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DETERMINANTS OF HOUSE PRICE BY REAL ESTATE AGENCIES IN ELDORET MUNICIPALITY, KENYA

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ABSTRACT

Real estate pricing deals with the valuation of real estate and all the standard methods of determining the price of fixed assets apply. House prices are limited and determined by various factors. The purpose of this study was to assess the determinants of house prices of real estate agencies in Eldoret municipality in Kenya. The study was guided by three objectives; to establish the effect of location on house prices, to establish the effect of demand on house prices and to establish the influence of cost of production on house price. To achieve the objective of the study a descriptive research design was adopted. The target population was 30 respondents of real estate agencies in Eldoret Municipality. Both primary and secondary source of data were utilized. Inferential and descriptive statistics were used to analyze the data and the results were interpreted and presented using percentages and frequency distribution. Regression analysis was used to establish the extent to determinants influence house prices. The study found out that location has a positive influence on house prices, demand has a positive influence on house prices and real cost of production has a positive influence on house prices. Based on the findings, the study recommended that the government should regulate real estate sector by putting proper measures to tame insanity in the market to prevent price shock of houses in future, when developers/investors are buying land for development they should consider location access to social amenities, infrastructure to avoid losses in their investment portfolio. The study also recommended that real estate developers should consider the composition of the population so that they can produce houses targeting their client's need.

Key Words: *House Locations, House Demand, Cost of Production, Real Estate value*

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INTRODUCTION

The importance of real estate to the socio economic development of every nation is well documented. Land is a primary commodity that provides space for human and economic activities and is seen as the source of wealth and power (Abdulai 2010). House prices are pivotal in generation of business cycles and financial dynamics, a fact that has been acknowledged by both practitioners and empiricists since the 2007/2008 global financial crisis (Valadez, 2012; Shi & Jou, 2013). In recent years ,the development of real estate industry has become an important driving engine of economic growth, but the real estate has suffered also some criticism(Pyhrrey et al.,2004).In Africa, over 50% of the population live in substandard condition; whereas in India and china ,nearly a quarter of the population live in informal settlements(Florida,2017).In 2004 Mckinsey estimated that 330 million urban households were living in substandard housing and were financially stretched by housing costs (Mckinsey Global Institute 2014). This is projected to rise to nearly 440 million households, or 1.6 billion people, by 2025 and 2.5 billion people by 2050.

Kenya lucrative real estate sector has rapidly expanded to become the fourth biggest contributor to the country's wealth, Updated accounts unveiled by ministry of planning show that the contribution of the real estate sector to Kenya's gross domestic product (GDP) has been revised 10.6 % which is more than double from the previous estimate of 4.9% in 2013.Growth over the past ten years saw the real estate industry dislodge the retail sector as the fourth large contributor to the economy even as traditional sectors such as agriculture wholesale and financial services continued to diminish.

The enormous increase in house prices can be attributed either to a commensurate increase in GDP and changes in other fundamentals as proposed for instance by Rothman (2011) or to the adoption of radical government stimulus programs that were supposed that were supposed to antagonize the potentially harmful effects of the financial crisis on the Chinese economy (Dreger and Zhang, 2010).

Values in Kenya's residential property market continue to rise, amidst robust economic growth and a sharp increase in the population of middle class and expats. Residential property values in Kenya have sky rocketed a stunning 357% from 2000 to Q3 2014 according to Hass consult. During the year to end Q3 2014 Hass composite property sales index a measure of asking sales prices of residential properties rose by 4.7% a sharp improvement from meager increase of 0.05% in Q2 2014 ,1.7% in Q1 2014 and 0.35 in Q4 2013 based on a report released by Hass consult Limited.

According to Kenya bankers association the first quarter of 2016 saw an uptick in house prices during the first quarter of 2016 with the movement representing a reversal of the mild decline the rate of growth seen in the previous quarter. There has been a sense of taste consistency amongst home buyers. Real estate property negotiations and prices in Kenya are widely determinate by the brokers and realtors. Kenyan real estate property covers all property categories including single and multifamily residential dwellings commercial and agricultural land office space, go dawns and warehouse retail outlets and shopping complexes (Masika, 2010). Real estate property buyers shop comparison they preview property in the area they are looking and price range they can afford (Wales 2010).Buyers typically base their selection of house For instance what is appealing to their personal tastes but also what they feel is the best value based on all of the houses they've seen (Elli et al, 2010).so it's important to consider this when setting a list price for a house.

Other pricing factors need to be considered as well (Hutchison, 2005) if a seller set the price too high the house won't be selected for showing by realtors. Even though this may be much nicer it needs to be priced appropriately.

Home value is the price that a property owner or developer is able to negotiate when selling an existing home or property. The market for house properties is growing as home owners are willing to get a share from lucrative real estate sector. The prices of this market also vary depending on the factors involved and timing. There are risks or uncertainty in property valuation as it could be subjective (Joslin, 2005) .To be able to accurately estimate a property value we must study the main attributes and it is also important how the attributes impact on price.

Eldoret is a principal city in western Kenya .It is the capital and largest town in Uasin Gishu county, Lying south of Cherengani hills. The population was 289,380 according to the 2009 census and it is the fastest growing town in Kenya. The town which covers an area of about 20 kilometers is fast running out of land for expansion warns the survey conducted by Uasin Gishu county land and housing department. The growth of the town has taken a new turn with demand for housing reaching all-time high in the region according to county land surveyor Paul Sugut. The growth is partly driven by the location of key institutions in the region including public universities. The survey suggested that local private investors are among the biggest investors in Eldoret real estate sector.

Problem statement

The demand for housing in Kenya is immense and driven by a growing population and urbanization; hence an efficient housing market has a significance importance in determining house prices. Values in Kenya´s residential property market continue to rise, amidst robust economic growth and a sharp increase in the population of middle-class and expats. Property prices in Kenya have skyrocketed a stunning 357% from 2000 to Q3 2014, according to Hass Consult Farhana hashmani (2014).

Over the past few decades the housing prices has shown increments as time goes by. It is no doubt that the longer the period of time the higher the price of housing. This is a big issue to be taken into consideration. It is considered an important issue because house is one of the important basic needs. Being concerned about housing prices is a must and the factors that contribute to the increase of house prices need to be determined.

Many studies have been done focusing on the relationship between property prices and economic fundamentals. Gotlieb (1976) suggested that long swings in construction and price developments were synchronized with swings in economic activity. Recent models have attempted to generate pattern of price in response to changes in economic fundamentals (Quigley, 1999).In Hong Kong property market, Hui & Yue (2006) used the reduced form demand supply method to estimate long equilibrium of prices and found out that exports and interest rates were two key variables that could explain the movement of house prices.

Prices in most areas are influenced by demand and supply forces as research as shown (David et al, 1990).But for some reason the real estate market prices in other different areas seem to be dictated by what comes across as quite a different set of forces. It is for this reason the researcher set out to investigate the determinants of house property value prices in Eldoret Municipality.

Objectives of the study

The main objective of the study was to establish determinants of house prices in Eldoret municipality. The specific objectives were;

- To establish the effect of location on house prices in Eldoret municipality
- To establish the effect of demand on house prices in Eldoret municipality
- To establish the effect of real cost on house price in Eldoret municipality

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LITERATURE REVIEW

Sales Comparison Theory

The sales comparison approach derives a value indication by comparing the subject being appraised to similar properties that have sold recently. It is based upon supply, demand and substitution. Substitution holds that value of a property replaceable in the market tends to be set the cost acquiring an equally desirable property. Supply and demand forces tend to move toward equilibrium in the market.

Isakson (1986) attempts to complete the selection of comparable sales and weight allocation among adjusted values in a coherent process. In his proposed nearest neighbours method, the attributes of an individual property are viewed as coordinates along the dimensional axis and every property is given a particular point. Calculation of distances between the subject property and individual potential comparables enables the property to be identified in order of their nearness (similarity) to the subject property. Nearness measured by mahalnobis distance is employed both for selection of comparables and weight allocation. Nearest neighbours method assumes that the effect of all attributes difference between the subject and comparable properties are captured by the mahalanobis distance.

The Hedonic Price Model

Is also known as hedonic demand theory or hedonic regression. It estimates value of a characteristic of a commodity that indirectly affects market price .Alternatively it is used for estimating the demand for a commodity. Hpm is used in consumer and market research (e.g. moulton,1996),tax assessment(e.g. Berry and bednarz,1975),valuation of cars (e.g. cowling and cubbin, 1972

The model has been used recently in real estate and housing market research; some of the most applied areas include correction for quality changes in constructing a housing price index, assessment of the value of a property in the absence of a specific market transaction data, analysis of demand for various hosing characteristics or housing demand in general.

Fundamental idea of hpm is as follows commodities are characterized by their constitute properties, hence the value of a commodity can be calculated by adding up the estimated values of its separate properties. According to this informal decision a couple of requirements need to be fulfilled in order to be able to calculate hedonic prices. Those are that the composite good under consideration could be reduced to its constituent parts and there is an implicit value for those constituent parts in the market.

Most of the scholars agree that it was Court (1939) who first used hpm. Accordingly, Bartik (1987), Goodman (1998), Robert and Shapiro (2003) among many others argue that the first actual estimation of a hedonic price model was a hedonic price index for automobiles by A.T. These scholars document that methodology was popularized by ZviGriliches in the early 1960s.

Robert and Shapiro (2003) contends that implicit price component for each of a bundle of a product characteristics are determined by a regression procedure that expresses price of a product as a function of the coefficients associated with each characteristics .The price of a new product can then be compared with that of previously existing product when one utilizes these coefficients.

Collwell and Dilmore (1999) demonstrate that Haas (1922a1922b) conducted hedonic study. Haas analysed price per acre adjusted for year of sale, road type, city size, using data on 160 sales transaction gathered from farm sales in Minnesota. The independent variables in the hedonic analysis included depreciated cost of building per acre, land classification index distance to the city center.

Rosens model (1974) on the other hand has two distinct steps an initial step involving an estimation of marginal price for the attribute of interest (by regressing price of a commodity on its attributes) and a second step to identify the inverse demand curve from the implicit price function estimated in the price stage .Rose maintains that there is a range of goods that consumers typically do not acquire preferred attributes by purchasing a combination of goods rather each good is chosen from the spectrum of brands and is consumed discretely.

Regression analysis related estimation approaches are common in hpm models in real estate as well. The conventional hedonic price regression equation with regard to housing market is either rent or house value against the characteristic of the unit that determine the respective rent or the value of the house. The fundamental assumption of regression applies that the relevant determinant of the dependent variable (rent, price or value in this case) are known precisely and in advance .A classic hedonic equation is as follows

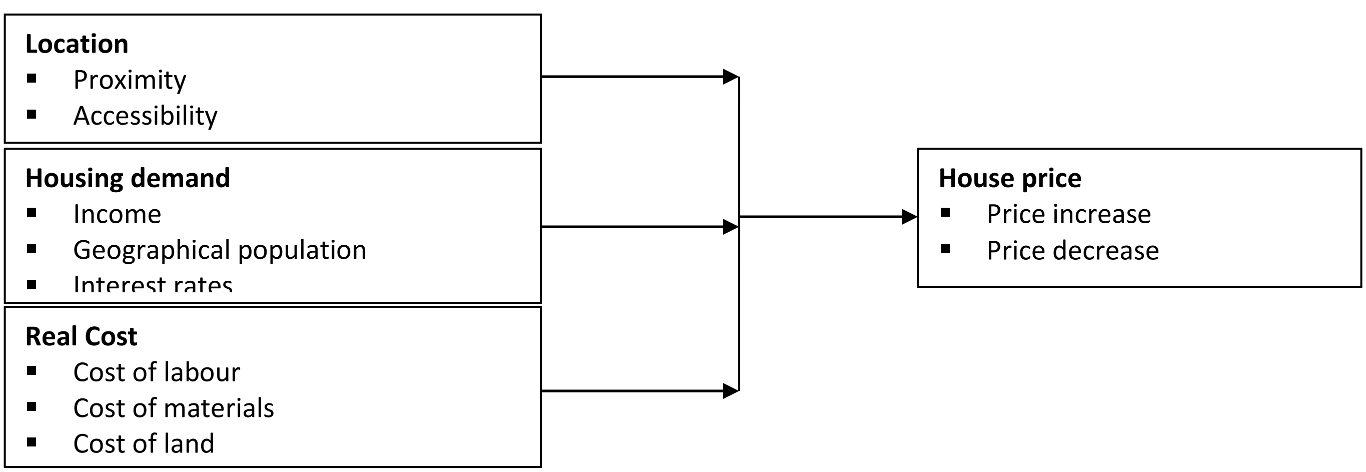
R=f (P, N, L, C, t)

Where R is price of the house, P is property related attributes, N is Neighborhood characteristics, L is locational variables, C is contract condition, t is an indicator of time

In Practice various variables are applied based on the scholar preference or the availability of data. Malpezzi (2003) notes experience from many studies suggest the following variables often appear in hedonic price model; number of rooms and type of rooms, floor area, age, structural features and quality of finish.

Cost approach theory

According to the theory of coast approach by Brueggeman and fisher (2001) the prospected transaction price of a property is geared out by calculating its replacement cost and by adjusting the replacement cost with market wide adjustment factor. This cost based approach is based on simple economic argument that a buyer would not pay more for a property than what it could cost to buy the land and build the structure. Prices for existing properties and replacement cost cannot diverge. Real estate and land are among the oldest asset market which human have an extensive experience. Social structure, marriage institution, social organization have influenced the nature and functioning of real estate.



Independent variable **Dependent variable**

Figure 1: Conceptual Framework

Empirical Literature

Baret and Blair (1988) explain the location aspects as indirect economic factors. Indirect economic factors include; utilities, transport linkage and traffic and government services. The principle of highest and best use of land is known to govern urban land use patterns. What will emerge as the highest and best use of an urban site is the use that places the highest premium on the accessibility of the site and the complementarity of the prevalent or common use in its environs (Barlowe, 1978).

Value of residential property depends on many attributes which are related to both the physical aspects of the property and its location. Characteristics of neighborhood include social amenity such as schools are attributes that influence property value. Other factors that determine value residential property include environmental factors, roads, health centers, educational centers and community services (Pollakowski, 1982).Wang and Li(2006) supported the generalization that location of housing is an important factor to consider when purchasing a house. The distance to workplace, schools, retailing outlets and public transportation stations are proved to be noteworthy consideration in purchasing a house. Land users in urban centers placed different values on accessibility and complementarity and this is through the process of competitive bidding. By a process of competition, in any city either large or small, activities seek out and segregate themselves in areas where they would have the highest comparative advantage by virtue of what they are normally able to execute out of all other uses (Lean and Goodall (1983).

Hwang (2009) states that scale and timing of transportation investment, local economic conditions and land use policy are found to influence how land and housing markets respond to increase in accessibility. He also carried out a study for metropolitan areas of buffalo and seattle and found out job accessibility is a significant determinant of housing price. Locations accessible to job opportunities are considered more desirable hence increases residential value.

Real estate market may be peculiar and idiosyncratic in number of respect but they still obey some economic principles of demand. These simple principles have been ignored by real estate industry in favour of boilerplate analysis or simple hunch and institution (Featherstone 1986). Dipasquale and Wheaton (1994) studied on the Markets for Real Estate Assets and Space in U.S. The study used a stock-flow modeling analysis of U.S. housing market. The study's results gave evidence that housing market takes several years to clear. Through extension of the traditional stock-flow framework, the study analyzed whether housing prices converge to the equilibrium over the years. It used an equation for a housing market clearing price determined by demand variables and the actual stock flow. The study estimated the equation for investment in the residential housing whereby construction was a dependent variable and housing prices was an independent variable. Other variables like level of the existing stock and an array of cost shifters were also used as exogenous. The study concluded that residential investment increases when housing prices increase.

The residential demand in Kenya area is estimated to be 2.0 million units, growing annually by 200,000 units, as per National Housing Corporation (NHC), World Bank, and other research institutions, against limited supply from both the government and private sector's estimated annual delivery of 50,000 units. According to cyton report 2017, Kenya's population has been growing at 2.6% p.a. over the last 5-years compared to a global average of 1.2%, creating demand for dwelling units. Additionally, the urbanization rate in Kenya is relatively high at 4.4%, compared to the global average of 2.1%, necessitating the need for adequate housing units in the urban areas.

Hyun, Jong, and Myung (2013) studied housing prices dynamic with household indebtedness in Korea. The study sought to find the long-run determinants of house prices and analyzed the housing prices dynamic with the Korean data, while taking into account the close relationships between housing prices and household indebtedness. The result of integrating regressions showed that the rise in housing prices during the year 2000s in Korea were strongly related with the steep increase in households 'indebtedness. Demand for housing in Kenya is estimated at 200,000 units annually, yet just 30,000 to 40,000 units are added to the market each year, according to the Ministry of Land, Housing and Urban Development (Oxford Business Group, 2016).

According to Wikipedia Population geography is a division of human geography. It is the study of the ways in which spatial variations in the distribution, composition, migration, and growth of populations are related to the nature of places. Population geography involves demography in a geographical perspective. It focuses on the characteristics of population distributions that change in a spatial context. The global stock of immigrants more than tripled between 1960 and 2015, from 72million to 243 million, respectively (World Bank, 2018). Migration has become one of the most pressing social, economic and political issues, generating heated debates in countries facing large influxes of immigrants (Saiz and Wachter, 2011; Accetturo et al., 2014; Abramitzky and Boustan, 2017). Immigration increases the demand for housing and rental accommodation, but it might also affect amenities and the perceived desirability of the neighborhoods involved (Accetturo et al., 2014). Studies have suggested immigration affects house prices depending on the level of geographical aggregation and area size. In small local housing markets, immigration may increase house prices directly by increasing demand. Alternatively, house prices may fall through indirect local resident out-migration, and the income effect that ensues (Saiz and Wachter, 2011; Sá, 2015; Mussaet al., 2017); or house prices grow at a slower pace because the area is deemed to be less desirable.

Important factor influencing housing demand is the number of consumers desiring housing. Changes in housing demand are highly reflected by changes in population. When population increases demand for housing increases. The age distribution is also an important influence on the size and number of household format. Migration is also a key role in affecting a demand for housing. Without migration, demand for housing will decrease, in migration in face of limited supply will increase demand. (Charles, 1977).Gonzalez &Ortega (2009) found a positive effect of immigration on prices from 1998to 2008 in Spain. During this period Spain experienced a sizeable wave of immigration that added 17% of the working age population .Housing prices also increased by a staggering 175% that hit the peak during boom 2008.Their study estimated that immigration contributed to one third of the overall increase in price. Saiz (2007) estimated the impact of immigration on housing prices. The study suggested that immigration pushed up the demand of house prices. Li (2014) found a coefficient of 0.027 which was positive and significant and concluded that an increase in working age population has a significant effect on appreciation of house prices. Cvijanovic, Favilukis and Polk (2010) analysed the relationship between expected and realized house price appreciation and demographic changes for 23 cities in 17 states in USA for the period 1975 and 2009. The data used were house prices, house rents, and GDP. A pooled regression was used. The coefficient of population growth was positive and statistically significant, with a value of 1.1073. The authors further identified two components of expected population growth: natural component due to fertility and mortality rate changes and a non-natural component as a result of immigration. The findings indicated that only the natural component of expected population growth forecast house price appreciation.

According to Cyton report 2017 with a relatively stable economy, household incomes continue to increase further boosted by the fact that most households, especially in the middle-income class have both partners working and earning a steady income. As per the KNBS Economic Survey 2018, the number of recorded employed persons came in at 16.8 million people in 2017, a 5.6% increase from 15.9 million persons recorded in 2016, while average monthly wage came in at Kshs 57,008 per person in 2017, a 6.1% increase from Kshs 53,733 reported in 2016. This has resulted in increased disposable income resulting in higher demand for formal housing,

It is well recognized in economics and the finance literature that the two components of total wealth, namely asset wealth (holdings) and human wealth such as labor income, are important for explaining the behaviors of asset prices (e.g., Campbell, 1993, 1996; Lettau and Ludvigson, 2001a, 2001b, 2004). There is extensive literature in real estate and housing economics that generally agrees income is one of the most important factors that drive movements in equilibrium house prices (e.g., Case and Shiller, 1989,1990; Malpezzi, 1999; Capozza, Hendershott and Mack, 2004; Meen, 2002, Gallin, 2006; Gao, Lin and Na, 2009).

For any given price level lower interest rates usually imply lower mortgage repayments which allow borrower to borrow more at any given repayment to income ratio. This causes an increase in housing demand and housing prices. When interest rates go up housing demand will ease and price will remain steady or rise moderately (Rahman, 2008).

Housing is an expensive asset, bank loans are usually required by most households to finance their purchases. Better availability of credit will cause the demand of housing to increase when the households are borrowing constrained (Barakova, 2003).Bank lending may also affect house price due to various liquidity effects. If the banking industry increases availability of credit, it means that bank will provide lower lending rates and encourage current and future economic activities.

Research literature on the impact of population age structure changes on real estate prices carried mainly after the 1998, this is mainly because the welfare housing distribution system abolished in 1998. Before 1998, real estate market was controlled in planned economy, which means market factors—supply and demand contributes less on the housing prices. Ha Jiming (2007) put forward the viewpoint that "population structure dominates house prices", he thought that the population age structure has direct influence on asset prices include real estate prices. When a country stays in the stage with low dependency ratio, high savings rate, consumption rate is low, the investment rate is high and the house price rises. The author also believed that after the population age structure changes, the demographic dividend would transfer into demographic debt, and then asset prices would face downward pressure. Wang Qin and Jiang Man (2011), carried a quantitative analysis by Logarithmic curve model and confirmed the views of the Ha Jiming, finding that the decline of population who has the demand in purchasing house would lead to downward pressure of house prices.

According to investopedia real cost of production refers to cost incurred by a business when manufacturing a good or providing service. The real cost of production for a business includes the value of all tangible resources such as raw materials and labour that are used in the production process. Building costs include land acquisition(cost of purchase, titling ,registration duties, obtaining planning approval; costs of developing water systems, electricity grids heating and cooling networks and construction costs(Including labour and materials).In different parts of the world ,land cost accounts for varying proportion of overall costs ,depending on factors such as land tenure, titling ,location arrangements ,and the local level of social and economic development. The cost of land tends to be higher close to urban centers, through increased density offers an opportunity to reduce land consumption per unit. The cost of land is highly influenced by planning policy, previous sale value, market dynamics and availability of basic urban infrastructure at the site –often decides whether there is commercial viability for the private sector to build affordable housing. Tan 2006 described decrease in land supply area because of rapid urbanization has a significant negative effect on housing development costs, which increased the housing price.

The supply of houses is also affected by the increase in the costs of building materials, which usually contribute to the increase in the cost of constructing new houses (Mosha, 2011; Napier, 2011). For example, the cost of building new houses in Namibia increased considerably between 2008 and 2009 because of a hike in the prices of building materials, like cement, when building activities in neighboring countries (Angola and South Africa) were at their highest in preparation for the African Nations and World Cup football tournaments (Mosha, 2011). In the long run, construction costs and prices of new houses play an important role in analysing housing prices (Jacobsen et al., 2005). Construction expenses include the price of construction materials and the cost of the labour force used in building new houses or maintaining existing ones. High construction costs result in a decrease in the construction of new houses, ultimately leading to an increase in house prices (Xu and Tang, 2014). This means increases in construction costs are transferred to final consumers or house buyers. Thus, new construction investment is a key factor in modelling the supply side of the housing market.

METHODOLOGY

The research design that was used in the study was descriptive survey design. The target population of the study was 30 branch managers of real estate agencies that are licensed by estate agents board of Kenya in Eldoret municipality. The study adopted census sampling technique. A questionnaire was used in the collection of data. The study used Cronbanch's alpha methodology to test the consistency of measurable items and correlation. Quantitative analysis was performed with the assistance of application SPSS. Using inferential statistics the study ought to establish a model to estimate dependent variable (house price) in terms independent variable (demand factors, location attributes, real cost of production based on the model shown below.

$Y=a + \beta_1X_1+\beta_2X_2+\beta_3X_3+e^-$……..

Where Y=House price, X_1=Housing demand, X_2=Location, X_3=Real cost

Model a is the constant term while the coefficient β_1 to β_3 are also constant and they are used to measure the sensitivity of the dependent variable (y) to unit change in the explanatory (X_1,X_2 and X_3).e^- is the error term that captures the unexplained variation in the model.

RESULTS

Location

The study sought to investigate whether the buyers consider location when buying a house,79.1% indicated very often,16.7% indicated often while 4.2% rarely. This is an indication buyers consider location when buying houses.

The study also sought to investigate whether adequacy of social amenities in Eldoret Municipality affect price.41.7% indicated high,33.3% moderate ,20.8% high and 4.25 inadequate. This is an indication that social amenities have the capacity to influence house prices.

Table 1: extent to which location influence the price of a house in Eldoret

Extent	Frequency	Percentage (%)
No extent	1	4.2
Little extent	2	8.3
Moderate extent	3	12.5
Great extent	8	33.3
Very extent	10	41.7
Total	24	100

Table 2: Effect of location on house prices

statement	NE	LE	ME	SE	VE	Mean
Areas accessible to educational centres are desirable therefore houses attract high prices	0	2	6	10	6	3.83
Houses near the Central business district tend to attract a higher price due to accessibility to town.	1	2	5	6	10	3.92
Locations accessible to job opportunities are considered more desirable therefore increasing house prices.	1	1	5	9	8	3.92
Relative improvement of accessibility originating from transportation equipment and infrastructure can lead to an increase in residential property price	0	0	2	10	12	4.42
Existence of social amenities in an area tend to influence price of houses	0	0	5	9	10	4.21

The results above indicated that improvement of accessibility originating from transportation equipment and infrastructure has led to an increase in property value with mean of 4.42,existence of social amenities in an area influences house prices with mean of 4.21, Locations accessible to job opportunities were considered more desirable hence increasing value of a house with mean of 3.92, Houses near central business district attract high prices due to accessibility to town with mean of 3.92,Area accessible to educational centres are desirable therefore attracting high price with mean of 3.83.

Housing Demand

The study sought to find the level of house demand in the region, 41.7% indicated high, 33.3% very high, and 25% moderate. This indicated that the demand for housing was high in Eldoret municipality.

The study sought to investigate to what extent demand affected house prices, 41.7% indicated great extent, 33.3% very extent, 16.7% moderate extent and 8.3% little extent. This is an indication that demand had influence in house prices.

Table 3: effects of demand on house prices

Statement	NE	LE	ME	GE	VE	mean
Low interest rates decreases the cost of acquiring a house	0	1	10	8	5	4.13
Overall price of houses has increased due to the increased population desiring housing.	0	2	3	8	11	4.17
Prices of certain type of houses have increased due to the composition of population	1	3	10	7	3	3.33

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Regions where high income earners live tend to attract high prices of houses	0	2	9	12	1	3.5
Immigration of population from different counties has resulted in growing demand for housing	0	0	4	10	10	4.25
Interest rates have a long and short term effect on price inflation	0	0	3	8	13	4.42
Changes in housing demand are highly reflected by changes in population.	0	1	5	13	5	3.92
The demand for housing is not determined by the number of people, but by the number of households	1	2	15	4	2	3.17

The results from respondents indicated interest rates have long and short term effect on price inflation with a mean of 4.42, immigration of population from other counties has resulted in growing demand for housing with a mean of 4.25, overall prices of houses have increased due to the increased population desiring housing with a mean of 4.17, Low interest rate decrease the cost of acquiring a house with a mean of 4.13,Changes in housing demand are highly reflected by changes in population with a mean of 3.92, Regions where high income earners live tend to attract high prices of houses with a mean of 3.5, Prices of certain type of houses have increased due to the composition of population with a mean of 3.33), The demand for housing is not determined by the number of people, but by the number of households with mean of 3.17This is an indication that demand has a positive influence on house prices.

Real Cost

The study sought to investigate the cost of producing a house, 41.75 % indicated very high, 33.3% high, 25% moderate. This is an indication that cost of production is very high. The study also sought to investigate the level to which cost of production influences house prices, 50% indicated high, 29.2% very high, 20.8% moderate. This was an indication that cost of production greatly influences house prices**.**

Table 4: extent to which following factors affect cost of production in Eldoret Municipality

statement	NE	LE	ME	GE	VE	Mean
Cost of labour	0	1	10	10	1	3.20
Cost of land	0	0	0	9	15	4.63
Cost of building Materials	0	0	1	3	20	4.79

The study sought to investigate which factors affect cost of production. The results from the respondent indicated that cost of building materials had mean of 4.79, cost of land at 4.63 while cost of labour had a mean of 3.20.

Table 5: Statements relating to real cost on house prices in Eldoret Municipality

Statement	NE	LE	ME	GE	VE	Mean
Increased cost of production has forced developers to build fewer units leading to limited supply of houses	0	2	14	6	2	3.33
Hiring of expensive skilled workers has driven high labour cost	0	1	6	11	6	3.92
Increased house price of houses can be attributed to the increased cost of imported materials	0	2	10	9	3	3.54

Delay of outsourced materials has had a high impact on construction cost	2	5	9	6	2	3.04
Increased prices of houses can be attributed to increased cost of land	0	1	2	6	15	4.46
Availability of land for housing, zoning regulation, restriction of housing policy has impacted availability of land for housing leading to house price variation	0	1	3	14	6	4.04
Reduction in cost of building materials could result in lower sales price in future.	0	0	2	8	14	4.5
Building materials constitute the largest factor in the construction of houses accounting to 60% of total cost	0	0	1	7	16	4.62

The result from respondents indicated that building materials constitute the largest factor in the construction of houses accounting to 60% of total cost (mean 4.62), Reduction in cost of building materials could result in lower sales price in future (mean 4.5), Increased prices of houses can be attributed to increased cost of land (mean 4.46), Availability of land for housing, zoning regulation, restriction of housing policy has impacted availability of land for housing leading to house price variation (mean 4.04,), Hiring of expensive skilled workers has driven high labour cost (mean 3.92), Increased house price of houses can be attributed to the increased cost of imported materials (mean 3.54), Increased cost of production has forced developers to build fewer units leading to limited supply of houses (mean 3.33), Delay of outsourced materials has had a high impact on construction cost (mean 3.04).This is an indication real cost of production has positive influence on house prices.

The study sought to investigate the level of house prices in Eldoret municipality, 41.7% indicated high, 33.3% high and 25% moderate. This is an indication that prices of houses are high in Eldoret municipality. The study also sought to investigate whether prices have increased in the last two years, 100% indicated 100%.This was an indication prices are ever rising. The study sought to investigate the level of prices after five years, 41.7% indicated very high, 33.3% high, 25% moderate. This was an indication that real estate agencies are optimistic prices will rise.

Multiple Regression Analysis

A multiple regression model was applied to determine the determinants of house price in Kenya.

The logistic regression used in this model was;

$Y = a + \beta_1 X + \beta_2 X + \beta_3 X + e^-$

Where Y= House price, $a_=$ constant term, β_1, β_2, and β_3, = slopes of the regression equation, $X_{1=}$ housing demand factors, $X_{2=}$ location factors, $X_{3\ =}$ real cost of production and e^-= Error

Table 6: Model summary

Model	R	R^2	Adjusted R Square	Std. Error of the Estimate	Sig
1	.873	.766	.765	.230	0.00

Source: Researcher (2016)

Predictor variables: (Constant), housing demand factors, location factors and cost of production.

Dependent Variable: House price.

R is the square root of R-squared and is the correlation between the observed and predicted values of dependent variable implying that the association of 0.873 between House price and its determinants which include housing demand factors, location factors and cost of production was strong.

Adjusted R squared is the coefficient of determination which tells us the variation in the dependent variable due to changes in the independent variable. from the findings in the above table the value of R squared was 0.766 an indication that there was variation of 76.6 percent on house price in Kenya due to changes in housing demand factors, location factors and real cost at 95 percent confidence interval. This shows that 76.6 percent changes in house price in Kenya could be accounted to housing demand factors, location factors and cost of production. from the findings shown in the table above is notable that there exists strong positive relationship between the study variables as shown by 0.873. Due to the fact that the difference between R square and Adjusted R square is small (0.001) shows that the independent variables were precise.

Table 7: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		b	Std. Error	Beta		
	(Constant)	1.584	1.021		1.215	.001
1	Housing demand factors	.055	.133	.0495	2.412	.002
	Location factors	.325	.143	.205	2.816	.000
	Real Cost	.180	.124	.366	2.702	.001

Predictor variables: (Constant), housing demand, location and real cost.

From the data in table 7, the established regression equation was

$$\mathbf{Y = 1.584 + 0.055X_1 + 0.325X_2 + 0.180X_3}$$

From the findings in the multiple regression equation it was revealed that holding housing demand, location and real cost to a constant zero, the housing price in Kenya would be at 1.584, a unit increase in housing demand factors would lead to an increase in housing price in Kenya by factors of 0. 055, a unit increase in location factors would lead to increase housing price in Kenya by factors of 0.325 and finally a unit increase in real cost lead to increase an in housing price in Kenya by a factor of 0.180. On the other hand, Beta expresses the relative importance of each independent variable in standardized terms. Firstly, the results show that all the independent variables (housing demand factors, location factors and real cost) are significant predictors. In conclusion, a multiple regression was run to predict the housing prices in Kenya from the independent variables (housing demand factors, location factors and real cost). These variables statistically, significantly predicted housing prices in Kenya. All the variables were significant as their significant value was less than ($p<0.05$).

Ryan (1999) found out that property value increased due to accessibility and it only happens when there is a significant travel time .The hypothesis was significant

Due and Molley pointed that regional economic development has important influence on property value capitalization than accessibility.

Cerrero and Kang 2011 showed that impact of accessibility on property value is significant of the area close or adjacent to transport facility. I concur with the researcher on transport facility will have significant value but differ on which transport facility. Every country has different forms of transport population it uses. In Kenya the most affordable and efficient transport is road but not rail since rail is available in big cities. In Eldoret the road network is available but not rail bringing out the difference.

Otieno John (2016) established various demographic profiles had positive significant on house demand in influencing house prices. I concur with John demographic profile such as family setup will impact the type of house developers will construct for growing population.

Researchers should be cautious when dealing with house prices since it an asset that is negotiated coupled with measurement variations and in future the dynamics of population will change, new affordable construction materials will emerge, Laws and regulations are bound to change and income of individuals will change. In recent years we have seen fabricated materials and containers used in house construction these trend has forced investors shift to new ways of reaching their target customers. The mortgage sector uptake has shrunk in Kenya due to capping of interest rates which has forced financial institutions to deny risky customers credit these has led to low housing uptake. Other researcher should not lock out the stability of financial institution in looking into house prices

CONCLUSION

From the findings the study established that accessibility and proximity of location is positively significant to influence house prices in Eldoret municipality thus the study concludes that location has a positive influence on house prices.

The study revealed that population, income and interest rates are positively significant to influence house prices therefore the study concludes demand has a positive influence on price in Eldoret Municipality.

The study also revealed that reduction of price of building material, labour and land could lower the price of houses in future therefore the study concludes that real cost of production has a positive influence on house prices.

RECOMMENDATIONS

Based on the findings, the study recommends that the government should regulate real estate sector by putting proper measures to tame insanity in the market to prevent price shock of houses in future. This will allow house prices to be influenced by factors inside the real estate market.

The study recommended that when developers/investors are buying land for development they should consider location access to social amenities, infrastructure to avoid losses in their investment portfolio.

The study also recommended that real estate developers should consider the composition of the population so that they can produce houses targeting their client's needs. This will accommodate clients of different groups who need housing.

The study recommended that the government should subsidize construction materials so that cost of production is low therefore houses affordable to every citizen. This will encourage more investment and consumption in the real estate sector.

Recommendations for further studies

The research was intended to assess the determinants of house prices in Eldoret municipality. The study recommended that more study to be carried out it in other fastest growing towns. This will enable the generalization of the findings of determinants of house prices.

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