FACTORS INFLUENCING INVESTMENT IN REAL ESTATE BY DEVELOPERS IN KENYA: A CASE STUDY OF NAIROBI COUNTY

BY

PETER NGIGI

UNITED STATES INTERNATIONAL UNIVERSITY-AFRICA

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A Research Project Report Submitted to the Chandaria School of Business in Partial Fulfillment of the Requirement for the Degree of Masters in Business Administration (MBA)

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STUDENT'S DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution, or university other than the United States International University - Africa in Nairobi for academic credit.

Signed: ________________________ **Date: __________________________**

Peter Ngigi (ID No: 661234)

This research project report has been presented for examination with my approval as the appointed supervisor.

Signed: ________________________ **Date: __________________________**

Dr. Elizabeth Kalunda PhD.

Signed: ________________________ **Date: __________________________**

Dean, Chandaria School of Business

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ABSTRACT

The main objective of the study was to examine the factors influencing investment in real estate by developers in Kenya, a case of Nairobi County. The specific objectives that guided the study included: establishing how financial factors influenced real estate investment, determining how population characteristics influenced real estate investment and determining how infrastructure development influenced real estate investment in Nairobi County.

This study used a descriptive research design. The population of the study comprised of three employees from all the 136 property management firms in Nairobi County, providing the study with a population of 408 and were registered under the Kenya Property Developers Association (KPDA). This study used the purposive sampling technique. Data was acquired using structured self-administered questionnaires. Descriptive statistics were used to analyze the collected data. Inferential statistics was analyzed using correlation and regression analysis, and these were presented using tables.

The study showed that return on assets in the real estate market influenced real estate investment. The study revealed that there existed a positive linear relationship between the study variables, and financial factors were significant to real estate investment ($r=0.747$, $p<.05$) and financial factors explain about 56% of the variability in real estate investment in Nairobi (adjusted $R^2 = .557$). Financial factors statistically and significantly influenced real estate investment in Nairobi ($\beta = 0.776$, $t\ (296) = 19.311$, $p<.05$).

The study revealed that family size highly affected real estate investment. The study showed that there existed a positive linear relationship between the study variables, and population characteristics were significant to real estate investment ($r=0.774$, $p<.05$), and population characteristics explain about 74% of the variability in real estate investment in Nairobi (adjusted $R^2 = .738$). Population characteristics statistically and significantly influenced real estate investment in Nairobi ($\beta = 0.797$, $t\ (296) = 20.969$, $p<.05$).

The study showed that improved transport networks positively affected real estate investment. The study revealed that there existed a positive linear relationship between the study variables, and infrastructure development was significant to real estate investment ($r=0.694$, $p<.05$), and infrastructure development explains about 48% of the

variability in real estate investment in Nairobi (adjusted $R^2 = .480$). Infrastructure development statistically and significantly influenced real estate investment in Nairobi ($\beta = 0.580$, $t(296) = 16.559$, $p<.05$).

For financial factors and real estate investment, the study concludes that taxation and real estate tax on retention, income tax affected real estate investment growth, and property tax negatively affected real estate investment. Interest rates, and changes in real estate prices also influenced real estate investment. For population growth and real estate investment, rapid population growth, the working-age population, and population migration significantly affected real estate investment. For infrastructure development and real estate investment, factors like social amenities, proximity to social amenities affected real estate investment. Excess air and noise pollution however negatively impacted real estate investment.

For financial factors and real estate investment, the study recommends that policymakers and the government of Kenya create statutes that would positively govern matters regarding property tax, housing interest rates, and land laws that would facilitate the attraction of more investors in the real estate industry. For population characteristics and real estate investment, policymakers and the government should put in place measures that will control urban population numbers. This would facilitate the minimization of overcrowding in certain areas which negatively affects real estate investment. For infrastructure development and real estate investment, the study recommends the government to build and enhance infrastructure outside the Nairobi metropolitan area, so as to minimize congestion. It was revealed that proximity to roads and railways negatively affect real estate investment, and thus, development of areas outside the metropolitan would facilitate the decongestion of the city through population dispersion

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LIST OF ABBREVIATIONS AND ACRONYMS

AfDB:	Africa Development Bank
AHURI:	Australian Housing and Urban Research Institute
AICD:	Africa Infrastructure Country Diagnostic
ANOVA:	Analysis of Variance
CBD:	Central Business District
COAG:	Commonwealth-State Agreements
EARB:	Estate Agents Registration Board
GDP:	Gross Domestic Product
HFCK:	Housing Finance Corporation of Kenya
IRB:	Institutional Review Board
KNBS:	Kenya National Bureau of Statistics
KPDA:	Kenya Property Developers Association
MDGs:	Millennium Development Goals
NACOSTI:	National Council for Science Technology and Innovation
NHC:	National Housing Corporation
NSW:	New South Wales
RoK:	Republic of Kenya
S&L:	Savings and Loans
SPSS:	Statistical Package for Social Sciences
UK:	United Kingdom
US:	United States

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

The real estate market is very important for every country, not merely because it ensures construction structures and infrastructure necessary for life and work, but also because it has strong, multiple impacts on the development of a nation's entire economy (Gallimore, Fletcher & Carter, 2018). Real estate market trends are a strong indicator of trends in the entire economy. Trends in the real estate markets have changed notably in recent years (Ajibola, Awodiran & Salu-Kosoko, 2016). As early as two years ago, the main characteristics of these real estate markets were domination of demand over the offer, quick sales of apartments, and a lack of "*choosiness*" on the part of buyers, all of which was accompanied by rising real estate prices, which has not abated in nearly two decades (Kauko, 2016). Over the past two years however, the conditions have changed notably: transactions are few, offer is dominating over demand, buyers are choosy, while apartment prices are falling (Ajibola *et al*., 2016) additionally growth and trends in real estate investments are changing.

Investment in real estate can be defined as real estate that is purchased with the intent of its commercial use and not solving own housing needs, which are already solved in another way - by owning other property, for example –, the contribution aims to determine the return on investment real estate and the payback period of such investment (Gallimore *et al*., 2018). Thus, real estate investing refers to the purchase of property as an investment to generate income rather than using it as a primary residence (World Bank, 2017). In simple terms, it can be understood as any land, building, infrastructure, and other tangible property which is usually immovable but transferable and may include a house, office building, agricultural land, or commercial plots that are considered to be a secured form of investment (Foldvary & Jaffe, 2019).

Initially, real estate was used as a housing and business object; however, over time and with the increasing needs and wishes of people, real estate has become an investment object both for individuals and legal entities (Boucq & Stratec, 2017). Real estate is one of the production factors and the object for residential purposes (residential houses, cottages, etc.) as well (Mallios, 2018). According to Guo, Yuan, and Chen (2017), the real estate market has a big impact on economic growth. But, the traditional model of the real estate on the operation is disadvantageous to the realization of national economic interest, as it restricts the amendatory process of the national living environment, and hinders the efficiency of the market economy. Canning and Pedroni (2016) state that, the development of the real estate industry on economic growth can be carried out by the two aspects of the development and the scale of real estate. First of all, the sales of real estate directly promote the development of the sales industry of the real estate, besides, due to the improvement of the living environment, it increases the promotion of the real estate industry on related industries such as decoration, furniture, and electric equipment. Real estate, which is the basis of the national wealth of any country, can be considered as the backbone of the market economy, and it is highly influenced by the development of a country's infrastructure, financial factors, and the nation's population growth. According to Gallimore *et al*. (2018), the major enablers of economic development in the real estate sector are infrastructure, population growth, and financial factors.

The real estate markets in the United States (US) are presently encountering a dramatic transition, with condominiums, townhouses, and apartments supplanting parking lots, industrial sites, and underutilized commercial areas due to infrastructure development and population growth. Even with current strong financial factors, several large-scale development projects require optimization in infrastructure investments to move forward (US Environmental Protection Agency, 2016). Housing demand due to population growth has triggered the need for new residential developments. The demand for housing is experiencing growth in both urban and suburban areas. Suburbs refer to primarily low-density residential areas, located within metropolitan areas (not rural), but outside the central cities (not core). The key features distinguishing a suburb are the presence of substantial open space and scattered employment (Forsyth, 2018).

The strategy where infrastructure investments and development of the real estate sector was a major engine of macro-economic growth is replaced by a strategy where ongoing and increasing urbanization due to population growth is the major driver for economic growth and transformation in China (van Dijk, 2018). The current picture for the real estate sector is not rosy as there are too many towers where no lights burn. In the summer of 2015, the real estate market showed all signs of a collapse. Titles in the financial press range from "Property slowdown fuels China fears" to "China property correction would be painful, but salutary" (Foldvary & Jaffe, 2019). Housing demand has been increasing due to higher incomes, rapid urbanization, and China's rural-urban migration strategy. However, most of these migrants cannot afford the type of houses being built at the moment due to their lack of financial muscle. Experts predicting a collapse of the Chinese economy have always pointed to bubbles in the construction sector or industry as a whole. The construction sector has played an important role in China's economic development process and real estate prices have indeed been booming almost continuously until 2014. A bubble has been identified very often and experts are watching what kind of landing the Chinese economy in general and the real estate market, in particular, would make (van Dijk, 2018).

The determinants of the property value in the African continent are infrastructural facilities, population density, and financial capacities, the preservation of which leads to the appreciation of property values and their absence affects neighborhood prices adversely (Adebayo, 2012). Stern (2016) indicated how adequate infrastructure was vital for productivity and growth, especially the transport system. Similarly, Anyanwu and Erhijakpor (2015) indicate that road infrastructure significantly leads to poverty reduction in Africa. Canning and Pedroni (2016) indicate that there is a positive correlation between improved infrastructure and economic growth. A report by the World Bank (2017) showed that the rising population in the urban communities in the continent has been distinguished as a contributing component in rising real estate prices, thus indicating a positive correlation between population growth and housing cost. A study by Clark, Deurloo, and Dieleman (2016) found that property price leads to economic growth and drives inflation. An increase in residential investment leads to economic growth this is in contrast to the "income effect," which suggests that people's demand for housing increases when their incomes increases.

The property market in Kenya was responding to demand that had been created by the expanding middle class with disposable income and the ability to service their mortgages. This emerging middle class desired and demanded quality infrastructure - they wanted well-designed properties with great finishing and in safe and secure locations and they were willing and can pay premium prices for their choices (Ouma, 2017). It is projected that Kenya will have a population of over 60 million people by the year 2030 and more than 50% of them will be living in urban areas, creating a huge demand for new housing units. There is therefore an urgent need to increase the supply of new and affordable housing units (Mwangi, 2019). However, formal housing supply is undermined by several factors, including the limited availability of serviced plots in urban centers, a problem affecting housing delivery across all income bands, but especially affecting affordability for lower-income developments because of the added cost of servicing plots (Kimenyi, Mbaku & Mwaniki, 2019).

Another major challenge in the real estate industry in Kenya is the increasing population demanding more housing and financing, both at the development stage and in end-user finance (Chingoiro & Mbulawa, 2018). First, the Kenyan market is characterized by a large demand and a chronic undersupply of formal housing to the low and middle-income segment. Secondly, the country has only two financial institutions specializing in real estate funding which are Savings and Loans (S&L) and Housing Finance Corporation of Kenya (HFCK), and because of the limited financing options, the real estate industry has been characterized by fairly rigid financing conditions and relatively high-interest rates (Ndonga, 2017).

The real estate sector in the country has its price-setting mechanism which differs from the conventional theoretical demand and supply framework. Although this basic rule still applies, it is tempered with many other factors that are specific to real estate like age of property, location, availability of infrastructure among others. In an emerging economy like Kenya, several demand-and-supply-side factors determine housing prices (Chingoiro & Mbulawa, 2018). These factors could be quantitative as well as qualitative in nature and include among others the size of the population, its composition, urbanization, economic prosperity, the role of speculative investors, government policy intervention, and monetary policies, that play a dynamic role in the housing markets (Ombongi, Nyakundi & Abuga, 2016).

Currently, the real estate market in the country is cooling rapidly, amidst falling demand caused by constrained credit access, coupled with the continued oversupply of high-end residential developments. During the year to Q3 2019, the Hass Composite Property Sales Index, a measure of asking sales prices of residential properties, fell by 3.4%, in sharp contrast to a year-on-year (y-o-y) rise of 8.1% during the same period last year, based on a report released by HassConsult Limited. It was the second consecutive quarter of y-o-y

price declines after falling by 3.2% in Q2 2019. Quarter-on-quarter, residential property prices increased slightly by 0.9% in Q3 2019 (Hass Property Index, 2019).
Despite the recent decline, house prices in the capital are still 4.4 times higher than in 2000. The average value of residential property in the HassConsult database surged to KES 31.2 million (US$ 304,777) in September 2019, from just KES 7.1 million (US$ 69,356) in December 2000. The average price for a 1-3-bedroom residential property is currently KES 14.4 million (US$140,666), while the average price for a 4-6-bedroom residential property is KES 39.1 million (US$ 381,948). Property transactions are now falling by double-digit figures, moreover, the oversupply of high-end properties is expected to slow the housing market further (Hass Property Index, 2020). Like any other business, real estate has to make business sense to the different players - both buyers and sellers. It is therefore imperative for these players – especially developers - to have a good understanding of the drivers of the prices as they make decisions to either invest in or divest from the real estate market (Hass Property Index, 2019).

Several Nairobi suburbs registered nominal house price rises. Nyari Estate, one of the most secured upmarket neighborhoods in Kenya and in close proximity to many diplomatic establishments, saw the biggest rise in house prices of 12.4% during the year to Q3 2019. It was followed by Ridgeways (10.6%), Loresho (9.5%), Muthaiga (8.6%), Karen (6.2%), and Gigiri (5.2%) (Hass Property Index, 2019).

Modest to minimal price increases were recorded in Westlands (4.8%), Runda (4.8%), Spring Valley (4.7%), Donholm (4.3%), Kitisuru(4.1%), Lavington (3.7%), Kileleshwa (3.1%), Kilimani (0.9%), and Eastleigh (0.5%).Langata, home to many housing developments and known for its gardens and parks, was the only Nairobi suburb which registered a nominal house price decline of 3.8% during the year to Q3 2019. However, when the 4.7% inflation rate in Nairobi in end-Q3 2019 is taken into consideration, real house prices have actually declined in half of Nairobi suburbs during the year to Q3 2019 (Hass Property Index, 2019).

Despite the recent decline, house prices in the capital are still 4.4 times higher than in 2000. The average value of a residential property in the HassConsult database in surged to KES 31.2 million (US$304,777) in September 2019, from just KES 7.1 million (US$69,356) in December 2000. The average price for a 1-3-bedroom residential property is currently KES 14.4 million (US$140,666), while the average price for a 4-6-bedroom residential property is KES 39.1 million (US$381,948) (Hass Property Index, 2019).

According to the list provided by Kenya Property Developers Association (KPDA) in 2020, the country has 79 firms that have been registered as property developers, and 10 firms that have registered as real estate agents/ managing firms. KPDA is a firm that works together with the Government and other stakeholders to promote policies within the country that stimulate the property sector (KPDA, 2020).

1.2 Statement of the Problem

Investing in real estate requires a good amount of financial resources which makes it critical to take extra measures to ensure profit on investment. The diverse nature and unique challenges of real estate, if well planned for, could lead to great returns to any prospective investor either through net operating income, equity build-up or capital appreciation (Hass Property Index, 2019). The report by the National Housing Corporation (NHC), the Vision 2030 appraisals that the nation requires 200,000 new units of lodging however just 35,000 units have been created to date (Kenya National Bureau of Statistics [KNBS], 2018). That implies that, at present, Kenya has a shortfall of 165,000 lodging units (KNBS, 2018).

A study by Mo (2019) showed that the real estate tax on the retention link has only a limited impact on the price of private housing. Roihjert and Ahlander (2016) investigated how a low-interest rate and inflation environment affects real estate, as an investment alternative, and they discovered that the interest rates and the inflation do not have any direct effect on the real estate returns in a low-interest rate and inflation environment. Sagi's (2015) study strongly indicates that the return on assets (ROA) is nonlinear. Thus, there is a need for further studies.

On population characteristics, a study by Ali, Alam, Islam, and Hossain (2015) shows that population growth which affects population size has a vital impact on economic development because it contributes to lower investment growth and diminishes the savings rate. Icellioglu (2015) found that some significant factors such as gender, educational background, monthly personnel income, total household income, age, profession, and occupation are influential on the investment preferences of individuals, and that, when it comes to investing in a house, the financial tool to be preferred widely varies with age, personnel income, and household income of individuals. Tsai's (2018) study inferred that a person's gender can inform their risk aversion, loss aversion, and expectations of probabilities, and thus lead to differences in real estate trading preferences between genders.

Mccord, Davis, Bidanset, McCluskey, McCord, Haran, and Macintyre (2018) demonstrate that housing and market characteristics are valued differently across the quantile values and that conditional quantiles are asymmetrical. A study by Gatauwa and Murungi (2015) indicates that the factors that lead to high prices in the real estate sector include improved transport networks, improved social amenities, industries, expanded educational institutions, and commercial centers. Dasgupta, Lall, and Lozano-Gracia (2014) provide a systematic empirical assessment of the pace at which housing investment has responded to rising demand from urbanization, and they note that in financing housing investment, the study finds that developing countries tend to rely much more on domestic savings and government debt.

Koech (2015) did a study in Kenya on the effect of real estate development on the growth of estate agents in Nakuru Municipality and recommended that the County government should further team up with property developers and selected marketing companies so as to promote Nakuru County as the ultimate investors' choice in regard to property development. Sirya (2017) study examined on factors influencing real estate companies' investment decisions and found that infrastructure development was found to be a key driver of investment in real estate business in Nairobi. However, the study did not focus on other factors including financial factors, and population characteristics.

As observed, there are various studies (Mo, 2019; Roihjert & Ahlander, 2016; Sagi, 2015; Ali *et al*., 2015; Icellioglu, 2015; Tsai, 2018; Mccord *et al*., 2018; Gatauwa & Murungi, 2015; Dasgupta *et al*., 2014; Koech, 2015; Sirya, 2017) that have been conducted on the factors influencing real estate investment, however, the results have differed in terms of results, and in some cases, the focus has been on other demographic areas, and not Nairobi. It is on this background that the current study sought to examine the factors influencing real estate investment in Nairobi, by specifically examining the influence of financial factors, population characteristics, and infrastructure development on real estate investment in Nairobi.

1.3 General Objective

The main objective of the study was to examine the factors influencing investment in real estate by developers in Nairobi County, Kenya.

1.4 Specific Objectives

The specific objectives that guided the study included:

1.4.1 To establish how financial factors influence real estate developer's investment in Nairobi County.

1.4.2 To determine how population characteristics influence real estate developer's investment in Nairobi County.

1.4.3 To determine how infrastructure development influences real estate developer's investment in Nairobi County.

1.5 Significance of the Study

1.5.1 Importance to Construction Companies

The study may be of significance to various given firms, especially the construction companies, private developers, and property agents in establishing the standards and policy guiding the real estate industry. It may guide investors in identifying the right projects in real estate developments. The management may benefit by considering the cost of quality problems. This may be accomplished by ensuring that all the contractors follow the right procedures before establishing any real estate investment.

1.5.2 Importance to Academicians and Researchers

The study forms a basis or foundation for further studies and critique to be done by academic scholars interested in pursuing the real estate market. The documented report of this study may be easily acquired in the library and it may equip the learners with more knowledge and skill on the factors influencing real estate investment in Nairobi County. The study further makes a myriad contribution to the literature on the factors influencing real estate investment in Nairobi County which may be part of articles that would be useful to researchers who may want to further in this study area.

1.5.3 The Government

The government may be able to understand the role of financial factors, population growth, and infrastructure development on real estate investment in the country, specifically, Nairobi. Moreover, since the study draws attention to the factors that influence real estate investment, the study provides useful insights to the government and the policymakers for adaptive and creative strategies which may be consistent with current economic and competitive environmental realities. The government through various stakeholders may facilitate the development of operational policies that may ensure the rapid growth of the country's infrastructure leading to an immense contribution to the economy as well as job creation opportunities.

1.6 Scope of the Study

The focus of this study was to examine the factors influencing real estate investment by developers in Nairobi County while focusing on registered property firms in Nairobi. Conceptually, the study concentrated on property management firms, and thus, the target population comprised of 3 employees including the developer, head of sales, and head of marketing from the 136 property management firms in Kenya shown in Appendix III that were duly registered. The study used primary data in the form of a survey questionnaire that was distributed to these employees, and the timeframe for the study was from April 2021 to August 2021.

1.7 Definition of Terms

1.7.1 Real Estate Investing

Investment real estate can be defined as real estate that is purchased with the intent of its commercial use and not solving own housing needs. The contribution aims to determine the return on investment real estate and the payback period of such investment (Gallimore *et al.*, 2018). Thus, real estate investing refers to the purchase of property as an investment to generate income rather than using it as a primary residence (World Bank, 2017).

1.7.2 Real Estate Developers

Real estate developers are persons who buy, develop houses, buildings, and land to sell them and make a profit from them (Epaphra & Massawe, 2016).

1.7.3 Financial Factors

Financial factors can be defined as financial measures that can be used for evaluating the alternatives concerning financial investments (Mallios, 2018).

1.7.4 Population Characteristics

Population characteristics are defined as the qualities and classification of various types of elements within a social or geographic group (Trung & Quan, 2019).

1.7.5 Infrastructure Development

Infrastructure development is defined as the construction and improvement of foundational services to spark economic growth and improvements in quality of life (Guo *et al*., 2017).

1.8 Chapter Summary

This chapter briefly introduced the concept of the real estate market. The first section has discussed the background of the real estate market, and some of the factors that influence its investment. The second section has established the problem that the study wants to solve. The third section has provided the general objective of the study. The fourth section provides the specific objectives that guided the study, while the fifth section highlighted the importance of the study. The sixth section has specified the scope of the study, and the seventh section has defined terms that have been used in the study. The second chapter broadly explores existing literature on real estate market investment as guided by the study's specific objectives. The third section explores the research methodology that was used. The fourth chapter presents the study results and findings, and chapter five explores the discussion, conclusion, and recommendations of the study in detail.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter focuses on the study's literature. It provides empirical literature for factors influencing real estate investment in Nairobi County. It examines the role of financial factors, population growth, and infrastructure development on real estate investment in Nairobi County.

2.2 Financial Factors and Real Estate Investment

This section examines the role of financial factors on real estate investment. It elaborates on the effects of taxes on investment in real estate, the effects of interest rates on investment in real estate, and the effects of return on assets on investment in real estate.

2.2.1 Effects of Taxes on Investment in Real Estate

A study by Manganelli, Morano, Rosato, and De Paola (2020), investigated the effect that property taxation has on investment in the real estate market. The analysis was developed regarding the Italian real estate market and its tax regime. In Italy, taxation on real estate affects possession, transfers, and income. These three tax rates vary according to the subjects who exchange assets and manage them, to the intended use of the real estate property, and to the options for choosing the type of tax regime permitted by law. Based on these parameters, the financial analysis of real estate investment is constructed and simulated to understand which types of taxation investments are most sensitive. The results showed that a change in income taxation can have an important effect on investment choice. This evidence may also suggest fiscal policy actions aimed at stimulating the real estate market.

Mo (2019) selected Hong Kong from 1999 to 2015 as the sample period, sets the variable to the private residential retail price index HP and the real estate related tax revenue HT, selects the multi-log logistic regression model method, empirically analyzes the profits tax, stamp duty, the impact of general rates and property taxes on the retail price index of private housing in Hong Kong. The results show that the real estate tax on the retention link has only a limited impact on the price of private housing. The promotion of property tax is more obvious, and the general difference is less affected. The real estate tax on the transaction link has a significant impact on housing prices. Profits tax has a significant positive effect, and stamp duty also has a driving effect, but the effect is weak. Increasing the tax on the transaction link will stimulate the housing price to rise further.

Alves (2019) evaluated the share of tax revenues in the Gross Domestic Product (GDP) and investment outcomes, making use of gross fixed capital formation as a proxy for investment. This empirical analysis was carried out for all Organisation for Economic Co-operation and Development (OECD) countries, from 1980 to 2015, to assess the tax system composition effects in both the short and the long run. Resorting to panel data econometric techniques, the paper also aims to find optimal tax-investment threshold values. The results concluded that there was a maximizing effect of income taxation on investment growth when revenues from this tax source are about 10.7%. Furthermore, revenues from social security contributions are detrimental to growth, in both the short and the long run, while tax revenues from firms and consumption are only detrimental in the short run.

Kobayashi and Sato (2018) analyzed the effects of property tax on capital investment. Property tax has been identified as a case of a "good" local tax in the literature. Such argument however presumes that property tax is levied solely on land. In practice, property tax applies to housing and depreciable assets such as machinery and buildings, which implies a feature of capital tax. It is known that capital tax distorts capital investment. To be concrete, the study used panel data of manufacture census such as census of manufacture and economic census for business activity and examined how property tax on depreciable assets in Japan affected capital investments by small and medium enterprises. It was established that property tax negatively affected their investment and such adverse effects were exacerbated among enterprises with liquidity constraints.

A study by Sanger, Sirmans, and Turnbull (1990) on the effects of tax reform on real estate used data on publicly traded real estate firms to examine the effect of Tax Reform Acts (TRAs), and Returns of Real Estate Investment Trusts (REITs) using intervention analysis. The results indicate that the changes in the taxation of real estate assets by 1976 TRAs were beneficial to both REITs and other real estate firms. For the 1986 TRA, the results showed that the market assessed changes were detrimental to the owners of real estate assets. In contrast, the systematic risks of non-REIT real estate firms increased significantly over the same period.

2.2.2 Effects of Interest Rates on Investment in Real Estate

The study by Roihjert and Ahlander (2016) investigated how a low-interest rate and inflation environment affects real estate, as an investment alternative. The thesis looked closer at the Japanese market since they have had a low-interest rate and inflation environment from the middle of the 1990s. The researcher used statistical data that was collected for the qualitative research and analysis. Data over the assets yields and prices, as well as values on the macroeconomic variables, were collected. The findings show that the interest rates and the inflation do not have any direct effect on the real estate returns in a low-interest rate and inflation environment. However, it showed that there exist other variables that affect the real estate returns which in turn are affected by the interest rates and inflation meaning that the returns for real estate are indirectly influenced by the interest rates and inflation.

Mueller and Pauley (1995) focused on the rising interest-rate environment in the US raised questions by investors as to how REITs react to interest-rate movements. This study analyzed the movement of REIT price changes during past interest-rate cycles. The results indicate that REIT price movements have a low correlation with changes in interest rates and a lower correlation with interest rates than with movements in the stock market as a whole. The findings lead to a call for research into other areas to ascertain the determinants of REIT price movement.

In Arusha, Kazimoto (2016) analyzed the challenges facing real estate investments concerning interest rates in Arusha. The study was based on Markowitz theory stating that individuals are for utility maximization, always switching from one investment to another that has the same expected return but less risk or one that has the same risk but greater expected return, or one, which has both greater expected returns, and less risk. The study used descriptive approaches. A questionnaire was used and a purposive sample method was used to collect data from 87 respondents. The findings revealed that there exists a positive and significant relationship between interest rates and real estate investment and development. The study recommended reforms and improvements on tax, interest, and land laws for the acquisition and registration of infrastructure.

A study by Muthaura (2012) aimed to portray the relationship between interest rates and real estate investment with a focus on Kenya. The research problem was analyzed through the use of the simple user cost model. The target population of this study was all 35 mortgage lending banks in Kenya as of November 2010, from which a sample of 18 was drawn to analyze the research problem. Data for the study was collected using data collection forms from 18 mortgage lending banks that have been running the mortgage product from 2007-2011. Study findings indicated that indeed interest rates affect house prices, most real estate retail borrowers and investors alike are forced to increase the house prices to cater for the cost of borrowing and to also break even. The study recommended the government to play a more active role in the control of interest rates through the Central bank of Kenya's frequent bank supervisions as most commercial banks were out to fleece lenders and stabilize inflation through the implementation of tough monetary policies.

Murage (2013) assessed the effect of interest rate volatility on the growth of the real estate market in Kenya. The real estate sector is one of the major sectors of the economy in Kenya that has been largely affected by fluctuating interest rates. The research problem was analyzed through the use of the regression model. The target population of this study was the real estate market in the country ranging from large real estate developers to small-scale individual investors. Data for the study was collected from KNBS and Hass Consulting firm from 2008-2012. Study findings indicated that the interest market has experienced low volatility. Thus, volatility in the interest market is predictable, at least in the short run. The evidence strongly indicates that the interest rate market is nonlinear. The following recommendation was made, that the investors should consider investing in the real estate market despite the erratic interest rates.

2.2.3 Effects of Return on Assets on Investment in Real Estate

The study by Sagi (2015) showed that commercial real estate idiosyncratic return means and variances do not scale with the holding period, even after accounting for all cash flow relevant events. This puzzling phenomenon survives controlling for vintage effects, systematic risk heterogeneity, and a host of other explanations. To explain the findings, the study derived an equilibrium search-based asset-pricing model which, when calibrated, provides an excellent fit to transactions data. A structural model of transaction risk seemed crucial to understanding real estate price dynamics. These insights extend to other highly illiquid asset classes, such as private equity and residential real estate. The model and the data imply that idiosyncratic property risk comes in two forms: a diffusion variance component similar to that exhibited by liquid assets measuring roughly 1% per year (annualized); and a purchasing/selling shock that, in a single optimal transaction, has a variance between 1% and 2%.

Ross and Zisler (1991) showed that basic information is provided on the returns and risks from 1978 through 1985 for unleveraged equity real estate compared with stocks and bonds. Data sources include the Russell-NCREIF index, the Evaluation Associates index, and the Goldman Sachs equity real estate investment trust index. Findings reveal that the aggregate return for the publicly traded equity real estate investment trust index is nearly twice that of the other real estate series and more than twice that of the standard and poor index. The equity real estate investment trust is far more volatile than the other two real estate series. Neither Goldman Sachs nor the other two indexes exactly measure the returns or risks on equity real estate. The volatility of the equity real estate investment trust leads it to overstate the risk of this investment category, while the other two indexes are not returned indexes. Estimates from this study indicate that real estate risk lies plausibly midway between that of stocks and bonds, in the 9 percent to 13 percent range.

Peng (2010) measured the idiosyncratic risk of commercial real estate investments and what were the determinants of the idiosyncratic risk. The empirical analyses in the study were based on detailed cash flows of 2,845 apartments, offices, industrial and retail properties acquired for $89 billion (CPI-adjusted 2009:3 dollar) and then disposed of by institutional investors of the National Council of Real Estate Investment Fiduciaries (NCREIF) between 1981 to 2009. The results showed that idiosyncratic risk has a significant time-invariant component, which is possibly related to valuation errors in the acquisition or the disposition of properties. Further, the idiosyncratic risk is negatively related to the performance of commercial real estate investments. A 10% increase in the national real estate return would reduce the risk by about 0.8%.

Chan, Hendershott, and Sanders (1990) analyzed monthly returns on an equally weighted index of eighteen to twenty-three equity (real property) REITs that were traded on major stock exchanges over the 1973–87 period. They employ a multifactor Arbitrage Pricing Model using prespecified macroeconomic factors and also test whether equity REIT returns are related to changes in the discount on closed-end stock funds, which seems plausible given the closed-end nature of REITs. Three factors, and the percentage change in the discount on closed-end stock funds, consistently drive equity REIT returns unexpected inflation and changes in the risk and term structures of interest rates. The impact of these variables on equity REIT returns is around 60% of the impact on corporate stock returns generally. As expected, the impacts are greater for more heavily levered REITs than for less levered REITs. Real estate, at least as measured by the return performance of equity REITs, is less risky than stocks generally, but does not offer a superior risk-adjusted return and is not a hedge against unexpected inflation.

2.3 Population Characteristics and Real Estate Investment

This section examines the role of population characteristics on real estate investment. It elaborates on the effects of population size on investment in real estate, the effects of age on investment in real estate, and the effects of gender on investment in real estate.

2.3.1 Effects of Population Size on Investment in Real Estate

The study by Ali *et al*. (2015) shows that population growth has a vital impact on economic development. There are two instructs of thought regarding this issue. Some researchers maintain that population harms economic development while others are convinced that the effects are positive. Bangladesh's population increased 430 percent over the year1950-2012. Multivariate analyses of 1981 to 2014 data from the Bangladesh Economic Survey and the International Financial Statistics yearbooks found a significant and negative relationship between population growth and measures of economic advancement. These results demonstrate that rapid population growth is a real problem in Bangladesh because it contributes to lower investment growth and diminishes the savings rate. Today foreign investment and export promotion has only a small impact on Bangladesh's economic growth. Owing to its rapid population growth, Bangladesh has among the world's highest dependency ratios. Policymakers can address these serious economic consequences of rapid population growth by investing in family planning services.

Li (2014) focused on the demographic and economic factors that affect the changes in prices of the housing market. The study focuses on the US housing market after its recent collapse due to the US financial crisis of 2008. It also looks at the Chinese housing market based on the determinants that are observed in the US. The study used data from the United States Federal Bank of St. Louis' Federal Reserve Economic Database (FRED) in a regression analysis to find the determinants of the National Composite Home Price Index for the US, which tracks housing price fluctuation. The factors used were GDP, Consumer Price Index (CPI), supply of homes, real median income, the age group "15-64", unemployment rate, mortgage debt outstanding, and higher education (bachelor's degree or higher). The results show that the working-age population of "15-64" is statistically significant in the change of housing prices.

Long, Liu, and Fang (2006) conducted an empirical study on the relationship between population immigration and the urban housing market. The study showed that population immigration largely increases the demand for housing; meanwhile, high housing prices would also restrain immigration. At present population migration in China mainly falls into spontaneous migration, and the first motivation of migration is to increase income. According to academic studies, the transferred-in population has a strong demand for housing and considerable purchase power. The absorption rate of the transferred population by housing stock is relatively low, which means their demand for housing is generally satisfied by the increment market. Quantitative analysis of the impact factors of migration on a database of 35 major cities reveals that population immigration is not significantly restrained by housing price i.e. it is discovered that housing price has some negative effect on population immigration, but it's not significant. The reason might be as follows: Firstly, housing price to some extent represents the local economy, which is just the driving force of immigration; secondly, immigration in China is partially irrational; thirdly, the difference in housing price among these major cities is shrinking, and immigration is not quite sensitive to housing price.

Epaphra and Massawe (2016) analyzed the causal effect between domestic private investment, public investment, foreign direct investment, and economic growth in Tanzania during the 1970-2014 period. A correlation test is applied to check the correlation among independent variables, and the results show that there is a very low correlation suggesting that multicollinearity is not a serious problem. Broadly, the empirical results show that domestic private investment and foreign direct investment play an important role in economic growth in Tanzania. Besides, a revealed negative, albeit weak, association between public and private investment suggests that the positive effect of domestic private investment on economic growth becomes smaller when the public investment-to-GDP ratio exceeds 8-10 percent. Similarly, foreign direct investment tends to marginally reduce the impact of domestic private investment on growth.

2.3.2 Effects of Age on Investment in Real Estate

The study by Ansari (2019) was designed to find out the influence of age on the usefulness of the investment decisions of investors. The study was conducted on 500 Indian investors selected using the probability sampling technique. The findings of this study reveal that investors' age plays an important role in determining their investment decisions. A significant relationship has been found between the age and investment avenues, age and investment knowledge, and age and apprehension about investment, whereas, a significant relationship has not been found between age and reasons for investment as far as the second hypothesis is concerned.

Zhang, Jin, Xiao, and Gao (2020) took China as the research object to study the effects of demographics on housing consumption. Demographics were considered from three aspects: natural structure, regional structure, and social structure. Based on Life Cycle Theory and Permanent Income Hypothesis, the models on housing consumption were constructed. Results show that demographic structures are important factors affecting housing consumption: child-age dependency ratio (CDR), education level, and family size negatively affect housing consumption, while urbanization rate and old-age dependency ratio (ODR) have positive effects; CDR positively affects housing consumption through deposit and the indirect effect of ODR on housing consumption through deposit is negative, and the influence of demographics on housing consumption is heterogeneous in different regions. It is relatively close between the central and the west to some extent but quite different in the east.

Icellioglu (2015) in his study aimed to identify whether there was an effect of demographic characteristics such as gender, age, marital status, education level, occupation, and income level on housing investment preferences. In this study, survey techniques have been applied on a sample size of 784 people selected from households living in Istanbul and the viewpoint of households to housing investments has been evaluated through the Statistical Package for Social Sciences (SPSS) program. The effects of demographic characteristics on housing investment preferences were tested with the chi-square test. The attitudes to alternative investments, ownership status, purposes of buying a house, and using financial methods were analyzed. It is found that some significant factors such as gender, educational background, monthly personnel income, total household income, age, profession, and occupation are influential on the investment preferences of individuals, and that, when it comes to investing in a house, the financial tool to be preferred widely varies with age, personnel income, and household income of individuals.

Ameriks and Zeldes (2004) used pooled cross-sectional data from the surveys of consumer finances, and new panel data from TIAA-CREF, to examine the empirical relationship between age and portfolio choice, focusing on the observed relationship between age and the fraction of wealth held in the stock market. They illustrate and discuss the importance of the well-known identification problem that prevents the unrestricted estimation of age, time, and cohort effects in longitudinal data. They also document three important features of household portfolio behavior: significant non-stock-ownership, wide-ranging heterogeneity in allocation choices, and the infrequency of active portfolio allocation changes (almost half of the sample members made no active changes to their portfolio allocations over our nine-year sample period). When estimating portfolio share equations, they consider three separate exclusion restrictions: excluding time effects, cohort effects, and finally age effects. They found no evidence supporting a gradual reduction in portfolio shares with age. There is some tendency for older individuals to shift completely out of the stock market around the time of annualization and withdrawals.

2.3.3 Effects of Gender on Investment in Real Estate

Rattanaprichavej and Teeramungcalanon (2020) analyze the demographic characteristics of real estate investors and their attitude towards expected and earned yields when making direct, indirect, and non-real estate passive income investments. Quantitative analysis is employed based on both online and offline survey data from 334 real estate investors. Results reveal that general investor characteristics such as gender, education, and marital status tend not to affect investment decisions. Moreover, investors' earned yields from any investment type are mostly lower than expected yields. However, the results also reveal that direct real estate investment has a higher probability of earning higher yields and a lower probability of earning poor yields than indirect real estate and non-real estate investments.

Tsai (2018) examined whether a person's gender influences his or her real estate trading sentiments. Previous studies have suggested that risk aversion, loss aversion, and expectations of probabilities can affect trading sentiments. Thus, this study inferred that a person's gender can inform these three factors and thus lead to differences in real estate trading preferences between genders. More noticeable expectation adjustment behavior was observed in men than in women. However, no significant expectation errors were observed in both genders. Moreover, this study observed that gender differences in risk aversion were affected by the fear index, whereas gender differences in loss aversion were affected by unemployment rates. Stock market rallies affected only men's perceptions of real estate value. Overall, a more noticeable optimism was observed in men, who were significantly influenced by house price changes.

Bayyurt, Karisik, and Coskun (2013) explore how women and men differ in their individual investment preferences. Although there are some studies for investors in developed countries, the subject has been overlooked in emerging and underdeveloped countries. Therefore, this study is the first empirical study exploring the investment behaviors of women and men by focusing on an emerging country, Turkey. For the purpose to find out how investment preferences of men and women differ towards six investment tools, namely, gold, foreign currency, funds, common stocks, real estates, and time deposits, discriminant analysis, and logistic regression were exercised. The results revealed that while men investors prefer common stocks and real estate to invest women investors are more risk-averse and invest in the fund, time deposits, and gold. There is no significant difference between men and women in foreign currency investment.

Kappal and Rastogi (2020) wanted to understand the new kind of investors – women entrepreneurs – and to find out the factors that drive their investment behavior and investment decisions. The approach of qualitative inquiry was used for the research in which 18 in-depth exploratory interviews were conducted to identify the determinants of the investment behavior shown by women entrepreneurs, a growing segment in investment. The accumulated data were analyzed using open coding. The research shows that women entrepreneurs who consider the investment as a long-term instrument are risk-averse and quite conservative. They are willing to take risks in business but not for making investment decisions. The reasons for this low-risk behavior include lack of time to understand investments and lack of knowledge about various products. The research asserts that if they spend time to be informed about the nuances of investment instruments, they are likely to take risks for their investments as well. The interviews also reflect that women entrepreneurs often mimic the investment behavior of their parents.

2.4 Infrastructure Development and Real Estate Investment

This section examines the role of infrastructure development on real estate investment. It elaborates on the effects of social amenities return on assets on investment in real estate, the effects of transport networks on investment in real estate, and the effects of urbanization on investment in real estate.

2.4.1 Effects of Social Amenities Return on Assets on Investment in Real Estate

Okoro, Kruger, and Booyens (2020) identified the factors that influence the sustainability of real estate developments in recent times, with attention to the planning considerations. An integrative review was conducted with literature from databases including Scopus, Google, Google Scholar, Publish or Perish, Academic Search Complete, and Emerald. Synthesis was undertaken using thematic content analysis to identify themes on the factors influencing real estate developments and their sustainability. The distillation of literature revealed that institutional and economic factors were considered the most important factors, while developer’s attitude and socio-cultural factors were the least occurring among the sampled literature. By establishing these factors, the current study provides important information for housing and construction stakeholders to be informed and guided in the planning and implementation of real estate development policies to provide for and sustain the needs of the current population and future generations given the need for smart cities.

Mccord *et al*. (2018) aimed to quantify and measure the (dis)amenity effects on house pricing levels within particular geographic housing sub-markets. Most hedonic models are estimated using regression techniques which produce one coefficient for the entirety of the pricing distribution, culminating in a single marginal implicit price. This paper uses a quantile regression (QR) approach that provides a "more complete" depiction of the marginal impacts for different quantiles of the price distribution using sales data obtained from 3,780 house sales transactions within the Belfast Housing market over 2014. The findings emerging from this research demonstrate that housing and market characteristics are valued differently across the quantile values and that conditional quantiles are asymmetrical. Pertinently, the findings demonstrate that ordinary least squares (OLS) coefficient estimates tend to over or under specify the marginal mean conditional pricing effects because of their inability to adequately capture and comprehend the complex spatial relationships which exist across the pricing distribution. Originality value Numerous studies have used OLS regression to measure the impact of key housing market externalities on house prices, providing a single estimate. This paper uses a QR approach to examine the impact of local amenities on house prices across the house price distribution.

Trung and Quan (2019) explored the determinants affecting the price of real estate in Ho Chi Minh City (HCMC). The research results provided the basic information for investors, customers, and managers to make optimal investment decisions on the real estate market in HCMC, Vietnam. Besides, the researchers surveyed 250 investors in real estate who answered 28 questions. The primary sources of data were collected from January 2019 to July 2019 and the simple random sampling technique. The Data analyzed Cronbach's Alpha and the exploratory factor analysis (EFA) which was used for the multiple linear regression techniques and using the partial least squares method. Investors' responses were measured through an adapted questionnaire on a 5-point Likert scale. Hard copy distributed among 5.000 investors in HCMC. Finally, the findings of the study have six factors affecting the price of real estate in Ho Chi Minh City (HCMC) with a significance level of 0.05.

McCord, MacIntyre, Bidanset, Lo, and Davis (2018) used the housing market to derive its implicit price and test whether these constituent elements of health and well-being are indeed capitalized into property prices and thus implicitly priced in the marketplace. A considerable number of studies have used hedonic pricing models by incorporating spatial effects to assess the impact of air quality, noise, and proximity to noise pollutants on property market pricing. This study presents a spatial analysis of air quality and noise pollution and their association with house prices, using 2,501 sale transactions for the period 2013. To assess the impact of the pollutants, three different spatial modeling approaches are used, namely, ordinary least squares using spatial dummies, a Geographically Weighted Regression (GWR), and a Spatial Lag Model (SLM). The findings suggest that air quality pollutants harm house prices, which fluctuate across the urban area. The analysis suggests that the noise level does matter, although this varies significantly over the urban setting and varies by source.

2.4.2 Effects of Transport Networks on Investment in Real Estate

Zhong and Li (2016) observed that, although several researchers have used the hedonic pricing model to value transit improvements by comparing prices of real estate properties within a certain distance from a transit station with those beyond that distance, the accuracy of these assessments is subject to questioning due to methodological limitations. By analyzing single-family and multi-family property sale transactions in Los Angeles (LA) during 2003 and 2004, this spatial hedonic study examines how the property value effects of rail transit can become volatile depending on housing markets, rail transit technologies, near-station land uses, and transit development phases. By contrasting results from the spatial Durbin models and the GWR models with those from the conventional OLS approach, the study shows the estimation accuracy can be improved considerably by controlling for the spatial dependence effect. Proximity to mature rail transit stations generally benefits multi-family property values, but the effect is negative for single-family properties. Residents (especially those from single-family households) seem to favor proximity to heavy rail transit more than light rail services. The premiums for rail transit accessibility also largely depend on different development phases and can be heavily discounted by the existence of Park-and-Ride facilities. This study provides policymakers with new empirical evidence and analytical tools to revisit value capture as a financing alternative and to reform investment strategies for rail transit services.

A study by Gatauwa and Murungi (2015) showed that the real estate industry has increasingly become a key pillar industry in Kenya. However, in recent years the real estate prices have risen rapidly with home prices increasing sharply in comparison to prices of goods and services in other industries. At the same time, housing demand has posed an economic and social challenge arousing continental and universal concerns. The main objective of this paper was to analyze the effects of infrastructure development on real estate values in Meru County, Kenya. The findings indicate that the factors that lead to high prices in the real estate sector include improved transport networks, improved social amenities, industries, expanded educational institutions, and commercial centers.

Siripanich, Rashidi, and Moylan (2019) examine the relationship between residential property values and accessibility indicators derived from transit smart card data. The use of smart card data to estimate accessibility indicators for explaining the housing market has not yet been explored in the literature. Hence, this paper employs information from

Brisbane, Australia's "go card" and corresponding property data to develop residential property, hedonic pricing models, using an OLS model, and SLM), a Spatial Error Model (SE), and a GWR. Due to the systematic coincidence between location and price similarities, these spatial econometric models yield superior goodness-of-fit over the OLS model. Using the proposed definition of public transit accessibility in this study, it was found that properties located in well-connected, well-serviced, and accessible locations generally experience premiums in their values. The results indicate that there is a value-added to the property market from the public investment in public transport services and infrastructure, which supports the adoption of transit funding mechanisms, such as value-capture taxes. Furthermore, the analysis of spatial interactions between transport accessibility and the housing market could be of use to policymakers to ensure a just distribution of capital investment in future infrastructure projects.

Melo, Graham, and Brage-Ardao (2013) state that, there has been extensive research on the linkage between transport infrastructure and economic performance since the late 1980s, characterized by widely varying evidence. They conduct a meta-analysis of the empirical evidence on the output elasticity of transport infrastructure, based on a sample of 563 estimates obtained from 33 studies. Previous meta-analyses have focused on total public capital and hence cannot appropriately explain the wide variation in the productivity effect of transport infrastructure nor provide guidance to policymakers on the returns to investment in different types of transport infrastructure. Their results indicate that the existing estimates of the productivity effect of transport infrastructure can vary across main industry groups, tend to be higher for the US economy than for European countries, and are higher for roads compared to other modes of transport. The variation in the estimates of the output elasticity of transport is also explained by differences in the methods and data used in previous studies. Failing to control for unobserved heterogeneity and spurious associations tends to result in higher values while failing to control for urbanization and congestion levels leads to omitted variable bias.

2.4.3 Effects of Urbanization on Investment in Real Estate

Liu and Wing (2017) observed that the interaction between urbanization and the development of housing markets has long been investigated by researchers. Theoretically, the urbanization process should boost the demand for various properties and nurture more investment in this sector. For another, the real estate industry works as a foundation and provides a supportive environment to the urbanization process. Previous research mainly focuses on qualitative policy analysis instead of direct quantitative analysis and the majority discuss the housing price. Their study would like to fill in the knowledge gap by exploring the relationship between urbanization and annual real estate investment. Based on the macro data in China over the past 20 years, an empirical study is carried out, with the application of the Unit Root Test, Co-integration Test, and Granger Causality Test. The findings suggest that there is a long-term equilibrium and a one-way granger relationship between urbanization rate and annual real estate investment.

Dasgupta *et al*. (2014) provide a systematic empirical assessment of the pace at which housing investment has responded to rising demand from urbanization. The assessment used National Accounts Statistics to build a data set of residential housing investments for more than 90 countries. The data set explicitly accounts for investment by households, the government, and the private sector. The analysis finds that housing investment follows an S-shaped trajectory taking off around per capita GDP of about $3,000 (US$2005) and tapering down at per capita GDP around $36,000 (US$2005). The analysis also finds that between 2001 and 2011, housing investment in low-income economies averaged 4.56 percent of gross domestic product and 9.12 percent in upper-middle-income economies. An important finding is that countries in Sub-Saharan Africa have housing elasticities similar to comparable low-income and lower-middle-income economies. In financing housing investment, the study finds that developing countries tend to rely much more on domestic savings and government debt, whereas high-income OECD countries lever capital markets by tapping foreign savings. Not only does excessive reliance on domestic savings and government debt increase the sensitivity of housing investment to the cyclicality of growth of the gross domestic product, but it also can potentially crowd out investments in health and education.

Hong (2014) employed Gaussian Mixture Model (GMM) for the first time to estimate the dynamic relevance between real estate investment and economic growth based on the panel data of 284 Chinese Prefecture cities from 1994 to 2010. We find that the positive effect of real estate investment on economic growth is stronger in the short term while in long term turns to be negative. Therefore, housing investment is an important factor for short-term economic fluctuations and leads to downside risk in the long term. The effect of real estate investment also relies on regional economic development and has periodic characteristics, which is stronger in the eastern region than the Midwest region, and the negative enduring impact is strengthened after 2004. Furthermore, the government expenditure hinders the economic growth, and cutting government expenditure and curbing the wind of extravagance by the new leadership in China is proved to be proper.

Jonasson and Prick (2018) explored how property owners decide which property uses to include in development projects. The objective is to identify the most important factors behind the decision and to contribute to the body of knowledge concerning the investment decision process of property uses in development projects. The study uses a qualitative method with an abductive approach where semi-structured interviews with 11 of the largest real estate owners in Stockholm have been conducted. The information from the interviews resulted in a general description of the process real estate owners undertake to decide which property uses to include in development projects. The most important factors behind the decision were shown to be the demand in the area, the will of the municipality, the preconditions of the site, and the profitability analysis of the project. The detailed development plan, controlled by the municipality, is what ultimately regulates which property uses that can be developed. Real estate owners can negotiate with the municipality when new plans are developed over which property uses to be included, but in the end, it is the municipality that has the final say in the matter.

2.5 Chapter Summary

This chapter has focused on the study's literature. It has provided the empirical literature for factors influencing real estate investment in Nairobi County. It has examined the role of financial factors, population growth, and infrastructure development on real estate investment in Nairobi County. The next section explores the research methodology that was used. The fourth chapter presents the study results and findings, and chapter five explores the discussion, conclusion, and recommendations of the study in detail.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter conducts a discussion on the methodology that was applied when conducting the study. It examines in detail the study's research design, the population, and sampling design, where the population, sampling frame, sampling design, and the sample size are presented. The chapter further examines the data collection techniques, research procedures, as well as the data analysis methods that were applied.

3.2 Research Design

Research design is defined by different social scientists in different terms; some of the definitions. According to Akhtar (2016), a research design is the arrangement of conditions for the collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy and procedure. Kumar (2014) defines research design as the plan, structure, and strategy, and investigation concaved to obtain ensured to search question and control variance. Akhtar (2016) further states that research design not only anticipates and specifies the seemingly countless decisions connected with carrying out data collection, processing, and analysis but it presents a logical basis for these decisions. This study used the descriptive research design.

A descriptive research sets out to explain and account for the descriptive information. Descriptive research is aimed at casting light on current issues or problems through a process of data collection that enables them to describe the situation more completely than was possible without employing this method (Creswell, 2014). In its essence, descriptive studies are used to describe various aspects of the phenomenon. In its popular format, descriptive research is used to describe characteristics and/or behaviour of sample population (Cooper & Schindler, 2014). The goal of descriptive research is to describe a phenomenon and its characteristics. This research is more concerned with what rather than how or why something has happened. Therefore, observation and survey tools are often used to gather data (Grey, 2014). In such research, the data may be collected qualitatively, but it is often analyzed quantitatively, using frequencies, percentages, averages, or other statistical analyses to determine relationships (Kumar, 2014). This research design was therefore used to explain the factors (independent variable) influencing real estate investment (dependent variable) in Nairobi County.

3.3 Population and Sampling Design

3.3.1 Population

A research population is generally a large collection of individuals or objects that is the main focus of a scientific query. It is for the benefit of the population that researches are done (Flick, 2015). A research population is also known as a well-defined collection of individuals or objects known to have similar characteristics, i.e. all individuals or objects within a certain population usually have a common, binding characteristic or trait (Butler-Kisber, 2018).

This study population comprised of three (3) employees including the developer, head of sales, and head of marketing from the 136 property management firms in Kenya shown in Appendix III that were duly registered, thus giving the study a population of 408 respondents, distributed as shown in Table 3.1. These three employee cadres were used because they were the primary team of employees within property management firms that were directly involved in real estate investment.

Table 3.1 Population Distribution

Employee Cadre	Number Per Firm	Percentage
Developer	136	33.3
Head of Sales	136	33.3
Head of Marketing	136	33.3
Total	**408**	**99.9**

Source: Estate Agents Registration Board (2021)

3.3.2 Sampling Design

3.3.2.1 Sampling Frame

A simple definition of a sampling frame is the set of source materials from which the sample is selected. This definition also encompasses the purpose of sampling frames, which is to provide a means for choosing the particular members of the target population that are to be interviewed in the survey (Grey, 2014). According to Cooper and Schindler (2014), a sampling frame is perfect if there is a one-to-one mapping from frame to population elements. The sampling frame for this was composed of all property management firms in Kenya that were duly registered with the Estate Agents Registration Board (EARB), and this was obtained from the human resource department of each firm.

3.3.2.2 Sampling Technique

The sampling technique adopted for a study usually depends on the nature and objectives of the study, and sampling techniques can be broadly divided into two types consisting of random sampling, and non-random sampling (Creswell, 2014). This study used census sampling technique. A census is a study of every unit, everyone or everything, in a population (Denscombe, 2014). Kumar (2014) states that a census can be referred to as a complete enumeration of all items in the population. The study used this technique to ensure that all population items were covered, ensured no element of chance was left out, as well as guaranteed that high accuracy of data collection was obtained.

3.3.2.3 Sample Size

The sample size of a survey most typically refers to the number of units that were chosen from which data were gathered (Butler-Kisber, 2018). The designated sample size is the number of sample units selected for contact or data collection, while the final sample size is the number of completed interviews or units for which data are collected (Cooper & Schindler, 2014). In this study, census sampling was used to include all the 408 employees from the targeted property management firms in Nairobi County. This sample size was deemed to be sufficient for the study. These employees were selected for the study, because they were the ones who were responsible for renting and selling properties within the County, making them best-suited for the study. The technique was used to concentrate on the people who were best placed to assist with the relevant research.

3.4 Data Collection Methods

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research objectives, test hypotheses, and evaluate outcomes (Sekaran & Bougie, 2013). The data collection component of research is common to all fields of study, and while methods vary by discipline, the emphasis on ensuring accurate and honest collection remains the same (Cooper & Schindler, 2014). The goal for all data collection is to capture quality evidence that then translates to rich data analysis and allows the building of a convincing and credible answer to questions that have been posted (Kumar, 2014). To achieve this, the study relied on primary data for its results and findings. This data was collected using a structured self-administered questionnaire.

The questionnaire contained both closed-ended and open-ended questions, to ensure that all respondents answer similar questions, based on the same scale that was provided on a Likert-scale, as well as provide their opinion on the open-ended questions. According to Cooper and Schindler (2013), Likert-scales are reliable and provide a greater volume of data than many other scales, and thus the researcher made use of the Likert-scale. The scale values were: SD-Strongly Disagree, D-Disagree, N-Neutral, A-Agree, and SA-Strongly Agree. Questionnaires were used because of their reliability, and ease of analysis and interpretation. The questionnaires were divided into two broad sections. The first section examined the demographic information of the respondents, and on the details of the firm while the second section focused on answering the research objectives. Part one of the second section examined how financial factors influenced real estate investment, while part two focused on how population growth influenced real estate investment, and part three determined how infrastructure development influenced real estate investment in Nairobi County.

3.5 Research Procedures

Before conducting the research, the researcher sought authorization to conduct the research from the university's Institutional Review Board (IRB) for ethical review. The authorization was then used to apply for a research permit from the National Council for Science Technology and Innovation (NACOSTI). These two were presented to the management of the property management firms in Nairobi before data was collected.

A pilot test was conducted on the questionnaires, before actual administration. A pilot study can be defined as a 'small study to test research protocols, data collection instruments, sample recruitment strategies, and other research techniques in preparation for a larger study (Cooper & Schindler, 2014). To achieve this, the study used ten (10) respondents from one of the property management firms for piloting, who were later on excluded from the final sample size. The researcher used the Cronbach alpha test to examine the reliability and consistency of the research questionnaire. Salda (2012) states that Cronbach's alpha is a coefficient that is commonly used to test the reliability and consistency of structured questionnaires. According to Kumar (2014), the threshold for the Cronbach alpha is set at ≥ 0.7, and thus, the study adopted the same measure for a reliable and consistent instrument. Table 3.2 shows that the study questionnaire was reliable since all the items had an alpha coefficient of ≥ 0.7 A pilot study is one of the important stages in a research project and is conducted to identify potential problem areas and deficiencies in the research instruments, and protocol before implementation during the full study (Kumar, 2014).

Table 3.2 Reliability Test Results

Questionnaire Section	No. of Items	Coefficient
Financial Factors and Real Estate Investment	12	.881
Population Characteristics and Real Estate Investment	12	.777
Infrastructure Development and Real Estate Investment	12	.791
Overall	**36**	**.930**

The researcher collected the study data electronically, using Google form sheets. The researcher attached the research permits, the consent and de-brief forms on the Google form sheets, and then send the link to the target population. This data collection method was employed because it enabled the study researcher to access the entire population within Nairobi County with ease.

3.6 Data Analysis Methods

Data analysis is a method of putting facts and figures to solve the research problem. It is vital to finding the answers to the research objectives. Often it is difficult to deduce the raw data, in which case the data must be analyzed to deduce the result of the analysis (Cooper & Schindler, 2014). This study employed a descriptive research design to analyze the data. Quantitative statistics such as frequencies and percentages, as well as standard deviations and mean scores were computed for the Likert-scale questions which were presented in form of figures and were obtained from the SPSS tool. Inferential analysis in the form of correlation analysis was used to calculate and measure the nature of the existing relationship between the study's independent and dependent variables. Regression analysis was also used to predict the actual values by which the independent variables influenced the dependent variable. Before the regression analysis was conducted, the researcher tested for assumptions for linear regression with tests for normality, linearity, and multicollinearity.

The linear regression model that was used for financial factors was as follows:

$$\gamma = a + \beta_1\chi_1 + e$$

Where:

a = Constant (Point at which Line Crosses Y Axis)

χ_1 = Financial Factors,

β_1 = Slope (regression coefficient) for variable χ_1

e = error (or residual) value

The linear regression model that was used for population characteristics was as follows:

$$\gamma = a + \beta_2\chi_2 + e$$

Where:

a = Constant (Point at which Line Crosses Y Axis)

χ_1 = Population Characteristics,

β_2= Slope (regression coefficient) for variable χ_2

e = error (or residual) value

The linear regression model that was used for infrastructure development was as follows:

$$\gamma = a + \beta_3\chi_3 + e$$

Where:

a = Constant (Point at which Line Crosses Y Axis)

χ_3 = Infrastructure Development,

β_3 = Slope (regression coefficient) for variable χ_3

e = error (or residual) value

Linear regression model was used to estimate the relationship between the dependent variable (real estate investment) and the independent variables (financial factors, population characteristics, and infrastructure development). It was used to predict the value of the estimate effect that each independent variable had on the dependent variable. The one-way analysis of variance (ANOVA) was used in the study to determine whether there existed any statistically significant differences between the means of the independent study variables. The regression coefficients were used to measure the average functional relationship between the study variables. In this study, it was used to measure the degree of dependence of real estate investment on the independent variables.

3.7 Chapter Summary

This chapter has outlined the data collection and analysis methods that were followed during the research. It has demonstrated that the research utilized quantitative approaches in collecting, and analyzing the data that was collected from the field. At the same time, it has been established that the research utilized an online platform to collect data from the respondents. The chapter has also outlined the way data was summarized, analyzed, and presented. The next chapter is the results and findings of the study, and chapter five explores the discussion, conclusion, and recommendations of the study in detail.

CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction

This section of the study presents the results and findings of the study from the collected and analyzed data. The first segment provides descriptive analysis results for demographic information and response rate. The second segment provides the descriptive and inferential analysis for the influence of financial factors on real estate developer's investment in Nairobi County. The third segment provides the descriptive and inferential analysis for the influence of population characteristics on real estate developer's investment in Nairobi County. The fourth segment provides the descriptive and inferential analysis for the influence of infrastructure development on real estate developer's investment in Nairobi County.

4.2 Response Rate and Demographic Information

This segment of the chapter provides the study results of the response rate, respondents' general information which includes: length of store operation, length of employee with the store, retail store category and nature of e-commerce platforms used in these stores. The findings have been presented in the form of figures.

4.2.1 Response Rate

The researcher sought data from the 408 respondents that had been targeted, and 297 provided responses, thus the study obtained a response rate of 72.8%. According to Kumar (2014), the threshold for a study is dependent on the nature of the study, and a response of 50% and above is significant. This shows that the study response rate in Figure 4.1 was above the obligatory threshold.

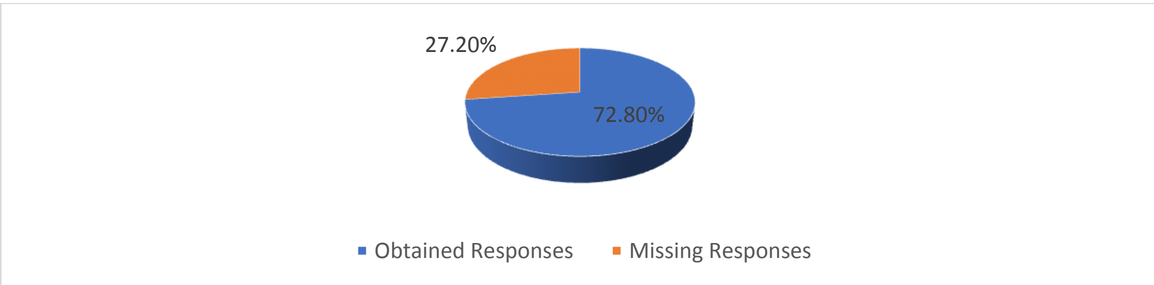

Figure 4.1 Response Rate

4.2.2 Gender of Respondents

The respondents were invited to indicate their gender and the obtained results have been presented in Figure 4.2. The figure shows that 53% of the respondents were male, and 47% were female. The results show that both genders were adequately presented and the results could not suffer from gender bias.

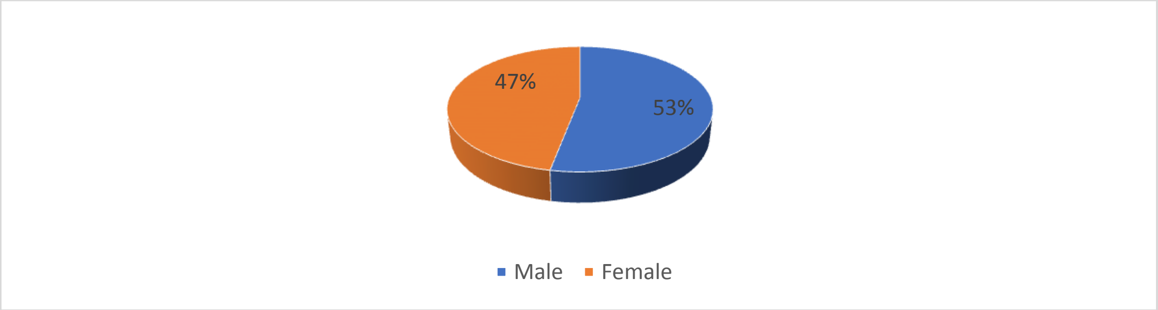

Figure 4.2 Gender of Respondents

4.2.3 Age of the Firm

The respondents were invited to indicate the number of years their firm had been in business and the obtained results have been presented in Figure 4.3. The figure shows that 62% of the firms had been in operation for 26-30 years, 31% had been in operation for 31-35 years, and 7% had been in operation for 20-25 years. The results indicate that the firms had been in the real estate industry for more than 20 years.

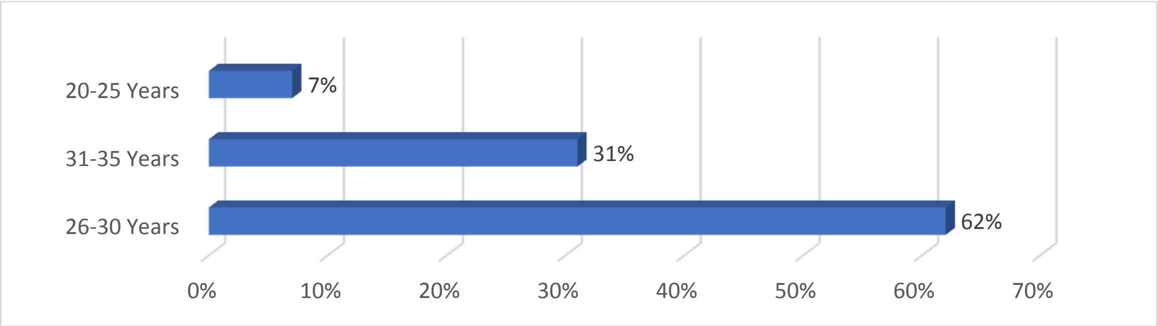

Figure 4.3 Age of the Firm

4.2.4 Position of the Respondents

The respondents were invited to indicate their position within their respective firms and the obtained results have been presented in Figure 4.4. The figure shows that 36% of the respondents were head of marketing, 33% were head of sales, and 31% were developers.

The results show that all levels of targeted managers were adequately presented in the study resulting in comprehensive results.

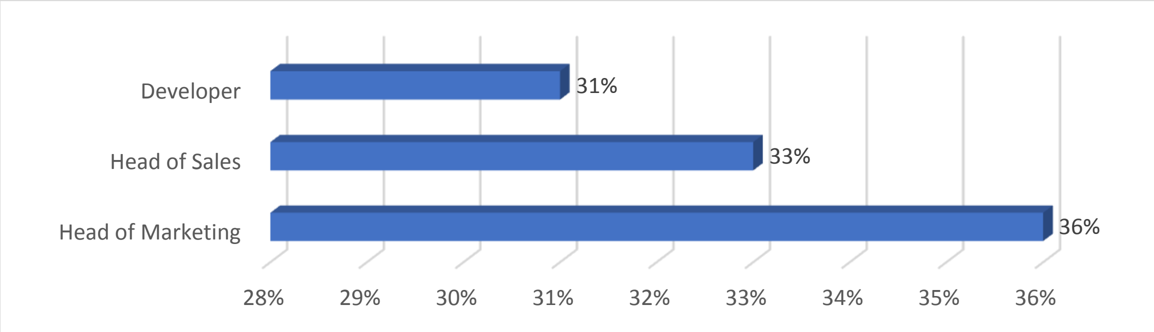

Figure 4.4 Position of the Respondents

4.2.5 Number of Invested Properties

The respondents were invited to indicate the number of properties their firms had invested in and the obtained results have been presented in Figure 4.5. The figure shows that 38% of the firms had invested in 1-5 properties, 38% of the firms had invested in 1-5 properties, 35% had invested in 6-10 properties, 13% had invested in 11-15 properties, 8% had invested in 16-20 properties, and 6% had invested in over 21 properties. This shows that most of the firms had invested in more than 5 properties.

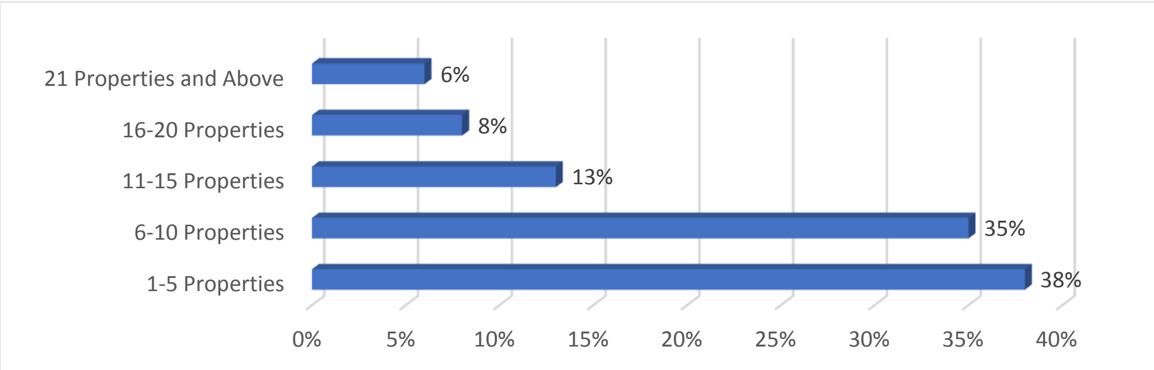

Figure 4.5 Number of Properties

4.3 Financial Factors and Real Estate Investment

The first study objective sought to establish how financial factors influence real estate developer's investment in Nairobi County. This section offers the descriptive and inferential analysis between financial factors and real estate investment with regards to effects of taxes on investment in real estate, effects of interest rates on investment in real estate, and effects of return on assets on investment in real estate.

4.3.1 Effects of Financial Factors on Real Estate Investment

Descriptive statistics in the study comprise of frequencies, means and standard deviations as provided in Table 4.1, Table 4.2, and Table 4.3. Means that were ≥ 4.0 signify "strongly agree", those that were ≥ 3.0 signify "neutral" and those that were 2.0 and below signify disagree and strongly disagree. For standard deviation, all values that were ≤ 1.5 indicate that the respondents were in agreement.

4.3.1.1 Descriptive Analysis for Effects of Taxes on Investment in Real Estate

Table 4.1 shows that taxation on real estate affects real estate investment as indicated by 95.6% of the respondents, 2.3% disagreed, and 2% were neutral (mean=4.39, standard deviation=0.709). Real estate tax on retention affects pricing which affects real estate investment as indicated by 87.5% of the respondents, 11.1% were neutral, and 1.3% disagreed (mean=4.32, standard deviation=0.777). Income tax affects real estate investment growth as indicated by 83.5% of the respondents, 9.8% were neutral, and 6.7% disagreed (mean=4.09, standard deviation=0.841). Property tax negatively affects real estate investment as indicated by 83.2% of the respondents, 11.4% were neutral, and 5.3% disagreed (mean=4.32, standard deviation=0.777).

Table 4.1 Descriptive Analysis for Effects of Taxes on Investment in Real Estate

	SD	D	N	A	SA			
	%	%	%	%	%	N	M	SD
Taxation on real estate affects real estate investment	1.3	1	2	48.5	47.1	297	4.39	.709
Real estate tax on retention affects pricing which affects real estate investment	1.3	0	11.1	40.4	47.1	297	4.32	.777
Income tax affects real estate investment growth	.3	6.4	9.8	50.5	33	297	4.09	.841
Property tax negatively affects real estate investment	1.3	4	11.4	49.5	33.7	297	4.10	.852

SD-Strongly Disagree, D-Disagree, N-Neutral, A-Agree, SA-Strongly Agree

4.3.1.2 Descriptive Analysis for Effects of Interest Rates on Investment in Real Estate

Table 4.2 shows that interest rates affect the real estate returns thus affecting real estate investment as indicated by 77.8% of the respondents, 17.8% were neutral, and 4.4% disagreed (mean=4.21, standard deviation=0.888). Real estate price changes affect real estate investment as indicated by 41.7% of the respondents, 34.7% were neutral, and 23.6% disagreed (mean=3.24, standard deviation=1.050). Interest rates highly influence real estate investment as indicated by 48.9% of the respondents, 35% were neutral, and 16.2% disagreed (mean=3.41, standard deviation=0.996). The government highly regulates real estate interest rates which impacts on investment in real estate as indicated by 79.5% of the respondents, 11.8% were neutral, and 8.7% disagreed (mean=3.96, standard deviation=0.896).

Table 4.2 Descriptive Analysis for Effects of Interest Rates on Investment in Real Estate

	SD	D	N	A	SA			
	%	%	%	%	%	N	M	SD
Interest rates affect the real estate returns thus affecting real estate investment	0	4.4	17.8	30	47.8	297	4.21	.888
Real estate price changes affect real estate investment	5.4	18.2	34.7	30.3	11.4	297	3.24	1.050
Interest rates highly influence real estate investment	4.4	11.8	35	36.4	12.5	297	3.41	.996
The government highly regulates real estate interest rates which impacts on investment in real estate	1.3	7.4	11.8	52.9	26.6	297	3.96	.896

SD-Strongly Disagree, D-Disagree, N-Neutral, A-Agree, SA-Strongly Agree

4.3.1.3 Descriptive Analysis for Effects of Return on Assets on Investment in Real Estate

Table 4.3 shows that returns on commercial real estate influence real estate investment as indicated by 63.6% of the respondents, 25.9% were neutral, and 10.5% disagreed (mean=3.74, standard deviation=1.044). The stability of the real estate market influences real estate investment as indicated by 83.9% of the respondents, 11.4% were neutral, and

4.7% disagreed (mean=4.22, standard deviation=0.864). Return on assets in the real estate market influences real estate investment as indicated by 88.9% of the respondents, 8.8% were neutral, and 2.4% disagreed (mean=4.41, standard deviation=0.749). Unexpected inflation negatively affects real estate investment as indicated by 76.4% of the respondents, 17.5% were neutral, and 6% disagreed (mean=4.11, standard deviation=0.969).

Table 4.3 Descriptive Analysis for Effects of Return on Assets on Investment in Real Estate

	SD	D	N	A	SA			
	%	%	%	%	%	N	M	SD
Returns on commercial real estate influence real estate investment	4.4	6.1	25.9	38	25.6	297	3.74	1.044
The stability of the real estate market influences real estate investment	1	3.7	11.4	40.1	43.8	297	4.22	.864
Return on assets in the real estate market influences real estate investment	0	2.4	8.8	34	54.9	297	4.41	.749
Unexpected inflation negatively affects real estate investment	2	4	17.5	33.3	43.1	297	4.11	.969

SD-Strongly Disagree, D-Disagree, N-Neutral, A-Agree, SA-Strongly Agree

4.3.2 Inferential Analysis on Financial Factors and Real Estate Investment

4.3.2.1 Assumptions for Linear Regression Analysis

Before conducting the linear regression analysis between financial factors and real estate investment, it was prudent for the researcher to conduct normality, linearity, and multicollinearity tests, to ensure the data collected was not skewed.

4.3.2.2 Normality for Financial Factors

The researcher conducted a normality test on the financial factors variable and the obtained results have been presented in Table 4.4. The Shapiro-Wilk presents the sig-value for financial factors as 0.084 which is >0.05, denoting that the data for financial factors variable was normally distributed.

Table 4.4 Normality Test for Financial Factors

Data	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Financial Factors	.166	20	.148	.916	20	.084

a. Lilliefors Significance Correction

4.3.2.3 Correlations Analysis Between Financial Factors and Real Estate Investment

Linearity between financial factors and real estate investment in this study was measured using the correlation analysis, and the results were as shown in Table 4.5. The results indicate that there existed a positive linear relationship between financial factors and real estate investment, and financial factors were significant to real estate investment ($r=0.747$, $p<.05$).

Table 4.5 Correlations Between Financial Factors and Real Estate Investment

	Real Estate Investment	Financial Factors
Real Estate Investment	1	
Financial Factors	.747**	1
	.000	

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

4.3.2.4 Multicollinearity Test for Financial Factors

The researcher examined whether there were multicollinearity symptoms between financial factors variable and real estate investment, and the obtained results were as shown in Table 4.6. The variance inflation factor (VIF) for financial factors was 2.191, and it ranged between 1-5, meaning that multicollinearity symptoms were not present between the study variables.

Table 4.6 Multicollinearity Test for Financial Factors

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Financial Factors	.456	2.191

a. Dependent Variable: Real Estate Investment

4.3.3 Linear Regression Analysis

After conducting the assumptions of linear regression for financial factors variable and real estate investment, the researcher proceeded to conduct a linear regression analysis to examine the course of the relationship between these variables. These were presented using the regression model summary, the analysis of variance (ANOVA), and the regression coefficients.

4.3.3.1 Model Summary Between Financial Factors and Real Estate Investment

Table 4.7 shows the obtained model summary results between financial factors and real estate investment. The result of model summary shows that financial factors explain about 56% of the variability in real estate investment in Nairobi (adjusted $R^2 = .557$).

Table 4.7 Model Summary Between Financial Factors and Real Estate Investment

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.747[a]	.558	.557	.37561

a. Predictors: (Constant), Financial Factors

4.3.3.2 ANOVA Between Financial Factors and Real Estate Investment

Table 4.8 shows the obtained results for the ANOVA between financial factors and real estate investment. It confirms that there existed a statistically significant linear relationship between financial factors and real estate investment ($F\ (1,296) = 372.918$, $p<.05$).

Table 4.8 ANOVA Between Financial Factors and Real Estate Investment

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	52.613	1	52.613	372.918	.000[b]
	Residual	41.620	295	.141		
	Total	94.233	296			

a. Predictors: (Constant), Financial Factors

b. Dependent Variable: Real Estate Investment

4.3.3.3 Regression Coefficients Between Financial Factors and Real Estate Investment

Table 4.9 shows the obtained results for the linear regression coefficients between financial factors and real estate investment. The results indicate that financial factors statistically and significantly influenced real estate investment in Nairobi (β = 0.776, t (296) = 19.311, p<.05). The model indicates that financial factor variables positively influenced investment in real estate, that is, a unit mean increase in financial factors would increase the investment in real estate by a positive mean value of 0.78.

Table 4.9 Coefficients Between Financial Factors and Real Estate Investment

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.929	.160		5.820	.000
	Financial Factors	.776	.040	.747	19.311	.000

a. Dependent Variable: Real Estate Investment

4.4 Population Characteristics and Real Estate Investment

The second study objective sought to establish how population characteristics influence real estate developer's investment in Nairobi County. This section offers the descriptive and inferential analysis between population characteristics and real estate investment with regards to effects of population size on investment in real estate, effects of age on investment in real estate, and effects of gender on investment in real estate.

4.4.1 Effects of Population Characteristics on Real Estate Investment

Descriptive statistics in the study comprise of frequencies, means and standard deviations as provided in Table 4.10, Table 4.11, and Table 4.12. Means that were ≥ 4.0 signify "strongly agree", those that were ≥ 3.0 signify "neutral" and those that were 2.0 and below signify disagree and strongly disagree. For standard deviation, all values that were ≤ 1.5 indicate that the respondents were in agreement.

4.4.1.1 Descriptive Analysis for Effects of Population Size on Investment in Real Estate

Table 4.10 shows that rapid population growth affects real estate investment as indicated by 86.2% of the respondents, 9.4% were neutral, and 4.4% disagreed (mean=4.39, standard deviation=0.868). The working-age (18-64 years) population significantly affect real estate investment as indicated by 83.5% of the respondents, 11.4% were neutral, and 5% disagreed (mean=4.18, standard deviation=0.872). Population immigration largely affects real estate investment as indicated by 58.9% of the respondents, 25.9% were neutral, and 15.1% disagreed (mean=3.68, standard deviation=0.012). Domestic investors are important in the investment of the real estate market as indicated by 64% of the respondents, 17.8% were neutral, and 18.1% disagreed (mean=3.62, standard deviation=1.003).

Table 4.10 Descriptive Analysis for Effects of Population Size on Investment in Real Estate

	SD	D	N	A	SA			
	%	**%**	**%**	**%**	**%**	**N**	**M**	**SD**
Rapid population growth affects real estate investment	1	3.4	9.4	27.6	58.6	297	4.39	.868
The working-age (18-64 years) population significantly affect real estate investment	1.3	3.7	11.4	43.1	40.4	297	4.18	.872
Population immigration largely affects real estate investment	.3	14.8	25.9	34.7	24.2	297	3.68	0.012
Domestic investors are important in the investment of the real estate market	1.3	16.8	17.8	46.5	17.5	297	3.62	1.003

4.4.1.2 Descriptive Analysis for Effects of Age on Investment in Real Estate

Table 4.11 shows that investors' age is a significant factor in real estate investment decisions as indicated by 77.4% of the respondents, 16.5% were neutral, and 6% disagreed (mean=3.95, standard deviation=0.876). Family size highly affects real estate investment as indicated by 77.4% of the respondents, 17.8% were neutral, and 4.7% disagreed (mean=4.10, standard deviation=0.855). Investor's age is influential on the investment preferences in real estate as indicated by 75.1% of the respondents, 20.5%

were neutral, and 4.4% disagreed (mean=3.98, standard deviation=0.809). The property portfolio of investors highly affects real estate investment as indicated by 72% of the respondents, 18.2% were neutral, and 9.8% disagreed (mean=3.96, standard deviation=0.952).

Table 4.11 Descriptive Analysis for Effects of Age on Investment in Real Estate

	SD	D	N	A	SA			
	%	%	%	%	%	N	M	SD
Investors' age is a significant factor in real estate investment decisions	2	4	16.5	51.5	25.9	297	3.95	.876
Family size highly affects real estate investment	0	4.7	17.8	40.4	37	297	4.10	.855
Investor's age is influential on the investment preferences in real estate	0	4.4	20.5	47.8	27.3	297	3.98	.809
The property portfolio of investors highly affects real estate investment	0	9.8	18.2	38.7	33.3	297	3.96	.952

4.4.1.3 Descriptive Analysis for Effects of Gender on Investment in Real Estate

Table 4.12 shows that the gender of investors influences real estate investment as indicated by 67.3% of the respondents, 19.9% were neutral, and 12.8% disagreed (mean=3.80, standard deviation=0.995). Male investors are more optimistic in real estate investment than females as indicated by 47.8% of the respondents, 36% were neutral, and 16.1% disagreed (mean=3.44, standard deviation=0.975). Male investors prefer real estate investment to women investors as indicated by 69.4% of the respondents, 19.2% were neutral, and 11.4% disagreed (mean=3.72, standard deviation=0.915). Risk-averse women prefer to invest in real estate properties as indicated by 64.3% of the respondents, 29% were neutral, and 6.7% disagreed (mean=3.71, standard deviation=0.779).

Table 4.12 Descriptive Analysis for Effects of Gender on Investment in Real Estate

	SD	D	N	A	SA			
	%	**%**	**%**	**%**	**%**	**N**	**M**	**SD**
The gender of investors influences real estate investment	1	11.8	19.9	40.7	26.6	297	3.80	.995
Male investors are more optimistic in real estate investment than females	2	14.1	36	33	14.8	297	3.44	.975
Male investors prefer real estate investment to women investors	2	9.4	19.2	53.2	16.2	297	3.72	.915
Risk-averse women prefer to invest in real estate properties	0	6.7	29	51.2	13.1	297	3.71	.779

4.4.2 Inferential Analysis on Population Characteristics and Real Estate Investment

4.4.2.1 Assumptions for Linear Regression Analysis

Before conducting the linear regression analysis between population characteristics and real estate investment, it was prudent for the researcher to conduct normality, linearity, and multicollinearity tests, to ensure the data collected was not skewed.

4.4.2.2 Normality for Population Characteristics

The researcher conducted a normality test on the population characteristics variable and the obtained results have been presented in Table 4.13. The Shapiro-Wilk presents the sig-value for population characteristics as 0.071 which is >0.05, denoting that the data for population characteristics variable was normally distributed.

Table 4.13 Normality Test for Population Characteristics

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
Data	Statistic	df	Sig.	Statistic	df	Sig.
Population Characteristics	.270	20	.133	.824	20	.071

a. Lilliefors Significance Correction

4.4.2.3 Correlations Analysis Between Population Characteristics and Real Estate Investment

Linearity between population characteristics and real estate investment in this study was measured using the correlation analysis, and the results were as shown in Table 4.14. The results indicate that there existed a positive linear relationship between population characteristics and real estate investment, and population characteristics were significant to real estate investment (r=0.774, $p<.05$).

Table 4.14 Correlations Between Population Characteristics and Real Estate Investment

	Real Estate Investment	Population Characteristics
Real Estate Investment	1	
Population Characteristics	.774**	1
	.000	

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

4.4.2.4 Multicollinearity Test for Population Characteristics

The researcher examined whether there were multicollinearity symptoms between population characteristics variable and real estate investment, and the obtained results were as shown in Table 4.15. The VIF for financial factors was 2.084, and it ranged between 1-5, meaning that multicollinearity symptoms were not present between the study variables.

Table 4.15 Multicollinearity Test for Population Characteristics

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Population Characteristics	.480	2.084

a. Dependent Variable: Real Estate Investment

4.4.3 Linear Regression Analysis

After conducting the assumptions of linear regression for population characteristics variable and real estate investment, the researcher proceeded to conduct a linear regression analysis to examine the course of the relationship between these variables.

These were presented using the regression model summary, the ANOVA, and the regression coefficients.

4.4.3.1 Model Summary Between Population Characteristics and Real Estate Investment

Table 4.16 shows the obtained model summary results between population characteristics and real estate investment. The result of model summary shows that population characteristics explain about 60% of the variability in real estate investment in Nairobi (adjusted $R^2 = .597$).

Table 4.16 Model Summary Between Population Characteristics and Real Estate Investment

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.774[a]	.598	.597	.35814

a. Predictors: (Constant), Population Characteristics

4.4.3.2 ANOVA Between Population Characteristics and Real Estate Investment

Table 4.17 shows the obtained results for the ANOVA between population characteristics and real estate investment. It confirms that there existed a statistically significant linear relationship between population characteristics and real estate investment (F (1,296) = 439.696, $p<.05$).

Table 4.17 ANOVA Between Population Characteristics and Real Estate Investment

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	56.396	1	56.396	439.696	.000[b]
	Residual	37.837	295	.128		
	Total	94.233	296			

a. Predictors: (Constant), Population Characteristics

b. Dependent Variable: Real Estate Investment

4.4.3.3 Regression Coefficients Between Population Characteristics and Real Estate Investment

Table 4.18 shows the obtained results for the linear regression coefficients between population characteristics and real estate investment. The results indicate that population characteristics statistically and significantly influenced real estate investment in Nairobi (β = 0.797, t (296) = 20.969, p<.05). The model indicates that population characteristics variable positively influenced investment in real estate, that is, a unit mean increase in population characteristics would increase the investment in real estate by a positive mean value of 0.78.

Table 4.18 Coefficients Between Population Characteristics and Real Estate Investment

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.945	.146		6.465	.000
	Population Characteristics	.797	.038	.774	20.969	.000

a. Dependent Variable: Real Estate Investment

4.5 Infrastructure Development and Real Estate Investment

The third study objective sought to establish how infrastructure development influence real estate developer's investment in Nairobi County. This section offers the descriptive and inferential analysis between infrastructure development and real estate investment with regards to effects of social amenities return on assets on investment in real estate, effects of transport networks on investment in real estate, and effects of urbanization on investment in real estate.

4.5.1 Effects of Infrastructure Development on Real Estate Investment

Descriptive statistics in the study comprise of frequencies, means and standard deviations as provided in Table 4.19, Table 4.20, and Table 4.21. Means that were ≥ 4.0 signify "strongly agree", those that were ≥ 3.0 signify "neutral" and those that were 2.0 and below signify disagree and strongly disagree. For standard deviation, all values that were ≤ 1.5 indicate that the respondents were in agreement.

4.5.1.1 Descriptive Analysis for Effects of Social Amenities Return on Assets on Investment in Real Estate

Table 4.19 shows that social amenities influence the investment in real estate as indicated by 51.2% of the respondents, 26.3% were neutral, and 22.6% disagreed (mean=3.41, standard deviation=1.096). Proximity to social amenities affects real estate investment as indicated by 71.7% of the respondents, 18.5% were neutral, and 9.8% disagreed (mean=3.86, standard deviation=0.891). Social amenities influence the price of real estate developments as indicated by 59.3% of the respondents, 25.9% were neutral, and 14.9% disagreed (mean=3.51, standard deviation=0.908). Excess air and noise pollution negatively impact real estate investment as indicated by 74.1% of the respondents, 16.5% were neutral, and 9.4% disagreed (mean=3.97, standard deviation=0.940).

Table 4.19 Descriptive Analysis for Effects of Social Amenities Return on Assets on Investment in Real Estate

	SD	D	N	A	SA			
	%	%	%	%	%	N	M	SD
Social amenities influence the investment in real estate	4.4	18.2	26.3	34.7	16.5	297	3.41	1.096
Proximity to social amenities affects real estate investment	0	9.8	18.5	48.1	23.6	297	3.86	.891
Social amenities influence the price of real estate developments	2.4	12.5	25.9	50.2	9.1	297	3.51	.908
Excess air and noise pollution negatively impact real estate investment	.3	9.1	16.5	41.8	32.3	297	3.97	.940

4.5.1.2 Descriptive Analysis for Effects of Transport Networks on Investment in Real Estate

Table 4.20 shows that commercial property value affects real estate investment as indicated by 60.9% of the respondents, 26.9% were neutral, and 12.2% disagreed (mean=3.59, standard deviation=1.059). Improved transport networks positively affect real estate investment as indicated by 85.6% of the respondents, 9.8% were neutral, and 4.7% disagreed (mean=4.30, standard deviation=0.946). Accessibility positively affect real estate investment as indicated by 79.4% of the respondents, 11.1% were neutral, and

9.5% disagreed (mean=4.08, standard deviation=1.005). High proximity to road networks negatively affects real estate investment as indicated by 81.5% of the respondents, 12.5% disagreed, and 6.1% were neutral (mean=4.15, standard deviation=1.070).

Table 4.20 Descriptive Analysis for Effects of Transport Networks on Investment in Real Estate

	SD	D	N	A	SA			
	%	%	%	%	%	N	M	SD
Commercial property value affects real estate investment	7.1	5.1	26.9	43.4	17.5	297	3.59	1.059
Improved transport networks positively affect real estate investment	3.4	1.3	9.8	32.7	52.9	297	4.30	.946
Accessibility positively affect real estate investment	2.4	7.1	11.1	38.7	40.7	297	4.08	1.005
High proximity to road networks negatively affects real estate investment	2.4	10.1	6.1	32.7	48.8	297	4.15	1.070

4.5.1.3 Descriptive Analysis for Effects of Urbanization on Investment in Real Estate

Table 4.21 shows that the urbanization rate positively influences real estate investment as indicated by 68% of the respondents, 23.9% were neutral, and 8.1% disagreed (mean=3.85, standard deviation=0.966). Rising demand from urbanization positively affect real estate investment as indicated by 88.6% of the respondents, 7.7% were neutral, and 3.7% disagreed (mean=4.27, standard deviation=0.811). Regional economic development positively affects real estate investment as indicated by 73.4% of the respondents, 19.5% were neutral, and 7.1% disagreed (mean=4.06, standard deviation=0.935). Housing demands highly affect real estate investment as indicated by

78.5% of the respondents, 17.5% were neutral, and 4% disagreed (mean=4.16, standard deviation=0.855).

Table 4.21 Descriptive Analysis for Effects of Urbanization on Investment in Real Estate

	SD	D	N	A	SA			
	%	%	%	%	%	N	M	SD
The urbanization rate positively influences real estate investment	2.4	5.7	23.9	40.7	27.3	297	3.85	.966
Rising demand from urbanization positively affect real estate investment	1.3	2.4	7.7	44.8	43.8	297	4.27	.811
Regional economic development positively affects real estate investment	0	7.1	19.5	33.7	39.7	297	4.06	.935
Housing demands highly affect real estate investment	0	4	17.5	36.7	41.8	297	4.16	.855

4.5.2 Inferential Analysis on Infrastructure Development and Real Estate Investment

4.5.2.1 Assumptions for Linear Regression Analysis

Before conducting the linear regression analysis between infrastructure development and real estate investment, it was prudent for the researcher to conduct normality, linearity, and multicollinearity tests, to ensure the data collected was not skewed.

4.5.2.2 Normality for Infrastructure Development

The researcher conducted a normality test on the infrastructure development variable and the obtained results have been presented in Table 4.22. The Shapiro-Wilk presents the sig-value for population characteristics as 0.284 which is >0.05, denoting that the data for infrastructure development variable was normally distributed.

Table 4.22 Normality Test for Infrastructure Development

Data	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Infrastructure Development	.146	20	.200	.928	20	.284

a. Lilliefors Significance Correction

4.5.2.3 Correlations Analysis Between Infrastructure Development and Real Estate Investment

Linearity between infrastructure development and real estate investment in this study was measured using the correlation analysis, and the results were as shown in Table 4.23. The results indicate that there existed a positive linear relationship between infrastructure development and real estate investment, and infrastructure development was significant to real estate investment ($r=0.694$, $p<.05$).

Table 4.23 Correlations Between Infrastructure Development and Real Estate Investment

	Real Estate Investment	Infrastructure Development
Real Estate Investment	1	
Infrastructure Development	.694**	1
	.000	

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

4.5.2.4 Multicollinearity Test for Infrastructure Development

The researcher examined whether there were multicollinearity symptoms between infrastructure development variable and real estate investment, and the obtained results were as shown in Table 4.24. The VIF for infrastructure development was 1.593, and it ranged between 1-5, meaning that multicollinearity symptoms were not present between the study variables.

Table 4.24 Multicollinearity Test for Infrastructure Development

Model	Collinearity Statistics	
	Tolerance	VIF

1	(Constant)		
	Infrastructure Development	.628	1.593

a. Dependent Variable: Real Estate Investment

4.5.3 Linear Regression Analysis

After conducting the assumptions of linear regression for infrastructure development variable and real estate investment, the researcher proceeded to conduct a linear regression analysis to examine the course of the relationship between these variables. These were presented using the regression model summary, the ANOVA, and the regression coefficients.

4.5.3.1 Model Summary Between Infrastructure Development and Real Estate Investment

Table 4.25 shows the obtained model summary results between infrastructure development and real estate investment. The result of model summary shows that infrastructure development explains about 48% of the variability in real estate investment in Nairobi (adjusted $R^2 = .480$).

Table 4.25 Model Summary Between Infrastructure Development and Real Estate Investment

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.694[a]	.482	.480	.40688

a. Predictors: (Constant), Infrastructure Development

4.5.3.2 ANOVA Between Infrastructure Development and Real Estate Investment

Table 4.26 shows the obtained results for the ANOVA between infrastructure development and real estate investment. It confirms that there existed a statistically significant linear relationship between infrastructure development and real estate investment (F (1,296) = 274.208, $p<.05$).

Table 4.26 ANOVA Between Infrastructure Development and Real Estate Investment

Model	Sum of Squares	df	Mean Square	F	Sig.

1	Regression	45.396	1	45.396	274.208	.000[b]
	Residual	48.838	295	.166		
	Total	94.233	296			

a. Predictors: (Constant), Infrastructure Development

b. Dependent Variable: Real Estate Investment

4.5.3.3 Regression Coefficients Between Infrastructure Development and Real Estate Investment

Table 4.27 shows the obtained results for the linear regression coefficients between infrastructure development and real estate investment. The results indicate that infrastructure development statistically and significantly influenced real estate investment in Nairobi (β = 0.580, t (296) = 16.559, p<.05). The model indicates that infrastructure development variable positively influenced investment in real estate, that is, a unit mean increase in infrastructure development would increase the investment in real estate by a positive mean value of 0.78.

Table 4.27 Coefficients Between Infrastructure Development and Real Estate Investment

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.632	.144		11.356	.000
	Infrastructure Development	.580	.035	.694	16.559	.000

a. Dependent Variable: Real Estate Investment

4.6 Chapter Summary

This section of the study has presented the results and findings of the study from the collected and analyzed data. The first segment provided descriptive analysis results for demographic information and response rate. The second segment provided the descriptive and inferential analysis for the influence of financial factors on real estate developer's investment in Nairobi County. The third segment provided the descriptive and inferential analysis for the influence of population characteristics on real estate developer's investment in Nairobi County. The fourth segment provided the descriptive and inferential analysis for the influence of infrastructure development on real estate developer’s investment in Nairobi County. The next chapter is the discussion, conclusion, and recommendations of the study.

CHAPTER FIVE

5.0 DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section presents the discussion, conclusion, and recommendations for factors influencing investment in real estate by developers in Nairobi County. This involves the summary, discussion, conclusion, and recommendations for the influence of financial factors, population characteristics, and infrastructure development on real estate developer's investment in Nairobi County.

5.2 Summary

The main objective of the study was to examine the factors influencing investment in real estate by developers in Kenya, specifically in Nairobi County. The specific objectives that guided the study included: establishing how financial factors influenced real estate investment in Nairobi County, determining how population characteristics influenced real estate investment in Nairobi County and determining how infrastructure development influenced real estate investment in Nairobi County.

This study used a descriptive research design. The population of the study comprised of three employees from all the 136 property management firms in Nairobi County, providing the study with a population of 408 and were registered under the Kenya Property Developers Association (KPDA). The study selected 3 employees from each of these firms providing the study with a sample size of 408 respondents. The sampling frame for this study was made up of the official list of registered property developers in Nairobi under the KPDA. This study used the purposive sampling technique, and the sample size was 408 respondents. Data was acquired using structured self-administered questionnaires. Descriptive statistics were used to analyze the collected data and were presented using figures. Inferential statistics was analyzed using correlation and regression analysis, and these were presented using tables.

The study showed that return on assets in the real estate market influenced real estate investment. The study revealed that there existed a positive linear relationship between the study variables, and financial factors were significant to real estate investment ($r=0.747$, $p<.05$) and financial factors explain about 56% of the variability in real estate investment in Nairobi (adjusted $R^2 = .557$). Financial factors statistically and significantly influenced real estate investment in Nairobi ($\beta = 0.776$, t (296) = 19.311, $p<.05$).

The study revealed that family size highly affected real estate investment. The study showed that there existed a positive linear relationship between the study variables, and population characteristics were significant to real estate investment (r=0.774, $p<.05$), and population characteristics explain about 74% of the variability in real estate investment in Nairobi (adjusted $R^2 = .738$). Population characteristics statistically and significantly influenced real estate investment in Nairobi ($\beta = 0.797$, t (296) = 20.969, $p<.05$).

The study showed that improved transport networks positively affected real estate investment. The study revealed that there existed a positive linear relationship between the study variables, and infrastructure development was significant to real estate investment (r=0.694, $p<.05$), and infrastructure development explains about 48% of the variability in real estate investment in Nairobi (adjusted $R^2 = .480$). Infrastructure development statistically and significantly influenced real estate investment in Nairobi ($\beta = 0.580$, t (296) = 16.559, $p<.05$).

5.3 Discussion

5.3.1 Financial Factors and Real Estate Investment

The study results indicated that taxation on real estate affected real estate investment. The results were similar to those of Manganelli *et al*. (2020) who investigated the effect that property taxation has on investment in the real estate market, and the results showed that a change in income taxation can have an important effect on investment choice. This evidence may also suggest fiscal policy actions aimed at stimulating the real estate market.

It was revealed that real estate tax on retention affected pricing which affected real estate investment. The result is supported by Mo (2019) whose study results show that the real estate tax on the retention link has only a limited impact on the price of private housing. The promotion of property tax is more obvious, and the general difference is less affected. The real estate tax on the transaction link has a significant impact on housing prices. Profits tax has a significant positive effect, and stamp duty also has a driving effect, but the effect is weak.

The study indicated that income tax affected real estate investment growth. The result agrees with Alves (2019) who evaluated the share of tax revenues in the GDP and investment outcomes, making use of gross fixed capital formation as a proxy for investment. The results concluded that there was a maximizing effect of income taxation on investment growth when revenues from this tax source are about 10.7%. Furthermore, revenues from social security contributions are detrimental to growth, in both the short and the long run, while tax revenues from firms and consumption are only detrimental in the short run.

The study showed that property tax negatively affected real estate investment. The results were similar to those of Kobayashi and Sato (2018) who analyzed the effects of property tax on capital investment. Property tax has been identified as a case of a "good" local tax in the literature, stating it is known that capital tax distorts capital investment. Their study established that property tax negatively affected their investment and such adverse effects were exacerbated among enterprises with liquidity constraints.

From the findings, it was noted that interest rates affected the real estate returns thus affecting real estate investment. The results agree with Sanger *et al*. (1990) whose study results indicated that the changes in the taxation of real estate assets by 1976 TRAs were beneficial to both REITs and other real estate firms. The results showed that the market assessed changes were detrimental to the owners of real estate assets. In contrast, the systematic risks of non-REIT real estate firms increased significantly over the same period.

The study revealed that real estate price changes affected real estate investment. There were dissimilarities of the outcome with Roihjert and Ahlander (2016) who investigated how a low-interest rate and inflation environment affects real estate, as an investment alternative. Their findings show that the interest rates and the inflation do not have any direct effect on the real estate returns in a low-interest rate and inflation environment. However, it showed that there exist other variables that affect the real estate returns which in turn are affected by the interest rates and inflation meaning that the returns for real estate are indirectly influenced by the interest rates and inflation.

The study showed that interest rates highly influenced real estate investment. The results somewhat disagree with Mueller and Pauley (1995) who focused on the rising interest-rate environment in the US raised questions by investors as to how REITs react to interest-rate movements. The results indicate that REIT price movements have a low correlation with changes in interest rates and a lower correlation with interest rates than with movements in the stock market as a whole. The findings lead to a call for research into other areas to ascertain the determinants of REIT price movement.

The study revealed that the government highly regulated real estate interest rates which impacted on investment in real estate. Kazimoto (2016) analyzed the challenges facing real estate investments concerning interest rates in Arusha, and the findings revealed that there exists a positive and significant relationship between interest rates and real estate investment and development. Muthaura (2012) portrayed the relationship between interest rates and real estate investment with a focus on Kenya, and the findings indicated that indeed interest rates affect house prices, most real estate retail borrowers and investors alike are forced to increase the house prices to cater for the cost of borrowing and to also break even.

The outcome of the study indicated that returns on commercial real estate influenced real estate investment. The result is supported by Sagi (2015) who showed that commercial real estate idiosyncratic return means and variances do not scale with the holding period, even after accounting for all cash flow relevant events. This puzzling phenomenon survives controlling for vintage effects, systematic risk heterogeneity, and a host of other explanations. These insights extend to other highly illiquid asset classes, such as private equity and residential real estate.

The study revealed that stability of the real estate market influenced real estate investment. Ross and Zisler (1991) showed that basic information is provided on the returns and risks for unleveraged equity real estate compared with stocks and bonds. Findings reveal that the aggregate return for the publicly traded equity real estate investment trust index is nearly twice that of the other real estate series and more than twice that of the standard and poor index.

The study indicated that return on assets in the real estate market influenced real estate investment. Peng (2010) measured the idiosyncratic risk of commercial real estate investments and what were the determinants of the idiosyncratic risk. The results showed that idiosyncratic risk has a significant time-invariant component, which is possibly related to valuation errors in the acquisition or the disposition of properties.

The study showed that unexpected inflation negatively affected real estate investment. According to Chan *et al*. (1990) analyzed monthly returns on an equally weighted index of eighteen to twenty-three equity (real property) REITs that were traded on major stock exchanges, and they state that, real estate, at least as measured by the return performance of equity REITs, is less risky than stocks generally, but does not offer a superior risk-adjusted return and is not a hedge against unexpected inflation.

5.3.2 Population Characteristics and Real Estate Investment

The findings of the study indicated that rapid population growth affected real estate investment. The results are in agreement with Ali *et al*. (2015) whose study demonstrated that rapid population growth is a real problem in Bangladesh because it contributes to lower investment growth and diminishes the savings rate. Today foreign investment and export promotion has only a small impact on Bangladesh's economic growth.

It was noted that the working-age (18-64 years) population significantly affected real estate investment. This outcome is supported by Li (2014) who focused on the demographic and economic factors that affect the changes in prices of the housing market focusing on GDP, CPI, and age group "15-64". The results show that the working-age population of "15-64" is statistically significant in the change of housing prices

The study showed that population immigration largely affected real estate investment. This result agrees with Long *et al*. (2006) conducted an empirical study on the relationship between population immigration and the urban housing market. The study showed that population immigration largely increases the demand for housing; meanwhile, high housing prices would also restrain immigration, and the transferred-in population has a strong demand for housing and considerable purchase power.

The outcome of the study showed that domestic investors were important in the investment of the real estate market. Epaphra and Massawe (2016) analyzed the causal effect between domestic private investment, public investment, foreign direct investment, and economic growth, and the empirical results show that domestic private investment and foreign direct investment play an important role in economic growth.

The study revealed that investors' age was a significant factor in real estate investment decisions. The study agrees with Ansari (2019) who sought to find out the influence of age on the usefulness of the investment decisions of investors, and a significant relationship has been found between the age and investment avenues, age and investment knowledge, and age and apprehension about investment, whereas, a significant relationship has not been found between age and reasons for investment as far as the second hypothesis is concerned.

From the study findings, it was noted that family size highly affected real estate investment. Zhang *et al*. (2020) took China as the research object to study the effects of demographics on housing consumption and their study notes that family size negatively affect housing consumption, while urbanization rate and ODR have positive effects; CDR positively affects housing consumption through deposit and the indirect effect of ODR on housing consumption through deposit is negative.

The study indicated that investor's age was influential on the investment preferences in real estate. The result agrees with Icellioglu (2015) who sought to identify whether there was an effect of demographic characteristic, and it was found that some significant factors such as gender, educational background, monthly personnel income, total household income, age, profession, and occupation are influential on the investment preferences of individuals, and that, when it comes to investing in a house, the financial tool to be preferred widely varies with age, personnel income, and household income of individuals.

The study revealed that property portfolio of investors highly affected real estate investment. There exist dissimilarities with the findings of Ameriks and Zeldes (2004) who used pooled cross-sectional data from the surveys of consumer finances, and found no evidence supporting a gradual reduction in portfolio shares with age. There is some tendency for older individuals to shift completely out of the stock market around the time of annualization and withdrawals.

The findings of the study denote that gender of investors influenced real estate investment. This outcome is in tandem with Tsai (2018) who examined whether a person's gender influences his or her real estate trading sentiments. More noticeable expectation adjustment behavior was observed in men than in women, and gender differences in risk aversion were affected by the fear index, whereas gender differences in loss aversion were affected by unemployment rates.

The study outcome showed that male investors were more optimistic in real estate investment than females. The result is supported by Tsai (2018) examined whether a person's gender influences his or her real estate trading sentiments. His study showed that stock market rallies affected only men's perceptions of real estate value. Overall, a more noticeable optimism was observed in men, who were significantly influenced by house price changes.

The study showed that male investors preferred real estate investment to women investors. Bayyurt, Karisik, and Coskun (2013) explore how women and men differ in their individual investment preferences, and the results revealed that while men investors prefer common stocks and real estate to invest women investors are more risk-averse and invest in the fund, time deposits, and gold. There is no significant difference between men and women in foreign currency investment.

From the study findings, it was shown that risk-averse women preferred to invest in real estate properties. this outcome is supported by Kappal and Rastogi (2020) who wanted to understand the new kind of investors – women entrepreneurs – and to find out the factors that drive their investment behavior and investment decisions. Their research shows that women entrepreneurs who consider the investment as a long-term instrument are risk-averse and quite conservative. They are willing to take risks in business but not for making investment decisions.

5.3.3 Infrastructure Development and Real Estate Investment

The study showed that social amenities influenced the investment in real estate. This study outcome is in tandem with Okoro *et al*. (2020) who identified the factors that influence the sustainability of real estate developments in recent times, with attention to the planning considerations. Their study revealed that institutional and economic factors were considered the most important factors, while developer's attitude and socio-cultural factors were the least occurring among the sampled literature.

The study indicated that proximity to social amenities affected real estate investment. The results agree with Mccord *et al*. (2018) who aimed to quantify and measure the (dis)amenity effects on house pricing levels within particular geographic housing sub-markets, and the study findings emerging from this research demonstrate that housing and market characteristics are valued differently across the quantile values and that conditional quantiles are asymmetrical.

It was noted that excess air and noise pollution negatively impacted real estate investment. The study outcome is supported by McCord *et al*. (2018) whose study findings suggest that air quality pollutants harm house prices, which fluctuate across the urban area. The analysis suggests that the noise level does matter, although this varies significantly over the urban setting and varies by source.

The study outcome indicated that commercial property value affected real estate investment. The results agree with Zhong and Li (2016) who examined how the property value effects of rail transit can become volatile depending on housing markets, rail transit technologies, near-station land uses, and transit development phases. They discovered that proximity to mature rail transit stations generally benefits multi-family property values, but the effect is negative for single-family properties. Residents (especially those from single-family households) seem to favor proximity to heavy rail transit more than light rail services.

The study findings denote that improved transport networks positively affected real estate investment. The result is supported by Gatauwa and Murungi (2015) whose study showed that the real estate industry has increasingly become a key pillar industry in the country, and that the factors that lead to high prices in the real estate sector include improved transport networks, improved social amenities, industries, expanded educational institutions, and commercial centers.

This study showed that accessibility positively affected real estate investment. This agrees with Siripanich *et al*. (2019) who examined the relationship between residential property values and accessibility indicators derived from transit smart card data, it was found that properties located in well-connected, well-serviced, and accessible locations generally experience premiums in their values. The results indicate that there is a value-added to the property market from the public investment in public transport services and infrastructure, which supports the adoption of transit funding mechanisms, such as value-capture taxes.

From the study results, it was revealed that high proximity to road networks negatively affected real estate investment. According to Melo *et al*. (2013), productivity effect of transport infrastructure can vary across main industry groups, tend to be higher for the US economy than for European countries, and are higher for roads compared to other modes of transport. The variation in the estimates of the output elasticity of transport is also explained by differences in the methods and data used in previous studies.

The study showed that urbanization rate positively influenced real estate investment. This study results were in tandem with Liu and Wing (2017) who observed that the interaction between urbanization and the development of housing markets, and they suggest that there is a long-term equilibrium and a one-way granger relationship between urbanization rate and annual real estate investment.

The findings of the study indicated that rising demand from urbanization positively affected real estate investment. The result is supported by Dasgupta *et al*. (2014) who provide a systematic empirical assessment of the pace at which housing investment has responded to rising demand from urbanization, and their analysis also finds that between 2001 and 2011, housing investment in low-income economies averaged 4.56 percent of gross domestic product and 9.12 percent in upper-middle-income economies. An important finding is that countries in Sub-Saharan Africa have housing elasticities similar to comparable low-income and lower-middle-income economies.

The study showed that regional economic development positively affected real estate investment. The result agrees with Hong (2014) employed Gaussian Mixture Model (GMM) for the first time to estimate the dynamic relevance between real estate investment and economic growth based on the panel data of 284 Chinese Prefecture cities from 1994 to 2010. We find that the positive effect of real estate investment on economic growth is stronger in the short term while in long term turns to be negative. Therefore, housing investment is an important factor for short-term economic fluctuations and leads to downside risk in the long term.

From the study outcome, it was noted that housing demands highly affected real estate investment. The results are in tandem with Jonasson and Prick (2018) who explored how property owners decide which property uses to include in development projects, and they discovered that the most important factors behind the decision were shown to be the demand in the area, the will of the municipality, the preconditions of the site, and the profitability analysis of the project.

5.4 Conclusion

5.4.1 Financial Factors and Real Estate Investment

From the study results, it can be concluded that financial factors have an effect on real estate investment. Taxation and real estate tax on retention, income tax affected real estate investment growth, and property tax negatively affected real estate investment. Interest rates, and changes in real estate prices also influenced real estate investment. The government highly regulated real estate interest rates which impacted on investment, and the returns on commercial real estate also influenced investment. Other factors that influenced real estate investment were the stability of the real estate market, return on assets, and unexpected inflation which negatively affected real estate investment.

5.4.2 Population Characteristics and Real Estate Investment

From the study findings it can be concluded that, population characteristics have an effect on real estate investment. Factors like rapid population growth, the working-age population, and population migration significantly affected real estate investment. Domestic investors were important in the investment of the real estate market, as well as the investors' age which was found to be significant in real estate investment decisions. Factors like family size, property portfolio of investors, and gender of investors influenced real estate investment since it was found that male investors were more optimistic in real estate investment than females leading to their preference in real estate investment, while only risk-averse women preferred to invest in real estate properties.

5.4.3 Infrastructure Development and Real Estate Investment

From the study results, it can be concluded that infrastructure development has an effect on real estate investment. Factors like social amenities, proximity to social amenities affected real estate investment. Excess air and noise pollution however negatively impacted real estate investment. Commercial property value, improved transport networks and accessibility had a positive influence on real estate investment, while high proximity to road networks negatively affected investment. Other factors like the urbanization rate, rising demand from urbanization, regional economic development, and housing demands affected real estate investment positively.

5.5 Recommendations

5.5.1 Recommendations for Improvement

5.5.1.1 Financial Factors and Real Estate Investment

Based on the study findings, it is recommended that policymakers and the government of Kenya create statutes that would positively govern matters regarding property tax, housing interest rates, and land laws that would facilitate the attraction of more investors in the real estate industry.

5.5.1.2 Population Characteristics and Real Estate Investment

From the study results, it is recommended that policymakers and the government of Kenya should put in place measures that will control urban population numbers. This would facilitate the minimization of overcrowding in certain areas which negatively affects real estate investment.

5.5.1.3 Infrastructure Development and Real Estate Investment

Based on the study findings, the study recommends the government to build and enhance infrastructure outside the Nairobi metropolitan area, so as to minimize congestion. It was revealed that proximity to roads and railways negatively affect real estate investment, and thus, development of areas outside the metropolitan would facilitate the decongestion of the city through population dispersion.

5.5.2 Recommendations for Further Studies

The focus of this study was to examine the factors influencing real estate investment by developers in Nairobi County while focusing on registered property firms in Nairobi. The study recommends that a similar study be conducted on other real estate firms in the country, and researchers need to explore other factors that influence real estate investment that have not been captured in this study.

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APPENDICES

APPENDIX I: COVER LETTER

United States International University,
P.O. Box 14634 – 00800,
Nairobi - Kenya.

20th April 2020

Dear Respondent,

RE: REQUEST TO PARTICIPATE IN A RESEARCH STUDY.

I am a student of United States International University – Africa (USIU-A), pursuing a Master’s degree, and as part of my degree requirement, I am supposed to conduct a study on the factors influencing real estate investment in Kenya: a case study of the Nairobi County.

My study focuses on the real estate market and has selected employees of property management firms as the target respondents. Therefore, you are being allowed to take part in this study, which aims to provide answers to the above-mentioned topic. Please note that this research is for academic purposes and that your responses will be treated with confidentiality since you are not required to provide your name, and contacts.

Should you require any further clarification, or do wish to access the results, do not hesitate to contact me through USIU-A. Thank you for taking the time to complete the questionnaire.

Yours Sincerely,

Peter Ngigi.

APPENDIX II: DEBRIEFING FORM

Dear participant;

In this study you have been requested to participate by answering the questions in the questionnaire. You have been told that the general objective of the study is to examine the factors influencing investment in real estate by developers in Kenya, specifically in Nairobi County.

You are reminded that your original consent document includes the following information; your right to withdraw from the study at any time without any implications from me.

If you have any concerns about your participation or the information you have provided in light of this disclosure, please discuss this with me. I will be happy to provide all the answers on questions you have about this study.

If your concerns are such that you would like to have your data withdrawn, and the data is identifiable, I will do so.

If you have questions about your participation in the study, please contact me on email or my project supervisor at ekalunda@usiu.ac.ke.

If you have questions about your rights as a research participant, you may contact the USIU-A Institutional Review Board office telephone 254730116127, or email irb@usiu.ac.ke.

Please again accept my appreciation for your participation in this study.

Name ______________________________ Sign ___________________

APPENDIX III: INFORMED CONSENT FORM

Title of Study: Examine the factors influencing investment in real estate by developers in Kenya, specifically in Nairobi County.

Name of Researcher: Peter Ngigi.

This research aims at examining how various factors like financial factors, population characteristics, and infrastructure development influence the investment in real estate by developers in Kenya, specifically in Nairobi County. By signing below, you are consenting to the following:

a. I have received a copy for participation, read it carefully and understood the information it contains.
b. I was given sufficient time to consider my decision to participate and come to an agreement to participate
c. I understand that my involvement is voluntary and my and I am free to withdraw myself from participating without being questioned.
d. I understand that all the personal details like name and employer address will be treated with high confidentiality and be accessed only by the researcher.
e. The explanations about the research are well understood and I was able to ask questions and being answered to my satisfaction.
f. I understand that the research is approved by the United States International University – Africa's Institutional Review Board (IRB) and the National Commission of Science, Technology and Innovation (NACOSTI).

Participant: ___________________ Signature: ______________ Date _____________

Researcher: ___________________ Signature: ______________ Date _____________

APPENDIX IV: QUESTIONNAIRE

This questionnaire aims to provide answers to the factors influencing real estate investment in Kenya, and specifically, Nairobi County. The information that you will give will be treated with the greatest confidentiality and be used for academic purposes. Fill in your responses in the spaces provided in each of the questionnaire items.

Section A: Demographic information

1. What is your gender?

   [ ] Male

   [ ] Female

2. Indicate the age of firm.

   [ ] 20-25 Years

   [ ] 26-30 Years

   [ ] 31-35 Years

   [ ] 36-40 Years

   [ ] 41 Years and Above

3. Indicate your position in the firm?

   [ ] Developer

   [ ] Head of Sales

   [ ] Head of Marketing

4. How many real estate properties has your firm invested in?

   [ ] 1-5 Properties

   [ ] 6-10 Properties

   [ ] 11-15 Properties

   [ ] 16-20 Properties

   [ ] 21 and Above Properties

Section B: Financial Factors and Real Estate Investment

5. Please indicate your level of agreement on financial factors and real estate investment according to your experience based on the following scale: SD-Strongly Disagree, D-Disagree, N-Neutral, A-Agree, and SA-Strongly Agree.

	SD	**D**	**N**	**A**	**SA**
Taxation on real estate affects real estate investment					
Real estate tax on retention affects pricing which affects real estate investment					
Income tax affects real estate investment growth					
Property tax negatively affects real estate investment					
Interest rates affect the real estate returns thus affecting real estate investment					
Real estate price changes affect real estate investment					
Interest rates highly influence real estate investment					
The government highly regulates real estate interest rates which impacts on investment in real estate					
Returns on commercial real estate influence real estate investment					
The stability of the real estate market influences real estate investment					
Return on assets in the real estate market influences real estate investment					
Unexpected inflation negatively affects real estate investment					

6. In your opinion, which other financial factors influence real estate investment in Nairobi and how?

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Section C: Population Characteristics and Real Estate Investment

7. Please indicate your level of agreement on population characteristics and real estate investment according to your experience based on the following scale: SD-Strongly Disagree, D-Disagree, N-Neutral, A-Agree, and SA-Strongly Agree.

	SD	**D**	**N**	**A**	**SA**
Rapid population growth affects real estate investment					
The working-age (18-64 years) population significantly affect real estate investment					
Population immigration largely affects real estate investment					
Domestic investors are important in the investment of the real estate market					
Investors' age is a significant factor in real estate investment decisions					
Family size highly affects real estate investment					
Investor's age is influential on the investment preferences in real estate					
The property portfolio of investors highly affects real estate investment					
The gender of investors influences real estate investment					
Male investors are more optimistic in real estate investment than females					
Male investors prefer real estate investment to women investors					
Risk-averse women prefer to invest in real estate properties					

8. In your opinion, are there other population characteristics influence real estate investment in Nairobi and how?

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Section D: Infrastructure Development and Real Estate Investment

9. Please indicate your level of agreement on infrastructure development and real estate investment according to your experience based on the following scale: SD-Strongly Disagree, D-Disagree, N-Neutral, A-Agree, and SA-Strongly Agree.

	SD	D	N	A	SA
Social amenities influence the investment in real estate					
Proximity to social amenities affects real estate investment					
Social amenities influence the price of real estate developments					
Excess air and noise pollution negatively impact real estate investment					
Commercial property value affects real estate investment					
Improved transport networks positively affect real estate investment					
Accessibility positively affect real estate investment					
High proximity to road networks negatively affects real estate investment					
The urbanization rate positively influences real estate investment					
Rising demand from urbanization positively affect real estate investment					
Regional economic development positively affects real estate investment					
Housing demands highly affect real estate investment					

10. In your opinion, which other infrastructure development factors influence real estate investment in Nairobi and how?

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The End

APPENDIX V: PROPERTY MANAGEMENT FIRMS

No	Company Name	No	Company Name
1	14 Trees Ltd	30	Euro Homes Ltd
2	Abbey Commercial Agencies	31	Fairdeal Development & Infrastructure Ltd
3	Acorn Management Services Ltd	32	Fedha (Management) Ltd
4	Adasca Agencies	33	Finsure Investment Ltd
5	ALP Management Kenya Ltd Associate Gold	34	Fortune Properties Ltd
6	Amazon Projects Ltd	35	Fourteen Swans Investment Ltd
7	AMS Properties Ltd	36	General Properties Ltd
8	Apex Property Developers	37	Gikondi Housing Enterprises Co Ltd
9	Arkaan Properties	38	Golden Compass Ltd
10	Arkbridge Properties Ltd	39	Greenhills Investments Ltd
11	Bahati Ridge Development Ltd	40	Gribs Agencies Ltd
12	Beshmon Ltd	41	Hass Consult Ltd
13	Blueline Properties Ltd	42	Hayerone Kenya
14	Brixton Properties Ltd	43	Helisa Properties
15	BuildX Studio Corporate	44	Homes & Shelter Africa Ltd
16	Buy Homes Ltd	45	Homescope Properties Ltd
17	Canaan Developers Platinum	46	Homesearch Ltd
18	Chartered Properties Ltd	47	Hyper Ventures Ltd
19	Chigwell Holdings Ltd	48	Ideal Properties Developers Ltd
20	City Development Co Ltd	49	Igainya Ltd
21	Continental Developers Ltd	50	iJenga Ventures Ltd
22	Contower Group Ltd	51	Inceptor Kenya
23	Coral Property International Ltd	52	Interseas Ltd
24	Cretum Properties Ltd	53	Intiria Solutions Ltd
25	Daykio Plantations Ltd	54	Jambo Star Properties Ltd
26	Dream Properties Ltd	55	Jaribu Holdings Ltd
27	Dunhill Consulting Ltd	56	Jimly Properties Ltd
28	Eastwood Consulting Ltd	57	Jumbo Investments Ltd
29	Elm Ridge Ltd		

58	Just for Properties
59	Karibu Homes
60	Karume Holdings Ltd/ Forest Road Flats Ltd
61	Kawi Agencies Ltd
62	Kaydee Realty LLP
63	Kellys Investments Ltd
64	Ken Banco House Ltd
65	Kings Developers Ltd
66	Koko Property Concepts
67	Kzanaka Ltd
68	La Casa Development Ltd
69	Landmark Investment Centre
70	Laser Property Services Ltd
71	Lordship Africa /Epix Investments
72	Mailbros Ltd
73	Manrik Group Ltd
74	Masta D-Signs Ltd
75	Mlima Construction Ltd
76	MML Turner & Townsend
77	Moptions Capital
78	Mugumo Developments Ltd
79	Mumi Investments Ltd
80	Myner Realtors
81	N W Realite Ltd
82	Natureville Homes
83	Nelleon Development Co Ltd
84	Ngong Hills Agency
85	Nova Homebuilders Limited
86	Onward Properties Ltd
87	Optiven Ltd
88	Opus Properties Ltd
89	Ozaid Group
90	Pass Africa Ltd
91	PDM (Kenya) Ltd
92	Pioneer Holdings (Africa) Ltd
93	Platinum Real Estate & Construction Ltd
94	Prestige Management Valuers Ltd
95	Princelink Consultants
96	Prism Residential Ltd
97	Prodigy Properties Ltd
98	Property Memory Ltd
99	Rameshchandra Properties Ltd
100	Rank Global Management Ltd
101	Raza Properties Ltd
102	RE/MAX Kenya
103	Realty Plus
104	Reigman Consult Ltd
105	Riayn Developers Ltd
106	Rihal Investments Ltd
107	Rozana Properties Ltd
108	Sanghani Investments Ltd
109	Sato Properties Ltd
110	Sayani Investments Ltd
111	SBI International Holding AG
112	Seb Estates Ltd
113	Shelter Investment
114	Shelter Properties
115	Sielei Properties Ltd
116	Simpson's Properties
117	Sky Management/ SJR Properties Ltd
118	Smart Focus Estates
119	Sohail Developments Ltd
120	Soma Properties Ltd

121 Sphere Business Africa Ltd
122 Suburbia Ltd
123 Superior Homes Kenya Ltd
124 Tabison Properties
125 Tagaka Holdings Ltd
126 Tatu City Ltd Corporate
127 The Combined Warehouses Ltd
128 The GoDown Arts Centre
129 Tilisi Developments Ltd
130 Treedee Properties
131 Twiga Properties Ltd
132 Twinestar Commercial Agencies
133 Unity Homes Ltd
134 Urban Properties Consultants & Developers Ltd
135 Vishwa Developers Ltd
136 Waika Development Ltd

APPENDIX VI: IRB APPROVAL

United States International University-Africa

REF: USIU-A/IRB/259-2021

9th July, 2021

TO: PETER NGIGI

Dear Sir/madam

RE: FACTORS INFLUENCING INVESTMENT IN REAL ESTATE BY DEVELOPERS IN KENYA: A CASE STUDY OF NAIROBI COUNTY

This is to inform you that ***IRB*** has reviewed and approved your above research proposal. Your application approval number is **USIU-A/IRB/259-2021.** The approval period is ***9th July 2021 – 9th July 2022***

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 ***IRB***.
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 ***IRB*** 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 ***IRB*** within 72 hours
v. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vi. Submission of an executive summary report within 90 days upon completion of the study to ***IRB***

Prior to 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 also obtain other clearances needed.

Yours sincerely

UNITED STATES INTERNATIONAL UNIVERSITY RESEARCH OFFICE AFRICA

Juliana M. Namada
Institutional Review Board (IRB) Chair
Email: irb@usiu.ac.ke

p.o.box 14634-00800 Nairobi, Kenya | tel:254-730-116-000 | info@usiu.ac.ke
www.usiu.ac.ke

APPENDIX VII: NACOSTI RESEARCH PERMIT

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **528939**

Date of Issue: **23/August/2021**

RESEARCH LICENSE

This is to Certify that Mr.. Peter Joseph Ngigi of United States International University Africa, has been licensed to conduct research in Baringo, Bomet, Bungoma, Busia, Elgeyo-Marakwet, Embu, Garissa, Homabay, Isiolo, Kajiado, Kakamega, Kericho, Kiambu, Kilifi, Kirinyaga, Kisii, Kisumu, Kitui, Kwale, Laikipia, Lamu, Machakos, Makueni, Mandera, Marsabit, Meru, Migori, Mombasa, Muranga, Nairobi, Nakuru, Nandi, Narok, Nyamira, Nyandarua, Nyeri, Samburu, Siaya, Taita-Taveta, Tanariver, Tharaka-Nithi, Transnzoia, Turkana, Uasin-Gishu, Vihiga, Wajir, Westpokot on the topic: FACTORS INFLUENCING INVESTMENT IN REAL ESTATE BY DEVELOPERS IN KENYA: A CASE STUDY OF NAIROBI for the period ending : 23/August/2022.

License No: **NACOSTI/P/21/12516**

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