

**ROLE OF FINANCING OPTIONS ON THE GROWTH OF REAL ESTATE IN  
KENYA: A SURVEY OF REAL ESTATE DEVELOPERS IN NAIROBI  
METROPOLIS**

**BY**

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UNIVERSITY.**

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**DECLARATION**

I declare that this dissertation is my original work and has not been previously published or submitted elsewhere for award of a degree. I also declare that this contains no material written or published by other people except where due reference is made and author duly acknowledged.

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## ABSTRACT

Real estate business is an undertaking that has been perceived by many as a project that needs a lot of capital to initiate. In Kenya, investing in real estate hasn't been such a huge venture until the last 10 years. This research therefore aimed at establishing the perceived role of financing options on the growth of real estate in Kenya with a focus in Nairobi Metropolitan area. It is often difficult to fund big projects in real estate solely from personal savings. Therefore there is a need to use other sources of finance such as equity or self-financing, or mortgage from financial institutions like commercial banks, insurance companies and mortgage institutions or venture capital. This research paper was guided by four specific objectives; To assess influence of mortgage financing option on the growth of real estate in Nairobi Metropolis; To evaluate the effect of savings financing option on the growth of real estate in Nairobi Metropolis: To evaluate the effect of venture capital financing option on the growth of real estate in Nairobi Metropolis: To examine the influence of equity financing option on the growth of real estate in Nairobi Metropolis. This study used primary data collected from registered developers in Kenya with an interest in Nairobi Metropolis. The sample size was 81 out of a population of 100 developers registered with Kenya Property Developers Association. The study employed descriptive research design and data was analyzed through multiple regression analysis. This study found out that the variables addressed, only explain 7.1% of the growth of Real estate in Kenya. Other factors outside this research explain 92.9% of the growth in real estate. Due to the low explanation the researcher employed confirmatory factor analysis to determine model perfect of fit. The study found mortgage financing and equity financing the only two variables with a good fit. From this study, then there is a need for more research on those other factors that have spurred growth in real estate in Kenya. This study was carried out during the period May to August 2016.

**Keywords:** Mortgage, Savings, Venture capital, Equity finance, Confirmatory Factor Analysis, Multiple Regression, Metropolis, Descriptive Research Design

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## **DEDICATION**

This thesis is dedicated to my colleagues and family for their support during my study.

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## **ABBREVIATIONS AND ACRONYMS**

GDP:	Gross Domestic Product at Market Prices
IFC:	International Finance Corporation
BHBFC:	Bangladesh House Building Finance Corporation
HBFC:	House Building Finance Corporation
SACCOS:	Savings and Credit Co-Operative Societies
KPDA	Kenya Property Developers Authority
ISOCARP	International Society of City and Regional Planners
GFI	Good of Fit Index
CFI	Comparative Fit Index
RMSEA	Root Mean Square Error of Approximation

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.0 Introduction**

This research was looking into the Role of Financing Options on the growth of Real Estate in Kenya. The chapter includes introduction, background of the study, purpose of study, problem statement, objectives of the study, research questions used, significance, limitation and scope of the study. Based on these headings the researcher gives a satisfactory background.

#### **1.1 Background**

Real estate concerns a mass of land and resource fixed, whether movable or immovable such as buildings and fences or other fixed assets (Pagourtzi, Assimakopoulous, Hatzichristos and French 2003). In real estate investment, the owner has both the mineral and surface rights which are transferable together or separately. Real estate can be classified into residential and non-residential properties in specified areas. Residential properties are those that serve as housing. In the current development in Kenya, residential properties also include social amenities such as schools, restaurants, swimming pools, security services, health care facilities among others. These houses may include flats, mansionates and bungalows. The most important factor in real estate development and investment is funding and what makes it complicated to a large extent is its capital intensive nature that demands proper and adequate funding to make it even more realizable. The terms and availability of the required funds determine the trajectory of estate operation. . (Brueggeman and Fisher 2005)

Availability and easy accessibility of capital in sufficient quantities definitely accelerates all forms of property development. Real Estate financing is concerned with the production of money for constructing structures such as house and office complexes which are basic necessities in a developing economy like Kenya. It is also widely understood that

the delivery of housing services depends upon a well-functioning housing finance system. It is a fact that without a well operationalized and efficient housing finance system, the “real” housing market would be sub-optimal. Additionally, a proper housing finance system impacts positively on the entire financial system with far-reaching consequences for enhanced economic growth. (Zhu 2006)

Capital is a major factor in the day to day practice of any business. The real estate enterprise requires investing huge amounts of capital in order to allow construction of property. Lack of finance for the business will lower its credibility hence face problems whilst negotiating credit duration of construction materials, or when negotiating bank loans and guarantees are based on the financial base of any business. lack of capital is a problem for small and micro business enterprises therefore most of them have remained operating in small scale. (Chua & Kog 2009)

Various researches disclose that mortgage finance is the most prevalent source of funding for real estate development. A critical factor in the housing policy framework is the provision of low cost housing. However, as concerns are raised regarding the availability of low cost housing by local developers, investors as well as families concern themselves with availability of finance to purchase these homes. Increase in industrial employment raises the demand for residential houses and the mortgage market in North America and Europe has evolved into an active mortgage market in the world which many other countries have tried to replicate to support the growth of home ownership across the world, especially after the 1930s great depression. (Fang and Jie 2008)

A research by Kings (2006) showed that there is a positive relationship between mortgage finance and real estate development. In his study, he underlined that housing inventory is a valuable asset to the owners who can use it as collateral and in the development

of real estate and other economic activities. Consequently, housing expansion contributes to the country's overall GDP, economic growth and development.

Increasing emphasis is therefore being placed in developing and transitioning economies on the restructuring of real estate finance and mortgage markets. McKinney, Jr. (1952) identified four sources of real estate financing in the order of priority in contribution during the housing boom in the United States, such as savings and loan associations followed by commercial banks, insurance companies, and mutual savings banks. Edwards, (1964) indicated that savings and loan associations continued to grow more rapidly than other mortgage providers. They cited the use of these financial institutions as the most influential in the home mortgage markets. Despite the rising attention on urban housing and development, informal settlement sector is still the biggest contributor to housing in developing countries especially in Asia, Southern America and Africa.

It is estimated that 60 to 70 percent of Mexico's and Brazil's existing housing stock is developed informally since the existing real estate developers are not able to develop customized housing suitable to the needs and realities of this growing market (Franck and Ferguson, 2004). The informal sources of capital have lesser legal formalities and have developed good relationships with consumers. According to the Housing Finance Group of the International Finance Corporation (IFC), housing finance impacts social stability by enabling households to acquire an asset which represents their largest single investment. Family residences make up 75 to 90 per cent of household wealth in emerging markets economies, which amounts to 3 to 6 times the family annual income.

Statistics has shown that house rent takes up 15 to 40 percent of monthly expenditure of households worldwide and real estate sector accounts for 15 to 35 per cent of total investment (Housing Finance Group, 2006). In India, lack of adequate houses has continuously fueled the growth in the real estate sector. The demand for affordable residential housing and

financing is the main contributor for such growth. The growing middle class population and its consumer demand are driving the real estate boom in India. For example, for every rupee invested in housing, Re 0.78 gets added to the national GDP and the construction sector employs 16 percent of India's workforce. The housing sector is the second biggest employer after agriculture, accounting for 58 percent of all employees in the construction sector. (Nenova, 2010).

Sarker et al (2011), in their paper, briefly illustrated the real estate market of Bangladesh with problems and prospects of financing. They argued about the residential housing sector in Bangladesh as having tri-level market characteristics. The first level was made of those households that have the highest disposable income (less than 3 percent of the real estate market), able to pay for high-quality residencies in fully serviced estates, with the ability to utilize loans or special term mortgages. The second level comprised of a relatively small branch of middle-income households (represents 12 to 15 per cent of the real estate market) who are the main users of housing finance and building corporations such as Bangladesh House Building Finance Corporation (BHBFC). This group was the main beneficiary of state subsidies and composed predominantly of civil servants and employees of large private entities and Parastatals. The third and largest level was the low-income households, which relies on the private sector for housing, often under illicit and inferior site conditions (ADB, 1995).

In Pakistan, the formal financial sector delivers housing support through two major sources namely the State-owned House Building Finance Corporation (HBFC) and commercial banks. The private sector housing finance companies also caters to an insignificant consumer base. The formal financial sector caters for only 1 to 2 percent of all housing transactions in the country, whereas the informal lending also caters up to 10% of such transactions. Some studies indicated that lack of finance from a formal source is a

primary supply problem. Hence, most of the housing finance is being settled through personal resources (Shehzad, 2009). The HBFC was historically providing housing finance to lower or average income group since 1952. In 1994, the Government decided that HBFC should operate as a market oriented financial institution. Commercial banks though providing mortgage loans on a much selected basis entered the mortgage business during 2002 in a structured way and registered their share in the housing finance system. The majority of commercial banks' loans has been or is being extended to middle and high economic class, particularly in major cities. (Shehzad, 2009).

A research by Merrill and Tomlinson (2006) in Tanzania indicated that when the civic sector stopped housing construction, households were left with little choice but to move into unplanned settlements and embark on their own house construction. Nearly 98% of this situation remains today and is exacerbated by a 6% annual growth in urban population. In Kampala, Uganda findings from the City Council of Kampala revealed that many people construct their own houses using their own resources in comparison to those that access finance to have houses constructed for them.

A separate feature released by the UN-HABITAT (2009), stressed that the predicament facing housing development in most emerging economies in Africa was a as a result of the inability to adequately finance urban shelter, amidst a dire need and ever-increasing demand for housing. According to the report, the average cost of a decent low-income family house in Ghana for instance is more than ten times the average annual salary of most middle income employees, a situation that has had considerable implications for the craving of home ownership, and has consequently undermined growth of the real estate industry.

Research studies by Tomlison and Mary (2007) showed that the urbanization that is taking place in Sub-Saharan Africa of which Kenya is part of provides a context for the

provision of housing. An overview of housing challenges in Sub-Saharan Africa discloses that all countries with developing economies face backlogs. African cities are experiencing some of the fastest rates of urbanization in the world. The most striking feature of these urbanizing cities is the extent of informal development, which is occurring. In many cities, the informal sector has outgrown the formal. Further analysis conducted by the UN-Habitat (2011) reveals that it is not just the urban poor that live in informal settlement, but also modest and middle-income households that are unable to access decent housing.

Financing options for real estate development in Kenya is still a great deal and poses a great deal of problem for the developers. This is largely due to slow economic growth and instability and strict measures imposed by most financial institutions. This is compounded by the fact that the interest rate structures have had unfavorable consequences on funding the development of real estate. Since the financing of real estate development is always a long term project, it has compelled the high interest rate that is being charged on the funds provided for such development purposes. The commercial real estate investment in Kenya is increasingly dominated by private investors and also institutional facilities such as Housing Finance. This makes it difficult for private real estate investors due to the fact that individual properties are not bought and sold regularly like shares and bonds in the securities market. Whereas the first world countries use stocks and bonds to finance real estate, Kenya predominantly uses mortgage financing. Demand for real estate and different types of real estate is increasing in Kenya with young and employed population driving this demand. (Kohnstamm, 1995).

Kindleberger's (1998) study as cited in Waiganjo (2003) shows that high interest rates lead to decline in asset prices, increased bankruptcy, and insolvency leading further to substantial drop in the stock of money in circulation, a breakdown in allocation mechanism of financial capital leading to financial crisis. Whereas banks price their levels of interest rates

by considering various factors including risk levels, the high rates are counterproductive in that they perpetuate economic slump in vicious circles. They lead to reduction of credit availability, particularly in the private sector, and thereby reducing their net worth. High rates also provoke bankruptcies in companies leading to unemployment and loss of incomes and disruption of court systems even where bankruptcy laws are in place (IPAR, 2000).

In Kenya there is rural to urban migration, an expansion of current cities and the rise of new cities. In Nairobi for example, the population increases by the day, most people are moving from other towns to seek better opportunities in the city, real estate developers therefore are coming up with decent housing for this growing population in the nearby towns such as the city, Kitengera, Kikuyu, Kiambu Thika and many other satellite towns of Nairobi City.

### ***1.1.1 Real Estate Development in Kenya***

Commercial real estate assets are continually bought, sold, developed and redeveloped. This makes real estate investment one of the Kenya's most active and important business activities. (MBAA 2002). Most people living in urban areas are working hard to own homes in these towns, either individually or as a group. However, the challenge of home ownership has been occasioned by shortage of land and financing sources with people being issued with fake title deeds, and government interference that has seen demolition of people's homes to pave way for infrastructural development like roads, railway and public amenities. A survey of real estate in Uasin Gishu County on factors influencing real estate investment, found that genuine documents of land ownership is a challenge in the county. Most of these documents are fake and one piece of land is likely to be owned by up to five people. High cost of construction was another challenge, thus prices are determined by the market forces of demand and supply. Though, for some other reason it may be determined by other forces. The

real estate market is distinguished by more or less predictable cycles of booms and busts. Scholars have divided the real estate sector into formal and informal with its market presenting a peculiar complexity with three autonomous but associated markets connected to the economy. ( Koech 2014).

These markets include the space, asset and development markets which solely portray market arenas where trading take place and prices are regulated through the interplay of demand and supply. The space market entails the interaction of the demand by residential property users with current stock of space which is made available by landlords. This predicts the patterns of rents and the amount of occupancy with vacancy clearing the market (Geltner, 2007; Keogh, 2006; Pugh, 1997; Ubale, Martin & Wee, 2013).

For the past ten years, Kenya has undergone a significant growth in terms of population and migration from rural to urban settlement. Urbanization has resulted to a modern single family set up which is likely to create huge demand for urban housing leading to further expansion of the urban areas. This state of affairs has created a huge demand-supply gap in all sectors of the housing market whether commercial, residential. (KIM journal Nov-Dec 2007) Because of this huge gap in provision of housing, developers are doing a great job in providing the much needed deficit.

Demand for low housing in Nairobi far outstrips supply. Demand is so large that approximately 50% of Nairobi's more than 3.3 million residents live in slums. Demand for middle income is also extremely high. For these two market segments, there exists huge demand gap. It is estimated that Nairobi alone requires approximately 150,000 new housing units per year against a maximum construction of about 10,000 units per year. To satisfy its urban housing needs, the Government of Kenya is encouraging innovative and proactive strategies to meet the challenge of reducing the national housing deficit of 200,000 housing units per year to manageable levels. The current deficit translates to an average of 550 units

per day for urban sector, with Nairobi alone experiencing a deficit of 410 units per day. Narrowing this deficit is not a mean target and any units of houses completed within the greater Nairobi will therefore contribute positively towards reduction of the shortfall. (46<sup>th</sup> ISOCARP congress 2010)

The new constitution provides for devolution of most services to the county governments. This means that as the services devolve, housing should also be expanded in the counties to cater for the county employees. The housing sector in Kenya has seen outstanding growth in the recent years with property prices spiraling and the number and scale of projects increasing. Research by Monsod (2011) stated that an active real estate market is one where families can convert their assumed demand for quality housing into valuable demand at market prices, and where the supply of housing is sensitive to that demand.

Construction activities require a lot of capital to execute. Financial resources have to be utilized by all property developers to meet various costs even before the project begins. As a developer, one has to plan effectively in securing funding for development. One of the most critical steps in planning for construction is identifying the most suitable source of funding for construction development. A major challenge in real estate industry is financing, both at development stage and in end-user finance. Kenya has only two financial institutions specializing in real estate funding. These are Savings and Loans (S & L) and Housing Finance Corporation of Kenya. The former merged with its mother company, the Kenya Commercial Bank on 1st January, 2010 which now only leaves the latter as the only stand-alone real estate finance company. Because of the limited financing options, the real estate industry in Kenya has been characterized by fairly rigid financing conditions and relatively high interest rates. In business there is need to put capital aside for the growing of the

business in response to the demand of which small scale business operators do not have. (Flaman & Gallagher 2012)

The other challenge has been with regard to building technologies and materials used in the Kenyan building industry. All buildings in Nairobi are constructed using conventional building materials (concrete blocks or building stones for walling and tiles or corrugated coated iron sheets for roofing). This technology is characterized by high cost of materials and long periods for construction. There is need to adopt newer technologies for building construction and the Government of Kenya has already authorized use of such technologies and is at the same time promoting their use, especially outside Nairobi. However, the situation in Nairobi is different as there was a need to change the Nairobi City Council By-laws before the use of these new technologies can be commercialized within the city. Real capital comprises of physical goods that assist in the production of other goods and services e.g. Machinery and tools for constructing buildings. (Carrier, Rosen, Benitez, & Chang 2009)

The concept of commercial property financing in an emerging economy is a crucial one especially given the fact that the economy is characterized by semi-developed capital markets, low liquidity, limited foreign resources and deficient available expertise. The viability of the project must therefore be evaluated in the context of various risks that hinge on legal, operational management, market and financial risks. Since the finance industry is crucial to the successful provision of commercial real estate and the growth of the economy as a whole, it is imperative that the real estate developers are able to access the required finance options available to them. (Noppen, 2012)

Demand for real estate is derived from the basic need of human beings. Shelter is required for all human activities. The demand for real estate can respond to changes in price but is rather inelastic compared to other commodities. This is because there are a few participants in real estate market so that it is possible to have periods where only buyers and

sellers respectively control the market, while the process is complex and expensive due to property taxes. The government has put in place measures to improve housing in the metropolitan region. In Nairobi, for example, slum upgrading projects have been initiated in Kibera. Other housing projects are proposed in Mavoko, Kajiado, Ruiru and Thika. By 2012, the Ministry of Nairobi Metropolitan Development aimed at investing about Ksh 3.4 trillion in housing development. (46<sup>th</sup> ISOCARP congress 2010)

## **1.2 Statement of the Problem**

There have been vast challenges in real estate development such as market failures, finances and appropriate site for the development. A great challenge in choosing financing option in real estate is that real estate investments are relatively risky due to their irreversible nature, intrinsic uncertainties, and the long payback period. Research by Freire, Ferguson, Lima, Cira and Kessides (2007) highlighted that legal land development for low-income households has dried up or is in the process of drying up in many developing economies cities. For example, in Buenos Aires, the formal submarket for sales of individual lots in monthly installments to low-income households was important from 1950 to 2000 but has disappeared since then. (World Bank, 2006).

The rising stress on urban land has speeded the rise in housing prices, and made housing markets mostly dysfunctional in many major municipal areas of developing countries. Real estate development is greatly dependent on the ability to finance the sector's expansion. This dysfunction can largely be attributed to the inability to access finances by the developers in addition to the challenges encountered in availing such finance (Noppen, 2012); UN-Habitat, 2011).

The sourcing of funds for investment in real estate development poses a great deal of problem for the developer. This is largely due to economic instability and stringent measures

imposed by most financial institutions. This is compounded by the fact that the interest rate structure has had an unfavorable impact on funding the development of real estate. Since the financing of real estate development is a long term project, it has necessitated the high interest rate that is being charged on the funds provided for such development purposes. Hines (1995) revealed that six major real estate financing methods are used across the world namely; Joint Venture, Equity and Debt Financing, Sale -lease Back Financing, Advance Payment of key money and Sale of Securities.

Generally real estate investors do so with a hope of making profit or gain in their investments through cash flows or capital appreciation. Traditional financing strategies as represented by financial institutions in Kenya do not offer favorable financial leverage to the borrowers .They have been heavily tilted towards benefiting the lender at the expense of the borrower (Ndungu, 2001). Most financial institutions in Kenya apply Adjustable Rate Mortgages, which leads to variations in the monthly installments payable for loans. Waiganjo (2003) also noted that increases in monthly installments with static or declining incomes coupled with rising costs of living leads to defaults and consequently to non-performing loans.

On one hand there is limited supply of funds for lending due to low deposits held by financing institutions and on the other hand there is a mismatch between the short term deposits and long term lending. Funds must be available first before they are lent to borrowers. Financing institutions in Kenya have for a long time overwhelmingly relied on public deposits which are mostly short term in nature. Mensah (1997) as cited in Waiganjo (2003) concluded that there is therefore a mismatch between borrowing short and lending long.

There is deficiency of long term finances necessary to finance real estate projects due to financial institutions preferring short term financing. The Central Bank of

Kenya has a feeling that there is a long term funding disparity which further complicates the funding of long term projects in the real estate sector (CBK, 2012).Funding of the real estate in Kenya is in competition with other sectors in the economy and so threatening the continuous growth in real estate. (Lustigand Nieuwerburgh 2005 and Kamau 2011)

According to Redman and Tanner (1989) leasing is the most prevalent method used to finance purchase or replacement of fixed assets. It is an off-balance sheet financing method which is flexible and provides tax shield benefits. In exploring the role of monetary policy variables on growth of real estate in China, Xu Xiaoging and Chen Tao (2011) found that expansionary monetary policy have a tendency to hasten price growth in real estate assets, while restrictive policy is likely to slow down the growth of real estate. The researcher studied factors like long term bank loan interest rate, money supply growth rate and mortgage credit policy indicators but not the role of financing options on growth of real estate.

Macharia (2013) used a descriptive research design in her study on the effects of global financial crunch on the financial performance of commercial banks offering real estate finance in Kenya. In achieving her study objectives, she employed a multivariate regression model. The conclusion of her results revealed a negative relationship between inflation and global financial crisis and financial performance of commercial banks offering real estate finance in Kenya.

Michuki (2010) in his study on Real Estate Investment Trusts needs by institutional investors at the Nairobi Stock Exchange established that investors would put their money in Real Estate Investment Trusts if they were to be introduced at the market.

Previous and recent studies done on real estate have not focused on the role of the available financing options in the growth of the sector in Kenya. Based on this well informed

research gap, this study, therefore, examines the role of financing options on growth of real estate in Kenya with a focus on developers in Nairobi Metropolitan area.

### **1.3 Objectives of the Study;**

#### ***General Objective***

To establish the role of financing options on the growth of real estate in Kenya

The study was guided by the following Specific objectives:

1. To assess influence of mortgage financing option on the growth of real estate in Nairobi Metropolis.
2. To evaluate the effect of savings financing option on the growth of real estate in Nairobi Metropolis
3. To evaluate the effect of venture capital financing option on the growth of real estate in Nairobi Metropolis.
4. To examine the influence of equity financing option on the growth of real estate in Nairobi Metropolis.

### **1.4 Research Questions**

The study sought to answer the following research questions

- 1) To what extent does mortgage financing option influence growth of real estate in Nairobi Metropolis?
- 2) What is the effect of savings financing option on the growth of real estate in Nairobi Metropolis?
- 3) What is the impact of venture capital financing option on the growth of real estate in Nairobi Metropolis?

- 4) How does equity financing option influence the growth of real estate in Nairobi Metropolis?

### **1.5 Justification of the Study**

This study will aid in providing relevant information and knowledge that will assist financial institutions, real estate developers and real estate investors identify the impact finance options in the growth of real estate industry in Kenya. It will also provide an understanding of the implications of these options available to the developers, importance, efficiency and the convenience of acquiring different forms of finance options offered by financial institutions in Kenya. Real estate sector being one of the drivers of the economy and among the major contributors of the GDP, the findings will provide information to the government on where to intervene in order to provide assistance and contribute to the growth of real estate development in Kenya. The study will also provide an insight to potential investors who would want to venture in real estate particularly on raising of initial capital or working capital.

### **1.6 Limitations of the Study**

Real estate developers are wide spread over the whole country; hence the accuracy of the representativeness of the data collected may have been limited. Respondents may not have given the required information due to their positions in the firm and lack of authority to speak on behalf of the firm or fear of disclosing their secrets to their competitors. However the researcher as much as to his ability tried to get authentic data to make this study as realistic as possible.

## **1.7 Scope of the Study**

The Study focused on real estate developers operating within Nairobi Metropolitan area being the target population because the area has experienced considerable real estate development compared to other metropolitan areas in Kenya. The study also examined four financing options that included mortgage financing, savings, venture capital and equity financing. The study was carried out between May and September 2016.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Introduction

This chapter discusses theories relevant to the study. Literature related to the study is also reviewed with the aim of identifying literature gaps.

#### 2.2 Theoretical Review

This section contains review of theories relevant to the study. This research was guided by three theories. The three theories were reviewed in this section. These theories are real estate simulation theory, structural form theory and resource dependency theory.

##### *2.2.1 Real Estate Simulation Theory*

The theory was developed by Wieand (1996), it observes the degree to which financial markets facilitate the provision of housing finance across a wide range of nations. Housing is a major acquisition requiring long-term financing, and the issues that are related with well-functioning housing finance schemes are those that support the provision of long-term capital. The theory also indicates that States with stronger laws for finance providers and investors, deeper credit information systems, and a more firm macroeconomic atmosphere have strong housing finance schemes.

This theory was used by Clements (2008), in an effort to explain the disparity in housing finance across developing countries with a focus on Australia. Another study that applied the theory was by Berry and Hall (2005) who endeavored to determine the elements of public policy that are particularly significant to the provision of low-rent cost public housing across the first world countries which tend to have low macroeconomic uncertainty and relatively far-reaching credit information systems, disparity in the strength of legal rights helps explain the magnitude of housing funds.

As with any rational model, the development appraisal is only a quantification of processes. It takes input variables and applies them to produce an answer. In other words, it is the input values that are the driving force of the decision-making. The inputs should be the basis for the time and effort spent thinking about decisions (Keeney, 2002). Development appraisals are, by their nature, extremely sensitive to the precision of the inputs. A small change in any of the input variables (rent, cost, yield, time or interest rate) can disproportionately affect the resultant residual figure (value or profit), rendering the technique open to, at best misinterpretation and, at worst, deliberate manipulation.

The presence of information gaps obstructs the development of direct models illustrating the correlations and relationships on the real estate market. The real estate market is an imperfect system where processes and correlations can be predicted with a certain degree of probability and human factors contribute to the random nature of relationships in that system. The real estate market is imperfect due to difficult access to information and insufficient data, and those problems are frequently encountered by property appraisers in daily practice.

The random nature of the real estate market largely obstructs the development of comprehensive analytical models illustrating market functions. Simulation modeling is a tool that enables decision-makers to analyze situations that are burdened with uncertainty. It is an optimal tool for creating market processes in an experimental setting, it accounts for irregularities caused by random factors, and it supports the generation of additional information about the real estate market.

This theory was the financially relevant in ascertaining constraints that affect real estate accomplishment by focusing on mortgage characteristics such as the cost of taking out a mortgage as a financial constraint to both the developer and interested parties. The theory was also used to shed light on the effects of the direct and indirect subsidies, including

interest deductibility, factors that have a big impact on the real costs and subsequent housing project success.

### ***2.2.2 Structural-Form Theory***

This theory was developed by Pottow in the year 2007. It talks of the development of mortgage finance in countries south of Sahara to determine what steps need to be taken to take care of the middle-class earners, to enable them own decent but affordable houses. The theory has shown that, there have been numerous challenges in the provision of housing capital across most if not all countries.

This theory was applied by Yates (2006) who explored the role of private residential income property investors in the provision of low-rent residential houses in the countries south of Sahara. The study revealed that project success is hampered by a record of macroeconomic instability, a hostile institutional, legal and regulatory atmosphere which has resulted in ineffective, securitization of housing assets. The theory was also applied Denzin, & Lincoln (2014), who established that; a poor record of public sector housing banks, building societies and other specialist housing are ruined due to poor management and a lack of funds and inadequate availability of long-term funding sources to carry out intermediation that would spread the cost of a project over a relatively long period of time hence guaranteeing project success.

This theory was applied in the study in an effort to introduce legislation that would inspire development agents and the financial sector actors by putting forth recommendations on what is required to ensure financial market growth and capital market investment necessary to entice the private sector into the delivery of housing finance and subsequently improving the housing project success rate.

### ***2.2.3 Resource Dependency Theory***

This theory was developed by Brueckner, (1997). The theory advises top managers to select the least-constraining device to manage relations with their exchange partners that will allow them to minimize uncertainty and dependence and maximize their independence. This theory is relevant in project management as it emphasizes on the significance of having many opportunities in an effort of ensuring project success. It cautions that if dependence comes from relying on a one-source supplier, then an obvious answer is to find and sustain alternatives. This theory is pertinent to tackle financial constraints and encouraging on the marketing approach and avenues to be used in order to guarantee that a housing project is successful

Resource dependency theory emphasizes on the organization's ability to institute methods to access resources (Van Witteloostuijn & Boone, 2006). Resource dependency theory assumes that the firm makes the right choices to achieve objectives. According to this theory, real estate firms are not able to accumulate all financial resources internally and therefore depend on finances from other organizations in their environment to access the limited resources (Sirmon, Hitt & Ireland, 2007). For the firms to survive or prosper, financial resources must be obtained from external sources (Barringer & Harrison, 2000).

Small and medium real estate firms in Kenya face a shortage of capital (Nabintu, 2013). Mortgage financing is therefore is one method for these firms to access external funds in line with the resource dependency theory (Boot, 2000). Following such an argument, real estate firms or developers that face capital constraints can use relationship lending as a strategy for accessing or acquiring resources.

This theory was applied by Wit (2008) and concluded that for a project to be deemed successful, parameters of measurement include joint research and development contracts, licensing and franchising agreements, shared manufacturing and marketing arrangements,

minority investments, and equity swaps. Another study that applied the theory was Hillman and colleagues (2007) who found that the presence of women on corporate boards is consistent with the predictions put forth by resource dependence theory. Specifically, companies operating in industries that are heavily dependent on male employees such as the construction industry are likely to harbor successful projects.

The theory was applied in this study due to the financial, market and government policies dependency nature of the housing projects and that developers may not wholly depend on internal funding like savings or revenue reserves but should also seek funding from other organizations in the environment.

### **2.3 Empirical Review**

Empirical evidence suggests that investors may over-invest in real estate (Taylor, 1998). Such portfolio inefficiency is not necessarily attributable to irrational behavior on the part of homeowners. As outlined in Dilmaghani (2008). The quantity of housing owned must be at least as large as the amount of housing consumed. The homeowner must balance the consumption benefits of the asset with the indivisibility of the housing investment. A higher marginal propensity to consume from housing as compared to financial assets provides further rationale for households to accumulate a higher concentration of assets in housing

Meyer and Wieand (1996) show that in a competitive economy with well-diversified landlords, the returns from non-diversifiable housing investments were priced according to a constant marginal price of risk. This result implies that the offer price for a house with riskier returns were lower than the price of a similar house with less risky returns.

#### **2. 3.0 Role of Financing Options on Growth of Real Estate in Kenya**

This is an examination of the various financing options and their contribution to the development of the real estate in Kenya.

### ***2.3.1 Mortgage Financing Option and Growth of Real Estate***

Mortgage financing is where an individual, firm or a real estate developer acquires a loan to purchase or construct a house. This amount can be awarded to the developer upon the payment of a deposit or full advance payment. Mortgage financing is normally repaid on monthly installment for an agreed period of time. However, it requires one to put forward some equity, while the funding entity finances the rest of the intended project. This means that one will need from private resources some money for the requisite deposit. The term mortgage refers to a loan secured by actual assets or property through the use of a mortgage note which acts as a proof for the existence of the loan of the real estate through the granting of a mortgage which acts as a security for the loan. The developer in this case is required to pay the mortgage loan with an interest in addition to the principal amount. The two common types of mortgage loans are fixed rate mortgage loan and adjustable rate mortgage loan (ARM). A flat rate of interest is applied for the fixed rate mortgage loan while for the ARM loan, amendments are made to the interest rate at given intervals. (Harris & Friedman, 2006).

Since 1993, there has been a high demand for housing in the urban centers. To ensure that this gap was filled, the government of Kenya reduced the mortgage interest rates. From this relieve, people with low income could afford to obtain mortgage to build houses and others could afford to build classy homes since mortgage loans was easily available (Sirota 2003). This continued to 2007 when there was a financial crunch that affected the mortgage industry when they handled nearly half of all loan originations each year. This resulted to the merging of the mortgage financing industry and the increasingly ultimate role of commercial banks as housing mortgage originators currently. As a result, commercial banks financed 51 percent of mortgage loans by the end of 2009. In addition, mortgage brokers exist in the market acting as agents for the large mortgage lenders (Baker & Wiedemer, 2012).

According to Marcum and Goddard (2012), the real estate sector experienced a great development in the years 2002 to 2007 due to low cost of mortgage finance internationally, which stimulated home ownership. The central bank promoted lending through low rates of interest and commercial banks were excited about giving loans. Unfortunately, this went down during the 2007 and 2008 worldwide financial crisis which affected the global economy. There was a crash in the real estate sector as investors and developers were left holding property with no one to buy as the mortgage interest rates had gone high and people could not afford the loans as before.

### ***2.3.2 Savings Financing Option and Growth of Real Estate***

Saving is the portion of income not spent on the current expenditure, it is a deliberate plan by a developer or a firm to put aside some amount to use in future for real estate development. According to classical economists such as Lewis (1955), increased saving is a necessary and sufficient condition for investment since it avails more funds for investment, which in turn accelerates growth. Regarding investment, the Harrod-Domar growth model identifies this as the key to promoting growth of any economy. Further, the neoclassical Solow (1956) model argues that an increase in the saving rate boosts steady-state output by more than its direct impact on investment because the induced rise in income raises saving, leading to a further rise in investment (Jangili, 2011); Verma,2007); Hundie, 2014).

The higher the investment, through the spiral effect, drives higher aggregate demand, which in turn accelerates economic growth. This view is somehow supported by endogenous growth models, which envisages that an increase in savings rate increases real estate through its positive impact on investment and capital accumulation (Barro and Sala-i-Martin, 1995). In addition, Ramsey's Optimal Growth model hypothesizes that increased saving leads to an upsurge in national income and consequently accelerates investment process. However,

increases in investment can only induce growth in the short-run while in the long-run there may be little or no impact on real estate (Romer, 2006).

The Kenyan financial laws require banks to have less cash in their reserves but charge high interest rates in mortgage, creating wealth and improving savings. Mortgage financing is swayed by the market and financial factors which include growth in investment and increase in the returns of the firm, expansion of risk management procedures, attraction of more consumers, advancement in innovations, market permeation, divergence in investment, competitions in the market which lowers interest rates on Treasury bills. (Wahome (2010)

### ***2.3.3 Venture Capital Financing Option and Growth of Real Estate***

Venture capital is an investment in development of real estate that is perceived to have brilliant growth prospects. Venture capitalists raise and manage funds which are a pool of money raised from both public and private investors. They identify real estate developers with promising new ideas and help with funding and professional management. Venture Capital is one source of non-bank financing, which is quite predominant in developed financial markets for small or startup firms (Keuschnigg 1998).

Venture Capitalists are organized providers of financing for real estate developers who have a good plan and working strategies in real estate investment. If the Venture Capitalists are convinced that the plan provided by the developer will work, they will take an ownership stake in the investment and provide the required funds while sharing the risk. Investments whose growth has been constrained by shortage of capital or increased cost of borrowing embrace this source of finance.

Venture capital assists real estate developers to access equity capital to finance development or start investment while maintaining control. The expertise and extensive relationships of the venture capitalist through its system add value to the company and increase credibility with consumers, and finally, the company gain access to the venture

capitalist knowledge in accounting, budgeting, computer systems, and back-office operations (Amissah, 2009). In venture capital financing arrangement the venture capital firm will provide financing to enable the developer to undertake a venture and in return the venture capitalist firm gets an ownership stake in the business (Boateng, 2010).

Some of the venture capital providers in Kenya include the Kenya Equity and Term Financing which support existing companies that wish to enlarge rather than start-up operations. Aureos East Africa which provides private equity and loan facilities has replaced the activities of Acacia (The Finance Mail Vol 9 no.6, 2003). Acacia Fund Limited provided risk capital to new or expanding enterprises, including the reorganization, rationalization and reconstruction. Kenya Management Company Limited, which provides equity, related investments in private sector to companies with high growth potential to expand well-run businesses.

Two scholars Astrid & Bruno (2004) carried out a study on venture capital funded firms for the period 1970-2000, and found that the turnover folded, paid almost twice the federal taxes, generated almost double the exports and invested almost thrice as much in research and development as the average non-venture capital backed firms.

The European Venture Capital Association (2001) also established that venture capital backed firms report a high growth in sales as compared to other firms. The outcome exposed that venture capital led to growth on sales of the firms that use these funds. Gans and Stern (2003) found that venture capital financing strongly impinge on firm's innovation, patenting processes and the influx of technological opportunities.

Hellmann and Puri (2002) in their study revealed that it can be inferred that, once the investor introduces his money in a business, he must dedicate much of his time in assisting the business to flourish, structuring internal organization and appropriate human resources management. This means that venture capital financing do add value in real estate

development if the developer chooses to go this way. The duo point out the speed of development and bringing ambitious product to the market by venture backed companies.

In his study, Manigart et al. (2002) reveals that venture capital is thought to be an important substitute for companies that have problems accessing more traditional financing sources and it (venture capital) is a strong financial injection for early-stage companies that do not have evidence for persistent profitability yet. This clearly shows that venture capital is a dependable option of finance in real estate investment for developers. Mason and Harrison (2004) on the other hand contended that venture capital financing is associated with high levels of risk, which refers to the uncertainty of the positive returns that may occur even after a number of years or never.

#### ***2.3.4 Equity Financing Option and Growth of Real Estate***

Equity financing has been widely used in emerging market. Several financial institutions in Kenya have been providing equity financing to real estate developers in Kenya, this is also the practice in developed economies. The economic development, enterprises upgrade and market reform increases the demand for venture capital, which creates a good chance for the development of equity financing. The main demand in equity financing focuses on infrastructure, industrial and commercial areas (Liu 1& Song, 2007).

Rousseau and Wachtel (2011) also found out a disappearing effect in the positive relationship between financial development through equity financing and real estate development. They show that this relationship is positive and significant for 1960–89 but is not statistically different from zero for 1990–2004. They find a proof that this vanishing effect is associated with the incidence of financial crises. Their study showed a positive impact of equity financing on the growth of real estate development.

Arcand, Berkes, and Panizza (2012), did a study on the vanishing effect and found a basic relationship between equity finance and real estate development but by the fact that standard models do not allow for a non-monotonic relationship between financial development and real estate. Allowing for this relationship, they find a positive marginal effect of financial depth on real estate in economies in which the level of credit to the private sector falls below a threshold of about 80–100 percent of GDP. Above this threshold, the relationship becomes negative. Equity financing is well-developed in developed countries. It is estimated that there are more than 100 billion dollars invested in equity fund (Liu & Song, 2007). The main investors were insurance companies in the early stage, and gradually mainly with fund companies and commercial banks. Fund companies account for 70% and commercial banks 20% (Sun, 2005). Many banks like Goldman, Deutsche Bank and Bank of America Merrill Lynch have set up equity investment fund. As equity financing products have good liquidity and low fluctuation, it has great attraction to the institution investors like insurance companies, commercial banks, investment banks, hedge fund and pension fund. Equity financing is a mature asset class.

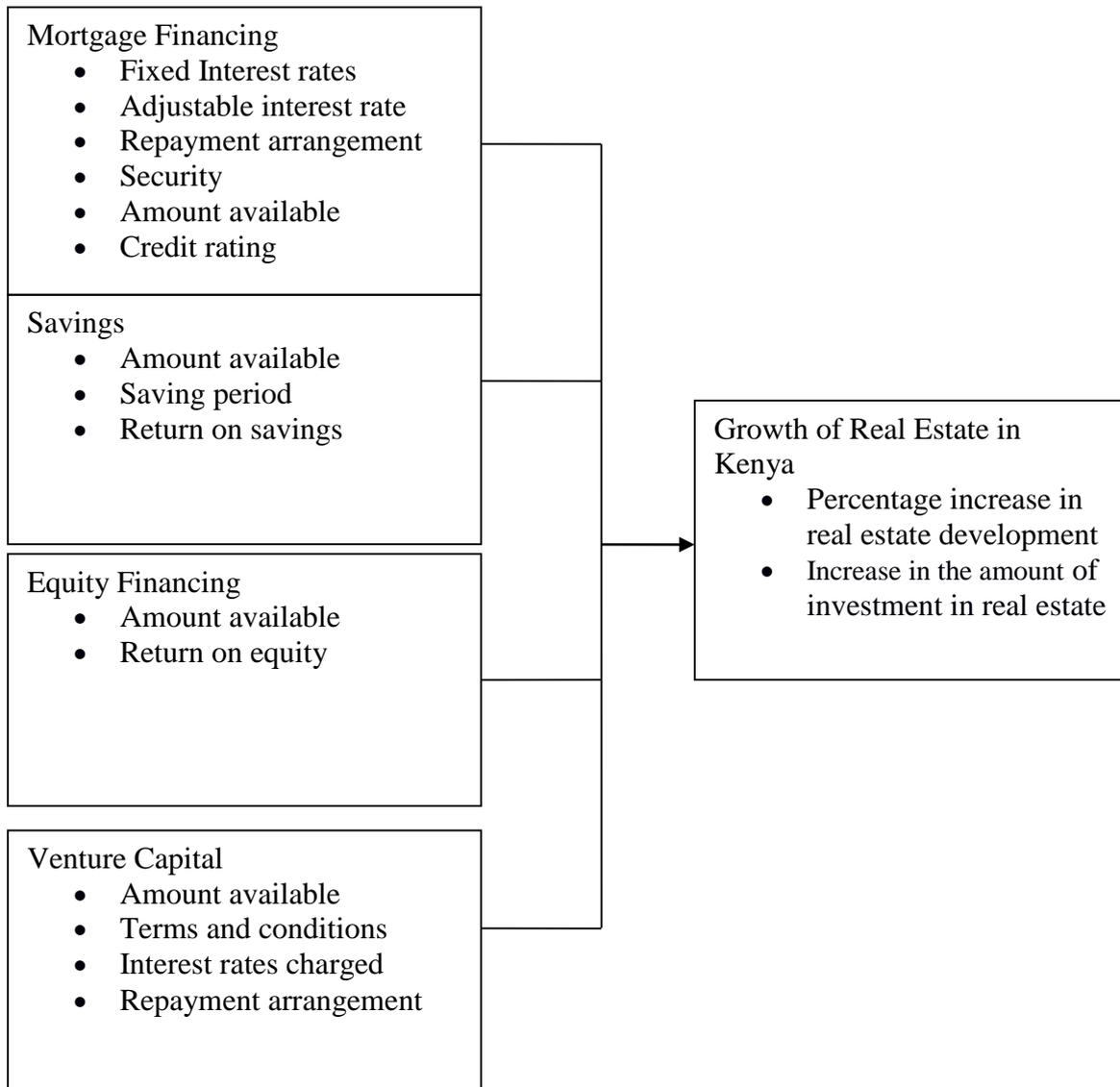
## **2.4 Conceptual Framework**

A conceptual framework is defined by Kothari (2004) as structure that presents relationship between the main constructs in a given study. Mugenda (2003) further adds that a conceptual framework gives an explanation of how the researcher perceives the relationship between variables deemed to be important in a study. Such relationship in the present study has been discussed in figure 2.1.

**FIGURE 2.1:  
CONCEPTUAL FRAME WORK**

**Independent Variable**

**Dependent variable**



*Source: Author (2016)*

**2.5 Summary**

From the literature available, it clearly shows that there is need for more to be done in order to enhance the growth of real estate development in Kenya; financing option is a critical factor in driving this challenge. However, the concern by local developers, investors as well as households is the availability of financing for homes. The research by Ibem (2010)

addressed only the needs of the middle and upper income rather than low income earners. Financial institutions such as microfinances, SACCOS, banks are primary institutions that provide financing to real estate developers. The mortgage market is highlighted to be affected by risk management and the cost of finance itself (Allen & Santomero, 1999). Furthermore, efficient markets are found to be the best trading place for mortgage loans where all information is available. Challenge exists in portfolio assets which can only be afforded by the big companies hence inhibiting growth of the real estate sector (Clauret & Sirmans, 2010).

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter set out the approach for conducting the research. The chapter identified the research design, the procedures and techniques to be used in the collection, processing, and analysis of data. The following subsections are, therefore included; research design, target population, sample, data collection and data analysis.

#### **3.2 Research Design**

Ogula (2005) describes a research design as a plan, structure and strategy of investigation to obtain answers to research questions and control variance. Additionally, a study design is the plan of action the researcher adopts for answering the research questions and acts as a blueprint of the researcher (Kerlinger, 1973). This study adopted descriptive survey design. This design as defined by Orodho (2003) is a method of collecting information by interviewing or administering a questionnaire to a sample of individuals. The main feature of descriptive survey design is to describe specific characteristics of a large group of persons, objects or institutions, through questionnaires (Kothari 2004). Besides, the design was also used because of its descriptive nature in order to assist the researcher in collecting data from members of the sample population for the purpose of estimating the population parameters.

#### **3.3 Target Population**

Population can be defined as a complete set of individuals, cases/objects with some common observable features of a particular nature distinct from other populations. According to Mugenda and Mugenda (1999), a population is a well-defined as a set of people, services,

elements and events, group of things or households that are being explored. The population for this study was all the 100 registered real estate developers in Kenya by April 2016.

**TABLE 3.1:  
TARGET POPULATION**

Category	Population
Premium	12
Corporate	57
Associate	31
<b>Total</b>	<b>100</b>

*Source: Kenya Property Developers Authority 2016*

### 3.4 Sampling and Sampling procedure

Sampling is defined by Chandran (2004), as a method used in drawing samples from a population usually in such a way that the sample facilitates determination of some hypothesis concerning the population. This study sampled 81% of the population from all the three clusters. According to Statistics an introductory analysis second edition, Yamane Taro(1967) , the sample size was computed thus:

$$n = \frac{N}{1+N(e)^2} \text{ Where } n \text{ is the sample}$$

N is the population

e is the desired level of precision

Assumption: All the attributes being measured are normally distributed or nearly so and the confidence level is 95% and the estimated variation of response is 50%.The precision level is taken at 5%. Hence;

$$n = \frac{100}{1+100(0.05)^2} = 80 \text{ units.}$$

This is equal to 80% of the population. This is distributed to the clusters as follows;

**TABLE 3.2**  
**SAMPLE SIZE**

Category	Population		Sample	Approx.
Premium	12	12/100*80	9.6	10
Corporate	57	57/100*80	45.6	46
Associate	31	31/100*80	24.8	25
<b>Total</b>	<b>100</b>		<b>80</b>	<b>81</b>

*Source: Author (2016)*

**Source:** Derived for the Study

The approximate sample size was 81 and the researcher felt that this was a representative sample of the population.

### **3.5 Research Instrument and Ethical Considerations**

The researcher used a questionnaire with scores of agreement (strongly agree +agree) being used to represent a variable which had a mean score of less than 2.5 on the continuous Likert scale. The scores of neutral were taken to represent a variable with a mean score of 2.5 to 3.4 on the continuous Likert scale and the score of disagreement (strongly disagree + disagree) were taken to represent a variable with a mean score of 3.5 to 5 on the continuous likert scale Mugenda (2008) emphasizes that contribution in research is deliberate and subjects are at liberty to pull out from the study at any time without any penalties. The researcher communicated this to the respondents before the start of the study. The researcher ensured that all respondents fully understood all the details concerning the study

### **3.6 Reliability and Validity of the instrument**

The reliability test of the research questionnaire was done so as to decide if the research tool yields firm and reliable results. Reliability is uniformity of measurement (Bollen, 1989). Drost, (2011) points out that approaches to estimate test reliability in research are test-retest reliability, split-halves, and internal consistency among others. This research study used the internal consistency approach since it is more meaningful than the others. Consistency was tested using the Cronbach's alpha statistic. The Cronbach alpha coefficient was used to define reliability of the instrument in this research since it is a good indicator of unidimensionality and internal consistency of sample items (Tavakol & Dennick, 2011) Kaiser-Meyer-Olkin (KMO) test of adequacy and Bartlett's Test of Sphericity were carried out before factor analysis to test for intercorrelations among the variables and the suitability of data.

### **3.7 Data Collection Procedure**

The researcher used primary data to accomplish the research objectives. A questionnaire consisting of a number of questions typed and printed in a definite order on a form or set of forms as the main tool. The questionnaires were given to the subjects who read and understood the questions and wrote down the reply in the space provided for that purpose. This included closed and open ended questions which are a good method of collecting views from the subjects (Cooper & Schindler, 2003). The questionnaire was designed in line with the objectives of this particular study. Primary data was collected through questionnaires administered to registered real estate developers in Nairobi Metropolitan area. According to Chandran (2004), questionnaires provide a high degree of data standardization and adoption of generalized information amongst any population. They are useful in an exploratory study where there is need to quickly and easily get information from people in a non-intimidating method.

### 3.8 Data Analysis Techniques and Presentation

Qualitative techniques were used to undertake data analysis. Qualitative data analysis involves clarification of information obtained from the empirical literature open ended questions from the questionnaire. Quantitative analysis was also used to establish the scores of responses provided. This entailed generation of descriptive statistics after data collection, estimation of population parameters from the statistics, and making of inferences based on the statistical findings. The study used a multiple linear regression model with the aid of SPSS software.

$$Y = \alpha_0 + \alpha_1x_1 + \alpha_2x_2 + \alpha_3x_3 + \alpha_4x_4 + \varepsilon$$

Y is the growth in real estate and is the dependent variable

$\alpha_0$ , the intercept or the constant

The error term is represented by  $\varepsilon$

$\alpha_1, \alpha_2, \alpha_3, \alpha_4$  are the partial regression coefficients to determine changes in the independent variables

$X_1, X_2, X_3, X_4$ , are the independent variables or explanatory variables

$X_1$  represents mortgage finance

$X_2$  represents savings

$X_3$  represents equity finance

$X_4$  represents venture capital

Exploratory factor analysis (EFA) was done using the Principle component analysis in order to reduce the factors used to measure the variables. Bryne, (2010) argues that, where all the steps are followed, highly correlated variables would be clustered together into a distinctive factor. EFA gives information about a number of factors that best characterizes the data. Confirmatory factor analysis (CFA) as a statistical procedure was

used to confirm the factor arrangement of the set of experiential variables. CFA assists the researcher to test the hypothesis that an association between experiential variables and their underlying latent constructs exists.

### **3.8.1 Summary**

The chapter provides research methodology framework that was used in this research. It covered the study design, population, sample size, sampling methods, pre-test of data collection instruments, data collection, data analysis, ethical considerations and presentation techniques in this research.

## CHAPTER FOUR

### ANALYSIS, RESULTS AND DISCUSSIONS

#### 4.0 Introduction

This chapter presents findings, data analysis and interpretation. The results were presented in tables and diagrams.

#### 4.1 Rate of Response

A total of 81 questionnaires were targeted. Those successfully completed were 70 representing a total of 86% as illustrated in table 4.1. According to Mugenda and Mugenda (2003), response rate above 80% is acceptable for a descriptive study.

**TABLE 4.1**  
**RESPONSE RATE**

	<b>Frequency</b>	<b>percentage</b>
<b>Successful</b>	70	86.4
<b>Unsuccessful</b>	11	13.6
<b>Total</b>	81	100%

*Source: Author (2016)*

#### 4.3.1 Gender of the Respondents

The majority of the respondents were male at 63% and female at 37%. This implies that the real estate sector is male dominated.

**TABLE 4.2**  
**GENDER REPRESENTATION**

<b>Gender</b>	<b>Frequency</b>	<b>Percent</b>
<b>Male</b>	44	62.9
<b>Female</b>	26	37.1
<b>Total</b>	70	100.0

### **4.3.2 Duration the Respondents Have Been Involved in Real Estate Sector**

Over 52% of the respondents indicated they have been in the real estate business for between 1 to 5 years. 34% have been in the industry for 5-10 years while those who have been in the real estate industry for more than 10 years are 12%.

**TABLE 4.3**  
**DURATION**

<b>Duration in real estate</b>	<b>Frequency</b>	<b>Percent</b>
<b>1-5years</b>	37	52.9
<b>5-10years</b>	24	34.3
<b>above10 years</b>	9	12.9
<b>Total</b>	70	100.0

*Source: Author (2016)*

### **4.3.3 Real Estate Sector**

81% of the respondents deal in both commercial and residential real estate sectors. Those who are in just residential sector are 10% and commercial space was 8.6%. Most of the developers prefer mixed development which reported 81.4%. This can be associated with the fact that Nairobi metropolitan area is more of an urban area as the bigger region is Nairobi city and surrounded by satellite towns.

**TABLE 4.4**  
**TYPE OF INVESTMENT**

<b>Sector</b>	<b>Frequency</b>	<b>Percent</b>
<b>Residential Space</b>	7	10.0
<b>Commercial Space</b>	6	8.6
<b>Both</b>	57	81.4
<b>Total</b>	70	100.0

*Source: Author (2016)*

#### 4.3.4 Tailored Loans Specifically for Developers.

24% of the respondents cited fixed rate mortgage a tailored loan for developers while 17% cited a building loan. Those who cited investment properties were 13% followed by labor based loans and marketing services loans at 9% and 7% respectfully.

**TABLE 4.5(A)**  
**TAILORED LOANS FOR REAL ESTATE DEVELOPERS**

<b>Tailored Loans</b>	<b>Frequency</b>	<b>Percent</b>
<b>Fixed Rate Mortgage</b>	24	34.3
<b>Labor Based loans</b>	9	12.9
<b>Building Loan</b>	17	24.3
<b>Investment Properties</b>	13	18.6
<b>Marketing Services</b>	7	10.0
<b>Total</b>	70	100.0

*Source: Author (2016)*

#### 4.3.5 On Whether the Tailored Loans Aid Growth of Real Estate

Majority of the respondents at 96% respondent in the affirmative as to whether tailored loans and real estate growth with only 3% responded negatively and 1% did not know.

**TABLE 4.5(B)**  
**TAILORED LOANS AIDING GROWTH IN REAL ESTATE**

<b>Response</b>	<b>Frequency</b>	<b>Percent</b>
<b>Yes</b>	67	95.7
<b>No</b>	2	2.9
<b>I don't know</b>	1	1.4
<b>Total</b>	70	100.0

*Source: Author (2016)*

#### 4.4 Diagnostic Tests

These tests show whether the data fulfills the requirement of ordinary least squares (OLS) and thus sufficiency and adequacy of the data for regression analysis. These tests are also used to test multicollineality among the variables as well as heteroscedasticity conditions.

#### 4.4.1 Tests for Normality and Linearity

These tests were used to test whether the variables were symmetrically distributed and without outliers and that there was linear relationship among the variables. Reliability is uniformity of measurement (Bollen, 1989). A normality test is carried out to determine if the data set is well-modeled by a normal distribution (Paul & Zhang, 2010). The data was summarized and tested for normality using skewness and kurtosis and was found without any inconsistencies. Kurtosis is a display of flattening of a distribution and Skewness is as an indication of asymmetry and deviation from a normal distribution. Data is said to satisfy normality parameters if skewness and kurtosis is between +2 and -2. (Kothari, 2004). This data satisfied these parameters as indicated in table 4.6 below.

**TABLE 4.6.0  
TEST OF NORMALITY**

. sktest realgrowth mortgages savings venturecapital equityfinancing

Skewness/Kurtosis tests for Normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	——— joint ———	
				adj chi2(2)	Prob>chi2
realgrowth	70	0.1873	0.1043	4.45	0.1078
mortgages	70	0.3684	0.5812	1.15	0.5633
savings	70	0.8118	0.4037	0.77	0.6795
venturecap~1	70	0.4281	0.3770	1.46	0.4829
equityfina~g	70	0.7482	0.6531	0.31	0.8585

**Source: Author (2016)**

#### 4.4.2 Test of Heteroscedasticity

According to Vinod (2008) heteroscedasticity is a condition where the variability of a variable is imbalanced across the array of values of a second variable that predicts it. A state of homoscedasticity is when the value of “Prob > Chi-squared” is higher than 0.05 (Park, 2008). The data set did not show any condition of heteroscedasticity when tested using

Breusch-Pagan/Cook-Waisberg test. The results were Chi2 (1)=0.01 and prob>Chi(2)=0.09075

**TABLE 4.6.1  
TEST FOR HETEROSCEDASTICITY**

. hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of realgrowth

chi2(1) = 0.01

Prob > chi2 = 0.9075

#### **4.4.3 Test for Multicollinearity**

According to Martz, (2013) multicollinearity is a condition where two or more variables in a multiple regression model are highly correlated. A factor vif test was carried out and found a mean VIF of 1.05. VIF shows an index of how much the variance of an estimated regression coefficient is increased because of collinearity. A VIF statistic higher than 5 is a clear indication of multicollinearity and should be eliminated from the regression model and hence this data set did not have that condition.

**Table 4.6.2  
Test for Multicollinearity**

. vif

Variable	VIF	1/VIF
mortgages	1.07	0.933110
equityfina~g	1.07	0.935874
venturecap~l	1.03	0.972135
savings	1.01	0.987308
Mean VIF	1.05	

#### 4.4.4. Correlation Analysis

Here, the relationship between the independent variables and the dependent variable was examined using correlation analysis. Correlation is used to find out the relationship between a group of subjects (Pallant,2010) and in turn assists in testing for multicollinearity.. Pearson correlation coefficient (r) and p-value analysis were used. Multicollinearity exists if the absolute value of Pearson correlation is higher than 0.8. Correlation was perceived to be significant when (p<0.05) two tailed. Correlation values close to zero were taken to mean a weak relationship, while that close to one meant strong relationship. Table 4.7 shows the results of the correlation analysis. The results revealed that savings and real estate growth are negatively related (r= -0.065, p=0.593).Also, venture capital and real estate growth are negatively related (r= -0.032, p=0.593). Further, equity financing as a financing option is negatively related to real estate performance (r= -0.236, p=0.049) which is significant while mortgages are positively related with real estate growth (r=0.062, p=0.611). These results however show very low correlation as well as significance though there was absence of multicollinearity.

**TABLE 4.7(A)**  
**PEARSON CORRELATION**

Variable	Growth of real estate	Mortgage financing	Saving Financing	Venture Financing	Equity Capital
Growth of real Estate	1.000				
Mortgages	0.062	1.000			
Sig.(2-tailed)	0.611				
Savings	-0.065	0.202	1.000		
Sig.(2-tailed)	0.593	0.094			
Venture Capital	-0,032	-0.088	-0.025		
Sig.(2-tailed)	0.791	0.469			
Equity financing	-0.236	0.217	0.207	0.061	1.000
Sig.(2-tailed)	0.049	0.072	0.085	0.618	

*Source: Author (2016)*

#### **4.5.0 Descriptive Statistics**

This part of chapter four represents the findings on the study's independent variables; mortgage financing, savings, venture capital and equity financing. The scores of agreement (strongly agree +agree) have been used to represent a variable which had a mean score of less than 2.5 on the continuous Likert scale. Also, the scores of neutral have been taken to represent a variable with a mean score of 2.5 to 3.4 on the continuous Likert scale and the score of disagreement (strongly disagree + disagree) have been taken to represent a variable with a mean score of 3.5 to 5 on the continuous likert scale. They have been presented variable by variable as shown below.

##### ***4.5.1 Mortgage Financing and Growth of Real Estate***

In a five point scale, this variable was used to measure the extent to which mortgage financing affects real estate growth. The range was strongly agreed as 1 to strongly disagree at 5. The statements on mortgage financing and growth of real estate had responses as shown in table 4.7(b). The respondents were in agreement that the amount available to developers is enough to support growth of real estate in Kenya with a mean score of 2.27 and standard deviation of 1.25 which means a high variation among respondents. Results further showed that you can qualify for mortgage as long as you have security of the same value with a mean score of 1.77 with a standard deviation of 0.8 indicating high variation among respondents. The respondents were in agreement that the repayment period offered by financial institutions is favorable to support growth in real estate with mean score of 2.0 and a standard deviation of 1.0 indicating a high variation among respondents. Further, the respondents were in agreement that there is no information asymmetry about mortgage financing, repayment and terms and conditions with mean score of 2.329 and a high standard deviation of 1.28 indicating a high variance among the respondents. According to the respondents, majority

agreed that credit rating determines the amount available and the repayment period of mortgages with a mean of 2.0 and a standard deviation of 1.05 showing a high variance among respondents. Results further indicated that the respondents were neutral as to whether a fixed rate mortgage has a favorable interest rate for financing real estate growth with a mean score of 2.9 and a standard deviation of 1.6 showing that there was high variance among respondents. Concerning adjustable mortgage having a favorable interest rate for financing real estate growth, respondents were in disagreement with a mean of 3.857 and a standard deviation of 1.457 showing high variance among the respondents. Finally, respondents were neutral that financial institutions interest rate for mortgages are affordable with a mean of 2.971 and standard deviation of 1.6059 showing high variation among respondents.

**TABLE 4.7(B)**  
**MORTGAGE FINANCING**

<b>Mortgage Financing</b>	<b>Mean</b>	<b>Std. Deviation</b>
Fixed rate mortgage has a favorable interest rate for financing real estate growth	2.929	1.6447
Adjustable mortgage has a favorable interest rate for financing real estate growth	3.857	1.4575
Financial institutions Interest rate affordability	2.971	1.6059
Amount available to developers enough to support growth in real estate.	2.271	1.2502
You can qualify for mortgage as long as you have security of the same value	1.741	0.716
Repayment period offered is favorable to support growth	1.860	0.767
No Information asymmetry on mortgage financing, repayment, terms and conditions	2.329	1.2822
Credit rating determines amount available and repayment period	1.840	0.7351

*Source: Author (2016)*

#### **4.5.2 Savings**

This variable was used to measure savings suitability for real estate growth in Kenya. The following is the outcome of the duration that the respondents have taken to save in order to

finance their current investments. Those who have saved for less than 5 years were 32%, those between 6 and 10 years were 19%, those between 11 and 15 years were 25% and finally those who had saved for more than 20 years were 26%.

#### 4.5.2.1. Savings Duration to Finance Current Real Estate Development

**TABLE 4.8**  
**SAVINGS DURATION**

<b>Duration of Savings</b>	<b>Frequency</b>	<b>Percent</b>
<b>Less than 5 years</b>	23	32.9
<b>6-10years</b>	13	18.6
<b>11-15years</b>	16	22.9
<b>More than 20years</b>	18	25.7
<b>Total</b>	70	100.0

*Source: Author (2016)*

#### 4.5.2.3 Total Value of Real Estate Financed Through Savings

The table below shows the real estate value the respondents have financed through savings. The majority of them were at 39% -above KShs 20million, followed by those between kshs11-15million at 29% less than Kshs5million at 15% and those whose value of real estate financed through savings between Kshs5million and Kshs10million were 9% and those between Kshs16million and Kshs20million were at 9%.

**TABLE 4.9**  
**VALUE FINANCED THROUGH SAVINGS**

	<b>Frequency</b>	<b>Percent</b>
<b>Less than Kshs5m</b>	11	15.7
<b>5-10m</b>	6	8.6
<b>11-15m</b>	20	28.6
<b>16-20m</b>	6	8.6
<b>Above 20m</b>	27	38.6
<b>Total</b>	70	100.0

*Source: Author (2016)*

#### 4.5.2.4 Firms Saving Period History

Table 4.10 indicates the history of firms in the real estate industry. Majority at 53% save monthly, 26% quarterly, 17% weekly and only 1% daily.

**TABLE 4.10  
SAVING PERIOD**

	<b>Frequency</b>	<b>Percent</b>
<b>Daily</b>	1	1.4
<b>Weekly</b>	12	17.1
<b>Monthly</b>	37	52.9
<b>Quarterly</b>	20	28.6
<b>Total</b>	70	100.0

*Source: Author (2016)*

#### 4.5.2.5 Savings

This variable was used to measure the extent to which savings affects the growth of real estate in Kenya. The range was strongly agreed as 1 to strongly disagree at 5. The results was that return is higher since the element of interest rate is not a factor to consider with a mean of 1.7 and a standard deviation of 0.7 showing moderate variation amongst the respondents. Also, savings as a source of finance is effective way of financing real estate growth with a mean of 2.04 and a standard deviation of 1.122 indicating high variation among respondents. The respondents also agree with a mean of 2.243 and a standard deviation of 1.221 that there exists no information asymmetry in the mobilization of savings to support real estate growth and that savings period depends on the type of real estate development to venture in with a mean of 2.357 and standard deviation of 1.263. The respondents were in disagreement with a mean of 3.557 and standard deviation of 1.30 that amount available in terms of savings determine the pace at which the developer will work, indicating moderate variation among the respondents.

**TABLE 4.11  
SAVINGS**

<b>Savings</b>	<b>Mean</b>	<b>Std. Deviation</b>
Amount available in terms of savings determine the pace at which the developer will work	3.557	1.3037
Savings as a source of finance is an effective way of financing growth in real estate.	2.043	1.1221
Savings period depends on the type of real estate development to venture in	2.357	1.2630
Return is higher since the element of interest rate is not a factor to consider	1.700	.7092
There is no information asymmetry in mobilization of savings to support growth in real estate	2.243	1.2210

*Source: Author (2016)*

#### **4.5.3 Venture Capital**

This variable was used to measure how venture capital affects growth of real estate in Kenya.

The following table shows how the respondents rated growth of their real estate development.

##### **4.5.3.1 Growth Rate**

33% of the respondents rated growth in their real estate development at 10, 31% between 6 and 7, and 24% of them rated it at between 8 and 9 and 11% rated growth at less than 5.

**TABLE 4.12  
GROWTH RATE IN RESPONDENTS' REAL ESTATE DEVELOPMENT**

<b>Growth rate</b>	<b>Frequency</b>	<b>Percent</b>
<b>Less than 5</b>	8	11.4
<b>6-7</b>	22	31.4
<b>8-9</b>	17	24.3
<b>10</b>	23	32.9
<b>Total</b>	70	100.0

*Source: Author (2016)*

#### 4.5.3.2 High Returns and Short Payback Period

26% of the respondents cited high demand as the reason why in real estate there is high return and short payback period compared to other investments. 22% choose the reason as high risks that should be accompanied by returns and 17% of them think high capital requirements in the sector justifies high returns. 13% choose few players as the reason while 9% and 7 percent chose short term finance and social status respectfully. Other reasons mentioned were economic growth and normal returns at 1% each.

**TABLE 4.13 HIGH RETURNS AND SHORT PAYBACK PERIOD**

	Frequency	Percent
<b>Social status</b>	5	7.1
<b>High capital</b>	12	17.1
<b>High risks</b>	16	22.9
<b>High demand</b>	18	25.7
<b>Few players</b>	9	12.9
<b>Short term finance acquired</b>	6	8.6
<b>Normal returns</b>	2	2.9
<b>Economic growth</b>	1	1.4
<b>Wholesale selling</b>	1	1.4
<b>Total</b>	70	100.0

*Source: Author (2016)*

#### 4.5.3.3. Venture Capital

Venture capital was used to measure the effect of financing options on growth of real estate in Kenya. It was measured on a likert point scale 1 to 5 with 1 being strongly agree to 5 being strongly disagree. The respondents were in agreement with a mean of 2.4443 that venture capital has favorable interest rates for financing real estate growth with a high standard deviation of 1.49 showing how variant the respondents were. Venture capital advisory services aids growth with a mean of 1.671 the respondents agreed and this factor had a standard deviation of 0.551 which indicated that the variance between the respondents was moderate. They also were in agreement that amount available depends on the percentage the investor is ready to commit compared to the total cost of the project with a mean of 1.7 with a

standard deviation of 0.5229. Majority agreed that venture capitalists share risks with investors and hence repayment is favorable with a mean of 1.586 and standard deviation of 0.732 indicating high variation among respondents. Most of the respondents also agreed that venture capital provides a framework and lending policies comfortable to both parties in the repayment agreement with a mean of 1.74 and standard deviation of 0.606. Majority felt that venture capitalists help constitute financial management training for real estate developers with a mean of 1.671 and standard deviation of 0.7366 while they also agree that venture capitalists provides networks with other manufacturing and supplying companies to enhance trade credits and hire purchase services for real estate developers during construction with a mean of 1.757 and standard deviation of 0.6689 showing moderate variation among respondents.

**TABLE 4.14**  
**VENTURE CAPITAL**

<b>Venture Capital</b>	<b>Mean</b>	<b>Std. Deviation</b>
Venture capital financing option has a favorable interest rate for financing growth in real estate	2.443	1.4904
Venture capital provide advisory services to investors and so support growth in real estate	1.671	.5575
Amount available depends on the percentage the investor is ready to commit compared to the total cost of the project	1.743	.5299
Venture capitalists provide special arrangements to share risks with investors and hence repayment arrangement is favorable.	1.510	0.583
Venture capital provide legal framework and lending policies comfortable to both parties in the repayment agreement	1.743	.6064
They help constitute financial management training for real estate developers	1.671	.7366
Provides networks with other manufacturing and supplying companies to enhance trade credits and hire purchase services for real estate developers during construction	1.757	.6689

*Source: Author (2016)*

#### 4.5.4. Equity Finance

##### 4.5.4.1 Role of Equity Financing

The following table 4.15 shows the roles that the respondents think equity financing does towards growth of real estate.64% cited finance as the role of equity finance,14% advisory, 10% risk sharing, 6% networking, 4% technical support and finally 1% believe equity financing lower costs of real estate.

**TABLE 4.15**  
**ROLE OF EQUITY FINANCING**

Equity financing roles	Frequency	Percent
Financing	45	64.3
Networking	4	5.7
Advisory	10	14.3
Technical support	3	4.3
Risks sharing	7	10.0
Lower financing costs	1	1.4
Total	70	100.0

*Source: Author (2016)*

##### 4.5.4.2 Respondents Take on Real Estate Growth in Kenya

Table 4.16 shows how the respondents perceive growth of real estate in Kenya.36% of the respondents said growth of the real estate sector is above average, 23% said the growth is stable, 16% mentioned diaspora as a key driver of real estate, 10%believe the growth is better compared to other sectors, 6% believe the growth is due to economic expansion, 3% cited the growth as in tandem with economic growth, is fuelled by middleclass and that the growth is due to an increase in disposable income and lastly 1% of the respondents believe growth is as a result of high returns in the sector.

**TABLE 4.16**  
**REAL ESTATE GROWTH IN KENYA**

	Frequency	Percent
<b>Diaspora</b>	11	15.7
<b>Growth Above Average</b>	25	35.7
<b>Tandem With Economy</b>	2	2.9
<b>Middle Class Fueled</b>	2	2.9
<b>Stable Growth</b>	16	22.9
<b>Better Than Other Sectors</b>	7	10.0
<b>Driven By Economic Expansion</b>	4	5.7
<b>Disposable Income</b>	2	2.9
<b>Fueled By High Returns</b>	1	1.4
<b>Total</b>	70	100.0

*Source: Author (2016)*

#### **4.5.4.3 Strategies to Boost Growth**

This section is about the strategies that the real estate developers recommend to equity financiers to boost growth of real estate in Kenya. 23% said equity financiers should increase reach to as many real estate developers as possible, 19% said advisory services should be offered, 17% of the respondents suggested an improvement in terms and conditions, 11% suggested lowering of costs in real estate development, 10% feels that equity financiers should market Kenya as a real estate destination. Other recommended strategies were target all players in the industry with 6%, use of technology at 7%, speed up financing process at 6% and finally introduce real estate investment trusts to aid growth of real estate.

**TABLE 4.17**  
**EQUITY FINANCING STRATEGY**

	Frequency	Percent
<b>Real Estate Investment</b>	1	1.4
<b>Increase Reach</b>	16	22.9
<b>Offer Advisory</b>	13	18.6
<b>Target All Players</b>	4	5.7
<b>Market Kenya</b>	7	10.0
<b>Improve Terms And Conditions</b>	12	17.1
<b>Lower Costs</b>	8	11.4
<b>Use Of Technology</b>	5	7.1
<b>Speed Up Financing Process</b>	4	5.7
<b>Total</b>	70	100.0

*Source: Author (2016)*

#### **4.5.4.4 Equity Financing**

The third objective was to determine the effects of equity financing on growth of real estate in Kenya. The results are presented in table 4.18. The respondents were in disagreement as to whether equity financing is available to starters in real estate with a mean of 3.529 and a standard deviation of 1.1099 indicating low variance among the respondents on availability of equity finance to starters. They were however in agreement that, equity investors primarily seek opportunity for growth and are willing to take a chance in real estate growth which has high returns with a mean of 1.886 and a standard deviation of 0.713. The amount available depends on among other factors like amount inherited, transfers from diaspora as the respondents agreed with a mean of 1.986) and a standard deviation of 0.825 showing moderate variance among respondents. Also, they agreed that Equity financing is a safer funding for real estate growth than debt financing with a mean of 1.757 and standard deviation of 0.907 but they were neutral on whether Equity financing affects the growth of real estate positively with a mean of 1.743 and standard deviation of 0.716.

**TABLE 4.18  
EQUITY FINANCING**

	<b>Mean</b>	<b>Std. Deviation</b>
Equity financing is available for starters in real estate	3.529	1.0997
Equity investors primarily seek opportunity for growth and are willing to take a chance in real estate growth which has high returns	1.886	.7131
Amount available depends on among other factors like amount inherited, transfers from diaspora	1.986	.8252
Equity financing is a safer funding for real estate growth than debt financing	1.757	.9079
Equity financing affects the growth of real estate positively	1.743	.7160
The payback is payback too long	2.929	1.3002

*Source: Author (2016)*

#### ***4.5.5.1 Growth of Real Estate in Kenya***

The table below shows the response on whether the respondents believe there has been considerable growth in real estate in Kenya. All the respondents agreed there has been considerable growth.

**TABLE 4.19  
CONSIDERABLE GROWTH IN REAL ESTATE**

	<b>Frequency</b>	<b>Percent</b>
<b>Yes</b>	70	100.0

*Source: Author (2016)*

#### ***4.5.5.2 Growth in Units from Firm***

27% of the respondents indicated that there has been growth in terms of units from the perspective of their firms at more than 80%, 53% indicated growth of up to 40% and those who said 41-60% growth were 20% .

**TABLE 4.20  
GROWTH IN UNITS FROM FIRM**

	<b>Frequency</b>	<b>Percent</b>
<b>0-20%</b>	14	20.0
<b>21-40%</b>	23	32.9
<b>41-60%</b>	14	20.0
<b>61-80%</b>	14	20.0
<b>81-100%</b>	5	7.1
<b>Total</b>	70	100.0

*Source: Author (2016)*

#### **4.5.5.3 Growth in Terms of Capital Investment**

Table 4.21 shows growth of capital investment in real estate. Majority of the respondents indicated that their capital investment has grown between 21 - 40%, followed by 41 - 80% at 43%. Others were 0 - 20% at 11% and over 80% at 13%.

**TABLE 4.21  
CAPITAL GROWTH**

	<b>Frequency</b>	<b>Percent</b>
<b>0-20%</b>	8	11.4
<b>21-40%</b>	23	32.9
<b>41-60%</b>	14	20.0
<b>61-80%</b>	16	22.9
<b>81-100%</b>	9	12.9
<b>Total</b>	70	100.0

*Source: Author (2016)*

From the discussion of the growth of real estate in Kenya, there seems to be considerable growth.

#### **4.6. Inferential Statistics**

Here, inferential analysis was done and included correlation, model of fitness and analysis of variance and regression analysis. It was on the basis of the regression analysis results that the researcher decided to use confirmatory factor analysis and found out that, out of the four variables, mortgage financing and equity financing explain growth in real estate at 17.449%

and 11.47% respectively (Appendix III) compared to 7.1% for all variables as explained by regression analysis results.

#### ***4.6.1 Regression Analysis***

This section presents the fitness of the regression model used to investigate role of financing options on the growth of real estate. The extent to which changes in the dependent variable real estate growth can be explained by change in the independent variables; mortgages, savings, venture capital and equity financing, is illustrated by coefficient of determination. These four independent variables only explain 7.1% of real estate growth in Kenya and this has been taken to mean other factors outside this study account for 92.9% growth of real estate in Kenya.

#### ***4.6.2 Analysis of Variance***

When testing for statistical significance, p-value indicates the level of relation of the independent variable to the dependent variable and if the significant number is less than the critical value (p-value) which is statistically set at 0.05, then the model is deemed significant in explaining the relationship between the dependent variable and independent variable otherwise the model will be deemed as non-significant.. Overall, the results indicate the model was statistically non-significant looking at the reported p-value of 0.306 which is more than the conventional 0.05 significance level. These results are displayed in table 4.23

#### ***4.6.3 Regression Coefficients***

The results indicates for savings;  $t = -0.301$  p-value is 0.764; at 0.05 level of significance there exists evidence to conclude that savings is not a useful predictor of real estate growth. Venture capital was tested,  $t = -0.057$  and p value is 0.955, at 0.05 level of significance, there exists some evidence to conclude that venture capital is not useful predictor of real estate growth. The results further showed that; equity financing with  $t = -2.043$  and a p-value of 0.045

at 0.05 level of significance, there exists some evidence to conclude that equity financing is a useful predictor of real estate growth and is significant. Lastly, regarding mortgages, the results showed  $t = 0.993$  and a  $p$ -value of 0.324 showing very low significance level

**TABLE 4.22**  
**SUMMARY**  
**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.266 <sup>a</sup>	.071	.013	1.16764

a. Predictors: (Constant), Equity Financing, Venture Capital, Savings, Mortgage Financing

**TABLE 4.23**  
**VARIANCES**  
**ANOVA<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	6.724	4	1.681	1.233	.306 <sup>b</sup>
Residual	88.619	65	1.363		
Total	95.343	69			

a. Dependent Variable: Growth of Real Estate

b. Predictors: (Constant), Equity Financing, Venture Capital, Savings, Mortgage Financing

*Source: Author (2016)*

**TABLE 4.24(A)**  
**REGRESSION COEFFICIENTS**  
**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.348	1.053		4.130	.000
	Mortgage Financing	.207	.209	.124	.993	.324
	Savings	-.070	.234	-.037	-.301	.764
	Venture Capital	-.020	.346	-.007	-.057	.955
	Equity Financing	-.625	.306	-.255	-2.043	.045

a. Dependent Variable: Growth of Real Estate  
The regression equation is as follows

*Source: Author (2016)*

$$Y = 4.348 + 0.207\alpha_1 - 0.07\alpha_2 - 0.02\alpha_3 - 0.625\alpha_4$$

#### **4.6.4 Factor Analysis**

Exploratory factor analysis (EFA) was done using the Principle component analysis in order to reduce the factors used to measure the variables. Bryne, (2010) argues that, where all the steps are followed, highly correlated variables would be clustered together into a distinctive factor. EFA gives information about a number of factors that best characterizes the data. This analysis was carried out since multiple regression proved inadequate. The purpose was to narrow down or drop some of the variables and find out whether the remaining variables would explain a higher percentage of real estate growth.

#### **4.6.5 Diagnostic tests**

The reliability test of the research questionnaire was done so as to decide if the research tool yields firm and reliable results. Reliability is uniformity of measurement (Bollen, 1989). Drost, (2011) points out that approaches to estimate test reliability in research are test-retest reliability, split-halves, and internal consistency among others. This research study used the internal consistency approach since it is more meaningful than the others. Consistency was tested using the Cronbach's alpha statistic. The Cronbach alpha coefficient was used to define reliability of the instrument in this research since it is a good indicator of unidimensionality and internal consistency of sample items (Tavakol & Dennick, 2011). Table 4.24 explains the results. A desirable reliability coefficient which would fall in the range of between 0.50 and 0.80 is acceptable

**TABLE 4.24(B)**  
**RELIABILITY STATISTICS**

Component	Number of Items	Cronbach's Alpha
All of the Components	28	0.620
Mortgage	8	0.701
Savings	5	0.405
Venture Capital	7	0.577
Equity Capital	6	0.488
Growth of Real Estate	2	0.903

*Source: Author (2016)*

Kaiser-Meyer-Olkin (KMO) test of adequacy and Bartlett's Test of Sphericity were carried out before factor analysis to test for intercorrelations among the variables and the suitability of data. KMO should vary between 0 and 1. A value of 0 indicates dispersions which render factor analysis inappropriate whereas a value close to 1 shows a good pattern which should result in very reliable interrelated factors as shown in table 4.24 below. It is a rule of thumb that KMO should be  $\geq 0.7$

**TABLE 4.24(C)**  
**TEST OF DATA SUITABILITY**  
**KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.606
	Approx. Chi-Square	571.389
Bartlett's Test of Sphericity	df	276
	Sig.	.000

*Source: Author (2016)*

Principal component analysis was used for factor extraction and determine the factors that can be used to best represent the inter relationships among the set of variables. (Abdi & Williams, 2010). The model  $H_0$  was assumed to be correct and hence accept. Model  $H_a$  should therefore be rejected. In this case the P-value should be greater than 0.05

## Computation of degrees of freedom

Number of distinct sample moments:	55	Result (Default model)
Number of distinct parameters to be estimated:	22	Minimum was achieved Chi-square = 25.548 Degrees of freedom = 33 Probability level = .819
Degrees of freedom (55 - 23):	33	

The factor loadings range from 0.928 to 0.512 which were all above 0.5 and indicated that convergent validity was met. The path coefficients were negative though the p-values were higher than 0.05. Figure 4.1 shows the path model where the regression coefficients within are positive but between are negative. The results in table 4.25 below indicate the unstandardized regression coefficients which are positive which suggest that the factors considered in these study positively influence growth in real estate in Kenya. These factors Mq4, Mq7, Mq8, Eq3, Eq4, and Eq5 are significant and therefore support the hypothesis.

**TABLE 4.25**  
**REGRESSION WEIGHTS: (GROUP NUMBER 1 - DEFAULT MODEL)**

			Estimate	S.E.	C.R.	P	Label
G	<---	F2	-.041	.421	-.096	.923	
G	<---	F1	-.374	.291	-1.288	.198	
Mq_6	<---	F1	1.000				
Mq_4	<---	F1	2.214	.456	4.860	***	
Mq_7	<---	F1	1.444	.306	4.724	***	
Mq_8	<---	F1	.830	.237	3.498	***	
Eq_2	<---	F2	1.000				
Eq_3	<---	F2	1.528	.367	4.161	***	
Eq_4	<---	F2	1.129	.308	3.659	***	
Eq_5	<---	F2	1.488	.357	4.166	***	
Gq_1	<---	G	1.000				
Gq_2	<---	G	1.000				

*Source: Author (2016)*

### **4.6.6 Description of Variables Used**

This is as used for Confirmatory Factor Analysis in Table 4.25 and Figure 4.1

**TABLE 4.26**  
**DESCRIPTION OF VARIABLES**

F1	Mortgage financing
F2	Equity financing
Mq4	Amount available to developers is enough to support growth in real estate
Mq6	Repayment period and arrangement offered by financial institutions is favorable to support growth
Mq7	There is no information asymmetry about mortgage financing repayments
Mq8	Credit rating determines the amount available and the repayment period
Eq2	Equity investors primarily seek opportunity for growth and are willing and are willing to take a chance in real growth which has high returns
Eq3	Amount available depends on among other factors like amount inherited and transfers from diaspora
Eq4	Equity financing is a safer funding for real estate growth than debt financing
Eq5	Equity financing affects the growth of real estate development positively
G	Growth in real estate
E1-E11	Measurement and Random Errors
Gq1	Extent to which real estate has grown in terms of units
Gq2	Extent to which capital investment has grown in real estate

*Source: Author (2016)*

#### **4.6.7 Confirmatory factor analysis**

Suhr (2006) argues that Confirmatory factor analysis (CFA) is a statistical procedure used to confirm the factor arrangement of a set of experiential variables. CFA assists the researcher to test the hypothesis that an association between experiential variables and their underlying latent constructs exists. The results model shows the growth of real estate as the dependent variable or the endogenous latent variable. The four independent variables: mortgage financing, savings, venture capital and equity financing were set as the exogenous variables. This research study adopted the Analysis of Moment Structures (AMOS) to hypothesize a conceptual model connecting the variables. (Argyrous,2005). The researcher employed confirmatory factor analysis to establish the path analysis and determine the relationship between the dependent and independent variable. The Chi square, RMSEA and the goodness of fit index (GFI) are the most popular for determining the absolute fit. Table 4.27 and figure 4.1 presents the model fit results and hypothesized relationships respectively. The Chi-square

test statistic is not significant at 0.05 but according to the hypothesized model then accept. The RMSEA was 0.097 and the Goodness of Fit Index was 0.869. RMSEA is an outright measure of fit based on the non-centrality factor and it estimates the amount of error of approximation per model degree of freedom and takes sample size into account. GFI is a fitness index that looks at the variances and covariances taken care of by the model. A RMSEA value of 0.8 and a CFI value above 0.8 and NFI values between  $0.8 \leq$  &  $\leq 1$  are indicators of good fit.

**TABLE 4.27**  
**MODELS FIT INDICES TO MONITOR GROWTH IN REAL ESTATE**

<b>Criteria</b>	<b>Cut off Value</b>	<b>Model Result</b>	<b>Description of fit</b>
Chi-Square	$P < 0.05$	25.548	Good
p-value	$\geq 0.05$	0.819	Good
CFI	Above 0.8	0.916	Good
NFI	$0.8 \leq$ & $\leq 1$	0.817	Good
RMSEA	$\leq 0.07$	0.097	Good
GFI	Above 0.8	0.869	Good

*Source: Author (2016)*

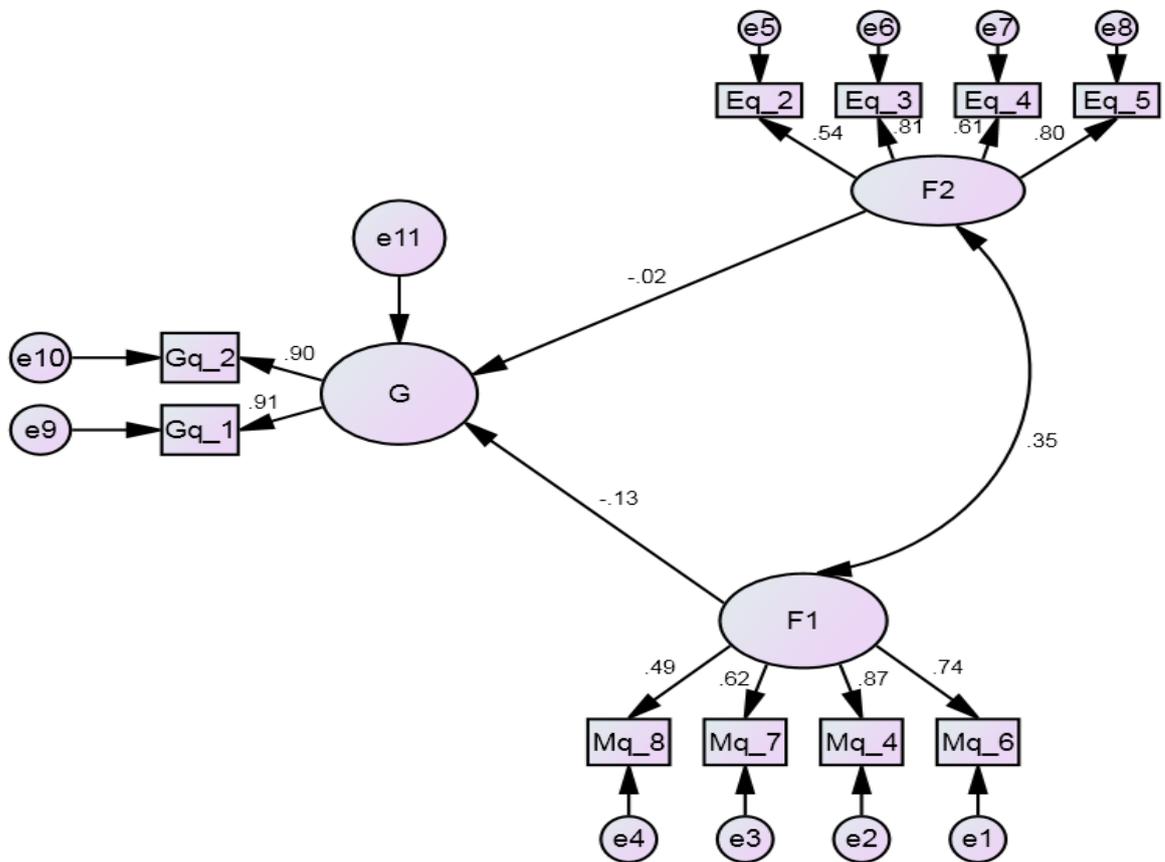
In conclusion the following are the factors considered to significantly contribute to growth of real estate in Kenya to a very large extent as evident through Confirmatory factor Analysis.

1. Amount available to developers is enough to support growth in real estate
2. There is no information asymmetry about mortgage financing repayments
3. Credit rating determines the amount available and the repayment period
4. Amount available depends on among other factors like amount inherited and transfers from diaspora
5. Equity financing is a safer funding for real estate growth than debt financing
6. Equity financing affects the growth of real estate development positively

Figure 4.1

Hypothesized mortgage financing and equity financing on growth of real estate in Kenya

STANDARDIZED CHART



Source: Author (2016)

## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter summarizes the results of the study and shows the conclusions and recommendations of the actions to be undertaken to address the challenges arising from the research and finally direction for further research.

#### **5.2 Summary of Findings**

The general objective of this study was to establish the role of financing options on the growth of real estate in Kenya with a specific focus to Nairobi metropolitan area. To achieve the aim of the research, the research explored four objectives: assessing the influence of mortgage financing option on the growth of real estate; evaluating the effect of savings financing option on the growth of real estate; evaluating the effect of venture capital financing option on growth of real estate and examining the influence of equity financing option on the growth of real estate. This study relied on theoretical and empirical studies on growth of real estate subsequently established a conceptual framework of the relationship between the predictors and the dependent variable. The relationships were then tested empirically. The researcher tested the data for normality, multicollinearity and linearity and found no violation of these assumptions. A total population of 100 developers in Nairobi Metropolis was targeted and a sample of 81 expected to respond to the questionnaire. However only 70 responded which was 86.42% and satisfactory Mugenda and Mugenda (2003). The data collected from the field was coded, tabulated, and analyzed using excel and through descriptive statistics, frequency tables were prepared to describe all the sub-constructs under each of the four main variables.

### ***5.2.1 Mortgage Financing***

The initial results of the study showed that developers preferred mortgage financing which has adjustable interest rates compared to mortgage with fixed rate of interest. It was also observed that one can qualify for mortgage of an amount of value equal to the value of security. Most of the factors considered under mortgage other than security or collateral showed that mortgage supports real estate growth with a mean of 3.857 and 2.271. Mortgage is one of the most important factor that influences growth in real estate in Kenya according to multiple regression analysis. An increase in mortgage finance increases growth in real estate by 20.7% while all other factors left constant. According to Confirmatory Factor analysis, the developers were of the view that the amount available to them was enough to support growth in real estate and that there is no information asymmetry about mortgage financing repayments. The results further showed that credit rating determines the amount available and the repayment period. The findings are consistent with the real estate simulation theory that there is financially relevant information in ascertaining constraints that affect real estate accomplishment by focusing on mortgage characteristics such as the cost of taking out a mortgage as a financial constraint to both the developer and interested parties

### ***5.2.2 Savings***

The factors considered under this variable were analyzed. A 40% of the respondents agreed that savings support growth in real estate. A lower percentage of about 34% agreed with the fact that the return on savings is higher since the element of interest is not considered. However over 71.14% of the developers agreed with the researcher that the amount saved is what determines the pace as at which the sector will grow. It was also found out that savings support growth with a mean of between 2.357 and 3.557. This was found to be consistent with the structural form theory that poor management and a lack of funds and inadequate availability of long-term funding sources to carry out intermediation that would spread the

cost of a project over a relatively long period of time hence guaranteeing project success a problem that can be addressed by savings. Multiple regression analysis results show that savings was not significant in real growth of real estate in Kenya. An increase in real estate only influences 7% of growth in real estate. However according to Confirmatory Factor Analysis, this variable had very few factor loadings and so not considered as having a significant contribution to growth of real estate in Kenya.

### ***5.2.3 Venture Capital***

An average of 48.8% of the developers agreed that venture capital had very favorable interest rates. All other factors considered, the results indicate that a very low percentage of 34.8% and below concurred with the researcher on venture capital supporting growth in real estate. The findings indicate that the mean for all the factors considered was below 2.442 and actually below 2.0 which show that venture capital has very little significance to growth of real estate. Multiple regression analysis results show that venture capital was not significant in real growth of real estate in Kenya. An increase in real estate only influences 2% of growth in real estate. Confirmatory Factor Analysis did not also find enough significance levels about this variable to support real estate growth in Kenya.

### ***5.2.4 Equity Financing***

The study results showed that a majority of 70.58% and 58.58% agreed with the researcher that equity financing is readily available for starters and the payback is too long respectively. An average of 34.8% to 39.7% of the respondents was of the opinion that those other factors considered relating to equity financing contributed to growth in real estate. The findings indicate a mean of between 1.743 and 3.529 which shows a considerable support in the growth of real estate. This is consistent with the resource dependency theory which

concluded that for a project to be deemed successful, parameters of measurement include joint research and development contracts, licensing and franchising agreements, shared manufacturing and marketing arrangements, minority investments, and equity swaps. Equity finance is one of the most important factors that influences growth in real estate in Kenya according to multiple regression analysis. Increase in equity finance increases growth in real estate by 62.5% while all other factors left constant. Confirmatory factor analysis indicates that most of the developers were of the opinion that the amount available depends on among other factors like amount inherited and transfers from diaspora. They also held that equity financing is a safer funding for real estate growth compared to debt financing and that equity financing affects real estate development positively.

### **5.3 Conclusions**

Descriptive results on the variables indicate that the dependent variable 'growth in real estate' improved from 4% to 18%. The independent variables also supported growth of real estate at a mean of mortgage financing a high of 3.857, savings a high of 3.557, venture capital a high of 2.443 and equity financing at a high of 3.529.

However, overall the four variables considered in this study only explain 7.1% of real estate growth in Kenya. 92.9% of the growth has been explained by other factors outside this study. This was a weak relationship by all standards.

Confirmatory factor analysis found out only two variables which recorded loadings of four factors. These were mortgage financing and equity financing and so concluded that these two explained a perfect fit model in explaining growth in real estate. This was found to be the core finding of this study. The other two variables namely savings and venture capital were dropped since they had a factor loading of less than four.

This study fills the knowledge gaps identified at the literature review stage where it was discovered that inadequate attention has been paid to explore the role of financing options on the growth of real estate in Kenya. The research shows that the four variables considered in the objectives have very little contribution to that growth.

#### **5.4 Recommendations**

This study recommends that mortgage firms invent new methods and products to attract players in the real estate industry which has recorded a tremendous growth in the last ten years and in which the trend seems to continue to the foreseeable future.

The investors should also be encouraged to use equity financing since it is cheap in the long run because there is no interest charge. Venture capital financing option also has a lot of advantages to the investor such as advisory services, sharing of risks with the lender among others. Since affordable housing is still a big problem in Kenya, the researcher recommends that the Government of Kenya finds cheap methods to finance development of this sector and formulate more attractive tax incentives than exists today given that this is one of the main contributors of the country's GDP.

#### **5.5 Recommendations and Suggestions for Further Research**

This research did not address explicit and implicit factors that affect the developers when deciding on the financing option to choose from. These factors include; company's performance, the market share, operating efficiency, management and lenders attitudes, risk return trade off, political crisis and global economic instability. The study also recommends a research on those other financing options influencing growth in the real estate sector that were not analyzed in this study.

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## Appendix I: Questionnaire for the Real Estate Developers

Dear Respondent,

This questionnaire is aimed at gathering primary data on the role of Finance Options on the growth of real estate development in Nairobi Metropolis. You are kindly requested to fill in the questions based on the instructions given. The information you provide will be treated with utmost confidentiality and will be used for the purpose of accomplishing an academic goal. Do not include your name anywhere in the questionnaire.

### SECTION 1: Background information

1. Kindly indicate your gender

Male

Female

2. For how long have you been involved in Real Estate development?

1-5 Years

5-10 Years

Above 10 years

3. Indicate your KPDA membership category

Premium

Corporate

Associate

Others (specify).....

4. Which Real estate sector are you involved in?

Residential Space

Commercial Space

Both

5. Please indicate some of the tailored loans specifically for real estate developers

a) Fixed rate mortgage

b) Labour based

- c) Building Loan
- d) Investment Properties
- e) Marketing services
- f) Others (Please specify) .....

6. Please indicate if the above mentioned services have aided in the growth of real estate development.

Yes

No

I don't know

Please explain your answer.....

.....

## SECTION 2: MORTGAGE FINANCING AND THE GROWTH OF REAL ESTATE IN KENYA

To what extent do you agree or disagree with the following statements that measure the mortgage financing option suitability for real estate growth in Kenya? Please indicate the extent of agreement with the statements using a tick  $\surd$ ; 1- Strongly agree (SA), 2- Agree (A) 3- Neutral (N), 4-Disagree (D), 5- Strongly Disagree (SD)

	SA	A	N	D	SD
Statement	1	2	3	4	5
<b>Role Mortgage financing option on growth of real estate in Kenya</b>					
Fixed rate Mortgage has a favorable interest rate for financing growth of real estate					
Adjustable rate Mortgage has a favorable interest rate for financing growth of real estate					
Financial Institution's interest rates for mortgages in Kenya are affordable					
The amount available to developers is enough to support growth of real estate in Kenya					
You can qualify for a mortgage in Kenya as long as you have security of the same / almost the same value					

Repayment period and arrangement offered by the financial institutions is favorable to support growth in real estate					
There is no information asymmetry about mortgage financing, repayments and Terms and conditions					
Credit rating determines the amount available and the repayment period					

**SECTION 3: SAVINGS AND THE GROWTH OF REAL ESTATE IN KENYA**

7. For how long did you save to be able to finance your current real estate investment?

- Less than 5 years
- 5 – 10 years
- 10 – 15 years
- More than 20 years

8. What is the total value of your Real estate investment financed through savings?

- Less than 5 million
- 5 – 10 million
- 10- 15 million
- 15 – 20 million
- Above 20 million

9. Please provide your firm’s average saving history

- Daily
- Weekly
- Monthly
- Quarterly

To what extent do you agree or disagree with the following statements that measure savings option suitability for real estate growth in Kenya? Please indicate the extent of agreement with the statements using a tick  $\surd$ ; 1- Strongly agree (SA), 2- Agree (A) 3- Neutral (N), 4- Disagree (D), 5- Strongly Disagree (SD)

	<b>SA</b>	<b>A</b>	<b>N</b>	<b>D</b>	<b>SD</b>
<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>5</b>
<b>Role of savings in the growth of real estate in Kenya</b>					
Amount available in terms of savings determine the					

pace at which the developer will work.					
Savings as a source of finance is an effective way of financing growth in real estate					
Saving period depends on the type of real estate development to venture in					
Return is higher since the element of interest is not a factor to consider					
There is no information asymmetry in mobilization of savings to support growth in real estate					

**SECTION 4: VENTURE CAPITAL AND THE GROWTH OF REAL ESTATE IN KENYA**

10. How would you rate the growth of your real estate development at a scale of 1 - 10

- Less than 5
- 5- 7
- 7-8
- 8-10

11. In your own opinion why do you think venturing into real estate has high return and shorter payback period compared to other investments?

.....

To what extent do you agree or disagree with the following statements that measure Venture capital option suitability for real estate growth in Kenya? Please indicate the extent of agreement with the statements using a tick  $\surd$ ; 1- Strongly agree (SA), 2- Agree (A) 3- Neutral (N), 4-Disagree (D), 5- Strongly Disagree (SD)

	<b>SA</b>	<b>A</b>	<b>N</b>	<b>D</b>	<b>SD</b>
<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>5</b>
<b>Role of venture capital on growth of real estate in Kenya</b>					

Venture capital financing option has favorable interest rate [for financing growth of real estate					
Venture capitalists provide advisory services to investors and so support growth in real estate					
Amount available depends on the percentage the investor is ready to commit compared to the total cost of the project					
Venture capitalists provide special arrangements to share risks with the investors and hence repayment arrangement is favorable					
Venture capitalist provide legal framework and lending policies(terms and conditions) that are comfortable for both the lender and the real estate developer in the repayment arrangement					
They help constitute financial management training for real estate developers.					
Provide networks with other manufacturing and supplying companies to enhance trade credits and hire purchase services for real estate developers during construction					

**SECTION 5: EQUITY FINANCING AND THE GROWTH OF REAL ESTATE IN KENYA**

12. What is your opinion on the role of Equity financing in the growth of real estate in Kenya  
 .....  
 .....

13. What strategies would you recommend for equity financiers to boost the growth of real estate in Kenya?  
 .....  
 .....

To what extent do you agree or disagree with the following statements that measure Equity financing option suitability for real estate growth in Kenya? Please indicate the extent of

agreement with the statements using a tick  $\surd$ ; 1- Strongly agree (SA), 2- Agree (A) 3- Neutral (N), 4-Disagree (D), 5- Strongly Disagree (SD)

	SA	A	N	D	SD
Statement	1	2	3	3	5
<b>Role of Equity Financing on growth of real estate in Kenya</b>					
Equity financing is available for starters in real estate development					
Equity investors primarily seek opportunity for growth and are willing to take a chance in real estate growth which has higher returns					
Amount available depends on among other factors like amount inherited, transfers from diaspora					
Equity financing is a safer funding for real estate growth than debt financing					
Equity Financing affects the growth of real estate development positively					
The payback period is too long					

## SECTION 6: GROWTH OF REAL ESTATE IN KENYA

15. Do you believe that that there has been a considerable growth in Real Estate in Kenya?

1. Yes ( )            2 No ( )

If No Please state why.....

To what extent in your own opinion can you measure real estate growth in Kenya? Please indicate the extent of agreement with the statements using a tick  $\surd$ ; 1- Very Low (VL), 2- Low (L) 3- Medium (M), 4-Strong (S), 5- Very Strong (VS)

	<b>VL</b> <b>0%-20%</b>	<b>L</b> <b>21%-40%</b>	<b>M</b> <b>41%-60%</b>	<b>S</b> <b>61%-80%</b>	<b>VS</b> <b>81%-100%</b>
<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>5</b>
<b>Growth of real estate in Kenya</b>					
To what extent has real estate grown in terms of units from the perspective of your firm?					
To what extent has your capital investment increased/grown in real estate?					

**Appendix II: Directory of KPDA Members as at April, 2016**

<b>NO.</b>	<b>COMPANY NAME</b>	<b>CLASS OF</b>	<b>CORE BUSINESS</b>
		<b>MEMBERSHIP</b>	
1.	Bamburi Cement Ltd	Premium	Industry Supplier
2.	Fusion Capital	Premium	Financing and Private Equity
3.	HF Development And Investment Ltd	Premium	Property Developer
4.	HF Giza Systems Kenya Ltd	Premium	Industry Suppliers
5.	Imaran Real Estate Ltd	Premium	Property Developer
6.	Mabati Rolling Mills Ltd	Premium	Industry Supplier
7.	Ministry Of Land, Housing And Urban Development	Premium	Government Ministry
8.	MMC Africa Law	Premium	Law Firm
9.	Newmatic Africa Limited	Premium	Industry Supplier
10.	Panda Development Company Ltd	Premium	Property Developer
11.	Savannah Cement Limited	Premium	Industry Supplier
12.	Suraya Property Group Ltd	Premium	Property Developer

1.	Acorn Group Limited	Corporate	Property Developer
2.	AMS Properties Ltd	Corporate	Property Developer
3.	Bahati Ridge Development Ltd	Corporate	Property Developer
4.	Blueline Properties Ltd	Corporate	Property Developer
5.	Camelot Consultants Ltd	Corporate	Property Developer
6.	Century City Property Limited	Corporate	Property Developer
7.	Chigwell Holdings Limited	Corporate	Property Developer
8.	County Home Developers Ltd	Corporate	Property Developer
10.	Coral Property International Ltd	Corporate	Property Developer
11.	Cytonn Real Estate	Corporate	Property Developer
NO.	COMPANY NAME	CLASS OF MEMBERSHIP	CORE BUSINESS
12.	Dunhill Consulting Ltd	Corporate	Property Developer
13.	Daykio Plantations Limited	Corporate	Property Developer
14.	Edifice Ltd	Corporate	Property Developer
15.	Elm Ridge Ltd	Corporate	Property Developer

16.	Falcon Development Ltd	Corporate	Property Developer
17.	Hass Consult Ltd	Corporate	Property Developer
18.	Homescope Properties Ltd	Corporate	Property Developer
19.	Ijenga Ventures Ltd	Corporate	Property Developer
20.	Intex Construction Ltd	Corporate	Property Developers
21.	Jabez Properties	Corporate	Property Developer
22.	Jambo Holdings Ltd	Corporate	Property Developer
23.	Karibu Homes	Corporate	Property Developer
24.	Karume Holdings Limited	Corporate	Property Developer
25.	Kings Developers Ltd	Corporate	Property Developer
26.	Kitusuru Country Villas Ltd	Corporate	Property Developer
27.	Kzanaka Ltd	Corporate	Property Developer
28.	Laser Property Services Limited	Corporate	Property Developer
29.	Limojade Management Ltd	Corporate	Property Developer
30.	Manrik Group	Corporate	Property Developer
31.	Mentor Management Limited (MML)	Corporate	Property Developer

32.	Mugumo Developments Ltd	Corporate	Property Developer
33.	Mwanzoni Ltd/Lavish Golf Ltd	Corporate	Property Developer
34.	My Space Properties Ltd	Corporate	Property Developer
35.	Nanyuki Mall Ltd	Corporate	Property Developer
36.	Natureville Homes	Corporate	Property Developer
37.	Ndatani Enterprises Company Limited	Corporate	Property Developer
38.	Optiven Limited	Corporate	Property Developer
39.	PDM (Kenya) Ltd	Corporate	Property Developer
40.	Oak Park Properties Ltd	Corporate	Property Developer
41.	Pediment Developers	Corporate	Property Developer
42.	Phatisa Fund	Group/Pan African Housing	Corporate Property Developer
43.	Pioneer Holdings (Africa) Ltd	Corporate	Property Developer
44.	Questworks Ltd	Corporate	Property Developer
45.	Rozana Properties Ltd	Corporate	Property Developer
46.	Sayani Investments Ltd	Corporate	Property Developer
47.	Scion Real Estate	Corporate	Property Developer

48.	Sigimo Enterprises Ltd	Corporate	Property Developer
49.	Simba Corporation Ltd	Corporation	Property Developer
50.	SJR Properties Ltd / Sky Management	Corporate	Property Developer
51.	Spartan Developers Limited	Corporate	Property Developer
52.	Superior Homes Kenya	Corporate	Property Developer
53.	Tatu City Ltd	Corporate	Property Developer
54.	Tilisi Developments Limited	Corporate	Property Developer
55.	Unity Homes Ltd	Corporate	Property Developer
56.	Urban Nirvana Property Solutions Ltd	Corporate	Property Developer
57.	Vishwa Developers Ltd	Corporate	Property Developer
<b>NO.</b>	<b>COMPANY NAME</b>	<b>CLASS OF</b>	<b>CORE BUSINESS</b>
		<b>MEMBERSHIP</b>	
1.	Anjarwalla & Khanna Advocates	Associate	Law Firm
2.	Aspenn Kenya	Global Mobility Consultants	Associate Relocation Firm
3.	Askadoc	Associate	Professional Firm
4.	Axis Real Estate Limited	Associate	Property Agents and Valuers

5.	Aspire Africa Ltd	Associate	Industry Supplier
6.	Buy Rent Kenya Ltd	Associate	Property Portal

^	Collaborations Engineering Solutions & Products (CESP)	Associate	Industry Supplier
8.	Coulson Harney Advocates	Associates	Law Firm
9.	CFL and Company	Associates	Law Firm
10.	DLR Group Africa Ltd	Associates	Industry Supplier
11.	Glinis & Kigera & Company Advocates	Associates	Law Firm
12.	Geokarma Construction Limited	Associate	Contractor Firm
13.	Kanaga and Associates	Associate	Law Firm
14.	Knight Frank Kenya Ltd	Associate	Property Developer and Real Estate Manager
15.	KN Associates LLP	Associate	Law Firm
16.	Koto Housing Kenya	Associate	Housing and Building Firm
17.	Lamudi	Associate	Industry Supplier
18.	Lupat Cleaning Services Ltd	Associate	Industry Supplier
19.	Mahida and Maina Company Advocates	Associate	Law Firm

20.	Mereka & Company Advocates	Associate	Law Firm
21.	Mohammed Muigai Advocates	Associate	Law Firm
22.	Nanchang Foreign Engineering Company (Kenya) Ltd	Associate	Contractor Firm
23.	Pam Goldings Properties Ltd	Associate	Real Estate
			Agent/Manager
24.	Paragon Architects	Associate	Design and
			Architectural Firm
25.	Property Link Africa Ltd	Associate	Real Estate
			Agents/Managers
26.	Ratemo & Company Advocates	Associate	Law Firm
27.	RealTrak Solutions	Associate	Real Estate
			Agents/Managers
28.	Re/Max Heritage	Associate	Real Estate
			Agents/Managers
29.	Steel Africa Limited	Associate	Industry Supplier
30.	Takataka Solutions	Associate	Industry Supplier
31.	Wambua & Maseno Advocates	Associate	Law Firm

### Appendix III: Total Variance Explained and Pattern Matrix

Total Variance Explained							
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings <sup>a</sup>
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	4.188	17.449	17.449	4.188	17.449	17.449	3.149
2	2.753	11.470	28.919	2.753	11.470	28.919	2.903
3	2.168	9.034	37.953	2.168	9.034	37.953	2.457
4	1.635	6.812	44.764	1.635	6.812	44.764	2.502
5	1.593	6.638	51.402	1.593	6.638	51.402	2.308
6	1.497	6.236	57.637	1.497	6.236	57.637	2.011
7	1.391	5.797	63.435	1.391	5.797	63.435	1.666
8	1.304	5.433	68.867	1.304	5.433	68.867	1.649
9	.998	4.158	73.026				
10	.836	3.482	76.508				
11	.755	3.146	79.654				
12	.683	2.846	82.500				
13	.626	2.609	85.108				
14	.566	2.359	87.467				
15	.508	2.118	89.585				
16	.434	1.808	91.393				
17	.406	1.692	93.086				
18	.355	1.479	94.565				
19	.298	1.243	95.808				
20	.263	1.094	96.902				
21	.234	.976	97.878				
22	.196	.815	98.693				
23	.170	.709	99.402				
24	.143	.598	100.000				
Extraction Method: Principal Component Analysis.							
a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.							



Venture capitalist provide legal framework and lending policies(terms and conditions) that are comfortable for both the lender and the real estate developer in the repayment arrangement						.824		
Amount available depends on the percentage the investor is ready to commit compared to the total cost of the project						.648		
Provide networks with other manufacturing and supplying companies to enhance trade credits and hire purchase services for real estate developers during construction						.528		
Adjustable rate Mortgage has a favorable interest rate for financing growth of real estate							.891	
Equity financing is available for starters in real estate development								.834
Saving period depends on the type of real estate development to venture in								
Return is higher since the element of interest is not a factor to consider								

Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser Normalization.

a. Rotation converged in 19 iterations.