84	1.79
	%	16.8	59.9	5.1	15.3	2.9	100		
To prevent rising interest rates, the company service its debt.	F	34	75	6	17	5	137	3.96	1.83
	%	24.8	54.7	4.4	12.4	3.6	100		
The firm uses a good method for keeping records.	F	35	64	11	12	15	137	3.78	1.75
	%	25.5	46.7	8	8.8	10.9	100		
The organization offers real estate management training to its workers	F	15	71	9	28	14	137	3.89	1.65
	%	10.9	51.8	6.6	20.4	10.2	100		

Source (Research study, 2023)

61.3% of the respondents agreed that there company regularly assesses the solvency of its existing clients while 39 (61.3%) disagreed, according to the study's findings. The data (Mean = 3.64 and SD = 1.63) corroborated this. Additionally, respondents were asked if they thought the organization should keep an eye on the lease maturity evaluation on a constant basis. The study's findings showed that, out of 105 respondents, 76.6% agreed

and 32 disapproved (Mean=3.84; SD=1.79). In response to a follow-up question regarding whether the company should service its debt in order to prevent rising interest rates, 109 respondents (or 79.6%) agreed, while 28 respondents (20.4%) disagreed, as indicated by the mean of (Mean=3.96; SD=1.83). Furthermore, according to the study's mean of (Mean=3.78; SD=1.75), 103 respondents, or 75.18% of the sample, agreed that the company employs an effective system for keeping records, while 34 respondents, or 24.8%, disagreed. Ultimately, the study's conclusions demonstrated that 86 (62.8%) respondents agreed and 51 (37.2%) disagreed that the organization provides real estate management training to its constituents. Based on (Mean=3.89; SD=1.65), all are supported. The performance of real estate construction projects is strongly correlated with operational risk management practices, according to these findings. These results corroborate those of Murphy (2019), who discovered a substantial relationship between operational risk management techniques and real estate project performance.

4.4.3 Descriptive Statistics on Real Estate Construction Projects Market Risk Management Practices and Performance.

The study examined how market risk management strategies affected real estate development initiatives in the county of Nakuru; Kenya. The table that follows shows the outcomes.

Table 4. 4 Descriptive Statistics Results on Real Estate Construction Projects' Market Risk Management Practices and Performance

Statement		S.A	A	U	D	S.D	Total	Mean	S.D
The real estate firm does a thorough feasibility analysis before the project is started.	F	32	67	12	18	8	137	3.80	1.47
	%	23.4	48.9	8.8	13.1	5.8	100		
Our company is covered by a market risk insurance policy.	F	33	66	4	23	11	137	4.03	1.93
	%	24.1	48.2	2.9	16.8	8	100		
Our firm regularly engages in market research	F	21	59	11	32	14	137	3.79	1.44
	%	15.3	43.1	8	23.4	10.2	100		
Our Agent has a staff for marketing and advertising.	F	23	71	12	18	13	137	3.87	1.51
	%	16.8	51.8	8.8	13.1	9.5	100		
At the conclusion of construction, our organization conducts an extensive market demand and supply survey.	F	28	69	6	22	12	137	4.04	1.94
	%	20.4	50.3	4.4	16.1	8.8	100		
Reviewing marketing data from consultants and developers of real estate	F	26	57	12	26	16	137	3.74	1.67
	%	15.3	41.6	8.8	19	15.3	100		

Source (Research study, 2023)

The respondents were asked if they thought the real estate company conducted a thorough feasibility research before beginning the project. Study results revealed that 99 respondents (72%) agreed, while 12 respondents (8.8%) were unsure and 26 respondents (19%) disagreed. The data (Mean = 3.80 and SD = 1.47) supported this. Additionally, the researcher asked the respondents to provide opinions on their organization's market risk insurance policy. As a result, the study, 99 people, or 72.3%, agreed, and 38 people, or 27.7%, disagreed (Mean=4.03 and SD=1.93). When respondents were asked if their company conducted market research on a regular basis, the study's results indicated that 80 (58.37%) of them agreed and 57 (41.6%) disagreed, with the mean (Mean=3.79; SD=1.44) supporting the latter conclusion.

Furthermore, the study's findings demonstrated that, according to the mean of (Mean=3.87; SD=1.51), 94 respondents, or 68.6%, agreed that agents had staff members for marketing and advertising, while 31.4% disagreed. The results also showed that 40 (29.2%) respondents disagreed with the statement that the firm does a thorough market demand and supply survey towards the end of construction, while 97 (70.8%) agreed. Lastly, the study's results demonstrated that, as indicated by (Mean=3.74; SD=1.64), 83 (60.6%) of the respondents agreed and 54 (39.40%) disagreed that their companies review the marketing data from consultants and real estate developers. The study examined how market risk management strategies affected real estate development initiatives in the county of Nakuru, Kenya. The table that follows shows the outcomes.

4.4.4 Descriptive statistics results on financial risk management practices and the performance of real estate construction projects.

The effect of financial risk management techniques on real estate development projects' performance in Nakuru, Kenya. The results were displayed in the table 4.6 that follows.

Table 4. 5 Descriptive statistics results on Financial risk management practices and the performance of real estate construction projects.

Statement		S.A	A	U	D	S.D	Total	Mean	S.D
The firm verifies and demonstrates the client's creditworthiness.	F	32	69	13	20	3	137	3.64	1.63
	%	23.4	50.4	9.5	14.6	2.2	100		
The company consistently follows up on payments.	F	34	65	5	26	7	137	3.84	1.79
	%	24.8	47	3.6	19	5.1	100		
We borrow all the money we need at a set rate.	F	8	22	16	76	15	137	3.96	1.83
	%	5.8	16.1	11.7	55.5	10.9	100		
The company maintains and creates financial reports	F	37	75	2	27	6	137	3.78	1.75
	%	27	54.7	1.5	19.7	4.4	100		
Fluctuation in exchange rates is considered as a major financial risk	F	23	67	14	20	13	137	3.89	1.65
	%	16.8	48.9	10.2	14.6	9.5	100		
Rising interest rates affects planning for the projects	F	34	79	8	11	5	137	3.71	1.52
	%	24.8	57.7	5.3	8	3.6	100		

Source (Research study, 2023)

When asked if the firm validates and demonstrates the client's creditworthiness, 101 respondents (73.7%) agreed, while 36 respondents (26.3%) disagreed, according to the study's findings. The data (Mean = 3.64 and SD = 1.63) corroborated this. Furthermore, participants were requested to provide their thoughts on how frequently the business follows up on payments. According to the study's results, 38 respondents, or 27.7%, disagreed, while 99 respondents, or 72.3%, agreed (Mean=3.84; SD=1.79). When respondents were asked again if they borrow all the money they need at a fixed rate, the study's findings showed that 30 respondents (or 21.9%) agreed and 107 respondents (or 78.1%) disagreed, with a mean of (Mean=3.96; SD=1.83). Moreover, 112 (81.8%) of those who responded agreed that the enterprise maintains and generates financial reports,

while 25 (18.2%) disagreed, based on the study's mean (Mean=3.78; SD=1.75). Furthermore, the findings demonstrated that although 47 respondents, or 34.3%, disagreed (Mean=3.89 S.D=1.65), 90 respondents, or 65.7%, agreed that exchange rate fluctuations pose a significant financial risk. In conclusion, the study's findings showed that, as shown by (Mean=3.71; SD=1.52), 113 respondents, or 82.5%, agreed and 24 respondents, or 17.5%, disagreed that project planning is impacted by rising interest rates. According to the study's findings, financial risk management strategies and real estate construction project performance are highly correlated. These findings are in line with those of Njaramba, Gachanja, and Mugendi (2018) found a strong correlation between real estate construction project performance and financial risk management techniques.

4.5 Real Estate Construction Projects Performance

The confidence interval, mean, and standard deviation vlues for each variable, and standard error of the mean were all computed in order to better understand the distribution of the variables in the sample under investigation. Therefore, while dispersion metrics like variance, range, and standard deviation were computed to understand the spread or variability of the variable distribution, central tendency metrics provided a summary of the complete set of data. The observations are summarized in Table 4.7 below.

Table 4. 6 Results on Real Estate Construction Projects Performance Descriptive Statistics

Variable	**S.A**	**A**	**U**	**D**	**S.D**	Mean	S.E (mean)	SD	Variance	N
The overall costs incurred during the construction of real estate projects was minimized						0.326	0.064	0.228	0.052	137
The construction projects were timely completed.						0.868	0.039	0.201	0.440	137
The real estate constructed projects are of required quality and standard						0.553	0.043	0.246	0.261	137
Risk management practices reduces disputes						0.721	0.025	0.503	0.353	137
Practices in risk management boosted the satisfaction of stakeholders with the finished building						0.752	0.014	0.171	0.499	137
There is high return and yields from the real estate constructed projects						0.822	0.046	0.553	0.506	137

Source (Research study, 2023)

A few of the respondents observed that the overall costs incurred during the construction of real estate projects was minimized. This was demonstrated respectively by (mean = 0.326, SD = 0.228) and wide variance from the mean evidenced by variance value of 0.052 Despite that, a bigger percentage of the respondents observed that the construction projects were completed on time (mean = 0.868, SD = 0.201). The real estate constructed projects were of required quality and standard [(mean = 0.553, SD = 0.246)], Risk management practices reduced disputes [(mean = 0.721, SD = 0.503)] .Similarly most of

the respondents agreed that Practices in risk management boosted the satisfaction of stakeholders in the finished building . This was demonstrated by [(mean = 0.752, SD = 0.171)] and small variance from the mean evidenced by variance value of 0.499. Lastly the study established that there is high return and yields from the real estate constructed projects evidenced by (mean = 0.822, SD = 0.553 and Variance = 0.5

4.6 Inferential Statistics

The study utilized inferential analysis to ascertain the correlation between the variables. Pearson's product moment was utilized for correlation analysis and two-way ANOVA was used for regression analysis in the study's. Following analysis, the following conclusions were reached.

4.6.1 Correlation Analysis

The study employed Pearson's product correlation analysis to examine the connection between risk management procedures and the outcomes of real estate development projects in Nakuru County, Kenya. Correlation analyses were conducted on all the independent variables, which included financial, market, operational, and technical risk management practices, to ascertain their association with the dependent variable, which is the performance of real estate construction projects. Table 4.8 displays the results.

Table 4. 7 Correlation Analysis results

		Performance of real estate construction projects	technical risk management Practices	Operational risk management practices	Market risk management practices	Financial risk management practices
Performance of real estate construction projects	Pearson Correlation	1				
	Sig.(2tailed)	0.000				
	N	137				
technical risk management Practices	Pearson	0.507	1			
	Sig	0.001				
	N	137				
Operational risk management practices	Pearson	0.637	0.531	1		
	Sig	0.003	0.443			
	N	137				
Market risk management practices	Pearson	0.687(*)	0.345	0.424	1	
	Sig	0.000	0.756	0.696		
	N	137				
Financial risk management practices	Pearson	.507(**)	.637(**)	.687(**)	.434(**)	1
	Sig.	0.000	0.000	0.000	0.000	0
	N	137				

Source (Research study, 2023)

The study's findings demonstrated that real estate construction projects performance in Nakuru County was positively correlated with technical risk management practices in a statistically significant way ($r=0.507$, $p<0.01$). A statistically significant positive correlation ($r=0.637$; $p<0.01$) was found when the performance of real estate construction projects was analyzed in relation to operational risk management practices. The study's findings demonstrated a statistically significant positive correlation between real estate construction project performance and market risk management strategies ($r=0.687$; $p<0.01$). The results of the study showed that financial risk management strategies and real estate construction performance had a statistically significant positive correlation ($r=0.507$, $p<0.05$). These results are in line with those of (Meseko, 2014), who found that risk management procedures and real estate construction project performance in Nairobi County were positively correlated. Additionally, the outcomes align with the research conducted by Nissen (2014), who examined the connection between technical risk management and project performance in real estate development projects and found that inadequate risk management practices contributed significantly to project performance failure.

4.7 Diagnostic test

4.7.1 Multi-collinearity Test

The study assessed the data to determine whether or not independent variables were presumed to be related. The results of the multi-collinearity test (VIF) showed that the

four constructs' tolerances varied from 0.252 to 0.502. The range of the VIF scores was 1.73 to 3.97.

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Performance of real estate construction projects	.294	3.401
Technical	.278	3.595
Operational	.252	3.969
Market	.502	1.990
Financial	.554	4.134

Table 4.9 Multi-collinearity Results

Source :(Research Study, 2023)

With respect to the other independent variables, financial risk management practices exhibited the strongest correlation (VIF = 4.134, tolerance = 0.554). Operational risk management techniques showed the second-best correlation (Tolerance = 0.252, VIF = 3.969) with other independent variables. The least amount of correlation was found between market risk management and the other independent factors, tolerance = 0.502 and VIF = 1.990. The tolerance statistics of this model are all significantly higher than 0.2, and all of its VIF values are below 10, which suggests that collinearity is not present. Thus, the variance was substantially independent from each independent component and all factors in the prediction model were included. The multi-collinearity assumption is considered fulfilled. The findings were within the usual range, showing that the explanatory factors were not Multi-collinearity.

4.6.2 Regression Analysis

Regressing the data produced the results as depicted below:

Table 4. 10 Regression analysis results

Model summary [a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.921[a]	0.648	0.652	2.312

a. Predictors: (Constant), Technical, Operational, Market and Financial risk management practices

b. Dependent Variable: Real estate construction projects performance

ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	228.550	4	57.137	7.864	.000[a]
	Residual	937.279	129	7.266		
	Total	1165.828	133			

Coefficients[c]

Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	Std. Error	Beta		
(Constant)	0.391	0.124		3.153	0.001
Technical risk management	0.451	0.164	0.304	2.75	0.000
Operational risk management practices	0.313	0.156	0.494	2.006	0.000
Market risk management	0.531	0.241	0.457	2.203	0.000

Financial risk management	0.273	0.115	0.231	2.348	0.002

R-square, which was obtained from the model summary in the regression analysis findings in table 4.9 above, indicated which model fit the data the best. The percentage of variance in the dependent variable is represented by the R square (the performance of construction projects in real estate) that can be anticipated based on the independent variables (risk management techniques pertaining to technical, operational, market, and financial aspects). The study's dependent variable, the real estate construction projects performance was determined to be affected by changes in the independent variables by as much as 64.8%, according to the findings.

Adding predictors to explain the dependent variable will increase the R squared findings, as indicated by the modified R-squared values in the above table. Variations in the independent variables could account for up to 65.2% of the variances in the dependent variable, according to the study's statistical model, which had an adjusted R square of 65.2%. The regularly distributed nature of the data variation was indicated by the standard estimator error of 2.312.

4.7 Discussion of Regression Coefficient results as per the objectives

Regression analysis was used to find each variable's beta coefficient values. The coefficient results in table 4.10 demonstrated how changes of one unit in the independent variable result in changes of the dependent variable. The analysis reveals from Table

4.10's coefficient regression results Real estate construction projects performance in Nakuru County was positively and significantly impacted by technical risk management approaches, as shown by (β=0.391; p = 0.001<0.05). The implementation of operational risk management practices significantly enhanced the real estate construction projects' performance in Nakuru County, as pointed out by the β value of 0.313 and the significance p value of 0.00<0.05. Real estate construction projects performance in Nakuru County was established to be positively and significantly impacted by market risk management strategies, as demonstrated by the following: β = 0.531; P <0.05. In the end, it was found that financial risk management techniques significantly improved the performance of Nakuru County's real estate construction projects (β=0.273; p value 0.00<0.05).The following is an outline of the regression model for academic project performance.

$$\mathbf{Y = 0.391 + 0.451X_1 + 0.313\ X_2 + 0.531\ X_3 + 0.273\ X_4}$$

Equation 4.1

The constant value of 0.391 indicates that real estate construction project performance will increase by 0.391 units even if all independent variables in the study are held constant. With all other things being equal the coefficient value of 0.451 units for technical risk management practices indicates that a unit upsurge in these practices results in a 0.451 unit improvement in the real estate construction projects' performance in Nakuru County. This can be explained by the fact that new home designs and models, strategic locations, and excellent client management—all-important components of technical risk management practices—all draw in real estate buyers. These results are

consistent with those of Dargis and Bardauskiene (2015), who found that inadequate site studies, incompetent management, and a shortage of raw materials had a detrimental influence on the real estate sector. In a similar vein, (Muteti, 2017) found that consumers positively associate new home models with an increase in housing demand.

With all other factors held constant, an increase of one unit in operational risk management practices will improve the performance of real estate construction projects in Nakuru County by 0.313 units, according to the operational risk management practices' coefficient value of 0.313 units. As such, in order for real estate project managers to generate the expected revenue and fulfill all of their responsibilities during the construction phase, they must properly manage their return on investment, cost, and quality (Fletchers & Pendleton, 2014). Likewise, effective handling of annual running costs such as payroll, utilities, contract services, management and administrative fees, and insurance coverage improves real estate and construction project performance. The study's findings are consistent with those of Njogu, Ahmad, and Gwaya (2015), who found that working viability and real estate corporations' financial performance were positively correlated, but that credit risk and bankruptcy risk had a negative correlation with real estate construction firms' financial performance. In a similar vein, Allesie's (2017) study found that administrative structure and operational risk management procedures were important factors in determining the success of real estate construction projects.

The market risk management approaches exhibited the highest coefficient value of 0.531. This implies that, under the assumption that all other dynamics remain constant, a one-unit escalation in these approaches will translate into a 0.531-unit boost in real estate construction projects performance of in Nakuru County. This result implies that conducting effective research on the supply and demand conditions of the projects constructed by construction companies is a critical component in determining the success of real estate building projects in Nakuru County. Furthermore, determining the precise market sector (in terms of use, geography, and technical submarkets) for the projects and determining the needs of potential clients play a major role in determining how quickly the market absorbs the real estate developer's investment (Wiegelmann, 2012). These findings are further explained by the fact that a large number of Nakuru County real estate developers continue to design and construct homes in accordance with customer preferences. Thus, developments offer the features that consumers need or desire or the amenities that buyer’s desire. Some properties might rent out more frequently or have higher tenant turnover as a result of this negligence, which would improve cash flow. In Nissen (2014).

Lastly, the majority of real estate developers avoid risks in their planning stage by accounting for potential future changes in market conditions, which further justifies the results (Kaklauskas et al., 2015).The results of (Njogu & Gwaya, 2015) which demonstrated that market risk management techniques had favorable effects on real estate construction projects performance in Nairobi County, corroborate this conclusion.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter gives an overview of the research, presents a conclusion, and makes recommendations in light of the findings. As covered in the sections that follow, additional research topics have also been proposed.

5.2 Summary of the Study

Main objective of the study was to determine how risk management practices affected real estate construction project performance in Nakuru County, Kenya. Specifically, effects on technical, operational, market, and financial risk management were studied. The mixed method research design of the study was based on the theory of strategic planning. The descriptive findings demonstrated a substantial correlation between the performance of real estate construction projects and the implementation of risk management strategies related to technology, operations, markets, and finances. According to the objectives, the summary is shown in the subsection below.

5.2.1 Real Estate Construction Projects Performance and Technical Risk Management

Evaluating how techniques for managing technical risk has affected the real estate construction project's performance in Kenya's Nakuru County was the first goal. Construction projects pertaining to real estate performance in Nakuru County was determined to positively correlate with technical risk management practices. Ultimately, a regression coefficient value of 0.451 units was found for the real estate construction project and technical risk management practices.

5.2.2 Performance and Operational Risk Management Practices of real Estate Construction Projects

The other study's objective was to assess how operational risk management techniques affected a real estate construction project's performance. The study discovered that operational risk management techniques and real estate construction project performance were positively correlated, with a regression coefficient value of 0.313.

5.2.3 Real Estate Construction Projects Market Risk Management Practices and Performance

The study's next objective was to assess how market risk management techniques affected the success of a real estate development project in Kenya's Nakuru County. Market risk management techniques and real estate construction project performance

were found to be positively correlated in the study. The study's findings that market risk management strategies improve real estate building project performance are supported by a regression coefficient of 0.531.

5.2.4 Real Estate Construction Performance and Financial risk management Practices

The study's fourth objective was to assess the relationship between real estate construction projects in Kenya's Nakuru County and financial risk management strategies. The results demonstrated that financial risk management techniques and real estate construction project performance were positively correlated. The study found a positive correlation between financial risk management techniques and real estate construction project performance, as indicated by a regression coefficient of 0.273.

5.3 Conclusions

In order to address the question of how much technical risk management affects real estate construction project performance in Nakuru County in Kenya, it was concluded that technical risk management practices had a significant, moderately positive impact on the project's performance in Nakuru County.

The second objective of this research was ascertaining how operational risk management techniques affected the real estate construction project's performance in Nakuru County. The study addressed the question of what the impact of operational risk management was

on the performance of real estate construction projects in Nakuru County, Kenya, and found that these practices had moderately positive effect on the performance of construction projects in Nakuru County.

The third objective of the research was to ascertain how market risk management strategies affected the real estate construction project's performance in Kenya's Nakuru County. According to the study's findings, market risk management techniques significantly and positively influenced real estate construction project performance in Nakuru County, Kenya. This finding provided an answer to the question of how market risk management techniques affect project performance in this region.

The final objective was to ascertain how financial risk management strategies affected the functionality of a real estate development project in Kenya's Nakuru County. In order to address the question of what effect financial risk management had on the performance of construction projects in real estate in Nakuru County, the research concluded that financially managing risks had strong progressive effect on the general construction projects performance in real estate within Nakuru County.

5.4 Recommendations

The study's conclusions and the study's findings served as the basis for the suggestion of the recommended policies and actions below.

The study concluded that technical risk management practices are essential to real estate development projects' success. Therefore, conducting a poor or insufficient environmental analysis and inadequate site research are critical to the success of commercial real estate construction projects in Nakuru County. Therefore, the responsible authorities have to make sure that concerned real estate developers have carried out a comprehensive site examination and have cooperated fully with all environmental requirements before starting any construction project. The government should carefully review all of the approvals that developers need. An investigation into the feasibility of having a single point of contact in each County is also required in order to restrict the number of institutions involved in this process.

The study indicates that financial risk management practices are essential to the success of real estate development projects. The investigation came to the conclusion that financial risk management was not implemented correctly, despite its significance. The government should force real estate developers to demonstrate their creditworthiness on their expected investments before granting any licenses. This would require a yearly financial risk management compliance certificate from each developer of commercial real

estate. The building authority and the real estate developers ought to divide this responsibility. Facilities or courses for teaching operational risk management theory and practice should be established by the government. Professional associations in the real estate sector and educational institutions may both carry out these initiatives. Conversely, having personnel skilled in risk management matters is essential.

The study discovered that very few respondents used market risk management practices as a mitigating factor, despite the fact that they are a substantial element in determining the accomplishment of real estate building projects. Because of this, the majority of real estate developers have a tendency to invest in this industry in the dark, lacking even a fundamental understanding of what the market has to offer. Due to low occupancy rates or acceptance, a lack of market awareness has caused many entrepreneurs to miss out on their much-needed revenue. Any survey conducted in the real estate industry needs to be based on accurate and trustworthy data. The Kenyan market either lacks or has little of these data. Therefore, in order to empower real estate developers the data must to be able to depict supply and demand patterns for various property categories. Biannual releases of these data, which provide estimates at the national and county levels, are warranted.

5.5 Suggestions for Further Studies

In this study, four risk management practices were taken into consideration as we examined the consequences of managing various hazards in real estate building projects. The results of this study accounted for somewhat more than 64% of the variance in real estate building project performance. In an effort to fully capture the impact of managing the other risk activities, future study should concentrate on other risk variables not included in this study including legal practices, environmental practices

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APPENDIX 1: LETTER OF CONSENT

Re: Research Questionnaire

I am currently conducting a research on **"Risk Management Practices and Their Influence on Real Estate Construction Project Performance in Nakuru County, Kenya,"** Attached herein is the study's questionnaires based on the objectives .This questionnaire will only to be used for academic reasons in compliance with the conditions of the study, therefore your evaluation and input will be much appreciated.

The findings of the study will be made public through publication.The research will contribute to the academic body of knowledge.

Thank you in advance.

HASSAN HANABA ISACK

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APPENDIX II: QUESTIONNAIRE

Instructions:

To complete each part, please fill in the blanks or mark the applicable boxes. The information you provide will be kept strictly secret.

Part A: Background Information

1) Indicate your gender

   a. Male [ ]
   b. Female [ ]

2) Show your highest academic level

   Diploma [ ]
   Bachelors [ ]
   Post graduate [ ]
   Professional qualifications [ ]

3) What role do you play in the project

   a. Real Estate manager [ ]
   b. construction Project supervisor/foreman [ ]
   c. Construction engineer [ ]
   d. Contracting firm representative [ ]
   e. Architect [ ]
   f. Environmentalist [ ]
   g. Real estate agent [ ]

Part B: Technical Risk Management Practices

According to the five-point Likert scale, how much do you agree with the following assertions concerning technical risk management techniques in your organization or firm?

4 = strongly disagree, 5 = strongly agree 3 is the neutral number, according to some. 2 = Agree 1 - Completely agree

Technical risk management practices	1	2	3	4	5
The company conducts a thorough site inspection.					
The organization makes certain that there is always an appropriate quantity of building materials available.					
The company obtains duplicates of all land purchase, ownership, and due diligence paperwork.					
The real estate firm promptly receives the required building approvals.					
Every phase includes a deadline within which the business must accept customer revisions to the plan and specifications.					
The firm recruits a capable management team.					
The firm keeps track of its maintenance, repair, and renovation spending.					

How else does Technical risk management practices aspects not included affect the efficiency of the real estate development initiatives?

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Part C: Operational risk management Practices

How much do you agree that the following operational risk management strategies have been applied by your firm/company in an effort to enhance the performance of the real estate construction projects?

Statement	1	2	3	4	5
The firm frequently evaluates the solvency of its current customers.					
The firm continuously monitors the lease maturity assessment.					
The real estate firm employs capable management teams.					
To prevent rising interest rates, the					

company service its debt.					
The firm uses a good method for keeping records.					
The organization offers real estate management training to its workers					

How else does operational risk management practices aspects not included affect performance of the real estate construction projects?

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Part D : Market Risk management practices

How much do you agree that the following market risk management strategies have been applied by your firm/company in an effort to enhance the performance of real estate building projects?

Statement	1	2	3	4	5
The real estate firm does a thorough feasibility analysis before the project is started.					
Our company is covered by a market risk insurance policy.					
Our firm regularly engages in market research					
Our Agent has a staff for marketing and advertising.					
At the conclusion of construction, our organization conducts an extensive market demand and supply survey.					
Reviewing marketing data from consultants and developers of real estate					

How else does Market risk management practices aspects not included affect performance of the real estate construction projects?

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Part E : Financial Risk management practices

How much do you agree that the following financial risk management strategies have been applied by your firm/company in an effort to improve the performance of the real estate construction projects?

Statement	1	2	3	4	5
The firm verifies and demonstrates the client's creditworthiness.					
The company consistently follows up on payments.					
We borrow all the money we need at a set rate.					
The company maintains and creates financial reports on					
Fluctuation in exchange rates is considered as a major financial risk					
Rising interest rates affects planning for the projects					

How else does financial risk management practices aspects not included affect performance of the real estate construction projects?

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Part F : Performance of Project

Please tick appropriately the extent Using the scale provided, you agree with the

following assertions.

1=completely agree 2=agree 3=Neutral 4 = Agree 5= strongly disagree

Statement	**SD** **1**	**D** **2**	**N** **3**	**A** **4**	**SA** **5**	**Comment**
The overall costs incurred during the construction of real estate projects was minimized						
The construction projects were timely completed.						

The real estate constructed projects are of required quality and standard						
Risk management practices reduces disputes						
Practices in risk management boosted the satisfaction of stakeholders with the finished building.						
There is high return and yields from the real estate constructed projects						

APPENDIX III List of Real Estate Construction Projects

Ongoing projects

1	Nakuru affordable housing project
2	King's Sapphire - Bondeni Project
3	Nakuru Harmony Gardens
4	Havanna Estate Nakuru Phase 5
5	Damka Properties
6	Jojean Properties
7	Leleshwanaivasha mixed use properties
7	Havannah estate Nakuru Phase v
8	Free Area Market
9	Mwariki East Borehole
10	Muguga Community Borehole
11	Mwariki East Secondary School
12	Muguga Primary School
13	Kiratina Primary School
14	Free Area Market
15	Mwariki East Secondary School
16	Leleshwa mixed use developments
17	Springfield Nakuru Phase I – V
18	Harmony Gardens
19	The Hamptons Nakuru Phase I – V
20	The Hamptons Nakuru Phase I & II
21	Havanna Estate Nakuru Phase I & II
22	Molo-Kibunja roads construction projects
23	Salgaa-Rongai road construction projects
24	Subukia-Shrine road construction projects
25	Mau-Summit road construction projects
26	Lanet Airstrip Aircraft Pavement
27	Improvement of Nakuru Chief's Office - Ndaragu River Road
28	Kipangaway - Kibowen Primary school modern classrooms
29	Muguga Community Borehole
30	Nakuru Teachers Police Post
31	Mwariki East Dispensary
32	Provincial General Hospital The Paediatric Section
33	Nyamarutu Water Project
34	Nakuru Polytechnic
35	Greenstades estates
36	Freehold guest house
37	Mawanga estates
38	Kaptembwa estates
39	Greenstades estates

40	Freehold guest house
41	Mawanga estates
42	Kaptembwa estates
43	Greenstades estates
44	Pembe Mbili- Eldoret
45	Access/Mwiriki Sec School
1	**COMPLETED PROJECTS**
2	Milimani estates
3	Kabachia estates
4	Special gardens estate
5	Ngata estates
6	Section 58 estates
7	Naka estates
8	Kiamunyi
9	Sarova woodlands hotel
10	Hyrax hill museum
11	Milimani nakuru guest house
12	Milele resort nakuru
13	White house estates
14	Langa langa estates
15	London estates
16	Satellites estates
17	Bahati estates
18	Lanet estates
19	Satellites estates
20	Heshima Primary School
21	Freehold guest house
22	Mawanga estates
23	Madaraka Primary School
24	Tumaini Childrens Home
25	Kapkures Health Centre

Sources: Nakuru Urban Planning annual releases 2020,KURA 2020