

**DETERMINANTS OF GROWTH IN HOUSING PROJECTS IN THE REAL
ESTATE SECTOR IN NKUBU TOWN, MERU COUNTY, KENYA**

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**A Research Project Report Submitted in Partial Fulfilment of the Requirement for the
Award of the Degree of Masters in Project Planning and Management of the University of
Nairobi**

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DECLARATION

I hereby declare that this thesis is my own original work and to the best of my knowledge has never been presented in any other college, university, or institution for any award.

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L50/5198/2017

This thesis has been submitted for examination with my approval as the University Supervisor.

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DEDICATION

I dedicate this thesis to my loving spouse Sherick Mbatha and my daughter Benita Kendi for their undying support, prayers, and motivation.

Special dedication to my parents Geoffrey Murithi and Margaret Nkirote and my entire family for always encouraging me to stay the course.

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ABBREVIATIONS AND ACRONYMS

CAGR:	Compounded Annual Growth Rate
FHA:	Federal Housing Administration
FHFA:	Federal Housing Finance Agency
GDP:	Gross Domestic Product
LAPPSET:	Lamu Port Southern Sudan-Ethiopia Transport
SGR:	Standard Gauge Railway

ABSTRACT

The recent growth in the Kenyan population has led to an increase in the rural-urban shift, with the government estimating a dominant urban dominant country by 2030. Consequently, there have been numerous efforts by the government and the real estate industry to meet the increasing demand for housing in various urban centers throughout the country. However, it is difficult for the government and potential investors to access relevant information about the real estate situation in various towns and cities across the nations to enable for proper planning, which highlights the need to address this gap. This research sought to determine the factors that influence the growth of housing projects in the real estate sector in Nkubu town. The study's objectives focused at determining the extent to which social amenities, availability of finances to investors, demand for housing, and physical infrastructure influence the growth of housing projects in the real estate sector in Nkubu town. The study utilized a descriptive survey research design that targeted residential real estate projects in Nkubu town. Self-administered structured questionnaires were used to collect data from 144 respondents, selected through a simple random sampling, who are part of the target population of 237 investors in residential real estate projects in Nkubu town. Descriptive statistics and logistic regression were used to analyze the data which was presented in form of tables. The study established that two predictors: availability of finance and demand for housing were significantly associated with growth in housing projects in the real estate sector in Nkubu town, Meru County, Kenya. Availability of finance was found to be significant at .001 level of significance and [Exp (B) 1.640] indicating that it was significantly associated with growth of housing projects. Besides, demand for housing was found the variable to be significant at .05 level of significance and [Exp (B) 1.338] indicating that it was significantly associated with growth of housing projects. It was concluded that access to affordable financing options attracts investors, including investors in housing sector, leading to growth in housing projects. Moreover, when the demand of a commodity, in this case housing, is higher than the supply; there will be new entrants in the market and/or the existing players will expand to fill the market gap hence growth in housing projects. It is recommended that the Kenyan government through the Central Bank of Kenya and relevant legislative organs should take measures to increase access to cost effective credit in the real sector to achieve one of its big four agenda of affordable decent housing for all. The government should also enact laws outlining the minimum standards to be observed when constructing housing projects in towns which are likely to experience rise in substandard housing projects as investors attempt to meet the high demand for housing.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Besides the obvious benefit of providing housing needs to different populations, the housing industry is a significant contributor to economic growth in any given country. According to the *Senate banking, housing and urban affairs committee hearing*. (2015), the ability of this industry to contribute to economic growth is based on the availability of an efficiently operating housing finance system. With such a system, home builders and buyers are provided with a platform to access reliable and adequate credit that attracts reasonable interests through the economic cycles. In the U.S., for example, the great recession led to the implementation of stringent financial regulations that acted to undermine the ultimate sustainability of housing investments. Particularly, it has been highlighted that emergent regulations by such bodies as the Federal Housing Finance Agency (FHFA) and the Federal Housing Administration (FHA) has acted to restrict mortgage credit availability to a large proportion of creditworthy investors (*Senate banking, housing and urban affairs committee hearing*, 2015). In the Australian housing market, growth is affected by a myriad of factors, which include innovative collaboration, effectiveness of the regulatory system, cost-benefit data, public education and awareness, market demand, professional re-education and up-scaling, and incentive systems. In many developing nations, growth of housing projects is influenced by such factors as availability of effective housing finance systems, competent personnel, institutional frameworks for public housing, adequate political support, and competent management processes, as well as locational and design factors (Mukhtar, Amirudin, Sofield, & Mohamad, 2016). Based on this evidence, it is apparent that socio-economic differences between nations have a significant impact on the respective growth of the real estate sector.

One of Kenya's vision 2030 goals is to ensure availability of affordable, high quality, and decent housing for all citizens. This visualization is justified by the fact that Kenya is expected to become "a predominantly urban country by 2030" (Government of the Republic of Kenya 2007). In this regard, several efforts have been put in place to achieve this objective. Notable among

these strategic options has been the resolve to construct at least 250, 000 new housing units every year in order to satisfy the equivalent deficiency that is conceived every year and which has culminated in a housing shortfall of 2 million units across the country (Ministry of Lands & Physical Planning, 2016). In fact, statistics from the World Bank indicate that the current annual supply of new housing units is below the 50,000 mark, and this has resulted in the housing deficit experienced across various sectors (World Bank Group, 2017). To a great extent, the problem of inadequate housing units is associated with the lack of proper urban and regional development frameworks, which has resulted in a rapid growth of slums across the country. In reality, up to 61% of all urban households in Kenya are estimated to be slum dwellers (World Bank Group, 2016). In this realization, the government of Kenya set aside 11 regions, among them Meru County, that would benefit from Vision 2030 housing flagship projects.

1.1.1 Housing Projects and the Economy

Kenya is among the nations that have enjoyed stability in economic growth as measured in terms of GDP in Sub-Saharan Africa. Since the conceptualization of the Kenya Vision 2030 in 2008, the country has continued to enjoy a positive GDP growth as shown in table 1.1.

Year	% Growth in GDP
2009	3.3
2010	8.4
2011	6.1
2012	4.5
2013	5.9
2014	5.4
2015	5.7
2016	5.8

Table 1.1 Kenya Annual GDP Growth 2009-2016

Despite the positive economic growth, Kenya’s productivity levels are low compared to peer countries. In the long run, this challenge is anticipated to widen the income gap between the high and low earners in the country due to their productivity variations. The inadequacy experienced in the country in relation to low supply for low-income earners is seen as a major cause of the

productivity problem (World Bank Group, 2017). Thus, unlocking investment opportunities in the housing sector for the middle to lower income earners is seen as one of the most potent policy approaches that can be used to reduce the productivity differentials.

Apparently, low-costing housing projects are found to be better sources of employment than high cost projects as they mainly employ a large number of low skill employees. By encouraging low cost housing projects, therefore, the country's economic growth rate is expected to remain sustainable since more jobs will be available and the financial market sector will be stronger. Housing projects create jobs both directly through on-site employment and indirectly by linking with other related industries that produce and supply raw materials for the construction works (Katsura, 1984). Various countries including South Africa, Columbia, and India are already benefiting from this business model. In South Africa, each housing unit project generates 5.62 jobs; in Columbia, the same amount of jobs is created as a result of a \$10, 000 dollar investment in housing projects; and in India a single unit creates close to 10 jobs both in the formal and informal sectors (World Bank Group, 2017). Alongside creating avenues for employment, housing projects also increase the utilization of a countries labour force, and this results in additional economic benefits in terms of workforce skill development. Further, decent and affordable housing may lead to other indirect benefits that include increased school attendance, productivity, and labor supply (Katsura, 1984). Accordingly, this serves as enough evidence that Kenya can increase employment opportunities, and ultimately economic growth by implementing and expanding policies that encourage the construction of affordable housing units across the country.

1.1.2 Types of Housing Projects

In the process of advocating for policies that inspire the growth of housing projects, it is also important to distinguish between different housing investments. Katsura (1984) notes that housing projects can be in the form of constructing new housing units, providing sites and services, and upgrading existing houses. Further, the projects can be targeted at either the high end or lower end markets. Implications from these findings are in the line that economic gains from housing projects in these different sectors attract varying economic gains. For example, employment gains could be much higher for constructions projects than it would be for

upgrading. However, for the purpose of this study, economic gains from housing projects are not a priority but the factors that affect the growth of these developments. In this regard, the study will focus both on conventional construction and upgrading housing projects.

1.2 Problem Statement

Following the devolvement of the government in 2013, it is anticipated that more urban centres will emerge resulting in continued growth of the real estate sector. In fact, Loyford and Moronge (2014) observe that demand for housing is expected to rise across the various counties owing to the fact that many companies will also devolve their operations to these areas. In addition, the World Bank has estimated a sustained growth in Kenya urbanization, reporting that at least 250,000 Kenyans migrate to cities every year (Fengler, 2011). This rising urban population has resulted in a shortfall of housing units, which is estimated at over 250, 000 units per year (Ministry of Lands & Physical Planning, 2016). In this regard, housing projects in the real estate industry are bound to multiply in order to meet this rising demand. Alongside increased demand, Muli (2013) observes that GDP, inflation, and interest growth rates are the main factors influencing the growth of housing projects in Kenya. However, the target population for this study was not adequately defined, which makes it difficult to determine the exact towns or cities that were included.

According to statistics from Dyer & Blair Investment Bank (2016), the real estate industry accounts for as much as 7.9% of the Kenya's GDP. Overall, the same report estimates a continued growth of the sector owing to recent infrastructural investments in the transport sector, for example the Standard Gauge Railway (SGR) and the Lamu Port Southern Sudan-Ethiopia Transport (LAPPSET) projects, which are geared towards promoting connectivity in the country. Further, policy changes have also been crucial in the growth of the Kenyan housing sector. In 2015, for instance, building permits were reduced by 0.5%, which resulted in the reduction of the total construction costs by between 1.0%-1.5% (Dyer & Blair Investment Bank, 2016). In the same year, the 3-year compounded annual growth rate (CAGR) for residential building approvals was estimated at 32.5%. Despite the growth in the real estate sector, especially in respect to buildings, the Hass Consultant Real Estate Report (2018), recorded a decline in property prices

across the country in 2017 mainly due to political risks. In Nairobi, for example, land grew at a 3.32%, which is the lowest index in a 5-year period.

Apparently, most of the available statistics related to the growth of housing projects in the real estate are based in Nairobi (Dyer & Blair Investment Bank, 2016; Hass Consultant Real Estate Report (2018), with a few having a national outlook (Muli, 2013; Loyford & Moronge, 2014). Therefore, there is a need to bridge the information gap regarding the real estate sector in towns and cities across the country.

1.3 Purpose of the Study

The purpose of this study was to determine the factors that influence the growth of housing projects in the real estate sector in Nkubu town.

1.4 Objectives of the study

The general objective of the study was to determine the factors that influence the growth of housing projects in the real estate sector in Nkubu town, Meru County, Kenya.

1.4.1 Specific Objectives

1. Examine the extent to which social amenities influence the growth of housing projects in real estate sector in Nkubu town
2. To determine the extent to which the availability of finances to investors influences the growth of housing projects in real estate sector in Nkubu town
3. To establish the extent to which the demand for housing influences the growth of housing projects in real estate sector in Nkubu town
4. To find out the influence of physical infrastructure on growth of housing projects in real estate sector in Nkubu town

1.5 Research Questions

The study attempted to answer the following research questions:

1. How do social amenities influence the growth of housing projects in the real estate sector in Nkubu town

2. How does financial availability to investors influence the growth of housing projects in the real sector in Nkubu Town?
3. How does demand for housing influence the in the growth of housing projects in the real sector in Nkubu Town?
4. How does physical infrastructure impact the growth of housing projects in real estate sector in Nkubu town?

1.6 Significance of the Study

This study would be beneficial to several stakeholders in the real estate sector and in multiple ways. To investors in housing projects, this study would provide them with a blueprint for identifying specific factors that influence the growth of their investments in housing projects. From this study, national and county governments would also be provided with empirical evidence that can be used as a basis for implementing appropriate policy changes that can spur the growth of housing projects in the region. In the fields of project management and real estate scholarship, this study would provide an additional knowledge base that can be used in theory development.

1.7 Assumptions of the study

The researcher assumed that the four factors considered in this study were the core influencers of the growth of housing projects in Nkubu town

It is also assumed that the respondents would provide honest and adequate information that would suffice for analysis.

1.8 Delimitation of the Study

This study attempted to investigate the factors that influence the growth of housing projects in Nkubu Town, Meru County. In this regard, the target population was residential real estate developers in the town. Consequently, the study considered all residential housing projects, regardless of whether they are new construction projects or upgrading projects. The study, however, assumed a project management perspective implying that determinant of growth would be assessed only to the extent to which they facilitate or undermine the initiation and completion of the target housing projects.

1.9 Limitations of the Study

The limited research that had been conducted in relation to this topic is one of the major limitations for the study. The significance of this limitation was contained in the fact that a small number of related researches forced the researcher to rely on non-scientific generalizations, especially from industry reports. As a result, this challenge was bound to impact negatively on the reliability of the study's findings since triangulation of the findings will only be limited to the small number of studies that are currently available. Nonetheless, the reliability of this study was enhanced by conducting a pilot study.

1.10 Definition of Significant Terms used in the Study

Demand for Housing. This refers to the amount of pressure that the population living in an area exerts on the existing housing units

Financial availability. This refers to the ease with which investors in the housing sub-unit of the real estate sector are able to access finances that can actively be committed in initiating or developing housing projects.

Housing projects. In this study, housing projects refer to new or existing residential housing units for which construction work is ongoing.

Physical infrastructure. "Physical infrastructure refers to fixed public facilities, amenities or services characterized by very high investment development costs, long economic lives, strong links to regional development and a tradition of public sector involvement. Examples include road and transportation networks, electricity, water supply systems, waste disposal services, street lights, drainage systems, housing, health care, etc." (Famuyiwa and Babawale, 2014, p.211).

Real estate sector. Refers to residential structures that are available for home occupancy. In the current study, this definition excludes other property developed for business or commercial use.

Social amenities. Social amenities refer to the wide range of facilities that function to improve the quality of life of a people. They include institutions of learning, health facilities, recreational centres, religious institutions, and shopping centres.

1.11 Organization of the Study

The study is organized in different sections with each covering an important domain of the research project. Preceding the introduction is the literature review, which contains an empirical review of each objective, a theoretical framework containing the theories used in advancing the study, a conceptual framework explaining the relationship between the variables, and research gaps that capture the areas that have not been explored by extant literature and which the current study seeks to address. Following the literature review is the methodological approach that addresses the research design, target population, sampling methods, instrumentation, data collection methods, ethical considerations, and methods of data analysis

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The current study sought to investigate the relationship between the growth of housing projects in Nkubu town and the availability of social amenities, finances, physical infrastructure, and demand for housing. The literature review is organized according to these objectives, followed by a discussion of the theoretical framework, with the final section providing a detailed description of the analytical framework.

2.2 Growth in Real Estate

For the purpose of this review, growth in real estate is taken to imply housing project success. Although no consensus has been reached on the operational definition of project success, this study relies on Ashley, Laurie, and Jaselskis (1987) definition that such success lies on the improvement of such factors as safety, cost, stakeholders' satisfaction, schedule, and quality. However, housing projects growth, in many cases is measured in terms of increases in the rental prices of housing units, for example, in Alabania (Koprencka, & Muharremi, 2011). Increasing prices, nonetheless, could be as a result of housing bubbles where elevated prices as a result of buyers expectations of higher housing prices. Prices based on such perceptions are only temporally since the steady and rapid increases are unsustainable; hence when the perceptions about future high prices sublime, prices fall sharply resulting in bubble bursts (Case, & Shiller, 2003). In Mumbai, India, real estate growth is associated with such factors as growth in domestic tourism, rapid growth in service sector (eg. Telecommunication, financial services), a rising demand for office space in affected areas, as well as the contribution of the housing sector into the economy as measured in terms of GDP India Brand Equity Foundation, 2018).

2.3 Financial Availability and growth of Housing Projects

The impact of financial availability in relation to the real estate sector is a widely discussed topic in scholarly literature. According to Loyford and Moronge, (2014) the impact of financial availability in relation to the real estate sector is mainly influenced by interest rates, transaction costs and inflation. Based on this study, it was established that increases in any of these variables resulted in corresponding decreases in the performance of the real estate sector. The study concluded that lower interest rates would reduce transactional costs significantly, and this would inspire the acquisition of real estate. Further, it was observed that availability of investment capital would cause drastic changes in the prices of real estate. The findings and conclusions from this study are significant to the current research since it highlights variables that affect financial availability and its impact on real estate. This study however, focused on Nairobi, and its interest was in general real estate performance as opposed to the real estate projects.

In relation to financial availability, Muli (2013) observed that low interest rates make credit available for investors and causes a general increase in consumption. According to this study, Kenya experiences better economic performances in periods where interest rates are at their minimum. During such periods, banks are able to sell credit lower rates and this attracts investor interest, including those in the real estate sector. According to the study, reduction in lending rates by a mere 1.16% between 2001 and 2002 resulted in a growth of the real estate sector by 0.2%. Subsequently 0.40% reduction in interest rates between 2009 and 2010 resulted in a 0.20% increase in real estate investment. In fact, correlational analysis from this study indicated that interest rates and real estate investment were negatively correlated with a correlational coefficient of -0.756. Although findings from this study are strongly related to the current research focus, the target population was not appropriately defined hence the findings cannot be accurately generalized for this study's target population.

Outside Kenya, the importance of financial availability in the real estate sector has also been widely discussed. In Bangladesh, the source of financing for real estate project has been among the main areas of research. According to Rahman (2008) financial availability for the real estate sector depends on the setting, rural versus urban. In the rural settings, real estate projects are

mainly family-owned and micro finance facilities and the government through community programs funds them. On the other hand, urban projects are mainly central government- and NGO-owned. Funding for government projects comes from foreign aid and national revenues, while large microfinance institutions and international funds are the main sources of finance for housing projects. Nonetheless, financial viability is affected by several factors including interest rate subsidies and distortions, availability of collateral as well as government subsidies. A key limitation of this study lies in the fact that its findings are based on secondary rather than primary research.

The importance of finance availability in the development of real estate sector is also highlighted in Stephen's (2003) study. In this research, it was established that a well-developed housing finance system is key determinant of house ownership. English-speaking countries were found to have liberalized financial systems, which are characterized by credit enhancement systems, quick foreclosure processes, and robust market valuation systems, that favor high levels of owner occupation. In Germany, the stratified housing finance system was found to have a negative bearing on mortgage finance availability and this reduces owner-occupation rates in the country. Alessandro, Livio and Tommaso (2009) also observes that interest rates have a strong bearing on mortgage lending, and this impacts heavily on real estate investment. While this study highlights the importance of finance systems in facilitating home-ownership, it does not place emphasis on the impact of financial availability on the growth of housing projects.

2.4 Demand for Housing and growth of Housing Projects

According to Muli (2013) demand for housing is depicted by population growth. As the population grows, the demand for houses increases. This premise is based on the fact that high population rates create pressure on existing housing units, and in many cases, this leads to the development of informal settlements. Regardless of these projections, Muli's(2013) study noted weak negative correlation (-0.288 at 0.05 level of significance) between population growth and real estate investment.

Glaeser et al. (2010) is in agreement with the preceding finding regarding the relationship between housing demand and real estate investment. According to this study, shifts in the supply of housing are determined by the price elasticity of supply of housing units. In this regard, it was established that in markets with inelastic housing supply, increases in the demand for housing results in higher prices for housing rather than increased production for housing units. On the other hand, elastic housing supply markets experience increased production of housing projects following an increase in the demand for housing projects.

Nonetheless, the study by Rajwayi, (2016) found out that increases in demand for real estate property result in accelerated rates of production of housing products in the area. According to this study, increases in the demand for housing units leads to a rise in the prices of housing units, with transactional costs remaining stable. As a result, many investors move quickly to take advantage of the economic advantage that arises from this relationship. Similarly, the research by Marzouk and Hosny (2016) also established that increased housing demand results in higher investments in housing units until a point of equilibrium is established.

Similarly, Tsai (2012) established that demand for housing units has a significant impact on investment in housing. In this study, the aim was to establish the relationship between construction cost index (CCI), rental price index (RPI), and house price index (HPI). Findings from this study indicated a nonlinear relationship between the price indices. In particular, HPI, which is demand side index, was found to be main influence of CCI and RPI. Small fluctuations in the housing prices were associated with small fluctuations housing production while large changes in housing prices led to long term variations in housing production. Arguably, the HPI is the main determinant of housing demand; hence, its changes result in similar demand trends. Nonetheless, this study was not specific in terms of how high and low HPIs influences the other two indices, especially the CCI.

2.5 Physical Infrastructure and growth of Housing Projects

Physical infrastructure can be defined in various ways. However, for this study, Famuyiwa and Babawale(2014) definition is adopted:

Physical infrastructure refers to fixed public facilities, amenities or services characterized by very high investment development costs, long economic lives, strong links to regional development and a tradition of public sector involvement. Examples include road and transportation networks, electricity, water supply systems, waste disposal services, street lights, drainage systems, housing, health care, etc. (p.211).

The value of physical infrastructure in an economy is perceived in various ways. Otegbulu (2010) for example, singles out electricity as critical infrastructural element in the modernization of any society. The author argues that electricity affordability is essential in promoting international competitiveness, domestic growth, and consumption of other household goods and services. These advantages were also found to have a bearing on housing investments in that stable and affordable power can contribute to the success or failure of these investments. In addition to electric power, road networks are also significant infrastructural enhancements for effective functioning of urban area. In terms of transport infrastructure, Gatauwa and Muringi (2015) noted that such factors as construction of new roads, repair of existing roads, train passenger services, construction of new airport, and railway cargo services were material to the value of a real estate property. Famuyiwa and Babawale (2014) observe that an absence of good quality roads can be a significant barrier to locational accessibility. Hence, societies that lack proper road networks tend to have shanty settlements. On the other hand, availability of quality physical urban amenities, such as good quality roads, can result in better quality houses that can also attract higher prices for investor (Johnson-Gardner, 2007). Thus, the importance of physical infrastructure in various urban settings demands for policies that support their sustained development.

In terms of infrastructure, industrial sites have also been identified as significant influences on the value of housing projects. According to De Vor and De Groot (2011), Industrial sites influence is considered on the basis of size, and distance from a residential property. In regards

to size, large industrial sites tend to have negative outcomes on real estate values. The reason behind this observation is supported by the fact that large industrial sites normally have negative environmental impacts, which are seen in terms of increased pollution and other related nuisance. In terms of distance, the study established those properties that are further away from industrial sites tend to attract higher prices than the close ones. Nonetheless, the effects of industrial proximity tend to fade as the distance increases up to a certain point. For De Vor and De Groot (2011), study, the threshold was identified as 1,093 meters.

2.6 Social Amenities and growth of Housing Projects

Social amenities to the wide range of facilities that function to improve the quality of life of a people. According to Nubi(2003), this represents the sum of all facilities that make a city to function in an effective manner. Such facilities good health and education systems, gas stations, security infrastructure, sewerage systems, road networks, electricity, pipe-borne water, and financial institutions, among others. According to Nubi's study, it was established that the value of a real estate project does therefore include its ability to meet and satisfy man's social desires and needs, and this can be achieved by ensuring that property are established in close proximately with a variety of social amenities than enhance the various human needs.

In Gatauwa and Muringi (2015) study, power and lighting, piped water, recreational facilities, sewerage, and sorts facilities were the main identified social amenities that were found to have a significant impact on the value of real estate among the study population. Based on this study, power was identified as the most significant factor with a mean of 1.67 followed by piped water with a mean of 1.9. Sewerage systems had a mean of 3.20. Although these factors have significant influences on real estate value, for this study, the variables are examined under physical infrastructure. Apparently, regression results for this study found social amenities to affect the value of real estate at 1.42 times; hence, factoring out power, piped water and sewerage from this value, would possibly lead to a lower impact of social amenities on the value of real estate projects. Thus although this study is closely related to the current one in that it examines the impact of social amenities in real estate values in Meru county, it is important to make up for its shortcomings by ensuring that social amenities are separated for physical infrastructure in the analysis stage.

The beneficial impact of social amenities on the real estate industry is perceived in terms of the availability of recreational facilities. Social amenities include parks, well-designed landscapes, residential green spaces, and small gardens near homes. The impact of these facilities is demonstrated by a study in Guangzhou, China, which found that residents in the city had a high preference for residential areas that have a wide range of recreational facilities. Nonetheless, the impact of social amenities on residential facilities was found to be dependent on whether they are charged or free (Jim & Chen, 2006). These findings are in agreement with Cheisura's (2004) research in the Netherlands that confirmed that nature instils a sense of positive feeling for urban dwellers. In relation to the current study, these findings lead to the hypothesis that construction of housing units near social amenities could result in higher housing demand.

Further, research on social amenities and real estate have also established that amenities such as green-spaces may affect the value of residential property. Conway, Li, Wolch, Kahle, and Jerrett (2010), found that an increase in green-space around residential facilities results in subsequent increases in housing sales prices. Nonetheless, in order to leap these benefits, the authors recommended public education on the importance of greening on residential property values. Similar advantages have also been highlighted by Crompton (2001), who notes that residential properties abutting or fronting a park attract higher values than those that do not. A major limitation of these studies is that they do not explore the opportunity cost of buying and developing a property close to recreational and social amenities.

2.7 Theoretical Framework

This study adopts the decision theory to explain factors that investors consider in making their decisions to initiate real estate investment projects. According to French and French (1997), decision theory refers to the employment of judgment models to make “deliberate and usually rational choices.” Decision models can be either descriptive or normative, whereby the latter focuses on describing the processes of arriving at a decision while the former addresses the real act of making decisions. This study follows the normative approach that follows a rational and transitive approach to decision making that is given decision alternatives A, B, and C. Since A is

better than B whereas B is better than C, it follows then that A is also preferable to C. For the purpose of this study, this theory will be applicable in that it predicts investors' decision to invest in a given property project over another available and related option; for example, the decision to establish a project near a physical infrastructure such as road facility over its establishment near a social amenity such as a recreational ground or park. This conceptualization is in line with the notion, "Real estate is selected, as are other assets, on the basis of its marginal contribution to the production of a mean-variance efficient multi-asset portfolio, subject to the investor's objectives and capital rationing constraints" (French & French, 1997, p.228).

The attribution theory is also utilized in the study to understand how investors interpret their decisions. According to Oghojafor, Olayemi, Oluwatula, and Okonji (2012) attribution theory examines the information gathered by an agent and evaluates how it is used to explain decisions. The theory concerns itself with explaining how past successes and failures impact present day motivations as it pertains to decision making. Attribution can either be internal, dispositional or external, situational as influenced by luck, ability, task difficulty, and effort. This study hypothesises that real estate investors explain their choices mainly using situational attribution. For example, the decision to establish an investment in a given location could be attributed to the proximity of favourable infrastructure, social amenities, or demand.

2.8 Conceptual Framework

The model chosen for this study hypothesizes that growth of real estate projects is influenced by a combination of interrelated factors including social amenities, finances, demand for housing, and physical infrastructure. Social amenities will be taken to include the set of facilities such as recreational centres and open public places, hotels, schools, and hospitals that affect housing projects. Hence, the aim will be to examine the extent to which investors compete to establish near such facilities and the consumers appetite for houses that are in close proximity to social amenities. Physical infrastructure relates to critical public utilities including transport network, water, sewerage, and drainage systems, as well as telecommunication facilities. Hence, this variable will be measured in a similar manner as social amenities by examining the concentration of housing projects near physical infrastructure and the rental prices in these areas vis-à-vis that of regions without properly developed infrastructure. Finances are especially related to the

availability of mortgage credit; hence, this factor will be measured in terms of the investors' perceptions of the ease to obtain and pay for mortgage credit. Finally, demand for housing will be measured in terms of active housing unit searches made by the people living within the area of study. Further, from the review of literature, it has been shown that each of these factors affects the real estate factor in dissimilar ways and depending on the influence of other co-related (moderating) factors such as investor decision making approaches, political stability, and policy decisions made by the government and other administrative bodies. Investor decision making approaches relate to such factors as risk averseness and risk-taking behaviour of individual investors (French & French, 1997). Political stability is mainly related to administrative units' rate of turnover and the influence of new government transition periods on the economy in general (Alesina, Özler, Roubini, & Swagel, 1996). Growth of real estate projects for this study will be taken as the number of continuing construction projects of housing units in the study location. These developments include both commercial and residential projects in the area of study.

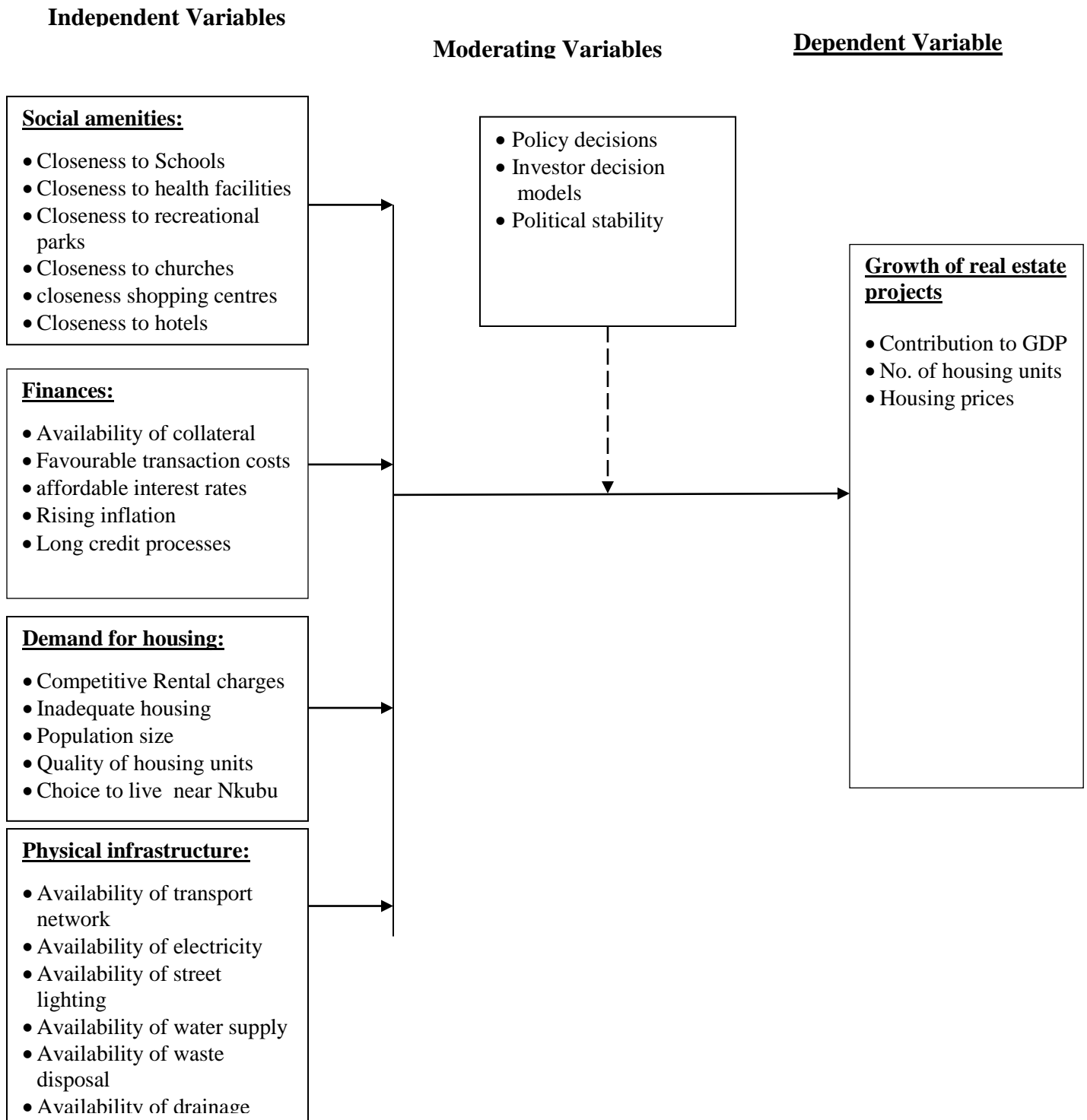


Figure 2.1: Conceptual Framework

2.9 Literature Review Gaps

The review of literature has made efforts to review existing literature relating to the study variables, with findings indicating varying relationships. For example, from the literature, it is not clear whether high housing demand results in an increased production of housing projects or the price of houses. Similarly, for variables where relationship consistency has been identified, study limitations, especially related to locational setting have been highlighted. In particular, no study was identified that addresses all the five variables in unison in order to establish how their combined impact affects real estate projects.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the design that was used, target population, sampling procedure, data collection instruments and procedures and how data was analyzed.

3.2 Research Design

According to Cresswell (2014), research design is the research process that involves the overall assumptions of the research to the method of data collection and analysis. Ngechu (2004) affirms that research design is a plan showing how problems under investigation are solved. Orodho (2010) defines research design as the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in the procedure. Kombo and Tromp (2009) add that research design is the glue that holds all of the elements in a research project together. Kothari (2004) asserts that a research design is a plan, a roadmap and blue print strategy of investigation conceived so as to obtain answers to research questions.

This study employed a descriptive survey research design, which would provide an accurate description of the status of a phenomenon. Descriptive survey focuses on describing the variables that are present in a given situation and sometimes describes the relationships that exist in the variables (Johnson & Christensen 2012). The choice of this design was influenced by the fact that its use would yield a description of determinants of growth in housing projects in the real estate sector in Nkubu town.

3.3 Target Population

A population or universe for a study is any group of individuals or institutions which have one or more characteristics in common that are of interest to the researcher (Cooper & Schindler, 2006). The study population will comprised the 237 investors in residential real estate projects in Nkubu town as per data from the physical planning office in Meru County.

3.4 Sampling Techniques and Sample Size

In order to successively collect accurate and meaningful data from a target population it is imperative to employ a custom strategy for recruiting population members who will be responsible for providing the required data. For this study, the process unfolded in two steps that included determination of the sample size and the selection of a sampling technique.

3.4.1 Sample Size

Orotho (2004) defines sample size as a small part of large population which is thought to be a representation of large population. The study utilized Krejcie and Morgan (1970) table for determining the sample size for a known population (Appendix 3). In this case, considering the population size of 237 investors, the selected sample size was 144.

Table 3.1: Determination of sample size and pilot sample

Target Population	Sample size		Pilot sample	
	No	Percentage of Target population	No	Percentage of Sample size
237	144	60.8%	14	9.7%

3.4.2 Sampling techniques

Sampling is a process of selecting a number of individuals or objects from a population such that the selected group contains elements representative of characteristics found in the entire group (Orodho, 2010). The sampling frame comprised the list of all investors in real estate investment in Nkubu town. According to Kothari (2009), in descriptive studies, one should resort to random sampling so that bias can be eliminated and sampling error can be estimated. Simple random sampling was used to select respondents to be included in the study.

3.5 Research Instruments

Data was collected using self-administered structured questionnaires. A questionnaire is a research instrument that gathers data over a large sample (Kombo and Tromp, 2006). Orodho (2004) asserts that questionnaires are commonly used instruments to collect important information about the population. Questionnaires have been chosen because they will take less

time and energy and are less expensive. According to Mugenda and Mugenda (2003), questionnaires are ideal for survey study and are widely used in education to obtain information about current conditions and practices and to make enquiries about attitudes and opinions quickly and in precise form.

A questionnaire was developed to get information on determinants of growth in housing projects in the real estate sector in Nkubu town. The questions were developed in reference to the study objectives. Specifically, section A consists 4 questions on demographic information, section B comprise 4 questions on growth of real estate projects, while section C, D, E and F comprised a set of likert questions addressing the four objectives of the study.

3.6 Pilot Study

To reduce the shortcomings and ensure effectiveness of the questionnaire, a pre-test was conducted on a different sample of similar characteristics to the actual sample (Orodho, 2004). According to Mugenda and Mugenda (2003), the number of cases in the pre-test should range from 1% to 10%. Fourteen real estate developers in Meru town were used for the pre-test which is 10% of the sample size ($0.01 * 144 = 1.44$). The 10% was obtained through systematic sampling. A real estate developer in Meru town at a central point was arbitrary picked and then every fifth real estate developer maintaining one direction. This was done by the researcher himself. Piloting assisted the researcher to establish the validity and reliability of the instrument items. It assisted in removing ambiguities of the questions and researcher bias as well as assessing the possible answers and the analysis of data to be collected.

3.7 Validity of Instruments Used in the Study

According to Gay (1981), validity is the degree to which a test measure what it has been designed to measure. It refers to how accurately the data obtained in the study represents the variables of the study. If validity is high, the inferences made based on such data will be accurate and meaningful. Cresswell (2014) asserts that a behavioural measure is said to be valid if it measures what it has been designed to measure. Content validity or sampling validity was ensured by having a range of items that try to measure the determinants of growth in housing

projects in the real estate sector in Nkubu town. The pilot study results also enhanced content validity.

Borg and Gall (1989) points out that validity of an instrument is improved through expert judgment. The examiners during proposal presentation and the supervisors gave expert judgment which will aided content validity. The necessary adjustments were made on the instrument to enhance validity.

3.8 Reliability of Instruments Used in the Study

Reliability is defined as the extent to which a questionnaire, test, observation or any measurement procedure, produces the same results on repeated trials (Orodho, 2004). For instance, the degree to which an individual's responses on a survey would stay the same or consistent over time is a sign of reliability. To establish reliability of the instruments pre-testing was done during the pilot study. Internal consistency reliability was be used. This concerns the extent to which items on the test or instruments are measuring the same thing (Yin, 2013). The reliability of each item will be determined. For example, items developed to measure influence of social amenities on growth in housing projects in the real estate sector in Nkubu town. Such items developed must be highly correlated to these constructs to assume high reliability of instruments. Internal consistency was estimated using the Cronbach's Coefficient Alpha (Mugenda and Mugenda, 2003). The acceptable correlation coefficient will be a cut-off of $r = .70$ (Siegle, 2011). The formula for Cronbach's Alpha is: $\alpha = N \cdot \bar{c} / [\bar{v} + (N-1) \cdot \bar{c}]$

Where: N = the number of items.

\bar{c} = average covariance between item-pairs.

\bar{v} = average variance

3.9 Data Collection Techniques

An introduction letter was sought from University of Nairobi authorities, which will acted as an introduction to the respondents. Permission was sought from the National Commission for Science Technology and Innovation (NACOSTI) to carry out the research. The self-administered questionnaires were distributed to the respondents and picked at an agreed date.

3.10 Data Analysis

Burns (2000) defines data analysis as categorizing, manipulating and summarizing of data in order to obtain answers to research questions. The data collected was mainly quantitative. Data was coded appropriately as per the responses to different questions. The Statistical Package for Social Sciences (SPSS) was used to analyse the quantitative data. Both descriptive and inferential statistics were used. Specifically, logistic regression was used to ascertain the determinants of growth in housing projects in the real estate sector in Nkubu town since the dependent variable is dichotomous (had two categories). Frequency distributions tables were used to present the result findings.

3.11 Ethical Considerations

The researcher sought an introduction letter from University of Nairobi authorities. Using this letter, he acquired a research permit from the National Commission for Science Technology and Innovation (NACOSTI). The researcher also sought the consent of the County and Sub County authorities. The self-administered questionnaires were distributed to the respondents and picked at an agreed date.

The ethical considerations include explaining to the respondents, the purpose of the study and methods of data collection. The respondents were assured that the information they gave would be treated with confidentiality. Anonymity was guaranteed to the respondents by not writing their names on the questionnaires. No one was coerced to fill in the questionnaire.

3.12 Operational Definition of Variables

Objectives	Variables	Indicators	Measurement Scale	Type of Analysis
Impact of social amenities on the growth of real estate investment in Nkubu town	Independent variable: Social amenities. Dependent variable: growth of housing projects	<ul style="list-style-type: none"> ✓ Housing projects concentration along social amenities: schools, health facilities, park/recreational facilities, churches, hotels, and shopping centres ✓ Prices of houses in relation to the social amenities 	Ordinal	Logistic Regression, Descriptive
Impact of financial availability on the growth of housing projects in real estate sector in Nkubu town	Independent variable: Financial availability.	<ul style="list-style-type: none"> ✓ Availability of mortgage credit, collateral, or security ✓ Interest rates affordability ✓ Levels of inflation 	Ordinal	Logistic Regression, Descriptive
Extent to which demand for housing influences the growth of housing projects in real estate sector in Nkubu town	Independent variable: Demand for housing	<ul style="list-style-type: none"> ✓ Rental charges ✓ Population size ✓ Populations preferences regarding to quality of housing units ✓ Desire to reside in Nkubu town 	Ordinal	Logistic Regression, Descriptive

<p>Influence of physical infrastructure on growth of housing projects in real estate sector in Nkubu town</p>	<p>Independent variable: Demand for housing</p>	<ul style="list-style-type: none"> ✓ Quality of transport network ✓ Energy availability- electricity ✓ Presence of street lighting ✓ Availability of adequate water supply, waste disposal systems, and drainage systems 	<p>Ordinal</p>	<p>Logistic Regression, Descriptive</p>
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Table 3.2: Operational Definition of Variables

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

The main objective of the study was to analyze the determinants of growth in housing projects in the real estate sector in Nkubu town, Meru County, Kenya. This chapter discusses: 4.2 response rate and reliability of test results, 4.3 demographic information, 4.4 descriptive analyses of variables in the study and 4.5 factors significantly associated with growth in housing projects in the real estate sector in Nkubu town. Descriptive and binary logistic regression analyses are presented. A correlation analysis matrix was used to assess multiple correlation problems.

4.2 Response Rate

The data for the study was collected by use of questionnaires. A total of 144 questionnaires were distributed to real estate owners within Nkubu town. A total of 124 duly filled questionnaires were returned, thus over 86% of the questionnaires were returned and according to Mugenda and Mugenda (2003), above 50% return of the questionnaires is acceptable. The impressive return rate could be attributed to the fact that the researcher was a resident of Nkubu town. Also, the researcher had assured the real estate developers that the study was purely for academic purposes, hence there was adequate rapport between the researcher and the respondents.

4.2.1 Reliability Test Results

The Cronbach's coefficient alpha for the six items on social amenities was .895 and for the six on infrastructure was .743. Besides, the five questions on availability of finance yielded a coefficient alpha of .737 while the five questions demand for housing enumerated an alpha of .949; hence the internal consistence of the items under the study was good since it was above .70 as recommended by Mugenda and Mugenda (2003).

4.3 Demographic Information

The profile of the respondents details the gender, age group, position held, investment category, and experience in real estate projects.

4.3.1 Distribution of Respondents by Gender

It was established that more than three quarters of the respondents (77.0%) were males while 23.0% were female. Hence, most of the real estate owners in Nkubu town are male since only less than a quarter were females. It can be concluded that housing projects in the real estate sector in Nkubu town is predominantly for males as illustrated in table 4.1.

Table 4.1: Distribution of respondents by Gender

	Frequency	Percent
Male	96	77.4
Female	28	22.6
Total	124	100.0

4.3.2 Distribution of Respondents by Age

It was further established that slightly above half of the respondents (51.6%) were in 40 and 49 years age category, 35.5% were in 50 to 59 years age category while 12.9% were in 30 to 39 years age category. Hence, the median age category of the real estate owners in Nkubu town was 40 to 49 years.

Table 4.2: Distribution of respondents by Age group

	Frequency	Percent
30 to 39 years	16	12.9
40 to 49 years	64	51.6
50 to 59 years	44	35.5
Total	124	100.0

4.3.3 Distribution of Respondents by Position Held in the Business

The study established that all the respondents (100.0%) were the estate owners. This was good for the study, since the estate owner were best placed to provide information on determinants of growth in housing projects in the real estate sector in Nkubu town.

Table 4.3: Distribution of respondents by position held in the business

Position held in the Business	Frequency	Percentage
Estate owner	124	100.0

4.3.4 Distribution of Respondents by Investment Category

In respect to the investment category, majority of the respondents (45.2%) had invested in single rooms and bed sitters, 16.1% had constructed apartments, and 12.9% had bed sitters while 9.7% had single rooms. Besides, 6.5% had erected mansions, same as bungalows while 3.2% had built bungalows and single rooms. Hence, bed sitters and single rooms were the most popular category of housing projects in Nkubu town as they cumulatively accounted for more than two thirds of the investment category cited by the respondents.

Table 4.4: Distribution of respondents by category of Investment

Category	Frequency	Percentage
Single rooms & Bed sitter	56	45.2
Apartment	20	16.1
Bed sitter	16	12.9
Single rooms	12	9.7
Mansion	8	6.5
Bungalow	8	6.5
Bungalow & single rooms	4	3.2
Total	124	100.0

4.3.5 Distribution of Respondents by Experience in Housing Projects

Majority of the respondents (29.0%) indicated they were engaged in housing projects for up to three years same as 4 to 6 years, 19.4% stated an experience of 7 to 9 years, 12.9% cited more than 12 years engagement period while 12.9% of the respondents indicated a period of 10 to 12 years. This result suggests that there was a significant increase in new entrants in housing projects in real estate sector of Nkubu town as only less than a quarter of the respondents indicated an experience in the housing projects of more than 10 years.

Table 4.5: Distribution of respondents by Experience in Real Estate

Duration	Frequency	Percentage
Up to 3 years	36	29.0
4 to 6 years	36	29.0
7 to 9 years	24	19.4
10 to 12 years	12	9.7
More than 12 years	16	12.9
Total	124	100.0

4.4 Descriptive Analysis of Study Variables

The study sought to determine the determinants of growth in housing projects in the real estate sector in Nkubu town. Growth in housing projects was the dependent variable while social amenities, infrastructure, availability of finance, and demand for housing was the independent variables. A descriptive analysis of the study variables has been presented.

4.4.1 Growth in Housing Projects

Two thirds of the respondents attested that their investment in housing projects was on the rise, 19.4% indicated that their investments in housing projects had stagnated while 12.9% acknowledged that their investments in housing projects had declined. This result signifies that a high majority of the respondents had experienced growth in housing projects as only a third of the respondents gave a contrary report.

Table 4.6: Growth Trend of Investment in Real Estate

	Frequency	Percent
Increased	84	67.7
Decreased	16	12.9
Stagnated	24	19.4
Total	124	100.0

4.4.1.1 Growth Rate in Housing Projects

Nearly half of the respondents indicated that they had added up to three housing units, 32.3% had not added any units, and 16.1% specified an addition of 4 to 6 units while 3.2% reported an addition of 7 to 9 housing units. This result indicate that the rate of addition of the housing units was relatively conservative since only less than a fifth of the respondents indicated an addition of more than three housing units as illustrated in table 4.7.

Table 4.7: Real Estate units added by the Investor

	Frequency	Percentage
Up to 3 units	60	48.4
4 to 6 units	20	16.1
7 to 9 units	4	3.2
Not Applicable	40	32.3
Total	124	100.0

4.4.1.2 Expansion Plan

A whopping 96.8% of the respondents indicated that they had a plan to expand their investment in housing projects while 3.2% of the respondents stated they did not have such plans. This results shows that almost all the real estate investors interviewed had some plan of expanding their investment in housing projects as only less than a twentieth indicated they absence of expansion plans.

Table 4.8: Real Estate Investor Expansion Plan

	Frequency	Percentage
Yes	120	96.8
No	4	3.2
Total	124	100.0

4.4.2 Social Amenities Indicators and Growth of Housing Projects

The study sought to examine the influence of proximity to social amenities on growth of housing projects. Social amenities had six indicators that were subjected to the respondents for examination. In respect to item one: Proximity to schools propels me to develop housing projects, 55% of the respondents strongly disagreed with the statement, 42% disagreed while 3% concurred that proximity to schools was a consideration in their investment in housing projects. This result implies that proximity to schools was not a consideration at all by the real estate developers in engaging in housing projects as only less than a twentieth indicated that nearness to school was a consideration.

As pertains to item two: Nearness to a health facility propels me to develop housing projects, 58% of the respondents strongly disagreed with the statement, 39% disagreed while 3% concurred that proximity to a health facility was a consideration in their investment in housing projects. This result implies that proximity to health facilities was not a consideration at all by the real estate developers in engaging in housing projects as more than nine tenths of the respondents upheld this view.

In regard to item three: Nearness to recreational joints propel me to develop housing projects, 48% of the respondents disagreed with the statement, 42% strongly disagreed and 7% concurred that proximity to a recreational joints was a consideration in their investment in housing projects while 3% were undecided on the subject matter. This result implies that proximity to recreational joints was not a significant consideration by the real estate developers in engaging in housing projects as more than nine tenths of the respondents upheld this observation.

In respect to item four: Proximity to churches propels me to develop housing projects, 61% of the respondents strongly disagreed with the statement, 32% disagreed while 7% were undecided on whether proximity to churches was a consideration in their investment in housing projects. This result implies that proximity to churches was not a consideration at all by the real estate developers in engaging in housing projects as none of the respondents indicated that nearness to church was a consideration.

As for item five: Nearness to shopping centers propel me to develop housing projects, nearly two thirds of the respondents (65%) concurred with the statement while 35% strongly affirmed that nearness to a shopping center was a significant consideration in their decision to invest in housing projects. This result signifies that proximity to a shopping center was a significant consideration by the real estate developers in engaging in housing projects since none of the respondents gave a contrary opinion.

In respect to item six: Nearness to a hotel has propelled me towards developing housing projects, 81% of the respondents strongly disagreed with the statement, 16% disagreed while 3% were undecided on whether proximity to a hotel was a consideration in their investment in housing projects. This result implies that proximity to a hotel was not a consideration at all by the real estate developers in engaging in housing projects as none of the respondents indicated that nearness to a hotel was a consideration.

Reviewing high correlations among responses from the six items led the researcher to use one summated scale in looking at social amenities. The responses from the six items were summed to create a scale on social amenities. Cronbach's coefficient alpha was .895; hence the internal consistence of the items related to social amenities was good. The range of social amenities scale was 6 to 30.

In conclusion, the respondents did not find a significant influence of five out of the six social amenities parameters on growth of housing projects. Proximity to shopping center was the only social amenity parameter than was significantly linked to growth of housing projects. Hence, the estate owners in Nkubu town did not consider proximity to schools, health facilities, recreational joints, churches and hotels in making the decision of investing in housing projects.

Table 4.9: Social Amenities parameters and the growth of housing projects

Social Amenities Item	SD		D		U		A		SA		Total	
	F	%	F	%	F	%	F	%	F	%	F	%
Proximity to schools propels me to develop housing projects	68	55	52	42	0	0	4	3	0	0	124	100
Nearness to a health facility propels me to develop housing projects	72	58	48	39	0	0	4	3	0	0	124	100
Nearness to recreational joints propel me to develop housing projects	52	42	60	48	4	3	8	7	0	0	124	100
Nearness to churches has propels towards developing housing projects	76	61	40	32	8	7	0	0	0	0	124	100
Nearness to shopping centers propel me to develop housing projects	0	0	0	0	0	0	80	65	44	35	124	100
Nearness to a hotel has propelled me towards developing housing projects	100	81	20	16	4	3	0	0	0	0	124	100

4.4.2.1 Influence of Social Amenities on Growth in Housing Projects

The study sought to establish the respondents' opinion on the influence of social amenities on growth in housing projects. Nearly three quarters of the respondents (74.2%) believed that to a little extent social amenities influenced growth in housing projects, 16.1% indicated influence of a moderate extent while 3.2% opined that social amenities influenced growth of housing projects to a very large extent, same as to a large extent and no influence at all. Hence, in the opinion of

the respondents social amenities influenced growth of housing projects to a little extent since only a fifth of the respondents upheld a contrary opinion.

Table 4.10: Influence of Social Amenities on the growth of housing projects

	Frequency	Percentage
Very large extent	4	3.2
Large extent	4	3.2
Moderate extent	20	16.1
Little extent	92	74.2
No extent	4	3.2
Total	124	100.0

4.4.3 Availability of Finances Indicators and Growth of Housing Projects

The study sought to examine the influence availability of finance on growth of housing projects. Availability of finance had five parameters that were subjected to the respondents for enquiry. In respect to item one: Availability of collateral has helped me in developing housing projects, more than half of the respondents (52%) concurred with the statement, 19% disagreed with the statement same as those who were undecided on the subject while 10% firmly ascertained that availability of collateral had aided them in developing housing projects. This result signifies that availability of collateral greatly assisted the estate owners to develop housing projects since nearly two thirds of the respondents subscribed to this narrative.

In regard to item two: Favorable transaction costs has helped me in developing housing projects, nearly half of the respondents (48%) concurred with the statement, 25% disagreed, 19% were undecided on the subject and 7% firmly ascertained that favorable transaction cost had aided them in developing housing projects while 1% strongly differed with the statement. This result signifies that favorable transaction was instrumental to the estate owners in developing housing projects since only less than a third of the respondents upheld a contrary opinion.

As pertains to item three: Affordable interest rates has helped me in developing housing projects, majority of the respondents (36%) disagreed with the statement, 35% concurred, 19% were undecided on the subject and 10% sternly admitted that affordable interest rates had aided them

in developing housing projects. This result signifies that there was no significant association between affordable interest rates and developing of housing projects since only less than half of the respondents acknowledged that affordable interest rates aided them in developing housing projects.

In reference to item four: Rising inflation has deterred me from developing housing projects, more than half of the respondents (54%) concurred with the statement, 19% were undecided on the subject and 14% were opposed to the statement while 13% firmly upheld that rising inflation had deterred them from developing housing projects. This result signifies that rising inflation substantially deterred the estate owners from developing housing projects since two thirds of the respondents upheld that rising inflation was a deterrent in the development of housing projects.

As pertains to item five: Long processes of credit has deterred me from developing housing projects, majority of the respondents (44%) disagreed with the statement, 26% strongly concurred, 19% were undecided on the subject and 11% admitted that long processes of credit had deterred them in developing housing projects. This result signifies that there was no significant association between long processes of credit and developing of housing projects since only less than two fifths of the respondents accepted that Long processes of credit deterred them in developing housing projects.

Reviewing high correlations among responses from the five items led the researcher to use one summated scale in looking at availability of finance. The responses from the six items were summed to create a scale on availability of finance. Cronbach's coefficient alpha was .737; hence the internal consistence of the items related to availability of finance was good. The range of availability of finance scale was 5 to 25.

In a nutshell, the respondents found a significant association between three of the five finance parameters and growth of housing projects. Specifically, availability of collateral, favorable transaction costs and rising inflation were significantly associated with growth of housing projects while affordable interest rates and long processes in acquiring credit were not

significantly linked with growth in housing projects. Hence, availability of finance greatly aided the estate owners to develop housing projects.

Table 4.11: Finance parameters and the growth of housing projects

Availability of Finance Item	SD		D		U		A		SA		Total	
	F	%	F	%	F	%	F	%	F	%	F	%
Availability of collateral has helped me in developing housing projects	0	0	23	19	23	19	65	52	13	10	124	100
Favorable transaction costs has helped me in developing housing projects	1	1	31	25	23	19	60	48	9	7	124	100
Affordable interest rates has helped me in developing housing projects	0	0	46	36	23	19	43	35	12	10	124	100
Rising inflation has deterred me from developing housing projects	0	0	18	14	23	19	67	54	16	13	124	100
Long processes of credit has deterred me from developing housing projects	0	0	55	44	24	19	13	11	32	26	124	100

4.4.3.1 Influence of Availability of Finance on Growth in Housing Projects

The study sought to establish the respondents' opinion on the influence of availability of finance on growth in housing projects. A high majority of the respondents (58.1%) stated that availability of finance influenced growth of housing projects to a moderate extent, 25.8% specified large extent influence, and 9.7% indicated little extent while 6.5% stated that availability of finance influenced growth of housing projects to a very large extent. Hence, in the opinion of the respondents, availability of finance significantly influenced growth of housing projects since only less than a tenth of the respondents opined that availability of finance influenced growth of housing projects to a little extent.

Table 4.12: Influence of Availability of Finance on the growth of housing projects

	Frequency	Percentage
Very large extent	8	6.5
Large extent	32	25.8
Moderate extent	72	58.1
Little extent	12	9.7
Total	124	100.0

4.4.4 Demand for Housing Indicators and Growth of Housing Projects

The study sought to examine the influence of demand for housing on growth of housing projects. Demand for housing had five parameters that were subjected to the respondents for examination. In respect to item one: Competitive rental charges propel me towards developing housing projects, more than half of the respondents (56%) firmly concurred with the statement, 28% concurred with the statement and 9% were undecided on the subject while 7% objected that competitive rental charges had propelled them in developing housing projects. This result signifies that competitive rental charges greatly drove the estate owners to develop housing projects since more than four fifths of the respondents attested that competitive rental charges propelled them to investing in housing projects.

Regarding item two: Inadequate housing has propelled me towards developing housing projects, nearly two thirds of the respondents (61%) decisively agreed with the statement, 23% concurred with the statement and 9% were undecided on the subject while 7% challenged that inadequate housing had propelled them in developing housing projects. This result signifies that inadequate housing significantly influenced the estate owners to develop housing projects since only less than a fifth of the respondents disapproved that inadequate housing propelled them to investing in housing projects.

As regards item three: The high population in Nkubu propel me to develop housing projects, a high majority of the respondents (57%) decisively agreed with the statement, 25% concurred with the statement and 10% were undecided on the subject while 8% challenged that the high population in Nkubu had propelled them in developing housing projects. This result signifies that the high population in Nkubu significantly influenced the estate owners to develop housing projects since more than four fifths of the respondents approved that the high population in Nkubu propelled them to investing in housing projects.

As pertains to item four: Residents' preference for high quality housing has propelled me towards developing housing projects, close to a third of the respondents (32%) were undecided on the subject, 31% firmly concurred with the statement and 27% concurred while 11%

disapproved that residents' preference for high quality housing had propelled them in developing housing projects. This result signifies that residents' preference for high quality housing significantly influenced the estate owners to develop housing projects since two thirds of the respondents approved that residents' preference for high quality housing propelled them to investing in housing projects.

As regards item five: Desire for people to reside near Nkubu has propelled me to developing housing projects, two thirds of the respondents (68%) assertively concurred with the statement, 13% concurred with the statement and 10% were undecided on the subject while another 10% disapproved that desire for people to reside near Nkubu had propelled them in developing housing projects. This result signifies that desire for people to reside near Nkubu significantly influenced the estate owners to develop housing projects since more than four fifths of the respondents approved that desire for people to reside near Nkubu propelled them to investing in housing projects.

Reviewing high correlations among responses from the five items led the researcher to use one summated scale in looking at demand for housing. The responses from the six items were summed to create a scale on demand for housing. Cronbach's coefficient alpha was .949; hence the internal consistence of the items related to availability of finance was good. The range of demand for housing scale was 5 to 25.

Concisely, the respondents found a significant association between all the five demand for housing parameters and growth of housing projects. Precisely, competitive rental charges, inadequate housing, high population in Nkubu, residents' preference for high quality housing and desire for people to reside near Nkubu were significantly associated with growth of housing projects. Hence, demand for housing greatly motivated the estate owners to develop housing projects.

Table 4.13: Demand parameters and the growth of housing projects

Demand for Housing Item	SD		D		U		A		SA		Total	
	F	%	F	%	F	%	F	%	F	%	F	%
Competitive rental charges propel me towards developing housing projects	0	0	8	7	12	9	35	28	69	56	124	100
Inadequate housing has propelled me towards developing housing projects	0	0	8	7	12	9	29	23	75	61	124	100
The high population in Nkubu propel me to develop housing projects	0	0	10	8	12	10	31	25	71	57	124	100
Residents preference for high quality housing has propelled me towards developing housing projects	0	0	14	11	39	32	33	27	38	30	124	100
Desire for people to reside near Nkubu has propelled me to developing housing projects	0	0	12	10	12	10	16	12	84	68	124	100

4.4.4.1 Influence of Demand for Housing on Growth in Housing Projects

The study sought to establish the respondents' opinion on the influence of demand for housing on growth in housing projects. Majority of the respondents (51.6%) stated that availability of finance influenced growth of housing projects to a very large extent, 35.5% specified large extent influence, and 12.9% indicated that demand for housing influenced growth of housing projects to a moderate extent. Hence, in the opinion of the respondents, demand for housing significantly influenced growth of housing projects since nearly four fifths of the respondents asserted that demand for housing greatly influenced growth of housing projects.

Table 4.14: Influence of Availability of Finance on the growth of housing projects

	Frequency	Percentage
Very large extent	64	51.6
Large extent	44	35.5
Moderate extent	16	12.9
Total	124	100.0

4.4.5 Physical Infrastructure Indicators and Growth of Housing Projects

The study sought to examine the influence physical infrastructure on growth of housing projects. Physical infrastructure had six parameters that were subjected to the respondents for examination. In respect to item one: Good road network has propelled me towards developing housing projects, two thirds of the respondents (68%) decisively acknowledged the statement and 32% attested that good road network had propelled them in developing housing projects. This result signifies that good road network significantly inspired the estate owners to develop housing projects since all the respondents unanimously affirmed that good road network propelled them to investing in housing projects.

In regard to item two: Availability of electricity propels me towards developing housing projects, two thirds of the respondents (68%) authoritatively approved the statement and 32% indicated that availability of electricity had propelled them in developing housing projects. This result signifies that availability of electricity considerably stirred the estate owners to develop housing projects since all the respondents firmly asserted that availability of electricity propelled them to investing in housing projects.

As pertains to item three: Elaborate water supply system propel me to develop housing projects, more than half of the respondents (52%) were undecided on the subject, 36% disagreed with the statement and 13% strongly agreed that elaborate water supply system had propelled them in developing housing projects. This result signifies that there was no significant association between elaborate water supply system and development of housing projects since only less than a fifth of the respondents acknowledged that elaborate water supply system propelled them in developing housing projects.

Regarding item four: Effective waste disposal services propel me to develop housing projects, close to three quarters of the respondents (71%), were opposed to the statement, 26% concurred with the statement and 3% were undecided on whether elaborate water supply system had propelled them in developing housing projects. This result signifies that there was no significant association between elaborate water supply system and development of housing projects since

only less than a third of the respondents admitted that elaborate water supply system propelled them in developing housing projects.

In respect to item five: Availability of street lights propel me to develop housing projects, more than half of the respondents (55%) acknowledged the statement, 32% firmly admitted that availability of street lights had propelled them in developing housing projects while 13% upheld a contrary opinion. This result signifies that availability of street lights significantly moved the estate owners to develop housing projects since close to four fifths of the respondents affirmed that availability of street lights propelled them to investing in housing projects.

Regarding item six: Availability of drainage system propel me to develop housing projects, close to three quarters of the respondents (71%), were opposed to the statement, 23% concurred with the statement, 3% strongly supported the statement while another 3% were undecided on whether availability of drainage system had propelled them in developing housing projects. This result signifies that there was no significant association between availability of drainage system and development of housing projects since only less than a third of the respondents admitted that availability of drainage system propelled them in developing housing projects.

Reviewing high correlations among responses from the six items led the researcher to use one summated scale in looking at physical infrastructure. The responses from the six items were summed to create a scale on physical infrastructure. Cronbach's coefficient alpha was .949; hence the internal consistence of the items related to physical infrastructure was good. The range of physical infrastructure scale was 6 to 30.

In summary, the respondents found a significant association between three of the six physical infrastructure parameters and growth of housing projects. Specifically, good road network, availability of electricity and availability of street light were significantly associated with growth of housing projects while elaborate water system, effective waste disposal services and availability of drainage system were not significantly linked with growth in housing projects.

Hence, physical infrastructure aided the estate owners to develop housing projects to a moderate extent.

Table 4.15: Infrastructure parameters and the growth of housing projects

Infrastructure Item	SD		D		U		A		SA		Total	
	F	%	F	%	F	%	F	%	F	%	F	%
Good road network has propelled me towards developing housing projects	0	0	0	0	0	0	40	32	84	68	124	100
Availability of electricity propel me towards developing housing projects	0	0	0	0	0	0	40	32	84	68	124	100
Elaborate water supply system propel me to develop housing projects	0	0	44	36	64	52	0	0	16	12	124	100
Effective waste disposal services propel me to develop housing projects	0	0	88	71	4	3	32	26	0	0	124	100
Availability of street lights propel me to develop housing projects	0	0	16	13	0	0	68	55	40	32	124	100
Availability of drainage system propel me to develop housing projects	4	3	88	71	0	0	28	23	4	3	124	100

4.4.5.1 Influence of Physical Infrastructure on Growth in Housing Projects

The study sought to establish the respondents' opinion on the influence of physical infrastructure on growth in housing projects. Close to three quarters of the respondents (71%) stated that physical infrastructure influenced growth of housing projects to a moderate extent, 22.6% specified large extent influence, and 6.5% indicated that physical infrastructure influenced growth of housing projects to a very large extent. Hence, in the opinion of the respondents, physical infrastructure moderately influenced growth of housing projects since more than two thirds of the respondents asserted that physical infrastructure influenced growth of housing projects to a moderate extent.

Table 4.16: Influence of Physical Infrastructure on the growth of housing projects

	Frequency	Percentage
Very large extent	8	6.5
Large extent	28	22.6
Moderate extent	88	71.0
Total	124	100.0

4.5 Multivariate Analysis

To determine the factors significantly associated with the growth in housing projects in the real estate sector in Nkubu town, logistic regression was utilized since the dependent variable was dichotomous. The Omnibus test of model coefficient, model summary and classification table were used to test the goodness fit of the logistic model.

4.5.1 Omnibus Tests of Model Coefficients

Model chi-square tests whether the model as a whole predicts occurrence better than chance. In binary logistic regression, it is interpreted as a test of the capability of all predictors (independent variables) in the model jointly to predict the response (dependent) variable. The model is statistically significant because the p - value is less than .05.

Table 4.17: Omnibus Tests of Model Coefficients

		Chi-square	Df	P -Value
Step 1	Step	65.306	4	.000
	Block	65.306	4	.000
	Model	65.306	4	.000

4.5.1.1 Model Summary

The Nagelkerke R Square shows that about 57.2% of the variation in the outcome variable is explained by this logistic model, hence this is a good model fit. Nagelkerke' s measure gives us a higher value than does Cox and Snells since Nagelkerke' s measure is a modification of Cox and Snells, allowing the measure to use the full 0-1 range.

Table 4.18: Model Summary

-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
90.637	.409	.572

4.5.1.2 Null Model

The null model presents the results with only the constant included before any coefficients are entered into the equation. Logistic regression compares this model with a model including all the predictors to determine whether the latter model is more appropriate.

Table 4.19: Null Model

Observed		Predicted		
		Growth status		Percentage Correct
		No Growth	Growth	
Growth status	No Growth	0	40	.0
	Growth	0	84	100.0
Overall Percentage				67.7

4.5.1.3 Classification Model

The classification table shows how well our full model correctly classifies cases. The overall percentage shows the model is 83.9% accurate. This is a good model fit since the overall percentage of the null model is 67.7%.

Table 4.20: Classification Table

Observed		Predicted		
		Growth status		Percentage Correct
		No Growth	Growth	
Growth status	No Growth	26	14	65.0
	Growth	6	78	92.9
Overall Percentage				83.9

4.5.2 Determinants of Growth in Housing Projects in the Real Estate Sector

The determinants of growth in housing projects under examination were; social amenities, availability of finance, demand for housing and physical infrastructure. The output of the logistic regression indicating the significance of each of the predictor variable is shown in table 4.21.

Table 4.21: Determinants of growth in housing projects in the real estate sector in Nkubu town

Factor	B	S.E.	Wald	df	P – Value	Exp(B)
Social Amenities	.206	.119	2.981	1	.084	1.228
Availability of Finance	.495	.141	12.288	1	.000	1.640
Demand for housing	.291	.101	8.349	1	.004	1.338
Physical Infrastructure	-.086	.093	.857	1	.354	.917

4.5.2.1 Social Amenities and Growth in Housing Projects

The study sought to examine the association between social amenities and growth of housing projects. This study did not establish any significant relationship between social amenities and growth in housing projects. The p-value of this predictor was more than .05.

4.5.2.2 Availability of Finance and Growth in Housing Projects

This study further sought to establish the association between availability of finance and growth of housing projects. This variable was found to be significant at .001 level of significance and [Exp (B) 1.640] indicating that it was significantly associated with growth of housing projects. The study established a positive relation between availability of finance and growth of housing projects since the Exp (B) is greater than one.

This result corresponds well with the finding of Loyford and Moronge (2014) who established that availability of investment capital would cause drastic changes in the prices of real estate and hence spur growth in real estate development. It also corresponds well with the finding of Muli (2013) who observed that low interest rates make credit available for investors and hence inspiring growth of real estate. When banks offer credit at low interest, investors are attracted including those in real estate hence growth in the real estate sector. Conversely, when banks sell credit at high interest, investors including the real estate investors are deterred hence growth in housing projects would experience stagnation. Besides, low interest rates reduce the cost of erecting housing projects hence considerably lowering the payback period. With a shorter payback period, the housing project will be more lucrative to the prospective investor since there will be some assurance that recouping of the initial capital outlay has been brought closer.

This study had established that two thirds of the estate owners in Nkubu town had experienced growth in the housing projects. Part of the growth could be attributed to the interest rate capping law of 2016; where the Central Bank of Kenya capped the lending interest rates of banks to a maximum of 4% above Central Bank Rate (CBR). This law set an upper limit on the interest rate to be charged on money finance provider lend to borrowers. Lower interest rates would lessen transactional costs considerably, and this would stir the acquisition of real estate.

Availability of collateral was among the finance parameters that were significantly associated with growth in housing projects. It is worth noting that out of the real estate owners sampled in Nkubu town, only around a tenth were less than 40 years. Besides, the proportion of female estate owners sampled was slightly less than a quarter. It would be logical to conclude that younger people are unlikely to be in possession of valuable collateral to enhance acquisition of credit in comparison to their older counterparts. Likewise, it would be unlikely for females to have collateral to acquire finance compared to their males' colleagues. Hence, availability of collateral is positively correlated to growth in housing projects.

4.5.2.3 Demand for Housing and Growth in Housing Projects

This study sought to establish the association between demand for housing and growth of housing projects. This variable was found to be significant at .05 level of significance and [Exp (B) 1.338] indicating that it was significantly associated with growth of housing projects. The study established a positive relation between demand for housing and growth of housing projects since the Exp (B) is greater than one. This result is in harmony with the finding of Glaeser et al. (2010) who established a significant relationship between demand for housing and growth in real estate. An investor in real estate will be inspired to build more units if the people in need of shelter in his neighborhood are more than the housing units in that locality. In contrast, an investor in real estate will not be likely to invest more units if the units already built are not occupied to capacity. Hence an investor would be willing to invest in a locality until a point when equilibrium is reached: when the demand for housing equals its supply. We would say that in towns and slums where there are many people, an investor would be fascinated to invest,

holding other factors constant. Conversely, in rural areas where the population is less it's not attractive for any serious investor to build housing units for rental.

Competitive rental charge was one of the demand parameters utilized by the study and found to be significantly associated with growth in housing projects. Any serious investor in housing projects will take into consideration the prevailing rates of the rental charges before settling on the location in which he will erect housing units. This is because more often, an investor will be likely to charge the prevailing rental charges unless his housing units have an edge over the competitors units in which case he may charge a charge that is slightly higher than the market rate. Hence, a prospective investor in housing projects will be attracted to invest in a location where the prevailing rental charge is reasonably high and consequently deterred from investing in a location where the prevailing rental charge is relatively low.

Residents' preference for high quality housing was another demand parameter that was significantly associated with growth in housing projects. The twenty first century rental house consumer is dynamic and sophisticated. Nowadays, housing clients not only consider accessibility and spaciousness of a house in making a decision to rent a house. Other factors that come into play include; interior decoration, floor tiling, provision of a master bedroom, drawers and cabinets, provision of car parking, and general design of a house. It is possible to come across a client who insists that his house of preference must be in classy flats or apartments. Even the clients for single rooms and bed sitters may specify that their housing of choice must have a watchman, caretaker and even a compound and corridor cleaner. Hence for an investor in the housing projects to be successful, he must take into consideration the needs of his target group right from the planning stage. Without taking such considerations, a housing project investor may find that the client turnover is very high leading to less turnover and consequently reduced profitability or loss altogether.

4.5.2.4 Physical Infrastructure and Growth in Housing Projects

The study sought to examine the association between physical infrastructure and growth of housing projects. This study did not establish any significant relationship between physical infrastructure and growth in housing projects. The p-value of this predictor was more than .05. This result contradicts the finding of Johnson Gardner (2007) who established a significant relationship between physical infrastructure and growth in real estate. The explanation of this discrepancy could be the fact that most buildings along major roads in Nkubu town could be for commercial purposes, hence the deviation from previous studies that found a significant relationship between physical infrastructure and growth in real estate investments.

4.5.3 Correlation Matrix

The variables were examined using a correlation matrix to assess multiple correlation problems. The possibility of multiple correlations was ruled out since there was no significant correlation between any two predictor variables as indicated in table 4.22.

Table 4.22: Correlation Matrix

	Social Amenities	Physical Infrastructure	Finance	Demand for housing
Social Amenities	1.000	-.209	.014	.540
Physical Infrastructure	-.209	1.000	.081	-.287
Finance	.014	.081	1.000	-.238
Demand for housing	.540	-.287	-.238	1.000

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The main objective of the study was to analyze the determinants of growth in housing projects in the real estate sector in Nkubu town, Meru County, Kenya. This chapter discusses: 5.2 summary of the findings, 5.3 makes conclusions of the findings and 5.4 gives relevant recommendations.

5.2 Summary of the Findings

The study sought to examine the determinants of growth in housing projects in the real estate sector in Nkubu town. The determinants of growth in housing projects under examination were; social amenities, availability of finance, demand for housing and physical infrastructure.

5.2.1 Social Amenities and Growth in Housing Projects

The study sought to examine the influence of proximity to social amenities on growth of housing projects. Social amenities had six indicators that were subjected to the respondents for examination. The study did not find a significant influence of five out of the six social amenities parameters on growth of housing projects. Proximity to shopping center was the only social amenity parameter that was significantly linked to growth of housing projects. Hence, the estate owners in Nkubu town did not consider proximity to schools, health facilities, recreational joints, churches and hotels in making the decision of investing in housing projects. Further analysis utilizing logistic regression did not establish any significant relationship between social amenities and growth in housing projects. The p-value of this predictor was more than .05.

5.2.2 Availability of Finance and Growth in Housing Projects

The study sought to examine the influence availability of finance on growth of housing projects. Availability of finance had five parameters that were subjected to the respondents for enquiry. The study found a significant association between three of the five finance parameters and growth of housing projects. Specifically, availability of collateral, favorable transaction costs and rising inflation were significantly associated with growth of housing projects while affordable interest rates and long processes in acquiring credit were not significantly linked with growth in

housing projects. Hence, availability of finance greatly aided the estate owners to develop housing projects. Results of logistic regression found this variable to be significant at .001 level of significance and [Exp (B) 1.640] indicating that it was significantly associated with growth of housing projects. The study established a positive relation between availability of finance and growth of housing projects since the Exp (B) is greater than one.

5.2.3 Demand for Housing and Growth in Housing Projects

The study sought to examine the influence of demand for housing on growth of housing projects. Demand for housing had five parameters that were subjected to the respondents for examination. The study found a significant association between all the five demand for housing parameters and growth of housing projects. Precisely, competitive rental charges, inadequate housing, high population in Nkubu, residents' preference for high quality housing and desire for people to reside near Nkubu were significantly associated with growth of housing projects. Hence, demand for housing greatly motivated the estate owners to develop housing projects. Further analysis using logistic regression found the variable to be significant at .05 level of significance and [Exp (B) 1.338] indicating that it was significantly associated with growth of housing projects. The study established a positive relation between demand for housing and growth of housing projects since the Exp (B) is greater than one.

5.2.4 Physical Infrastructure and Growth in Housing Projects

The study sought to examine the influence physical infrastructure on growth of housing projects. Physical infrastructure had six parameters that were subjected to the respondents for examination. The study found a significant association between three of the six physical infrastructure parameters and growth of housing projects. Specifically, good road network, availability of electricity and availability of street light were significantly associated with growth of housing projects while elaborate water system, effective waste disposal services and availability of drainage system were not significantly linked with growth in housing projects. Results from logistic regression did not establish any significant relationship between physical infrastructure and growth in housing projects. The p-value of this predictor was more than .05.

5.3 Conclusions

The study concluded that two predictors: availability of finance and demand for housing were significantly associated with growth in housing projects in the real estate sector in Nkubu town, Meru County, Kenya.

5.3.1 Availability of Finance

The study concluded that there was a statistically significant relationship between availability of finance and growth in housing projects. A prospective investor in housing sector who has access to cost effective finance options and is in possession of valuable collateral is likely to have an edge over one with limited financing options and without a valuable collateral. Thus, access to affordable financing options attracts investors, including investors in housing sector, leading to growth in housing projects.

5.3.2 Demand for Housing

It was concluded that demand for housing had significant influence on growth in housing projects. A town experiencing competitive rental charges, inadequate housing, high population, and with residents preferring quality housing is more likely to attract investors in housing projects than one lacking in the aforesaid elements. When the demand of a commodity, in this case housing, is higher than the supply; there will be new entrants in the market and/or the existing players will expand to fill the market gap hence growth in housing projects.

5.4 Recommendations

From the conclusion arrived at that availability of finance and demand for housing were significantly associated with growth in housing projects in the real estate sector in Nkubu town, Meru County, the researcher wishes to make the following recommendations,

1. The Kenyan government through the Central Bank of Kenya and relevant legislative organs should take measures to increase access to cost effective credit in the real sector to achieve one of its big four agenda of affordable decent housing for all.
2. The government should enact laws outlining the minimum standards to be observed when constructing housing projects in towns which are likely to experience rise in substandard housing projects as investors attempt to meet the high demand for housing.

5.4.1 Recommendations for Further Research

Since the study focused on housing projects in Nkubu town, it is suggested that the study be extended to other towns to assess whether different findings may be reached regarding determinants of growth in housing projects.

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APPENDICES

Appendix 1: Letter of Transmittal to Real estate investors In Nkubu Town

LEONARD KIOGORA MURITHI

P.O. Box:

MERU

Dear Respondent,

RE: REQUEST FOR DATA COLLECTION

I am a postgraduate student at the University of Nairobi, Meru-Extra Mural Centre pursuing a Masters degree in Project Management. I will be conducting research to determine the factors that influence the growth of housing projects in the real estate sector in Nkubu town.

I kindly request for your assistance in filling the attached questionnaire to enable me to complete my research. The questionnaire is strictly for academic purpose and any information offered will be treated with absolute confidentiality.

It will be my pleasure if you give accurate and honest information.

Thank you in advance.

Yours Faithfully,

Leonard K. Murithi

Appendix 2: Questionnaire For Real Estate Investors in Nkubu town

Dear participant,

The purpose of this study is to collect data determinants of growth in housing projects in the real estate sector in Nkubu town. Thank you for agreeing to complete this anonymous survey which should take less than 15 minutes.

Participant's Consent

I have read the details about the purpose of this study. By submitting the completed questionnaire to the researcher, I give my consent for the outcomes to be used in the research. I am aware that this survey is anonymous and does not contain any information which may personally identify me.

I know that I may change my mind and withdraw my consent at any time; and I acknowledge that once my questionnaire has been submitted it may not be possible to withdraw my data.

I appreciate that the scholar will treat all information I provide confidential and will not release it to a third party unless if required so by the law. I understand that no information which can specifically identify me will be published as part of the results.

Instructions

Do not write your name on the questionnaire.

Answer all questions to the best of your ability.

Indicate with a tick in the space provided your choice of response.

Section A: Demographic Information

A1. Indicate your gender

a. Male

b. Female

A2. Indicate your age bracket

a. Below 30yrs

b. 30 – 39yrs

c. 40 – 49yrs

d. 50 – 59yrs

e. 60 and above

A3. What position do you hold in the business?

- a. Estate owner []
- b. Agent []

A4. In what category is your investment?

- a. Apartment []
- b. Mansion []
- c. Bungalow []
- d. Bed sitter []
- e. Single rooms []

Section B: Growth in real estate investments

B1. How old is your investment in real estate?

- a. 3 years & below []
- b. 4 - 6 years []
- c. 7 – 9 years []
- d. 10 – 12 years []
- e. 13 years & above []

B2. Which of the following best describes your investment in real estate?

- a. Increased []
- b. Decreased []
- c. Stagnated []

B3. If an increase, how many units have you added?

- a. 3 and below []
- b. 4-6 units []
- c. 7-9 units []
- d. 10 and above units []

B4. Are you planning to expand your investments?

- a. Yes []
- b. No []

Section C: Social Amenities

Indicate the level of agreement or disagreement in respect to the statement provided below.
 (Where; SA = Strongly agree, A = Agree, U = Undecided, D = Disagree, SD = Strongly disagree)

S/N	Item	SD	D	U	A	SA
C1	Nearness to a school/learning institution has propelled me towards developing housing projects					
C2	Nearness to a health facility has propelled me towards developing housing projects					
C3	Nearness to a park/recreational facility has propelled me towards developing housing projects					
C4	Nearness to churches/faith institution has propelled me towards developing housing projects					
C5	Nearness to shopping centers has propelled me towards developing housing projects					
C6	Nearness to a hotel has propelled me towards developing housing projects					

C7. To what extent has nearness to social amenities influenced your decision to increase your investment in real estate?

- a. Very large extent []
- b. Large extent []
- c. Moderate extent []
- d. Little extent []
- e. No extent []

Section D: Availability of Finance

Indicate the level of agreement or disagreement in respect to the statement provided below.
(Where; SA = Strongly agree, A = Agree, U = Undecided, D = Disagree, SD = Strongly disagree)

S/N	Item	SD	D	U	A	SA
D1	Availability of collateral/security has helped me in developing housing projects					
D2	Favourable transaction costs has helped me in developing housing projects					
D3	Affordable interest rates has helped me in developing housing projects					
D4	Rising inflation has deterred me from developing housing projects					
D5	The long processes in obtaining credit has deterred me from developing housing projects					

D6. To what extent has availability of finance influenced your decision to increase your investment in real estate?

- a. Very large extent []
- b. Large extent []
- c. Moderate extent []
- d. Little extent []
- e. No extent []

Section E: Demand for Housing

Indicate the level of agreement or disagreement in respect to the statement provided below.

(Where; SA = Strongly agree, A = Agree, U = Undecided, D = Disagree, SD = Strongly disagree)

S/N	Item	SD	D	U	A	SA
E1	Competitive rental charges in Nkubu town has propelled me towards developing housing projects					
E2	Inadequate housing in Nkubu town has propelled me towards developing housing projects					
E3	The high population in Nkubu town has propelled me towards developing housing projects					
E4	The residents preference for high quality housing in Nkubu town has propelled me towards developing housing projects					
E5	Desire for people to reside near Nkubu town has propelled me towards developing housing projects					

E6. To what extent has demand for housing influenced your decision to increase your investment in real estate?

- a. Very large extent []
- b. Large extent []
- c. Moderate extent []
- d. Little extent []
- e. No extent []

Section F: Physical Infrastructure

Indicate the level of agreement or disagreement in respect to the statement provided below.
 (Where; SA = Strongly agree, A = Agree, U = Undecided, D = Disagree, SD = Strongly disagree)

S/N	Item	SD	D	N	A	SA
F1	Good road network in Nkubu has propelled me towards developing housing projects					
F2	Availability of electricity in Nkubu has propelled me towards developing housing projects					
F3	Elaborate water supply system in Nkubu has propelled me towards developing housing projects					
F4	Effective waste disposal services in Nkubu has propelled me towards developing housing projects					
F5	Availability of street lights in Nkubu has propelled me towards developing housing projects					
F6	Availability of drainage system in Nkubu has propelled me towards developing housing projects					

F7. To what extent has physical infrastructure influenced your decision to increase your investment in real estate?

- a. Very large extent []
- b. Large extent []
- c. Moderate extent []
- d. Little extent []
- e. No extent []

Appendix 3: Table for Determining Sample Size

Table 3.1									
<i>Table for Determining Sample Size of a Known Population</i>									
N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	1000000	384

Note: N is Population Size; S is Sample Size *Source: Krejcie & Morgan, 1970*