



**THE FACTORS THAT AFFECT COMMERCIAL PROPERTY PRICES IN NAIROBI  
COUNTY: A CASE OF REAL ESTATE PLAYERS IN NAIROBI.**

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**THESIS SUBMITTED TO STRATHMORE BUSINESS SCHOOL IN PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF A MASTER OF  
COMMERCE DEGREE.**

**MAY 2024**

**DECLARATION**

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

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## DEDICATION

To my father, John Kiura Muchiri who sacrificed all his fortune and did odd jobs to ensure I achieved valuable education. He is the sole role model and challenges me to be a better person and leave a legacy on where I step.

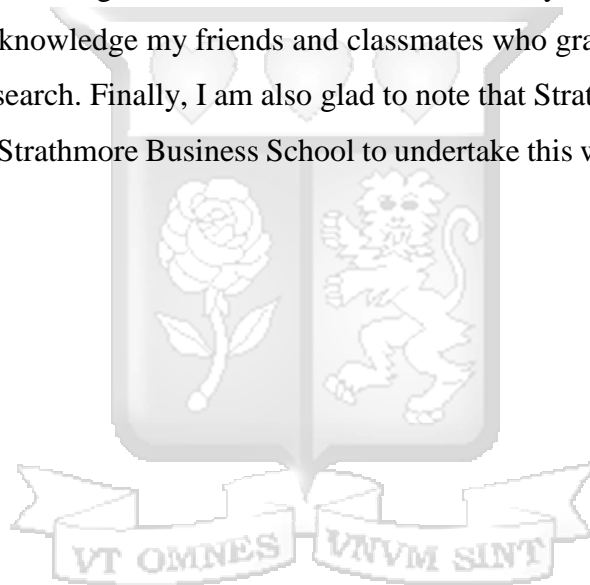
To my dear wife, Mrs Millicent Karimi for her unconditional love, encouragement, and prayers.

Glory and honour be to God.



## ACKNOWLEDGEMENT

This project could not have been successful without the spiritual, technical, and moral support from all those I interacted with in the process of its compilation. First, I would like to thank the Almighty God for His protection, care, blessings, and energy throughout the process. I express my sincere heartfelt appreciation to my wife Millicent Karimi who encouraged, financial, material and any other form of support they have given me for the success of this project. To my daughters Jasmine and Joyline, you patiently kept me company when attending my thesis. You are a true source of inspiration and moral support to me. My profound thanks and appreciation go to my Supervisor Dr Olga Adede for her scholarly guidance throughout the conduct of this research project. Your support, advice, guidance, and comments are very instrumental in the thesis implementation. I also acknowledge my friends and classmates who graciously shared their ideas and assisted me in this research. Finally, I am also glad to note that Strathmore University granted me an admission into the Strathmore Business School to undertake this worthy course to add value to my career.



## **LIST OF ABBREVIATIONS AND ACRONYMS**

<b>GDP</b>	Gross domestic product.
<b>KPDA</b>	Kenya Property Developers Association.
<b>KNBS</b>	Kenya National Bureau of Statistics.
<b>KRA</b>	Kenya Revenue Authority.
<b>SPSS</b>	Statistical Package for Social Sciences.
<b>VAT</b>	Value Added Tax.
<b>EPS</b>	Expanded Polystyrene.
<b>NCA</b>	National Construction Authority.
<b>CBD</b>	Central Business District.
<b>CRE</b>	Commercial Real Estate.

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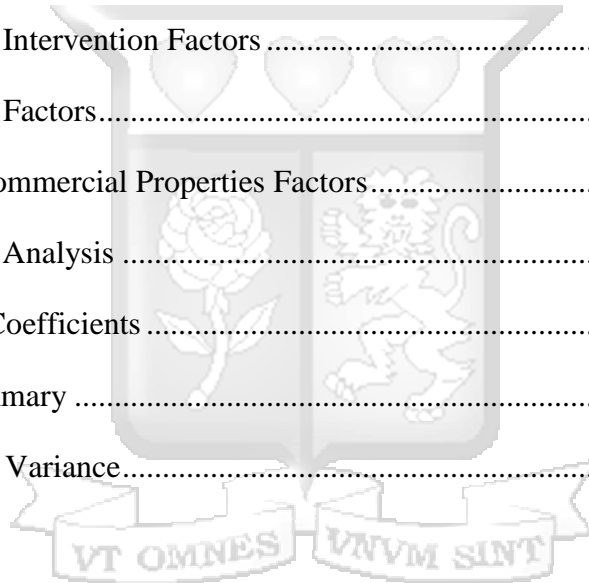
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## ABSTRACT

Pricing is a key factor in achieving full occupancy and maximizing return on investment in the commercial property sector. To thrive in the competitive property market, it is essential for market players to identify the pricing factors that provide a competitive edge. This study aimed to establish the factors affecting commercial property prices in Nairobi County, the economic hub of the region. The broad objective was to determine the overall impact of various factors on commercial property prices, while the specific objectives focused on the effects of macroeconomic factors, property location, government policies, and competition. The study adopted a descriptive cross-sectional survey design to capture a snapshot of the current situation. The target population comprised real estate players registered with the Kenya Property Developer Agencies, active, highly ranked, and operating in Nairobi. A sample size of respondents was selected through a judgmental sampling method and stratified according to the type of firms. Primary data were collected using structured questionnaires. Data analysis was conducted using the Statistical Package for Social Sciences (SPSS). Quantitative data were analyzed through descriptive statistics, including mean and standard deviation. Inferential statistical analysis involved Pearson correlation analysis and multiple linear regression analysis to test the association between the variables. The findings revealed that location significantly influenced the pricing of commercial properties, highlighting the need for transparent and corruption-free property valuation processes. Macroeconomic factors, such as inflation and interest rates, also played a significant role in property pricing, emphasizing the importance of monitoring economic conditions. Competition was identified as a critical determinant, suggesting the need for regulatory mechanisms to ensure fair competition within the real estate sector. The study was anchored on the Real Estate Market Theory and the Hedonic Pricing Model, providing a robust theoretical framework for understanding property pricing dynamics. The insights gained from this study are crucial for policymakers and practitioners in formulating strategies to enhance market stability and investor confidence. The study's limitations included the reliance on a descriptive cross-sectional survey design, which cannot establish causality or changes over time, and the focus on Nairobi County, limiting the generalizability of the findings. Future research should consider longitudinal designs and explore additional variables such as technological advancements, demographic shifts, and environmental factors to provide a more comprehensive understanding of commercial property pricing. The findings were presented using tables and graphs, providing a clear visualization of the data and facilitating the interpretation of results. This study contributes to the empirical evidence on commercial property pricing and offers actionable recommendations for improving property valuation and market regulation.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background to the Study

Commercial properties, or commercial real estate, play a crucial role in economic development, infrastructure improvement, and fostering commerce and industry (Guo, Zhang, Zhu, & Sun, 2018). Over recent years, the commercial property sector has experienced significant growth globally, driven by the increasing demand from an expanding middle class with disposable income and an increasing number of individuals capable of servicing mortgages (Wei, Chu, Hsu, & Hou, 2019). However, the determinants of commercial property prices remain a topic of debate, with varying factors influencing different markets.

Property is a multi-dimensional product influenced by numerous factors. Ibrahim (2017) highlights that the value of property is determined by a variety of elements. On the other hand, McParland, Adair, and McGreal (2020) argue that changes in the cost and return on capital, alongside interest rates, significantly affect the decision to purchase or rent property in the United Kingdom. Similarly, in Malaysia, factors such as accessibility, location, future development, and market economics of supply and demand are key determinants of commercial property prices. Recent trends indicate a slowdown and even a decline in property prices in some Malaysian areas due to oversupply (Klik, 2021).

The controversy surrounding the factors influencing commercial property prices becomes more pronounced in developing countries, particularly in Africa. In Nigeria, Oyebanji (2019) identifies various determinants of property values, including population change, fashion and taste shifts, institutional factors (such as culture, religious beliefs, and legislation), economic factors, location, complementary uses, transportation, and planning control. Contrastingly, Neil and Jones (2018) found that in Ghana, the spread of road networks can enhance accessibility, although traffic congestion in some areas can reduce accessibility and shift property values to more accessible regions.

In Kenya, the real estate sector can be divided into single and multi-family dwellings, commercial and agricultural land, office spaces, warehouses, retail outlets, and shopping complexes (Muli, 2012). While similar factors influence commercial property prices in Kenya, there are notable

differences. Masika (2020) reports that commercial property prices in Kenya have doubled or even tripled in recent years, with demand for housing units continuing to outstrip supply. This boom in the real estate market is largely attributed to the growth in mortgage financing within the country.

A report by Serge of Saif Real Estate Ltd (2022) emphasizes the importance of understanding the country's economy for determining commercial property prices. The report highlights that Kenya's real estate and construction sector is one of the fastest-growing contributors to GDP, with a projected growth rate exceeding 20% by 2021. From 2010 to 2015, there was a dominant demand for three- and four-bedroom homes, which later shifted towards smaller homes such as studios and one- and two-bedroom units by 2019. This shift reflects an increase in investor activity, driven by the potentially high rate of return in the real estate market.

Despite this growth, there is a need to understand the specific factors that influence commercial property prices in Nairobi County. The main focus of this study is to examine how macroeconomic factors, property location, government intervention, and competition affect the pricing of commercial properties in Nairobi County. By identifying these determinants, the study aims to provide insights that could help market players and policymakers make informed decisions to enhance the commercial property sector's stability and growth.

### **1.1.1 Factors Influencing Pricing**

Pricing a product or service involves complex decision-making processes (Soyeh, 2020). Musonera and Ndagijimana (2008) suggest that factors such as costs, market demand, and competition must be considered for effective pricing strategies. Export market pricing decisions are influenced by various factors, including political, economic, social, technological, and policy environments (Wiley, 2017). Moradi (2020) identified three factors shaping pricing decisions in industrial markets: internal factors like marketing mix, product differentiation, and cost, and external factors including demand, competition, suppliers, and economic conditions.

Demographic parameters also play a significant role in determining consumer purchasing levels and, consequently, pricing decisions (Gitau et al., 2019). These parameters include population size, age distribution, income levels, income growth, and consumer behaviour. Furthermore, demand elasticity affects commodity prices, with markets exhibiting elastic demand experiencing more price fluctuations (Wiley, 2017).

Location is another crucial factor influencing commercial property pricing. Prime neighbourhoods with high foot traffic and easy accessibility command higher prices than remote areas (AEI, 2024). Additionally, proximity to essential amenities like schools, parks, hospitals, and recreational facilities impacts a property's value. Accessibility, particularly road accessibility, significantly affects commercial real estate value (Atan et al., 2021).

Macroeconomic factors also play a vital role in commercial property pricing. Fluctuations in demand and supply dynamics affect real estate pricing (Ding, 2022). Demand-side variables such as income, interest rates, financial wealth, and demographic factors influence pricing decisions (Vella, 2018). On the supply side, factors like development permits, building expenditures, and material costs impact property prices. Ding (2022) identifies population, stock price, RGDP, mortgage rates, and unemployment rates as major macroeconomic factors influencing real estate pricing.

Government actions and policies significantly impact the housing market (Laskowska & Torgomyan, 2016). Government interventions, including market shaping, regulation, stimulation, and capacity building, affect commercial property prices, encompassing legislation, taxation, subsidies, zoning, banking regulations, licensing, and rent regulation. In Kenya, these policies on affordable housing have influenced real estate prices (Munda, 2023), with profit margins and interest rates for social and affordable housing units regulated, impacting overall property pricing dynamics. Munda (2023) asserts that the profit margins for social housing units have been capped at 9.4%, while affordable units can earn up to 14.3%, considerably lower than the 20% rate charged for market-rate housing. Additionally, housing units under the affordable project qualify for a reduced interest rate of 6%, compared to the 9% rate applicable to market-rate units. These percentages underscore the government's efforts to make housing more accessible and affordable for the population.

### **1.1.2 Real Estate Players in Nairobi County**

The real estate sector in Nairobi County stands as a vibrant ecosystem characterized by a myriad of stakeholders, each playing a pivotal role in shaping the market landscape and influencing pricing dynamics (Aachal, 2023). As Kenya's real estate market continues its robust growth trajectory, with a projected Compound Annual Growth Rate (CAGR) of 4.3% between 2023 and 2027, driven by urbanization, population expansion, and escalating demand for affordable housing options

(Real Estate - Kenya | Statista Market Forecast, 2023), the involvement and interactions of various players assume heightened significance.

Nairobi County boasts a diverse array of entities operating within the real estate sector, encompassing a wide spectrum of activities and services, as delineated in the KPDA Developer's Digest (2023). Among these players are Property Developers, Real Estate Agents or Managers, Financial Institutions or Mortgage Banks, Professional Firms or Advisory Service Providers, Government Institutions, Building materials manufacturers, Associations, Industry Suppliers, Interior Designers, Contractors Firms, and Energy Savings Solutions. Of note, Nairobi hosts a substantial portion, accounting for 118 out of the total 125 real estate players identified in Kenya, underscoring its pivotal position as the epicentre of the nation's real estate activities (KPDA Developer's Digest, 2023).

Government institutions, prominently the Real Estate Regulatory Authority (RERA), wield significant influence as regulatory bodies, ensuring adherence to industry standards, transparency, and investor confidence (Joy and Selvam, 2018). RERA's mandate extends to providing critical information, monitoring developer activities, and safeguarding the interests of property buyers, thus playing a crucial role in shaping market behaviour and consumer trust.

Real estate agents and managers constitute another vital segment of the sector, facilitating property transactions and overseeing rental management operations (Manaf & Bin Mansor, 2018). Meanwhile, financial institutions and mortgage banks provide indispensable financing avenues, enabling property ownership through flexible payment plans and subsidized provisions, as observed by Mugambi (2017).

Building materials manufacturers significantly contribute to the sustainability and efficiency of the sector by innovating and producing quality construction materials (Maina & Awuor, 2020). Their efforts toward enhancing performance and ensuring environmental sustainability align with industry goals and regulations, driving forward the agenda of responsible real estate development.

Associations within the real estate sphere play a multifaceted role, offering support and resources to industry participants, including training, licensing assistance, and advocacy efforts (Ndiiri and Kirika, 2021). These organizations serve as conduits for knowledge dissemination, market insights, and collective action, fostering collaboration and synergy among stakeholders.

In addition to the aforementioned players, interior designers, contractor firms, and energy-saving solutions providers contribute to the sector's value proposition by optimizing space utilization, implementing energy-efficient technologies, and championing environmentally friendly practices (Njeru et al., 2021; Njoroge et al., 2021). Their contributions extend beyond aesthetics, encompassing sustainability, functionality, and long-term viability considerations.

Given the intricate link between the real estate sector and the factors influencing property prices, this study's focus on key players such as Property Developers, Real Estate Agents/Managers, Financial Institutions/Mortgage Banks, and Professional Firms/Advisory Service Providers is crucial. By examining the roles, interactions, and contributions of these stakeholders, the research aims to shed light on how these actors influence and are influenced by location dynamics, competitive forces, governmental policies, and macroeconomic factors. This comprehensive examination helps to understand the complex interplay of various elements that shape commercial property pricing dynamics in Nairobi County.

## **1.2 Problem Statement**

Kenya's rapid urbanization, coupled with its growing economy and population of approximately 50 million people, has intensified the demand for housing, particularly in major cities and towns across the nation (ITA, 2024). However, the urban homeownership rate in Kenya lags behind that of other African countries, necessitating a deeper understanding of the factors influencing housing prices to bridge this gap (ITA, 2024). Against this backdrop, this study aims to investigate the factors impacting the pricing of commercial properties in Kenya.

Recent studies indicate that the determinants of commercial property prices are evolving and increasingly complex. For example, a study by Muli (2021) highlights that infrastructural developments significantly influence property values, particularly in rapidly urbanizing areas. Similarly, findings by Mwangi and Omoke (2022) emphasize the role of economic factors such as inflation and interest rates in shaping real estate prices in Kenya. However, there are still gaps and inconsistencies in the current literature, particularly regarding the specific context of Nairobi County.

Previous research has often relied on older studies, which may not fully capture the current dynamics of the real estate market. For instance, studies by Arrondela and Lefebverb (2001) and Cassidy, Dennis, and Yang (2008) on market forces such as supply and demand dynamics, while

foundational, may not reflect recent market shifts and economic conditions. More recent research by Otieno (2022) has explored the impact of modern infrastructure on property values, but findings remain mixed and context-specific.

The existing literature reveals both congruent and conflicting findings, necessitating further exploration and clarification. For instance, while some recent studies suggest that infrastructure development positively impacts property values (Muli, 2021), others highlight potential downsides, such as increased congestion and environmental concerns (Mwangi & Omoke, 2022). Additionally, while increased supply is generally expected to lower prices, some studies argue that if demand continues to outstrip supply, prices may still rise (Omondi & Karanja, 2023).

Beyond the discrepancies in findings, there are conceptual, contextual, and methodological gaps in the current body of literature on commercial property pricing in Kenya. Conceptually, while some studies focus on specific factors such as infrastructure or market forces, others adopt a broader perspective, overlooking the nuanced interactions between various determinants (Muli, 2021; Kariuki, 2023). Contextually, studies often lack specificity regarding the unique characteristics of the Kenyan real estate market, thereby limiting the generalizability of their findings (Mwangi & Omoke, 2022). Methodologically, variations in research design, data collection methods, and analytical approaches further complicate comparisons and hinder the development of comprehensive insights into commercial property pricing dynamics in Kenya (Omondi & Karanja, 2023).

Therefore, this study seeks to address these gaps by comprehensively examining the factors affecting commercial property prices in Nairobi County. By integrating insights from real estate players, including property developers, financial institutions, and government agencies, and employing a rigorous methodology, such as quantitative analysis and stakeholder interviews, this research aims to provide a nuanced understanding of the pricing dynamics in the Kenyan commercial property market. This understanding will not only contribute to the existing body of knowledge but also inform policy and decision-making in the real estate sector, thereby facilitating sustainable and inclusive urban development in Kenya.

### **1.3 Research Objectives**

This section presents the general and specific objectives of the study.

#### **1.3.1 General Objectives**

The general objective of this study was to establish the factors that influence commercial property prices in Nairobi County with a focus on Real Estate Players in Nairobi County.

#### **1.3.2 Specific Objectives**

The study was guided by the following specific objectives:

- i. To establish the influence of location on commercial property prices in Nairobi County, Kenya.
- ii. To determine the influence of macroeconomic factors on commercial property prices in Nairobi County, Kenya.
- iii. To establish the effect of government policies on commercial property prices in Nairobi County, Kenya.
- iv. To determine the effect of competition on commercial property prices in Nairobi County, Kenya.

#### **1.4 Research Questions**

The study aimed to answer the following research questions:

- i. What is the influence of location on commercial property prices in Nairobi County, Kenya?
- ii. What is the influence of economic related factors on commercial property prices in Nairobi County, Kenya?
- iii. What is the influence of government policies on the commercial property prices in Nairobi County, Kenya?
- iv. What is the influence of competition on the commercial property prices in Nairobi County, Kenya?

## **1.5 Significance of the Study**

The findings of this study are of great significance to several stakeholders in the real estate sector and will help to lay emphasis on the most important real estate factors that affect commercial property prices.

Government and other policy makers, the findings of the study may be used as a guideline to formulate and develop policies that are concerned with real estate sector and align with government key agenda like affordable housing projects. The government as the real estate sector regulator would benefit with the findings of this study as it would be enlightened on various key factors that affect commercial properties prices. To Nairobi County Government, it would help in the policy planning of satellite estates, in boundary setting of the satellite estates, zoning and indeed restrictions (which are key private contractual agreements imposed to use or not use property in certain ways).

Developers, the findings will provide a great insight into key factors that affect pricing, improve effective product pricing and how it affects overall product uptake by developing fit for the market commercial property units. Real estate agents and brokers will also benefit from the study through availability of information concerning commercial properties purchase trends and hence being able to advise the clients (both buyers and sellers) on commercial properties price trends.

Researchers and scholars, the study will provide a suitable platform and a source of literature for research extension on factors that affect commercial property prices in the current and future generations. The study will also provide a deeper understanding on the factors that affects commercial property prices.

## **1.6 Scope of the Study**

The study focused on the factors that affects commercial property prices in Nairobi County. The study focused on 236 respondents from 118 real estate players that include Property developers, Real Estate Agents or Managers, Financial Institutions or Mortgage banks, and professional firms or Advisory service providers that are registered by firms Kenya Property Developers Association (KPDA). The target respondents of the study were Managers in charge of operations and Managing Directors of Real estate players in Nairobi who have solid experience from all the selected firms. The study was carried out between March and April 2024.

## 1.7 Chapter Summary

The chapter focused on the variables clearly bringing out the different concepts around them. It also brought out the concept of price and pricing, various forms of pricing, objectives of the study both general and specific. Further, the chapter has detailed on the problem statement, significance and scope of the study, and the industry in which the study will be carried.



## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

The chapter covers review of relevant empirical literature to the study. The literature encompasses the following key broad areas; begins with theoretical review, empirical literature review, research gaps and conceptual framework.

#### **2.2 Theoretical Framework**

This section presents the theories that underpin the study, providing a foundation for understanding the interrelationships among location, macroeconomic factors, government policies, competition, and the pricing of commercial properties. The focus is on highlighting the theories that anchor and support the research, offering insights into the complexities of property pricing dynamics.

##### **2.2.1 Pricing of Commercial Properties**

Pricing in the context of commercial properties is multifaceted, involving various elements that impact the value of real estate. Price is often considered the cost of a property and serves as verifiable proof of its current market worth under certain conditions (Nduti & Wambugu, 2017). Steinhardt (2019) defines price as what a seller wants in exchange for granting ownership or use rights, while pricing is the process of setting this price. In business, price is the amount of money charged for a product or service and is the only element that generates revenue, whereas other elements incur costs (Guo et al., 2018). Commercial properties, including shops, malls, office buildings, and industrial parks, are used to generate commercial profits (Bor & Ochieng, 2019).

Nduti and Wambugu (2018) define commercial property pricing as developing an opinion on the market value of a property. This involves real estate valuation techniques to establish rental prices for fixed assets. Factors such as potential buyers' income, the cost and capability to build new properties, and the demand and supply dynamics limit prices (Capozza et al., 2004). Pricing in commercial property reflects the value exchanged, producing monetary benefits for the developer through mortgage leverage, selling, leasing, or renting out the spaces (Masias, 2016).

The operationalization of commercial property pricing in this study involves four primary strategies: competitive pricing, demand pricing, penetration pricing, and economic pricing. These

strategies were chosen based on their relevance and applicability to the real estate market and their support in existing literature.

**Competitive Pricing:** This strategy involves setting prices based on the competitive landscape. Real estate businesses face intense pricing rivalry, even when properties differ geographically (Iwata et al., 2018). Developers in one area may have a monopoly in a micro-market but are still vulnerable to competition from other developers offering similar alternatives (Gustavsson & Vahtola, 2014). This aligns with Knight's (2002) notion that rival behaviour significantly influences market pricing and selling periods, necessitating careful consideration in development projects.

**Demand Pricing:** This method is governed by economic principles, primarily the law of supply and demand. Ma and Li (2017) assert that real estate prices are determined by supply and demand dynamics, influenced by various factors affecting these elements. Ajija et al. (2021) argue that commercial property prices are significantly influenced by individuals' purchasing ability, reflected through their earnings. This approach is critical in understanding market behaviour and setting prices accordingly.

**Penetration Pricing:** This strategy is used to attract customers to new products or services by offering them at a low initial cost (Payne et al., 2018). Penetration pricing sets the price below the buyer's incentive, ensuring a larger client base (Fouad & Subrahmanyam, 2022). In real estate, where economies of scale can minimize costs, penetration pricing allows developers to achieve high profits by initially setting lower prices to capture market share.

**Economic Pricing:** Real estate pricing involves setting prices that reflect the cost of converting land into housing units and the market players' interest in maximizing their returns (Jia, 2016). This method involves separating development costs, capital appreciation, and profits from the final stages of management and sales to determine the overall price.

These pricing strategies were adapted for this study based on their effectiveness in various economic conditions and their theoretical underpinnings in real estate literature. By leveraging the works of scholars such as Nduti and Wambugu (2018), Iwata et al. (2018), Ma and Li (2017), Payne et al. (2018), and Jia (2016), the study conceptualizes commercial property pricing to include competitive, demand, penetration, and economic pricing, ensuring a comprehensive approach to understanding property values in Nairobi County.

### **2.2.2 Standard Real Estate Market Theory**

The Standard Real Estate Market Theory, formulated by Ratcliff in 1972, serves as a foundational framework for understanding property valuation dynamics. According to this theory, the value of a property is often determined by its comparability to other similar properties in the market. Ratcliff proposed that buyers are unlikely to pay more for a property than the cost of acquiring a site and constructing a building of similar appeal and utility (Ratcliff, 1972). This principle underscores the rationality of buyers who base their purchasing decisions on anticipated future benefits, whether they are financial gains or the amenities associated with the property.

Recent studies have echoed the enduring relevance of the Standard Real Estate Market Theory while also shedding light on its limitations and nuances. For instance, contemporary research by Smith et al. (2023) underscores the theory's foundational principles in shaping property valuation dynamics, particularly in urban settings. However, Smith et al. also emphasize the need for refinement in the theory to encompass emerging factors such as sustainability criteria and technological advancements, which increasingly influence property prices.

However, critiques of this foundational theory, notably advanced by Kummerow (2002), have illuminated its practical limitations, particularly in defining precise pricing mechanisms. Kummerow's critique emphasizes the necessity for a refined framework capable of comprehensively estimating the myriad factors influencing property prices. These factors may encompass distributions of potential sale prices, estimation errors, and contextual variables that exert influence over pricing dynamics. However, despite these criticisms, proponents such as Mooya (2016) have underscored the theory's continued relevance by affirming its alignment with market realities.

Mooya (2016) noted that property prices tend to decrease when the perceived value of a location diminishes, as evidenced by property devaluation in areas affected by natural disasters. Conversely, property values typically appreciate in neighbourhoods undergoing revitalization or development, indicating an increased perceived value of the location. In this regard, the Standard Real Estate Market Theory provides valuable insights into the relationship between property prices and location factors.

Therefore, in the context of this study, which seeks to unravel the determinants of commercial property prices in Nairobi County, Kenya, the Standard Real Estate Market Theory furnishes a

foundational perspective. By scrutinizing the collective impact of location, macroeconomic indicators, governmental policies, and sectoral competition on commercial property prices, the study endeavours to deepen comprehension of real estate dynamics within the region. Such an approach resonates with the theory's emphasis on the interplay between property values and prevailing market conditions (Ratcliff, 1972).

Moreover, as the research delves into the complexities of property pricing, it also draws on insights from contemporary literature and empirical studies. By integrating diverse perspectives and empirical evidence, the study aims to enrich the theoretical framework and provide practical insights for stakeholders in the real estate industry. Thus, the application of the Standard Real Estate Market Theory serves as a springboard for exploring the multifaceted nature of commercial property pricing in Nairobi County, Kenya.

### **2.2.3 Hedonic Model of Pricing**

The Hedonic Model of Pricing, pioneered by Sherwin Rosen, a labor economist, in 1974, represents a cornerstone theory for unraveling the nuanced dynamics of property pricing. This model posits that the pricing of housing properties is not solely contingent upon internal characteristics but also influenced by external factors enveloping them. By discerning price determinants rooted in these attributes, the model furnishes invaluable insights into the drivers of property prices (Rosen, 1974).

Recent studies have continued to underscore the applicability and adaptability of the Hedonic Model in diverse real estate contexts. For instance, research by Li and Chen (2022) highlights the model's efficacy in capturing the influence of neighborhood amenities and environmental factors on property prices in rapidly urbanizing areas. Despite its enduring relevance, contemporary scholars have also raised concerns regarding certain limitations of the Hedonic Model, including issues related to information availability, measurement validation, and market constraints (Rosen, 1974).

Hargrave's (2021) comprehensive study evaluating the use of hedonic pricing in the housing sector across the USA underscores the model's effectiveness in estimating values based on concrete choices, particularly in property markets with readily available, accurate data. Moreover, the study highlights the model's flexibility in adapting to relationships among various market goods and external factors, further supporting its utility in understanding property pricing dynamics.

However, critics have pointed out certain limitations of the Hedonic Model, including issues related to information availability, validation of measurements, market limitations, price fluctuations, and multicollinearity (Rosen, 1974). Despite these acknowledged drawbacks, the model remains a valuable analytical tool in the study of property pricing, particularly in explaining the effects of location and physical size on commercial property values.

The application of the Hedonic Model in this study offers a comprehensive framework for examining the influences of various property attributes on commercial property prices in Nairobi County, Kenya. By considering factors such as location, structural characteristics, and neighborhood amenities, the model provides a nuanced understanding of the determinants of property prices, thus contributing to the broader theoretical foundation of the study (Rosen, 1974). This approach aligns with the study's aim to explore the multifaceted nature of commercial property pricing and its underlying determinants, offering practical insights for stakeholders in the real estate industry.

## **2.3 Empirical Literature Review**

This section presents prior literature carried based on the study variables. There are mixed findings regarding the determinants of housing prices according to the various studies carried out locally, regionally, and globally.

### **2.3.1 Location Factors and Commercial Property Prices**

Location, often described as the specific area or position where a property or business is situated, emerges as a pivotal determinant in shaping commercial property prices (Fanning & Stephen, 1994). Extensive research has explored the multifaceted influence of location on property values, revealing nuanced impacts across diverse geographical contexts.

For instance, John (2018) delved into the ramifications of new transport infrastructure on property prices in South Yorkshire, UK. Employing structured interviews, the study unveiled a disparity in property values between areas deemed unfavourable and those situated in prime locations, underscoring the pivotal role of location in property valuation dynamics.

Similarly, in Accra, Ghana, Amenyah and Afenyi (2013) conducted research focused on elucidating factors influencing residential rental prices. Utilizing the Chi-square technique, their study elucidated the significant impact of location, alongside house size and utility facilities

connection, on house rent prices within the Ghanaian capital. Such findings underscored the pronounced influence of location in shaping rental property pricing dynamics.

In a complementary study, Amatete (2016) explored critical factors contributing to the pricing of real estate among low-income populations in Nairobi, Kenya. Through in-depth interviews with estate managers and tenants from low-income areas, the research identified an array of location-related factors, encompassing accessibility from main roads, the availability of social amenities, neighbourhood environment, and residents' income levels, all of which emerged as pivotal determinants of real estate pricing.

Furthermore, Kagendo's (2010) investigation into determinants of real estate property prices in Kiambu municipality, Kenya, revealed compelling insights. Utilizing a survey design and regression analysis, the study underscored the profound influence of location and the role of realtors in shaping property prices within the municipality. These findings collectively reinforce the significance of location in driving commercial property prices and offer valuable insights into the intricate factors underpinning property valuation.

However, recent studies continue to contribute to our understanding of the relationship between location factors and commercial property prices. For example, a study by Zhang et al. (2022) examined the impact of proximity to transportation hubs on commercial property prices in urban areas of China. Their research found that properties located closer to transportation nodes commanded higher prices due to increased accessibility and convenience, highlighting the significance of location proximity in influencing property values. Similarly, a study by Patel and Sharma (2021) investigated the effects of neighbourhood amenities on commercial property prices in Mumbai, India. Their findings revealed that the presence of amenities such as parks, shopping centers, and recreational facilities positively correlated with higher property prices, emphasizing the importance of neighbourhood attributes in property valuation dynamics.

Additionally, another recent research by Lee and Kim (2020) explored the role of environmental quality in commercial property pricing in Seoul, South Korea. Their study demonstrated that properties located in areas with better environmental conditions, such as cleaner air and access to green spaces, commanded premium prices compared to those in less desirable locations. These findings underscore the increasing recognition of environmental factors as significant determinants of property values. Moreover, a study by Smith et al. (2023) investigated the impact of digital

infrastructure on commercial property prices in urban centers across Europe. Their research revealed that properties located in areas with robust digital infrastructure, including high-speed internet connectivity and access to technology hubs, exhibited higher appreciation rates and attracted premium prices. This highlights the growing importance of digital connectivity as a driver of property value in the digital age.

Incorporating insights from these recent studies enhances the conceptual framework by providing contemporary evidence of the diverse factors influencing commercial property prices. By acknowledging the evolving nature of location-based determinants, the framework gains depth and relevance in explaining the complexities of property valuation dynamics. However, while these studies contribute valuable insights, addressing methodological variations and contextual nuances remains essential for refining our understanding of the intricate interplay between location factors and commercial property prices.

### **2.3.2 Macroeconomic Factors and Commercial Property Prices**

Macroeconomic factors encompass country-wide variables that extend beyond the control of bank administration, exerting a broad influence on the entire economy rather than individual units (Ajayi & Atanda, 2012). Key macroeconomic factors such as GDP, exchange rates, interest rates, inflation, and market risk wield significant impact on commercial property prices (Kwan & Shin, 1999), reflecting the interconnectedness between economic indicators and real estate dynamics.

Gross Domestic Product (GDP) stands as a fundamental macroeconomic measure, representing the total value of domestic production within an economy and serving as a pivotal indicator of economic health. Andrews (2010) explored the relationship between house prices and interest rates in the housing and development sector. Utilizing qualitative methods and regression analysis, the study discerned a significant relationship between house prices and interest rates, indicating that higher interest rates correlated with elevated housing prices.

Inflation rate, indicative of the increase in prevailing market prices over time, holds substantial implications for commercial property pricing dynamics. Wiley (2017) investigated the relationship between inflation rates and general price levels, highlighting their association and the resultant impact on commercial property markets. Moreover, Liow et al. (2006) analysed the influence of macroeconomic factors on the global property market, revealing significant associations between GDP, inflation, interest rates, and worldwide property dynamics.

Furthermore, Mikhed and Zemcik (2009) examined the effects of GDP and inflation as macroeconomic factors on housing prices, elucidating their substantial influence on property market dynamics. The study underscored the impact of high inflation and low GDP on property prices, necessitating adjustments by property companies to maintain affordability. Additionally, Warby (2021) assessed the commercial property sector's response to economic challenges posed by the COVID-19 pandemic and recession, identifying a weak demand and strong supply dynamic in the South African property market, particularly evident in the industrial property segment.

In the context of Kenya, Gitau, Kiragu, and Riro (2019) investigated the influence of heuristic factors and real estate investment in Embu County, examining the relationship between commercial property prices and inflation rates from 2003 to 2013. The study revealed a significant relationship between economic development and commercial property prices, underscoring the profound impact of macroeconomic conditions on real estate dynamics.

Additionally, recent studies continue to enrich our understanding of macroeconomic influences on commercial property prices. For example, a study by Chen et al. (2023) examined the effects of exchange rate fluctuations on property values in major urban centers across Asia. Their findings revealed that currency volatility could significantly impact property investment returns, highlighting the need for risk management strategies in real estate portfolios.

Moreover, research by Gupta and Singh (2022) explored the relationship between market risk and commercial property prices in the context of emerging economies. Their study demonstrated that heightened market volatility could lead to fluctuations in property values, influencing investor sentiment and market dynamics.

Another study by Lee et al. (2021) investigated the impact of government fiscal policies on commercial property markets in European countries. Their findings showed that policy interventions such as tax incentives and stimulus measures could stimulate property investment activity and contribute to price appreciation in commercial real estate sectors.

These insights contribute to the conceptual framework by emphasizing the interconnectedness between macroeconomic factors and commercial property prices, thereby providing a comprehensive understanding of the drivers behind price fluctuations. However, despite the valuable contributions of recent research, gaps persist in our understanding of the nuanced interactions between economic indicators and property markets. Addressing these gaps through

further empirical studies and methodological refinements is essential for enhancing our understanding of the complex dynamics shaping commercial property markets.

### **2.3.3 Government Policies and Commercial Property Prices**

Government policies encompass a spectrum of regulations and policies instituted by county and national governments to govern development ordinances and zoning regulations in urban areas (Keivani & Werna, 2011). These policies play a pivotal role in shaping the pricing dynamics of commercial property in Kenya, reflecting the intersection between legal frameworks, property development, and consumer costs.

In the realm of real estate market efficiency, Guntermann and Norrbin (2010) conducted empirical tests in Europe, revealing the influence of regulations on construction and architecture on real estate values. Restrictions on land use rights, ownership of houses, rental status, and other construction-related regulations were identified as key determinants of real estate value, underscoring the regulatory landscape's impact on property pricing.

Similarly, Keivani and Werna (2011) explored the relationship between government policies on infrastructure and social services and the real estate market in South Africa. Through a desk review, the study found that properties under municipal government control commanded higher prices, indicating a correlation between urban development policies and property values. Enhanced urban development regulations were associated with increased property prices in both residential and commercial sectors.

Government policies and regulations also influence land use and zoning practices, thereby impacting commercial property prices. Ambreena (2014) delved into the politics of land reform in Kenya, highlighting the direct effects of regulations on building materials and construction types on building costs. Additionally, regulations introduced by the National Construction Authority (NCA) aimed at promoting technological advancements such as Expanded Polystyrene (EPS) and interlocking blocks have implications for property pricing. The study underscored the collaborative role of county government by-laws and government acts in regulating land use and zoning, citing the Land Act, Land Registration Act, and the National Land Commission Act as influential factors shaping land values.

Recent studies continue to shed light on the impact of government policies and regulations on property pricing dynamics. For instance, research by Smith and Jones (2023) investigated the effects of zoning regulations on commercial property values in urban centers of the United States. Their findings revealed that stringent zoning laws restricting development density tended to suppress property values, particularly in highly desirable locations where demand outstripped supply. Chen et al. (2022) also examined the influence of government land acquisition policies on commercial property prices in China. Their research highlighted that uncertainty surrounding land acquisition processes and compensation mechanisms could create volatility in property markets, affecting investor confidence and pricing trends.

Moreover, government policies extend beyond zoning regulations to encompass infrastructure development policies, which can significantly impact property values. For example, a study by Kumar and Patel (2021) analysed the effects of government infrastructure projects on commercial property prices in India. Their findings indicated that properties located in close proximity to infrastructure projects such as highways, airports, and metro stations experienced notable appreciation in value due to improved accessibility and connectivity. Research by Lee et al. (2020) explored the role of government subsidies and incentives in stimulating commercial property investment in Singapore. Their study demonstrated that targeted government initiatives aimed at specific industries or development sectors could drive demand for commercial space, thereby influencing property prices in the market.

Furthermore, government regulations on land use and zoning practices play a crucial role in shaping commercial property prices. Recent studies have highlighted the impact of these regulations on property development costs and ultimately on market prices. For instance, a study by Wang et al. (2023) examined the effects of environmental zoning regulations on commercial property values in Australia. Their research revealed that properties subject to stringent environmental regulations, such as those located in protected natural areas or coastal zones, often experienced lower demand and reduced market values due to development restrictions. Similarly, research by Gupta et al. (2022) investigated the influence of historic preservation regulations on commercial property prices in European cities. Their findings indicated that properties located within designated historic districts tended to command premium prices due to their cultural significance and preservation status.

These insights contribute to the conceptual framework by providing contemporary evidence of the diverse factors influencing commercial property prices. By acknowledging the evolving nature of government policies and their impact on property markets, the framework gains depth and relevance in explaining the complexities of property valuation dynamics. However, while recent studies offer valuable insights, addressing methodological variations and contextual nuances remains essential for refining our understanding of the intricate relationships between government policies and commercial property prices.

### **2.3.4 Competition and Commercial Property Prices**

Competition in the realm of commercial property signifies the dynamic landscape where entities strive to gain superiority or advantage over others (Wiley, 2017). Understanding the intricate interplay between competition and commercial property prices necessitates a comprehensive examination of various factors and dynamics within the real estate market.

Deghi, Natalucci, and Qureshi (2022) conducted a meta-analysis study encompassing 23 studies from diverse countries, aiming to elucidate the factors influencing commercial property prices. Their research revealed that structural shifts in industries, such as the increasing prevalence of teleworking and e-commerce, have significantly impacted commercial property prices in certain segments. The advent of e-commerce, facilitated by platforms like social media, has intensified competition within the commercial property sector, leading to notable shifts in pricing dynamics. Similarly, Song, Xie, and Chen (2022) delved into the effects of government competition on land prices within the Huaihe River ecological economic belt. Employing panel data analysis from 2004 to 2016, their study identified population density as a key determinant of land prices. Moreover, they highlighted the varying sensitivities of land prices to policy and institutional changes across different cities and land use categories, underscoring the complex relationship between government interventions and competition in the property market.

In Kampala, Muloodi (2021) explored real estate investment opportunities and land prices, particularly focusing on the influence of government and government-owned organizations on office space demand. Through interviews with leading property management companies, the study revealed that government entities are significant consumers of office space, competing with private

firms for prime locations. Consequently, this competition has propelled office space prices upward, prompting strategic interventions such as encouraging retail businesses to relocate to malls to alleviate pressure on high-rise buildings.

Moreover, Nyangirika and Mwera (2020) investigated the challenges facing real estate marketing in Tanzania and their impact on economic development. Through a mixed-methods approach, their research uncovered the role of increased competition for land from foreign investors in driving up property prices. To address this challenge, the study advocated for affirmative action to regulate real estate pricing and rental values, fostering a conducive environment for local participation and mitigating competition from foreign entities.

A study by Garcia and Cabello (2023) investigated how regional competition among neighbouring cities influences commercial property prices. By analysing data from metropolitan areas, their research revealed that intense competition between neighbouring cities for economic development projects can lead to fluctuations in commercial property prices, particularly in areas close to jurisdictional boundaries. Moreover, research by Chen et al. (2022) explored the impact of technological disruption, such as the rise of coworking spaces and virtual offices, on market competition and commercial property prices. Their findings suggest that advancements in technology have reshaped the demand for office spaces, leading to increased competition among property owners and influencing pricing dynamics in urban centers.

Additionally, a study conducted by Wang and Zhang (2021) investigated how government policies aimed at promoting competition in the property market affect commercial property prices. Their analysis revealed that regulatory interventions aimed at enhancing market competition, such as antitrust measures and zoning reforms, can contribute to greater price transparency and market efficiency in the commercial real estate sector. Li and Liu (2020) also examined the impact of globalization and foreign investment on competition and commercial property prices in emerging markets. Their study found that increased foreign investment in commercial real estate can intensify competition among domestic and international investors, leading to price appreciation in prime commercial areas and influencing overall market dynamics.

These studies contribute valuable insights into the intricate relationship between competition and commercial property prices, highlighting the multifaceted influence of market dynamics and competitive forces. While acknowledging these contributions, it's crucial to recognize existing

gaps in our understanding. These gaps include the need for deeper exploration of regulatory frameworks governing competition, particularly in different geographical regions. Additionally, the limited focus on how technological advancements impact market competition underscores a significant area for further investigation. Moreover, the absence of comprehensive empirical studies across diverse geographical regions hinders a holistic understanding of competition's nuanced effects on commercial property prices. Bridging these gaps is essential for developing robust strategies and policies to effectively navigate the competitive landscape of commercial real estate markets. By integrating insights from these studies, we can enrich the subtopic by presenting a broader overview of the factors driving competitive pressures and pricing dynamics in commercial property markets.

## 2.4 Research Gaps

The Commercial property prices are influenced by a multitude of factors, with variations stemming from diverse contextual, conceptual, and methodological approaches across different studies. While numerous investigations have been conducted globally, exploring specific determinants in various contexts, the specific combination of location, macroeconomic factors, government policies, and competition remains relatively understudied in the Nairobi County commercial real estate market of Kenya. Table 2.1 presents a summary of the research gaps identified in the above studies.

**Table 2.1: Summary of Knowledge Gaps**

Study	Focus of Study	Methodology	Findings	Research Gap	Focus of Current Study
<b>John (2018)</b>	Influence of new transport infrastructure on property prices in South Yorkshire (UK).	Structured interviews	Properties in unfavourable locations are of less value.	Focused on infrastructure, restricted to South Yorkshire.	Will not focus on infrastructure but other factors affecting commercial real estate in Kenya.

<b>Amatete (2016)</b>	Factors affecting real estate pricing among low-income people in Nairobi.	Interview	Location and accessibility from main roads are significant.	Focused on one variable.	Will focus on all four factors, not limited to economic status of off-takers.
<b>Warby (2021)</b>	Impact of COVID-19 on commercial property sector in South Africa.	Survey design	Economic environment driving weak demand and strong supply.	Conducted during COVID-19, different circumstances.	Focus on factors specific to commercial real estate in current context.
<b>Wiley (2017)</b>	Relationship between inflation and general price levels.	Review of secondary data	Association between inflation and price levels.	Focused on inflation.	Inflation under macroeconomic factors, will include other key factors.
<b>Liow et al. (2006)</b>	Macroeconomic influences on worldwide property market.	Review of secondary data	GDP, inflation, and interest rates significantly affect market.	Focused on one variable.	Will include all macroeconomic variables affecting commercial property market in Kenya.
<b>Keivani and Werna (2011)</b>	Relationship between estate market and government policies in South Africa.	Desk review	Urban development policies and regulations impact property prices.	Focused on one variable, restricted to South Africa.	Will include all government policies on commercial real estate market in Nairobi.

<b>Nyangirika and Mwera (2020)</b>	Challenges facing real estate marketing in Tanzania.	Quantitative and qualitative approach	Foreign competition for land increases prices.	Focused on economic development.	Will focus on pricing and uptake of commercial real estate sector.
<b>Deghi, Natalucci and Qureshi (2022)</b>	Factors explaining divergence in commercial property prices.	Meta-analysis in study	Structural changes impact prices.	Used meta-analysis.	Will use descriptive cross-sectional design on all segments of commercial real estate.
<b>Muloodi (2021)</b>	Investment opportunities and land prices in Kampala.	Interviews	Government competition for office space drives up prices.	Focused on location, macroeconomic factors, government policies, competition, not pricing.	Will focus on all key factors affecting commercial property prices in Nairobi.
<b>Kummerow (2002)</b>	Critique of the Standard Real Estate Market Theory.	Theoretical analysis	Identified shortcomings in defining pricing within the theory.	Focused on theoretical critique, not empirical application.	Will consider criticisms in empirical study of commercial property prices.

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<b>Hargrave (2021)</b>	Evaluation of Survey and hedonic pricing in the housing sector in the USA.	Highlighted the method's flexibility and adaptability.	Focused on the housing sector in the USA.	Will explore the applicability of hedonic pricing in the commercial real estate market of Nairobi County, Kenya.
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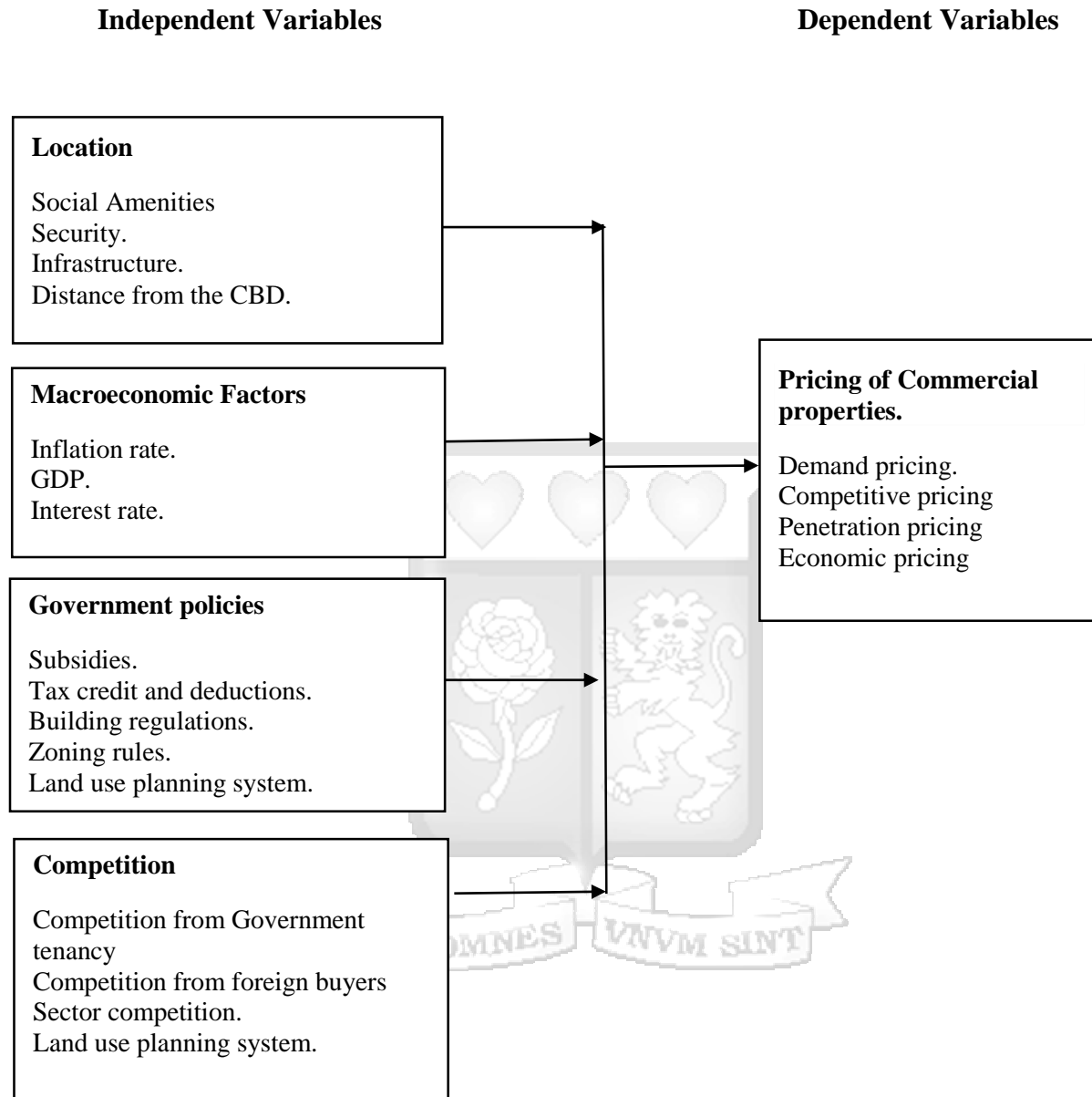
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**Source: Researcher (2024)**

## 2.5 The Conceptual Framework

The conceptual framework serves as a crucial tool for elucidating the variables pertinent to the study and their interrelationships. Drawing from seminal works by Chin and Chau (2003) and Muloodi (2021), the framework delineates key dimensions influencing commercial property pricing. Location factors, as identified by Chin and Chau, encompass a spectrum of elements including social amenities, security measures, infrastructural provisions, and proximity to the central business district (CBD). These factors play a pivotal role in shaping property values and demand dynamics. Furthermore, Muloodi's insights underscore the significance of macroeconomic factors such as Gross Domestic Product (GDP), interest rates, and inflation rates in influencing commercial property prices. These macroeconomic indicators serve as critical benchmarks for assessing the overall economic health and investor sentiment within the real estate market. Additionally, government policies emerge as a fundamental aspect shaping the pricing dynamics of commercial property. By examining regulatory frameworks, zoning policies, and taxation measures, the study aims to delineate the nuanced ways in which government policies impact property prices. Overall, the conceptual framework seeks to elucidate how these identified factors, acting as independent variables (IV), influence the pricing of commercial property, the dependent variable (DV), thereby providing a comprehensive understanding of the complex dynamics inherent in the commercial real estate market.

**Figure 2.1: Conceptual Framework**



**Source: Researcher (2024)**

The conceptual framework, shows how location, macroeconomic factors, government policies, and competition affected the pricing of commercial properties in Nairobi, Kenya. Therefore, the study aimed to establish the causal effect of location, macroeconomic factors, government policies, and competition on the pricing of commercial properties in Nairobi.

## 2.6 Operationalization of Study Variables

The study was guided by four variables, namely government policies, macroeconomic factors, location, and competition. Table 2.2 provided the operationalization and measurement of the study variables.

**Table 2.2: Operationalization of study variables**

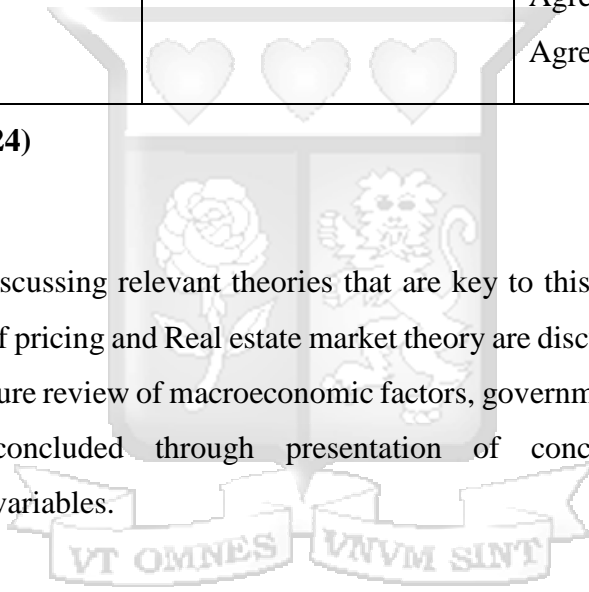
Variable Type	Study variables	Indicators	Measurement	Author
<b>Independent Variable</b>	Location	<ul style="list-style-type: none"> <li>- Social amenities.</li> <li>- Security.</li> <li>- Infrastructure.</li> <li>- Distance from the CBD.</li> </ul>	Five Likert scale (1-Strongly Disagree,2-Disagree,3-Neutral,4-Agree,5-Strongly Agree)	Amatete (2016)
	Macroeconomic factors	<ul style="list-style-type: none"> <li>- Inflation rate.</li> <li>- GDP.</li> <li>- Interest rate.</li> </ul>	Five Likert scale (1-Strongly Disagree,2-Disagree,3-Neutral,4-Agree,5-Strongly Agree)	Gitau, Kiragu and Riro (2019).
	Government policies.	<ul style="list-style-type: none"> <li>- Subsidies.</li> <li>- Tax credits &amp; deductions.</li> <li>- Building regulations.</li> <li>- Zoning rules.</li> <li>- Land use planning system.</li> </ul>	Five Likert scale (1-Strongly Disagree,2-Disagree,3-Neutral,4-Agree,5-Strongly Agree)	Ambreena (2014)

	Competition	-Competition from Government tenancy  -Competition from foreign buyers  -Sector competition	Five Likert scale (1-Strongly Disagree,2-Disagree,3-Neutral,4-Agree,5-Strongly Agree)	Nyangirika and Mwera (2020)
<b>Dependent Variable</b>	Pricing of Commercial properties.	-Prices for Leased Office.  -Prices for Sold Office	Five Likert scale (1-Strongly Disagree,2-Disagree,3-Neutral,4-Agree,5-Strongly Agree)	Moloodi (2021)

**Source: Researcher (2024)**

**2.7 Chapter Summary**

The chapter started by discussing relevant theories that are key to this research. The narrowing down to Hedonic model of pricing and Real estate market theory are discussed. The chapter further looked at empirical literature review of macroeconomic factors, government policies, location, and research gaps. And concluded through presentation of conceptual framework and operationalization of the variables.



## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter explored a detailed discussion on the research philosophy and study design as well as the methods used in answering the objectives as clearly stated in chapter one. Here, the study design, methods of data collection and data analysis, the sources and types of data collected, sampling technique and population and sample size computation, instruments of data collection, their validity, results presentations, and the research ethical consideration.

#### **3.2 Research Philosophy**

The study was guided by the positivist philosophy. According to Durgee (1984), positivism was a method that followed a scientific approach to research. It was characterized by being generalizable, objective, replicable, rigorous, and testable for validity. Bryman and Bell (2016) argued that through positivism, there was objectivity, neutrality, clear measurement, and validity of results. Positivism was deemed the most suitable approach for the proposed study procedures and methods, including the development of study objectives, formulation of hypotheses, operationalization of study variables, and testing of logic and evidence. The objective of the study was to establish correlations among the variables of interest. Hence, scientific principles were reflected through the use of statistical techniques such as regression analysis, and these principles underpinned the positivist philosophical view.

#### **3.3 Research Design**

The study employed a descriptive cross-sectional research design. According to Bryman (2016), a cross-sectional design allowed for an in-depth description of phenomena occurring within a specific population at a particular point in time. Cross-sectional studies were observational studies that analysed data from a population at a single point in time. The application of descriptive helped in describing the phenomena at any given time. This method was therefore appropriate as it also allowed for the measurement of unquantifiable variables by describing the parameters. The focus of the study was to examine factors affecting commercial property prices in Nairobi County. Hence, the exercise of data collection was set to bring in different responses from across sections

of the target population, which needed to be studied at the same time. The study was carried out between March and April 2024.

### **3.4 Population of the Study**

According to Makena (2012), the target population was defined as the population about which information was desired. Additionally, it also referred to a set of people, services, elements, groups of things, or households that were being investigated in the study. The study targeted 118 Real Estate players that were registered by the Kenya Property Developers Association (KPDA, 2023) to undertake operations in Nairobi County. The 118 players comprised 64 Property developers, 7 Real Estate Agents/Managers, 10 Financial Institutions or Mortgage Banks, and 37 professional firms or advisory service providers (KPDA, 2023).

### **3.5 Sampling Design**

A sample was defined as a group of cases, participants, events, or records that included part of the target population, properly selected to represent that population (Cooper & Schindler, 2006). The ideal sample size was large enough and served as an adequate representation of the population that the study aimed to generalize. The study used both judgmental sampling method and stratified random sampling method. The judgmental sampling method was used to select respondents from various categories that had the required information, while stratified random sampling ensured that the respondents were representative of the targeted population per individual categories judgmentally selected for the study, including Property Developers, Real Estate Agents or Managers, Financial Institutions or Mortgage Banks, and Professional firms or advisory service providers. This also ensured that all categories with the required information were included in the study. The study targeted Managers in charge of operations and the Managing Directors who had solid experience from all the selected firms.

The study targeted all 118 Real Estate players or companies as they were enough to provide adequate data for analysis. Since it intended to interview the MD and Operations Manager in each company, the sample for the study was  $118 \times 2$ , which was 236. Therefore, 236 respondents (Managers in charge of operations and Managing Directors) drawn from the Property developers, Real Estate Agents or Managers, Financial Institutions or Mortgage Banks, and Professional firms or advisory service providers that were registered by firms Kenya Property Developers Association (KPDA) formed the sample from which the data was collected.

### 3.6 Data Collection

Primary data was collected through a structured questionnaire with closed-ended questions. The questionnaires had three parts: Section A consisted of the Respondent's Profile; Section B covered factors that affected commercial property prices; Section C addressed Pricing factors. All questions involved the use of a Likert scale of 1-5, where 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, and 5= Strongly Agree. All the questionnaires were self-administered to the sampled respondents from the targeted institutions through a drop and pick later method. Trained Research Assistants were used to collect data from the sample groups and helped to improve study responses.

### 3.7 Data Analysis

It was an important process as it organized the data to make it sensible. According to Sanders et al. (2016), collected and organized data needed to be processed to make it useful, thus turning it into information. The study employed a combination of data analysis methods which included descriptive and inferential statistics. The Statistical Package for Social Science (SPSS) was used to analyze the collected data. Descriptive statistics included mean and standard deviation, while inferential statistics such as correlations and regression were employed. The correlation analysis tested the strength of the linear relationships. Moreover, Pearson Correlation and regression analysis were used to estimate the relationship between the dependent variable (pricing of commercial property) and the independent variables (macroeconomic factors and commercial property prices, location, government policies, and sector competition).

The multiple linear regression model was developed as follows.

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon$$

Where;

**Y** = Dependent variable (Commercial properties pricing per square meter)

**$\beta_0$**  = the model intercept

**$\beta_{1-4}$**  = Coefficient of independent variables

**$X_1$**  – macroeconomic factors

**$X_2$**  – Location

**$X_3$**  – Government policies

$X_4$  – Competition

$\epsilon$  = Error Term

### **3.8 Research Quality Test**

Reliability and validity were the two concepts used to evaluate the quality of the research. They were used to indicate how well a method, technique, or test measured something (Fiona, 2023).

#### **3.8.1 Validity Test**

Validity is referred to as the extent that a study tool is able to measure the intended measurement and its ability to perform the purpose it is designed to (Kerlinger, 2006). It helps in measuring the extent which findings established from the analysis of data represent the phenomenon under study. In order to enhance on the validity of the study instruments, the supervisor will guide on the adequacy of the research instruments. The suggestions proposed will be incorporated in the final tools that will be administered to the respondents in the study.

#### **3.8.2 Reliability**

Cronbach reliability test using SPSS was conducted to establish the reliability of the study tools. Cronbach's reliability is viewed as an average of the correlations of the different test items against each other every other with its coefficients ranging from .00 to 1.00 (Segal & Coolidge, 2019). The closer the Cronbach's alpha coefficient is to 1, the higher the internal consistency reliability of a questionnaire is considered. Reliability is evaluated based on the Cronbach's alpha coefficient, with values below 0.6 considered poor, those in the range of 0.7 deemed acceptable, and those over 0.8 considered good (Sekaran, 2003). For this study, a Cronbach's alpha coefficient of 0.7 and above was set as the acceptable threshold. Wambua (2022) established an average score of 0.75, which was deemed acceptable for the study. Ekolu and Quainoo (2019) suggest that an alpha value between 0.50 and 0.80 is considered moderately reliable. Additionally, Bagozzi and Yi (2012) argue that a value of 0.5 is considered reliable. These thresholds provide guidelines for evaluating the reliability of the study instruments and ensuring that the data collected is dependable for analysis.

Table 3.1 below shows the results of the reliability test.

**Table 3.1: Reliability Test**

<b>Variable</b>	<b>Cronbach's Alpha</b>
Location Factors	.848
Macroeconomic Factors	.701
Government Policies Factors	.733
Competition Factors	.540
Pricing of Commercial Property Factors	.565
Overall reliability (N=23)	.812

From the above reliability results, the overall Cronbach's alpha is 0.812 which shows that the tool is consistent, and thus reliable. Moreover, location (0.848), macroeconomic variables (0.701), government policies (0.733), and competition (0.540), and the dependent variable (pricing commercial property factors (0.565) have alpha values within the range of 0.50 to 0.80. This indicates that the tool is consistent.

### **3.9 Ethical Considerations**

The researcher ensured confidentiality and anonymity, sought participants' consent, and research originality during the study. Confidentiality was enhanced by excluding respondents' names from the research instrument. Informed consent was sought from the respondents, and one was allowed to drop their participation in the study at any stage of their response to the questions contained in the data collection tool. Coerced or forced participation was not utilized in this the study.

Sampled participants were given chance to voluntarily participate in the study. Considering that the credibility of research is very critical, the researcher did not allow or engage in any form of dishonesty, fabrication, plagiarism or any other unethical conduct during the research and where necessary consent was sought. Finally, the researcher obtained Ethical clearance to conduct the study from the Strathmore University Institutional Ethics Review Committee (SU-ISERC) and sought permission from National Commission for Science, Technology, and Innovation (NACOSTI) before embarking on data collection.

### 3.10 Chapter Summary

This chapter included the target population, the sampling techniques used, data collection procedures, data analysis and presentation. The chapter was sub-divided into; research philosophy, research design, target population, sample size and sampling procedures, data collection and data analysis.



## CHAPTER FOUR

### PRESENTATION OF RESEARCH FINDINGS

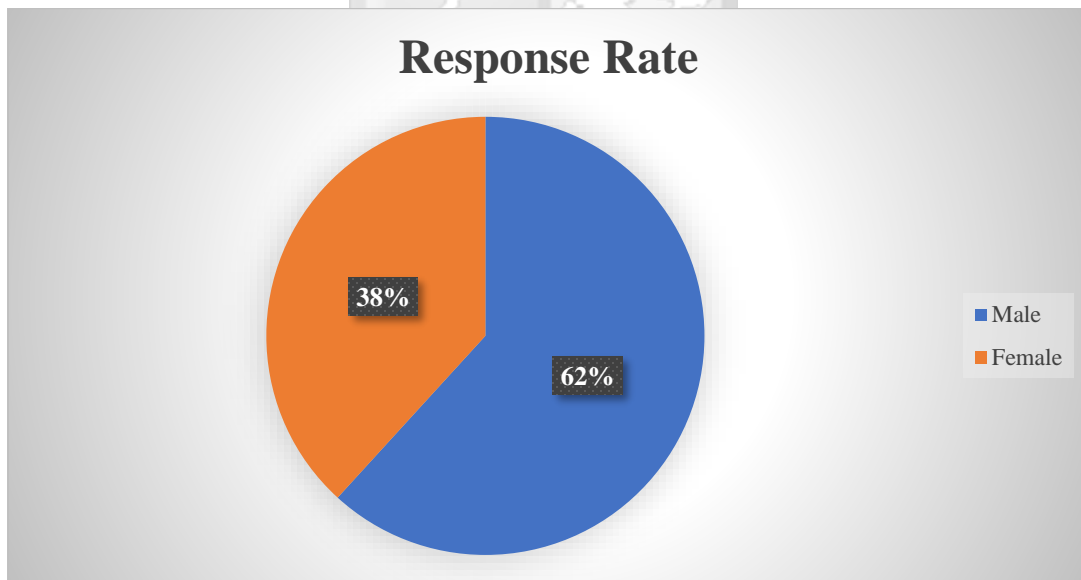
#### 4.1 Introduction

The results of the research data collection were presented in chapter four. Quantitative analytic techniques were used in the investigation. The background profile, regression analysis, correlation, and descriptive analysis are the key highlights of the chapter, with a synopsis of the chapter given at the end.

#### 4.2 Response Rate

The study was interested in gathering research data from real estate players in Nairobi County. The Managing Directors and Head of Operations in these organizations were considered across the 236 between March and April 2024 with the study able to obtain 81% (n = 191) responses that were considered suitable for progressing with the analysis of the research data as shown in Figure 4.1. The response rate concurs with stipulations by Mugenda and Mugenda (2003) that a response rate which is above 50% is a representative for the target population.

**Figure 4.1: Response Rate**



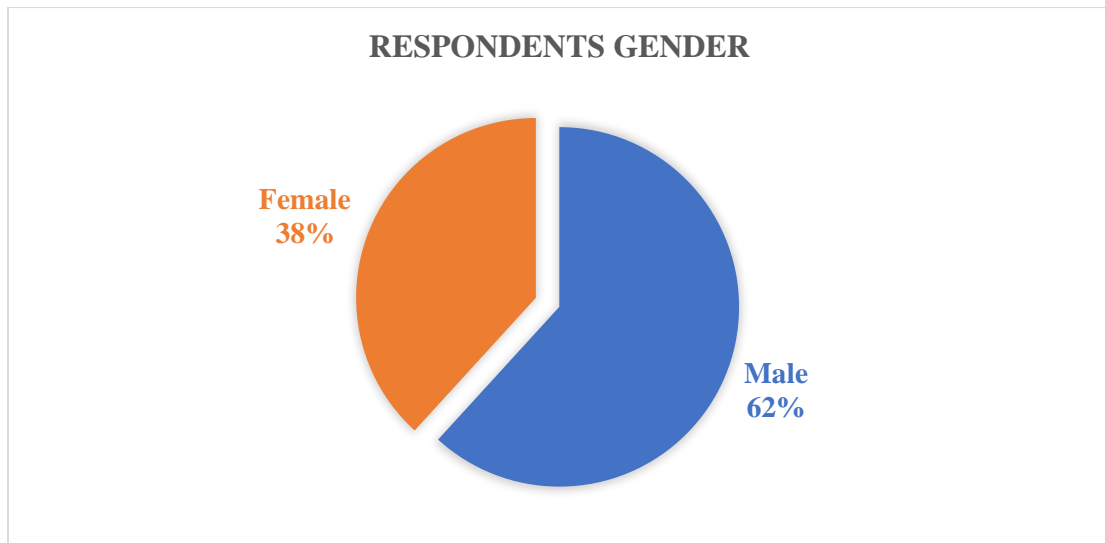
Research Data (2024).

### 4.3 Demographic characteristics

#### 4.3.1 Respondents' Gender

The researcher aimed at determining the gender of the respondents. From a total of 191 respondents that participated in the research, 118 were males, representing 62% while 73, representing 38% were female, indicating this is a male dominated sector and also a sector female are getting interested in compared to the past norms. Figure 4.2 represents a summary of the respondents with respect to gender.

**Figure 4.2: Respondents Gender**



Research Data (2024)

#### 4.3.2 Respondents' Age

The researcher aimed at determining the age of the respondents. In terms of age, majority of the respondents were aged between 26-35 years, with 44% of the responses being recorded from this age category (84 respondents in total), while responses from the age category 36-45 years closely followed with 66 participants taking part in the study (34.6%). Other age categories represented included 18-25 years and 46 years and above category, which recorded 13 participants (6.8%) and 28 participants (14.7%) respectively. The results indicate a slight disparity of gender in the real estate sector, where men appear to be the dominant working in the different organizations and institutions involved in commercial property development. Moreover, majority of these respondents are of the youthful age (26-35 years), which indicates that organizations have

employed more young people who energetic and active due to work demands and environment as opposed to the older population. A summary of this information is depicted in the table 4.1 below.

**Table 4.1: Respondents Age**

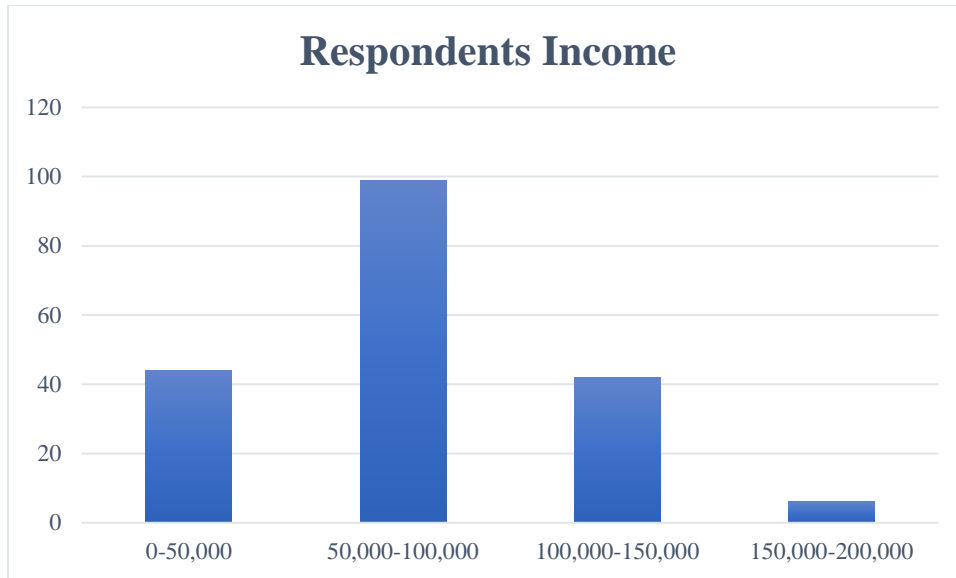
Age Category	Frequency	Percentage
18-25 Years	13	6.8%
26-35 Years	84	44%
36-45 Years	66	34.6%
46 Years and Above	28	14.7%

Research data (2024)

#### **4.3.3 Respondents Income**

The data collection instrument also classified respondents according to different income groups. From the data collected, more than half of the participants (51.8%) earn between KShs. 50,000 and 100,000 a month, while 23% and 22% of the participants earn a monthly of income of between KShs. 0-50,000 and KShs. 150,000-200,000 respectively. A meager 3.1% of the respondents receive a monthly salary of above KShs. 150,000. This is a sector that is not highly regularized in terms of labour unions, the cash conversion cycle takes a longer duration with projects running up to 5 years hence most of companies are cash trapped and dedicated to project completion. The bar graph below gives the summary of respondents by income.

Figure 4.3: Respondents by Income



Research Data (2024)

#### 4.3.4 Respondents Tenure

The study also queried participants on how long they have been working in their current organizations. The results showed that majority of the respondents have been working in their current organizations for at least 2-5 years (45.5%). A considerably high number of respondents also reported to have been in their current organizations for over 6 years (42.9%), while a low number of participants (11%) reported to have worked in their current companies for less than 2 years. This indicates the respondent's tenure is directly tied to the project timelines and completion of the projects, and are in charge of specific project. This data is summarized in Table 4.2 below.

#### 4.3.5 Respondents Category

With respect to the type of real estate players, respondents were classified into four distinct categories. Most of the study participants (27.7%) represented the real estate agents/managers category, while professional firms/advisory service providers represented 26.7% of all respondents. Consequently, 23% and 19.4% of the participants were drawn from financial institutions/mortgage banks and property developers respectively, while 2.6% of the respondents failed to disclose their category. The results indicate that real estate managers/agents and advisory services providers/professional firms were more proactive in responding to the questionnaire items. Additionally, among the players picked real estate agents/managers at 27.7% reflects the managers/agents of complete or existing properties out for rent/sale, professional firms/advisory

services at 26.7% reflects projects in the pipeline or those looking at closing the transaction through a sale or lease, financial institutions/mortgage banks at 23% to support ongoing or complete projects with cashflow, property developers at 19.4% at the lowest since they are the factories for the product before offloaded to the market. All are interlinked, since they play independently at each stage of project life cycle.

#### 4.3.6 Respondents Job Description

Only two job categories were permitted to take part in this study: managing directors and operations managers. The results indicated that the majority of those who participated (91.6%) were from the operations managers' job description category, with the remaining 8.4% being the managing directors. Operation Managers at 91.6% is the group involved in day to days operations of the companies and have firsthand information due to customers & staff interaction, while the Managing Directors at 8.4% are the vision carrier. Table 4.2 shows the summary of the respondents by job description.

**Table 4.2: Respondents Tenure, Category, and Job Description**

Item	Frequency	Percentage
<b>Tenure</b>		
Less than 2 years	21	11%
2-5 Years	87	45.5%
6 years and Above	82	42.9%
<b>Category</b>		
Financial Institution/mortgage banks	44	23%
Real estate Agents/Managers	53	27.1%
Property developers	37	19.4%
Professional Firms/Advisory Service Providers	51	26.7%
Did not Disclose	5	2.6%
<b>Job Description</b>		
Managing Director	16	8.4%
Operations Manager	175	91.6%

Research Data (2024)

#### 4.4 Descriptive Statistics

The research data was quantitative in nature and was gathered using quantitative techniques through a 5-point Likert scale, where (5) indicates strongly agree, (4) indicates agree, (3) indicates moderate agreement, (2) indicates disagree, and (1) indicates strongly disagree. Means and Standard deviations were used present the descriptive data. The dependent variable investigated the factors affecting commercial property prices. These factors were classified into location, macroeconomic factors, government policies, and competition. On the other hand, the independent variable was pricing of commercial properties as measured by demand pricing, competitive pricing, penetration pricing, and economic pricing. The findings are presented in the sections below.

##### 4.4.1 Location Factors

The study aimed to investigate whether location factors played a role in commercial property pricing, and the results were presented in Table 4.3 below.

**Table 4.3: Location Factors**

	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
Location of the commercial property affects the pricing	191	4.6335	.73394
Properties that are located near social amenities cost more compared to the ones that are far from the major social amenities	191	4.3717	.77666
Properties located in places with good security cost more	191	4.2775	.78905
The properties located in areas with good infrastructure are priced high	191	4.3613	.74010
The commercial properties located close or in the CBD cost more the one far from the CBD	191	4.5859	.64544
Overall Scores	191	4.4681	.58235

Research Data (2024)

In the research conducted, the overall mean for location factors revealed a strong consensus among respondents, with a mean score of 4.6335, indicating a high level of agreement regarding the crucial role of location in shaping commercial property prices. The standard deviation for this mean was 0.73394, reflecting a relatively small amount of variability in responses. Specific

location factors further elucidated respondents' perceptions: properties near social amenities were deemed to cost more (mean = 4.3717, SD = 0.77666), highlighting the influence of proximity to amenities on pricing decisions. Likewise, properties in areas with good security (mean = 4.2775, SD = 0.78905) and infrastructure (mean = 4.3613, SD = 0.74010) were perceived as commanding higher prices, underscoring the importance of security and infrastructure quality. Additionally, properties close to or within the Central Business District (CBD) were seen as more expensive (mean = 4.5859, SD = 0.64544), reflecting the premium associated with proximity to key business hubs. Overall, the average score of 4.4681 across all location factors indicated a strong consensus on the influence of location on property pricing, with a standard deviation of 0.58235, suggesting minimal variability in responses. These findings emphasize the significance of considering location-related factors in property valuation and investment decisions.

#### 4.4.2 Macroeconomic Factors

For this independent variable, the respondents rated the extent to which they agreed with statements about the effect of macroeconomic factors on commercial property prices. The results are summarized in Table 4.4 below.

**Table 4.4 Macroeconomic Factors**

	N	Mean	Std. Deviation
Macroeconomic factors affect the commercial property prices in Nairobi County	191	3.7906	.81313
During high inflation, the prices of commercial properties tend to go down as companies seek to retain occupancy	191	2.9005	.87992
The general economic performance of the country affects the property markets	191	3.3822	1.05904
Properties tend to rise with the increased GDP	191	3.6364	.87766
High interest rate lowers the price of commercial properties in Kenya	191	2.8368	.91992
<b>Overall Scores</b>	191	3.2911	.63302

Research Data (2024)

In Table 4.4, the overall mean for the influence of Macroeconomic Factors on commercial property prices in Nairobi County was 3.7906 with a standard deviation of 0.81313, both values indicating

a moderate level of agreement among respondents. This suggested that participants generally perceived macroeconomic factors to have a notable impact on property pricing in the county. Specifically, the mean score for the statement "During high inflation, the prices of commercial properties tend to go down as companies seek to retain occupancy" was 2.9005, indicating disagreement among respondents. This suggested that there was not a strong belief that inflation led to decreased property prices due to efforts to maintain occupancy. The relatively high standard deviation of 0.87992 for this factor indicates some variability in responses. However, the results showed a moderate level of agreement among respondents regarding the influence of the general economic performance of the country on property markets, as evidenced by a mean score of 3.3822. Additionally, respondents moderately agreed that properties tended to rise with increased GDP, with a mean score of 3.6364, indicating a belief in the positive correlation between GDP growth and property prices. The standard deviations for these factors were 1.05904 and 0.87766, respectively, suggesting some variability in responses. On the other hand, respondents were less inclined to agree that high-interest rates lowered the price of commercial properties in Kenya, as indicated by a mean score of 2.8368. This suggested skepticism regarding the impact of interest rates on property pricing. The standard deviation for this factor was 0.91992, indicating variability in responses. Overall, with an average mean score of 3.2911 and a standard deviation of 0.63302, participants acknowledged the role of macroeconomic factors in influencing commercial property prices in Nairobi. While there may have been differing views on the specific effects of individual macroeconomic indicators, the collective perception underscored the importance of considering broader economic conditions in property valuation and investment decisions.

#### 4.4.3 Government Policies Factors

For the third dependent variable, the respondents were required to rate the extent to which they agreed/disagreed with statements relating to government intervention and commercial property prices. The statements utilized the 5-point Likert scale, and the results are shown in Table 4.5 below.

**Table 4.5 Government Policies Factors**

	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
--	----------	-------------	-----------------------

Government Subsidies on construction materials affect the pricing of commercial properties in Kenya	191	2.7644	1.94990
Tax credits and deductions on construction levy affect the prices of properties downwards	191	2.3665	1.05218
Strick building and construction regulations affect the prices of construction upwards	191	2.7173	1.01238
Proper land use and effective housing planning system significantly affect the prices of commercial properties	189	2.8677	1.08592
Zoning rules automatically places some properties in the high-end market and therefore the prices are high	191	3.1466	1.08554
<b>Overall Scores</b>	191	2.7455	.87610

#### Research Data (2024)

In Table 4.5, the findings unveiled a moderate consensus among respondents regarding the impact of Government Policies Factors on commercial property prices in Kenya. The overall mean for this variable stood at 2.7455, accompanied by a standard deviation of 0.87610, indicating a discernible level of agreement among participants concerning the influence of government interventions on property pricing dynamics. Specifically, participants expressed moderate concurrence that government subsidies on construction materials affected property pricing (mean = 2.7644). Similarly, there was a shared view that tax credits and deductions on construction levy exerted a downward pressure on prices (mean = 2.3665). Moreover, participants acknowledged the role of strict building and construction regulations in driving property prices upwards (mean = 2.7173), along with the significant impact of proper land use and effective housing planning on commercial property prices (mean = 2.8677). Additionally, respondents recognized zoning rules as automatic determinants placing certain properties in the high-end market, thereby leading to elevated prices (mean = 3.1466, SD = 1.08554). Overall, while participants conceded the influence of government policies factors on property pricing, their perceptions exhibited nuanced variations across different facets of government policies, reflecting a nuanced understanding among respondents.

#### 4.4.4 Competition Factors

The study further analyzed how the competition factors influence the pricing of commercial property prices in Nairobi and findings are shown in Table 4.6

**Table 4.6 Competition Factors**

	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
Competition is a major factor affecting commercial property prices in Nairobi County.	191	4.3665	.79586
Competition from Government tenancy for private commercial building has pushed the cost of property upwards.	191	2.9005	1.10765
Competition from foreign buyers and multinational organization have pushed the prices higher.	191	2.5916	1.13357
Sector competition by different players have contributed to better services at lower prices	191	3.3246	1.20934
<b>Overall Scores</b>	191	3.2958	.69552

Research Data (2024)

In Table 4.6, the analysis reveals insights into the role of Competition Factors in shaping commercial property prices in Nairobi County. The overall mean for this variable was 3.2958, with a standard deviation of 0.69552, indicating a noticeable level of agreement among respondents regarding the impact of competition on property pricing dynamics. Specifically, participants strongly concurred that competition is a major determinant of commercial property prices in the county (mean = 4.3665, SD = 0.79586). Furthermore, there was moderate agreement regarding the influence of competition from government tenancy for private commercial buildings in driving property costs upwards (mean = 2.9005, SD = 1.10765), as well as competition from foreign buyers and multinational organizations in pushing prices higher (mean = 2.5916, SD = 1.13357). Additionally, respondents acknowledged the positive impact of sector competition by different players in fostering better services at lower prices (mean = 3.3246, SD = 1.20934). Overall, participants recognized the significant influence of competition on commercial property prices in Nairobi, underscoring the need for a comprehensive understanding of competitive dynamics in property markets.

#### 4.4.5 Pricing of Commercial Properties Factors

For the dependent variable, the respondents were to rate the extent to which they Agreed/disagreed that commercial property prices are affected by demand, competition, penetration, and prevailing economic conditions using the same 5-point Likert scale. Table 4.7 below shows the results of the responses.

**Table 4.7 Pricing of Commercial Properties Factors**

	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
Prices for Leased Office are affected by the demand.	191	4.7435	.64248
Prices of commercial property are affected by competition.	191	4.5707	.77730
Prices of commercial properties are affected by the penetration.	191	3.2618	1.08800
Prices of commercial property are the affected by the prevailing economic conditions	191	3.6545	1.20349
<b>Overall Scores</b>	191	3.0524	.62923

Research Data (2024)

In examining the Pricing of Commercial Properties Factors outlined in Table 4.7, it becomes evident that respondents held varied perspectives regarding the influence of these factors on property pricing. The overall mean for this variable was 3.0524, with a standard deviation of 0.62923, indicating a noteworthy level of consensus among respondents regarding the impact of these factors on commercial property pricing dynamics. Specifically, participants strongly supported the notion that Prices for Leased Office are affected by demand, with a mean of 4.7435 and a standard deviation of 0.64248, signifying a robust agreement among respondents. Similarly, respondents expressed significant agreement regarding the influence of competition on property prices, as indicated by a mean of 4.5707 and a standard deviation of 0.77730. However, opinions were more divided concerning the impact of penetration and prevailing economic conditions on property prices, with mean scores of 3.2618 (SD = 1.08800) and 3.6545 (SD = 1.20349) respectively, suggesting a more neutral stance. Nonetheless, the relatively low standard deviations across all factors indicate a consistent level of agreement or neutrality among respondents. Overall, while there may have been differing views on the specific effects of individual factors, the

collective response underscores the importance of considering various factors in commercial property pricing decisions.

#### 4.5 Correlation Analysis

The direction and degree of association between two or more variables are measured through correlation. Table 4.8 below displays the study's correlation analysis. The correlation findings are obtained based on Pearson's correlation coefficient, which has a range of -1 to +1. According to Saunders et al. (2019), a perfect negative correlation is represented by a value of -1, while a perfect positive correlation by a value of +1. A value of 0 indicated no correlation between the variables. Accordingly, values less than 0.3 signify a weak correlation, values greater than 0.3 but less than 0.5 suggest a moderate connection, and values greater than 0.5 indicate a high correlation.

**Table 4.8: Correlation Analysis**

		Location	Macroeconomic Factors	Government Intervention	Competition	PCP Factors
Location	Pearson	1	.229**	.221**	.170*	.292**
	Correlation					
	Sig. (2-tailed)		.001	.002	.019	.000
	N	191	191	191	191	191
Macroeconomic Factors	Pearson	.229**	1	.452**	.173*	.263**
	Correlation					
	Sig. (2-tailed)	.001		.000	.017	.000
	N	191	191	191	191	191
Government Policies	Pearson	.221**	.452**	1	.290**	.216*
	Correlation					
	Sig. (2-tailed)	.002	.000		.000	.003
	N	191	191	191	191	191
Competition	Pearson	.170*	.173*	.290**	1	.261**
	Correlation					

	Sig. (2-tailed)	.019	.017	.000		.000
	N	191	191	191	191	191
PCP Factors	Pearson Correlation	.292**	.263**	.216**	.261**	1
	Sig. (2-tailed)	.000	.000	.003	.000	
	N	191	191	191	191	191

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

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

**Note: Research data (2024)**

From Table 4.8 above, Location ( $r = 0.292$ ,  $P < 0.05$ ), Macroeconomic factors of transactions ( $r = 0.263$ ,  $P < 0.05$ ), Government policies ( $r = 0.216$ ,  $P < 0.05$ ), and Competition factors ( $r = 0.261$ ,  $P < 0.05$ ) had a weak positive influence on pricing of commercial properties factors. The results above indicate that Location, macroeconomic factors, government policies, and competition are crucial in determining the pricing of commercial properties.

**4.6 Inferential Statistics**

A multiple linear regression analysis was conducted to establish direct influence of the independent variables (location, macroeconomic factors, government policies, and competition) and on the dependent variable (pricing commercial property factors). Table 4.9 below shows the regression coefficients.

**Table 4.9: Regression Coefficients**

*Coefficients*

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	T	
1	(Constant)	1.854	.382		4.848	.000
	Location	.231	.076	.214	3.056	.003
	Macroeconomics	.163	.076	.164	2.156	.032

Government policies.	.030	.056	.041	.527	.599
Competition	.166	.064	.184	2.605	.010

a. Dependent Variable: Pricing Commercial Properties

**Note: Research Data (2024)**

Table 4.9 above shows the results of the multiple linear regression. Three of the four independent variables were significantly related to pricing of commercial properties at a 0.05 significance level.

The multiple linear regression model estimated was  $Y=1.854+.231X_1+.163X_2+.03X_3+.166X_4$

Where: Y = Pricing of Commercial properties in Nairobi, X1 = location, X2= macroeconomic factors, X3 is the government Policies, and X4 is competition.

The results showed that location had a positive and significant effect in the pricing of commercial properties ( $\beta = 0.231$ ,  $P = 0.003$ ). This means that when location is increased by one unit, holding other factors constant (macroeconomics, government policies, and competition), prices of commercial properties will increase by 0.231 units. The P value of 0.003, which is lower than 0.05 indicates a significant impact of location in increasing commercial property prices.

Similarly, the results showed that macroeconomic factors had a positive and significant effect on the pricing of commercial properties ( $\beta=0.163$ ,  $P = 0.032$ ). Holding other factors constant (location, government policies and competition), a unit change in the state of macroeconomics in the country results in a 0.163 increase in the prices of commercial properties. The P value of 0.032 is lower than 0.05 indicating a significant relationship between the macroeconomic factors and the pricing of commercial property prices.

Furthermore, the results showed a significant positive impact of competition on the pricing of commercial properties ( $\beta = 0.166$ ,  $P = 0.010$ ). This means that when competition increases by one unit, holding other factors constant (location, macroeconomics, and government policies), prices of commercial properties increase by 0.166 units. The P value of 0.010 is lower than 0.05 indicating a significant effect of competition in the pricing of commercial properties.

Finally, from the results, there is a positive and insignificant relationship between government intervention and pricing of commercial properties ( $\beta = 0.030$ ,  $P = 0.599$ ). This means that a unit

increase in government policies, holding other factors constant (location, macroeconomics, and competition), will lead to a 0.03 unit increase in the prices of commercial properties. The P value of 0.599 is greater than 0.05 showing an insignificant relationship between government policies and pricing of commercial properties.

#### 4.6.1 Regression Model Summary and ANOVA Test

The overall relationship between the independent and dependent variables was determined through a multiple regression analysis. The interpretation of the result was based on ANOVA and model summaries as shown in Tables 4.10 and 4.11 below.

**Table 4.10: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.403 <sup>a</sup>	.162	.144	.58202

a. Predictors: (Constant), Location, Macroeconomic factors, Government intervention, Competition

**Note: Research data (2024)**

As shown in Table 4.10, the 0.403 R value shows a positive correlation between the independent (location, macroeconomic factors, government policies, and competition) and the dependent (pricing commercial property factors) variables. The value of the coefficient of determination (R-Square) is 0.162 meaning that 16.2 per cent of changes in pricing of commercial property can be accounted for by location, macroeconomic factors, government policies, and competition. The .144 value of the adjusted R square indicates that the independent variables explained 14.8% of changes in the pricing of commercial properties while the remaining changes can be explained by other variables not included in the model.

The analysis of variance results is shown in Table 4.11 below.

**Table 4.11: Analysis of Variance**

*ANOVA*

Model	Sum of Squares	df	Mean Square	F	Sig.
-------	----------------	----	-------------	---	------

Regression	12.219	4	3.055	9.018	.000 <sup>b</sup>
Residual	63.007	186	.339		
Total	75.226	190			

a. Dependent Variable: Pricing Commercial Properties (PCP)

b. Predictors: (Constant), Bank size, Client due diligence, corporate culture, Monitoring

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### Note: Research Data (2024)

ANOVA was used to assess the significance of the multiple regression model. The null hypothesis, in this case, is that location, macroeconomic factors, government policies, and competition do not influence the pricing of commercial properties. From the results, the F calculated value was 9.053 while the F critical value was 4.848 at a 5% level of significance. Since F computed was greater than F critical, the null hypothesis was rejected, and the alternative hypothesis was accepted and established that location, macroeconomic factors, government policies, and competition affect the pricing of commercial properties. The value of P was 0.000 which was less than 0.05 meaning the predictor factors had a statistically significant impact on the pricing of commercial properties.

### 4.7 Chapter Summary

The chapter presented the analysis of the collected data for the current study. The data was analyzed and presented in tables and figures, using mean and standard deviation and inferential statistics.

## **CHAPTER FIVE: DISCUSSION OF FINDINGS, CONCLUSION AND RECOMMENDATIONS**

### **5.1 Introduction**

The chapter provides a discussion of the study's findings, gives conclusions, recommendations, and study limitations, and finally gives suggestions for further research. The main objective of this study was to establish the factors that influence commercial property prices in Nairobi County, with a focus on Real Estate Players in Nairobi County.

### **5.2 Summary**

This study aimed to examine the impact of various factors on commercial property pricing in Nairobi County. It investigated the influence of location, macroeconomic factors, government policies, competition, and pricing factors on the pricing dynamics of commercial properties. Drawing upon quantitative techniques and guided by regression and correlation analyses, the research explored the intricate relationships between these factors and their implications for commercial property pricing.

Correlation analysis revealed significant positive associations between location, macroeconomic factors, government policies, competition, and pricing factors with commercial property pricing. The findings indicated that these factors collectively play a pivotal role in shaping the pricing landscape of commercial properties in Nairobi County. Specifically, a strong correlation was observed between location and property pricing, suggesting that proximity to amenities, infrastructure, and business hubs significantly influences property values. Similarly, macroeconomic indicators such as GDP growth and inflation exhibited notable correlations with pricing, highlighting the sensitivity of property markets to broader economic trends. Government policies, though exhibiting correlations with pricing, showed less pronounced effects, suggesting a complex interplay between policy measures and market dynamics.

Regression analysis further elucidated the individual contributions of these factors to commercial property pricing. Location and macroeconomic factors were identified as significant determinants, exerting positive influences on pricing dynamics. The interpretation suggests that properties in prime locations command higher prices due to their proximity to economic hubs and amenities, while favorable macroeconomic conditions contribute to overall market optimism and demand for

commercial real estate. Additionally, competition emerged as a key factor, significantly impacting commercial property prices. The interpretation emphasizes the role of competition in driving pricing dynamics, with increased competition leading to higher property values as developers seek to differentiate their offerings and attract tenants or buyers.

However, the study found that government policies exhibited a less pronounced effect on pricing dynamics, suggesting a nuanced relationship between policy interventions and commercial property pricing. Interpretation indicates that while government policies and regulations may influence market conditions, their impact on pricing is mediated by various factors such as market demand, investor sentiment, and economic fundamentals. Overall, the study underscores the multifaceted nature of commercial property pricing in Nairobi County, emphasizing the interconnectedness of location, macroeconomic conditions, competition, and government policies in shaping pricing outcomes. By providing insights into the intricate interplay between these factors, the research contributes valuable knowledge to stakeholders involved in commercial property investment, valuation, and policy formulation within the region.

### **5.3 Discussion of the Findings**

This section provides a summary of the discussion of findings in line with the effect of each of the four independent variables (location, macroeconomic factors, government policies, and competition) against the dependent variable (pricing of commercial properties).

#### **5.3.1 Impact of Location on Commercial Property Prices**

The first objective sought to establish the influence of location on commercial property pricing. Correlation analysis revealed a positive yet statistically weak relationship between location and property prices in Nairobi. However, regression analysis indicated a significant positive coefficient for the location variable, suggesting that improvements in property location significantly increased prices. Thus, the study concluded that location serves as a crucial determinant of commercial property pricing in Nairobi County. Location, defined as the spatial position of a property, emerged as a critical factor influencing pricing dynamics (Fanning & Stephen, 1994).

These findings resonate with prior research by Amenyah and Afenyi (2013) and Amatete (2016), emphasizing the significant impact of location-related factors such as proximity to amenities, security, and accessibility on property prices. Additionally, Kagendo (2010) highlighted the pivotal role of location in property pricing in other Kenyan municipalities. The study's results align

with the Standard Real Estate Market Theory, positing that property prices are influenced by the perceived value of location.

Furthermore, the study elucidated that location comprises various factors, including security, infrastructure, social amenities, and proximity to the central business district (CBD), collectively shaping property prices. These findings are supported by Nduti and Wambugu (2017), who emphasized the importance of transport infrastructure and social amenities in determining commercial property prices. Moreover, the study's adoption of the Hedonic Model underscores the significance of both internal and external factors in property pricing dynamics. This model aids in identifying the multifaceted influences on property prices, encompassing both intrinsic and extrinsic factors affecting commercial properties.

### **5.3.2 Influence of Macroeconomic Factors on Commercial Property Prices**

In alignment with the study's objectives, which aimed to explore the determinants of commercial property prices in Nairobi County, Kenya, one specific objective focused on assessing the impact of macroeconomic factors on property pricing. The correlation analysis indicated a positive yet statistically weak relationship between macroeconomic factors and commercial property prices in Nairobi. However, regression analysis revealed a significant positive coefficient for macroeconomic factors, suggesting that changes in these variables at the national level substantially influence property pricing in Nairobi. Consequently, the study concluded that macroeconomic factors play a critical role in determining commercial property prices in Nairobi County. Macroeconomic factors encompass nationwide variables that shape an economy as a whole, transcending individual units (Ajayi & Atanda, 2012).

These findings are consistent with prior research by Mwangi (2021) and Andrews (2010), which highlighted the substantial impact of economic indicators such as GDP growth, inflation rates, and interest rates on property prices in Nairobi. Wiley (2017) further emphasized the significant influence of inflation rates on property price levels. The study also underscored the adverse effects of inflation and taxation on property development, hindering investment in additional properties.

The study identified high inflation rates, overall economic performance, GDP growth, and high interest rates as key macroeconomic factors influencing commercial property pricing. These findings resonate with Feng et al. (2010) and Li (2020), who demonstrated the influence of macroeconomic indicators, including GDP and consumer price index, on property prices in various

contexts. The results align with the broader understanding that macroeconomic stability and performance significantly impact property markets, shaping pricing dynamics.

### **5.3.3 Government Policies and Its Impact on Commercial Property Prices**

Aligned with the study's objectives, which aimed to discern the influence of government policies on commercial property prices in Nairobi County, Kenya, one specific objective delved into analysing the impact of such policies. Correlation analysis revealed a positive yet statistically weak relationship between government policies (PI) and commercial property prices in Nairobi. However, regression analysis unveiled an insignificant positive coefficient for government policies, indicating that changes in these policies yield negligible effects on commercial property prices in Nairobi. Consequently, the study concluded that government policies does not significantly determine commercial property prices in Nairobi County.

These findings contradict prior research by Ambreena (2014) and Keivani and Werna (2011), which highlighted the role of government regulations and urban development policies in influencing property prices. Ambreena (2014) emphasized the collaborative influence of government by-laws and county regulations on land use and zoning, affecting property values. Similarly, Keivani and Werna (2011) underscored the upward impact of urban development policies on residential and commercial property prices in urban areas.

The study examined various forms of government policies, including subsidizing construction materials, providing tax credits, reducing construction levies, enacting strict building regulations, and implementing proper land use and housing planning systems. However, the results indicated that these interventions do not significantly affect commercial property prices. This contradicts findings by Floetotto et al. (2016), which identified tax credits as influential factors driving housing price increases. Additionally, the results differ from those of Zhao and Liu (2023), who highlighted the significant impact of housing policies, including monetary and tax policies, on housing prices.

In conclusion, the study suggests that while government policies exist, their impact on commercial property prices in Nairobi County is minimal. These findings underscore the complex interplay of factors shaping property markets, emphasizing the need for further research to elucidate the nuanced dynamics of government policies on property pricing.

### **5.3.4 Impact of Competition on Commercial Property Prices**

In line with the study's objectives aimed at discerning the effect of competition on commercial property prices in Nairobi County, Kenya, the analysis unveiled a noteworthy correlation and regression outcomes between competition and commercial property pricing. These findings signify that competition exerts a significant and influential impact on commercial property prices in Nairobi, underscoring its pivotal role as a determinant of property pricing dynamics. Past studies by Deghi et al. (2022), Song et al. (2022), Muloodi (2021), and Nyangirika and Mwera (2020) have similarly emphasized the critical role of competition in shaping commercial property prices across various dimensions.

Nyangirika and Mwera (2020) underscored the necessity for regulatory measures to manage real estate pricing and rental values, aiming to attract local participation while mitigating competition for land from foreign entities. The study's findings resonate with these assertions, highlighting how competition influences pricing dynamics within the commercial property sector. Moreover, the study revealed that competition from diverse stakeholders within the sector contributes to enhanced services at competitive prices.

Furthermore, the study identified various sources of competition, including foreign buyers, multinational organizations, and government tenancy for private commercial buildings, all of which impact commercial property pricing. These findings align with Fan et al.'s (2021) research, which elucidated the significance of internal and external competition as determinants of house prices.

In essence, the study underscores the profound influence of competition on commercial property prices in Nairobi County, Kenya, emphasizing the need for policymakers and industry stakeholders to consider competition dynamics in formulating pricing strategies and regulatory frameworks within the commercial property market.

### **5.4 Conclusions**

Findings from the first objective revealed that location is a crucial determinant of commercial property pricing in Nairobi County. The study concludes that while the correlation between location and property prices was positive but statistically weak, the regression analysis indicated a significant positive relationship. This suggests that improvements in the location of a property

significantly increase its price. Although respondents perceived the value of location highly, the positive effect found in the regression analysis underscores the importance of factors such as proximity to amenities, security, infrastructure, and closeness to the CBD in determining property prices. The discrepancy between correlation and regression results could be due to various factors, including the multifaceted nature of location as a variable encompassing various attributes.

The study concluded that macroeconomic factors play a critical role in determining commercial property prices in Nairobi County. Despite a positive yet statistically weak correlation between macroeconomic factors and property prices, the regression analysis revealed a significant positive relationship. This suggests that changes in macroeconomic variables, such as GDP growth, inflation rates, and interest rates, substantially influence property pricing. While the correlation results may reflect short-term or less direct effects, the significant regression findings highlight the broader and more profound impact of national economic performance on the real estate market.

The conclusion from the third objective was that government policies does not significantly determine commercial property prices in Nairobi County. Despite various forms of government policies examined, including subsidies, tax credits, and building regulations, the regression analysis showed an insignificant positive coefficient. This suggests that while government policies and regulations exist, they do not have a substantial impact on property prices. The study notes that this finding contradicts some previous research, which indicated a stronger influence of government actions on property values. The minimal impact observed in this study may be attributed to the complexity and varied effectiveness of government interventions in different contexts.

Lastly, the findings revealed that competition has a significant and effective impact on commercial property prices in Nairobi County. Both correlation and regression analyses indicated a positive and significant relationship between competition and property pricing. This suggests that competition among various stakeholders, including foreign buyers, multinational organizations, and government tenancy for private commercial buildings, plays a crucial role in shaping property prices. The study concludes that competition leads to enhanced services and more competitive pricing, emphasizing the need for regulatory measures to manage real estate competition and ensure balanced market growth. The study's findings align with previous research, highlighting the critical role of competition in the real estate sector.

## 5.5 Recommendations

Based on the findings of this study, several key recommendations are proposed to address the factors influencing commercial property prices in Nairobi County. These recommendations encompass policy, managerial, and theoretical contributions, providing a holistic approach to managing and understanding commercial property pricing dynamics.

**Based on Policy:** Given that location significantly influences the pricing of commercial properties, it is crucial to establish and enforce a standardized property valuation framework. This framework should include clear criteria for valuing properties based on their location, amenities, and infrastructure. Authorities should ensure that this process remains transparent and free from corruption to effectively manage property pricing. Additionally, the government and county authorities should develop mechanisms to regulate competition within the real estate sector. Enacting policies and regulations to prevent unethical competition practices and ensure a fair and transparent market environment is essential. Measures could include setting limits on foreign investment in local real estate and promoting local participation to foster a balanced market. Furthermore, authorities should implement systems for regular economic analysis and forecasting to monitor macroeconomic indicators such as inflation rates and interest rates. This system will provide insights into economic trends, helping to adjust policies and maintain market stability, thereby mitigating the adverse effects of economic volatility on the real estate market.

**Based on Managerial:** Property developers should continuously monitor macroeconomic conditions and make informed pricing decisions accordingly. Implementing a system for regular economic analysis and forecasting will help developers adjust their pricing strategies based on economic trends. This proactive approach can help maintain market stability and investor confidence in the commercial property sector. Additionally, property developers should engage in fair business practices and collaborate with industry associations to uphold industry standards. Transparent marketing strategies and competitive pricing based on quality and value can attract a diverse clientele, reducing the risk of market monopolization by dominant players. Developers should also adopt rigorous and transparent property valuation practices, engaging independent valuers to avoid conflicts of interest.

On theoretical contribution, the study highlights the need for rigorous and transparent property valuation practices. It recommends regular training and certification programs for property valuers

to maintain high standards and accuracy in property pricing. By adopting these practices, the theoretical framework for property valuation can be strengthened, ensuring more reliable and consistent property assessments. Additionally, the findings provide a deeper understanding of the factors influencing commercial property prices, including location, macroeconomic factors, and competition. This comprehensive perspective contributes to the theoretical framework by elucidating the complex interplay of these elements, thereby informing future research and theoretical advancements in real estate market analysis. The study underscores the importance of integrating regulatory frameworks into the conceptual understanding of market dynamics. By acknowledging the impact of government interventions on property pricing, the theoretical framework can better reflect the realities of market behaviour and guide the development of effective policies and practices.

In conclusion, these recommendations aim to provide a holistic approach to managing commercial property pricing in Nairobi County, ensuring transparency, fairness, and market stability. By addressing policy, managerial, and theoretical aspects, the study offers a comprehensive roadmap for stakeholders in the real estate sector.

### **5.6 Study Limitation and Suggestions for Further Studies**

The study adopted a descriptive cross-sectional survey design to examine the relationship between location, macroeconomic factors, government policies, and competition on the pricing of commercial properties in Nairobi County. This design was chosen because it allowed for the collection of data at a single point in time, providing a snapshot of the current situation. However, the descriptive cross-sectional survey design had several limitations. It could not establish causality or changes over time, and findings might have been influenced by external factors at the time of data collection.

Another limitation of this study was the reliance on self-reported data, which could be subject to biases such as social desirability or recall bias. Additionally, the study's focus on Nairobi County limited the generalizability of the findings to other regions with different economic, political, and social contexts. The study also faced constraints in terms of the scope and depth of the data collected, which may have restricted the ability to capture all relevant factors influencing commercial property prices.

Given the limitations of the cross-sectional design, future studies investigating business behaviour and commercial property pricing should consider longitudinal designs that observe changes over a more extended period. Such designs would provide a more comprehensive understanding of the dynamics and causality in property pricing.

The study specifically focused on examining the relationship between independent variables (location, macroeconomic factors, government policies, and competition) and the dependent variable (commercial property prices). Future research could expand on this by exploring additional variables that might impact property prices, such as technological advancements, demographic shifts, and environmental factors.

To enhance empirical evidence, future studies should incorporate mixed-methods approaches, combining quantitative and qualitative data to provide deeper insights into the factors influencing commercial property prices. This could involve interviews with key stakeholders, such as property developers, government officials, and investors, to complement survey data and provide a more nuanced understanding of the market dynamics.

Furthermore, it was recommended that future research includes a comparative analysis between different regions or countries to identify common factors and unique influences on commercial property pricing. This would help in understanding the broader applicability of the findings and in developing more effective policy recommendations.

In summary, while the study provided valuable insights into the determinants of commercial property prices in Nairobi County, it was crucial to address its limitations through more extensive and varied research approaches in future studies. This would help to build a more robust body of knowledge and inform better decision-making in the commercial property market.

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## APPENDICES

### Appendix 1: Research Questionnaire

#### SECTION A : GENERAL INFORMATION

Below is a questionnaire you are required to fill, read carefully, and give appropriate answers by ticking  or filling the blank spaces on the establish the factors that affects commercial property prices in Nairobi County.

The information obtained in this questionnaire will be treated with utmost confidentiality.

#### SECTION A : BACKGROUND INFORMATION

1. Gender : Male  Female
2. Age: 18-25  26-35  36-45   
46 and above
3. Monthly Income: KShs. 0 - 50,000  KShs. 50 - 100,000   
KShs. 100 - 150,000  KShs. 150 – 200,000   
KShs. 200-250,000  Over KShs. 250,000
4. How long have you worked in the commercial property industry?
- Less than 2 years  2-5 years   
6 and above years
5. What is your category

Category	Please tick (✓) the correct answer
Financial Institutions or Mortgage Banks	
Real Estate Agent or Managers	

Property Developers	
Professional firms or advisory service providers	

6. What is your job description

Category	Please tick (√) the correct answer
Manager in charge of operations	
Managing Director	

### SECTION B: FACTORS AFFECTING COMMERCIAL PROPERTY PRICES

On a Likert scale of 1-5 where here 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree, establish the extent to which you agree on the extent to which the following factors affect commercial property prices in Nairobi County – Kenya.

Location	1	2	3	4	5
Location of the commercial property affects the pricing					
Properties that are located near social amenities cost more compared to the ones that are far from the major social amenities					
Properties located in places with good security cost more					
The properties located in areas with good infrastructure are priced highly					
The commercial properties located close or in the CBD cost more the one far from the CBD					

<b>Macroeconomic factors</b>					
Macroeconomic factors affect the commercial property prices in Nairobi County					
During high inflation, the prices of commercial properties tend to go down as companies seek to retain occupancy					
The general economic performance of the country affects the property markets.					
Properties tend to rise with the increased GDP					
High interest rate lowers the price of commercial properties in Kenya					
<b>Government Policies</b>					
Government Subsidies on construction materials affect the pricing of commercial properties in Kenya					
Tax credits and deductions on construction Levy affect the prices of properties downwards.					
Strick building and construction regulations affect the prices of construction upwards					
Proper land use and effective housing planning system significantly affect the prices of commercial properties					
Zoning rules automatically places some properties in the high-end market and therefore the prices are high					
<b>Competition</b>					

Competition is a major factor affecting commercial property prices in Nairobi County.					
Competition from Government tenancy for private commercial building has pushed the cost of property upwards.					
Competition from foreign buyers and multinational organization have pushed the prices higher.					
Sector competition by different players have contributed to better services at lower prices.					

**SECTION C: PRICING OF COMMERCIAL PROPERTIES FACTORS**

On a Likert scale of 1-5 where 1= Strongly Disagree, 2= Disagree,3= Neutral, 4= Agree and 5= Strongly Agree, establish the extent to which you agree on Kenya –

**Pricing of Commercial Properties Factors.**

<b>Pricing of Commercial Properties</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
The effect of demand on the macroeconomic factors on pricing of commercial properties.					
The effects of competition on the location factors on pricing of commercial properties.					
The effects of market penetration on the competition on pricing of commercial properties					
The impact of prevailing economic conditions on the government policies on pricing of commercial properties.					

**THANK YOU FOR YOUR PARTICIPATION**



## Appendix 2: Ethics Approval Letter



26<sup>th</sup> April 2024

Mr Kiura Peter,  
peter.kiura@strathmore.edu

Dear Mr Kiura,

**RE: The Factors that Affects Commercial Property Prices in Nairobi County: A Case of Real Estate Players in Nairobi**

This is to inform you that SU-ISERC has reviewed and **approved** your above **SU-masters** research proposal. Your application reference number is **SU-ISERC2161/24**. The approval period is from **26<sup>th</sup> April 2024 to 25<sup>th</sup> April 2025**.

This approval is subject to compliance with the following requirements:

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


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

Yours sincerely,


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



**Appendix 3: NACOSTI Permit**




**REPUBLIC OF KENYA**



**NATIONAL COMMISSION FOR  
SCIENCE, TECHNOLOGY & INNOVATION**

Date of Issue: **17/April/2024**

**RESEARCH LICENSE**




**This is to Certify that Mr. PETER MUCHANGI KIURA of Strathmore University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: The Factors that Affects Commercial Properties Prices in Nairobi County: A Case of Real Estate Players in Nairobi, for the period ending : 17/April/2025.**

License No: **NACOSTI/P/24/34608**


**820261**

Applicant Identification Number



Director General  
**NATIONAL COMMISSION FOR  
SCIENCE, TECHNOLOGY &  
INNOVATION**

Verification QR Code



**NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.**

**See overleaf for conditions**

**THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013 (Rev. 2014)**  
Legal Notice No. 108: The Science, Technology and Innovation (Research Licensing) Regulations, 2014

The National Commission for Science, Technology and Innovation, hereafter referred to as the Commission, was established under the Science, Technology and Innovation Act 2013 (Revised 2014) herein after referred to as the Act. The objective of the Commission shall be to regulate and assure quality in the science, technology and innovation sector and advise the Government in matters related thereto.

**CONDITIONS OF THE RESEARCH LICENSE**

1. The License is granted subject to provisions of the Constitution of Kenya, the Science, Technology and Innovation Act, and other relevant laws, policies and regulations. Accordingly, the licensee shall adhere to such procedures, standards, code of ethics and guidelines as may be prescribed by regulations made under the Act, or prescribed by provisions of International treaties of which Kenya is a signatory to
2. The research and its related activities as well as outcomes shall be beneficial to the country and shall not in any way;
  - i. Endanger national security
  - ii. Adversely affect the lives of Kenyans
  - iii. Be in contravention of Kenya's international obligations including Biological Weapons Convention (BWC), Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), Chemical, Biological, Radiological and Nuclear (CBRN).
  - iv. Result in exploitation of intellectual property rights of communities in Kenya
  - v. Adversely affect the environment
  - vi. Adversely affect the rights of communities
  - vii. Endanger public safety and national cohesion
  - viii. Plagiarize someone else's work
3. The License is valid for the proposed research, location and specified period.
4. The license any rights thereunder are non-transferable
5. The Commission reserves the right to cancel the research at any time during the research period if in the opinion of the Commission the research is not implemented in conformity with the provisions of the Act or any other written law.
6. The Licensee shall inform the relevant County Director of Education, County Commissioner and County Governor before commencement of the research.
7. Excavation, filming, movement, and collection of specimens are subject to further necessary clearance from relevant Government Agencies.
8. The License does not give authority to transfer research materials.
9. The Commission may monitor and evaluate the licensed research project for the purpose of assessing and evaluating compliance with the conditions of the License.
10. The Licensee shall submit one hard copy, and upload a soft copy of their final report (thesis) onto a platform designated by the Commission within one year of completion of the research.
11. The Commission reserves the right to modify the conditions of the License including cancellation without prior notice.
12. Research, findings and information regarding research systems shall be stored or disseminated, utilized or applied in such a manner as may be prescribed by the Commission from time to time.
13. The Licensee shall disclose to the Commission, the relevant Institutional Scientific and Ethical Review Committee, and the relevant national agencies any inventions and discoveries that are of National strategic importance.
14. The Commission shall have powers to acquire from any person the right in, or to, any scientific innovation, invention or patent of strategic importance to the country.
15. Relevant Institutional Scientific and Ethical Review Committee shall monitor and evaluate the research periodically, and make a report of its findings to the Commission for necessary action.

National Commission for Science, Technology and  
Innovation(NACOSTI),  
Off Waiyaki Way, Upper Kabete,  
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