FACTORS AFFECTING HOUSEHOLD DEMAND FOR URBAN HOUSING IN KISUMU CITY, WESTERN KENYA

ODHIAMBO BERYL ACHIENG'

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF
MASTER OF BUSINESS ADMINISTRATION
UNIVERSITY OF NAIROBI

NOVEMBER 2023

DECLARATION

I hereby declare that;

I understand what Plagiarism is and I am aware of the University's policy in this regard.

This thesis is my original work and has not been submitted elsewhere for examination, award of a degree or publication. Where other people's work or my own work has been used, this has properly been acknowledged and referenced in accordance with the University of Nairobi's requirements.

I have not sought or used the services of any professional agencies to produce this work.

I have not allowed and shall not allow anyone to copy my work with the intention of passing it off as his/her own work.

I understand that any false claim in respect to this work shall result in disciplinary action, in accordance with the University of Nairobi Plagiarism Policy.

…….

BERYL.A. ODHIAMBO
REG NO: D61/20208/2019
FRIDAY, 1ST DECEMBER 2023

This Thesis has been submitted for examination with my approval as university supervisors:

DR. LUTHER OTIENO
(Supervisor)
FRIDAY, 1ST DECEMBER 2023

ACKNOWLEDGEMENT

I would wish to extend my sincere gratitude and appreciation to my project supervisor Dr. Luther Otieno and moderator Dr. Nixon Omoro for their guidance and support throughout this project. This research project would not have been possible without their exceptional support and guidance.

I would also wish to thank my family, especially my husband Benard and my son Casper for the moral support and conducive environment for the completion of this work.

I would also like to thank my colleagues for their encouragement and understanding throughout this project.

Finally, I'm thankful to God Almighty for the gift of life, health, and providence to enable me to complete this work.

To God be the Glory.

DEDICATION

I dedicate this work to the Lord God Almighty for His providence and enabling in completion of my MBA. If it were not for God, it wouldn't have been possible to complete these studies amidst Covid-19 where several people lost their lives, but He saw me through it all.

I also dedicate this work to my son who was born during these studies and to let him know that it's possible with dedication and resilience, eyes on the prize, everything is possible.

To my life partner who has given me immense support, thank you so much Benard Omondi! To my dad Jonathan Odhiambo, thank you for always believing in me! To my uncle Ronald and his wife Carol, thank you for supporting me and always encouraging me to surmount the highest of mountains. To my siblings, Morine and Wyclife, thank you for always encouraging me, I'll always be your baby sister. God bless you immensely!

Lastly, I dedicate this work to Kisumu County government as this research was narrowed to Kisumu City. May they find useful information in this research that can shape policies and decisions in addressing housing challenges in Kisumu.

Thank You!

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

ANOVA	Analysis of Variance
ANOVA	Analysis of Variance
DGF	Demographic Factors
ECF	Economic Factors
GDP	Gross Domestic Product
HPT	Hedonic Price Theory
KNBS	Kenya National Bureau of Statistics
NHC	National Housing Corporation
PHF	Physical Factors
PIHT	Permanent Income Housing Theory
SOF	Social Factors
VIF	Variance inflation factor

ABSTRACT

Globally, housing is considered a fundamental human need. Over the years, as noted in OECD (2011), developing countries have been observed to experience constant increase in housing demand. Kisumu County, just as many other urban areas in Kenya, continues to witness high urbanization and proliferation of urban population due to various factors. This situation has resulted to many challenges with inadequate housing and high housing demand being the most pronounced effects. Particularly, provision of decent housing, especially for low-income households is considered one of the greatest challenges facing Kisumu City. Multiple studies, such as, Musyoka (2012) and Huchzermeyer (2008), have provided invaluable insights into the determining factors of housing demand in urban settings. Musyoka investigated the impacts of income while Huchzermeyer investigated effects of household preferences. Vigdor (2013) on the other hand analyzed factors influencing housing demand in the US citing price expectations, demographic changes and expected future income as determinants of demand. While numerous studies have extensively explored the impacts of various factors on housing demand, there still remains a gap. The existing literature primarily focuses on individual factors in isolation, overlooking the intricate interactions between multiple factors necessitating a comprehensive study to assess all these factors simultaneously. Therefore, this study sought to assess the effects of economic, demographic, social and physical factors on housing demand in Kisumu. The study was founded on hedonic price theory and permanent income housing theory. It also adopted a descriptive research design that utilized quantitative methods of data collection and analysis. By use of a sample size of 196 households in Kisumu City, and use of Multiple Linear regression, Pearson's correlation and Analysis of variance (ANOVA), the study established a significant relationship between household housing demand and economic, demographic, social and physical factors. The study findings were thus found to corroborate with the broad theories and literature in regards to housing demand.

CHAPTER ONE: INTRODUCTION

1.1 Background

Globally, housing is considered a fundamental human need. According to Coskun (2010), housing is of great significance especially in developing nations owing to the enormous demand for houses as wealth accumulation instrument and a fundamental basic need. Over the years, as noted in OECD (2011), developing countries have been observed to experience constant increase in housing demand, making the housing sector an interesting field of economic research which has been subjected to extensive investigation since Richard Muth's contributions in the 1960s. Richard Muth in his paper that focused on unravelling the housing market dynamics, pontificates that housing could be contemplated on as an aspect whose demand is ascribed to not only demographic factors, but also micro and macro-economic factors (Muth, 1988). Moreover, research by Klein, Muttila, and Muth, further provided substantial insights into the collective determinants of housing demand. They highlighted social and physical considerations as significant factors that shouldn't be omitted in the housing demand inquiry. They opined that the enormous differences among individual households, ought to be put into consideration conjointly with the traditional economic factors in studying the demand for housing. (Klein, 1947; Mattila,1955; Muth, 2013).

This study was founded on the following two theories whose key assumptions well blended with the variables under investigation; the hedonic price theory and the permanent income theory. The hedonic price theory as proposed by Sherwin Rosen (1974) asserts that the price of a house is determined by various attributes and characteristics that the house

possesses (Xiao and Xiao, 2017). According to Chau and Chin (2012), the hedonic price theory advances the notion that the value of a commodity such as a house, is not exclusively based on its intrinsic qualities but instead derived from an amalgam of both unobservable and observable characteristics. For instance, the price and subsequent demand of a house, is not only influenced by the number of bedrooms or its size but also by less tangible characteristics such as the location, neighborhood characteristics and aesthetic appeal. On the other hand, the Permanent-Income Theory (1957), as articulated by Milton Friedman, advances the notion that most households hinge their housing decisions on their expected future income rather than their present income (Zheng et al., 2018). This theory asserts that individuals have the tendency of smoothing out their consumption patterns over a period of time, making adjustments to their spending habits based on their future income expectations rather than their current earnings.

Kisumu County, just as many other urban areas in Kenya, continues to witness high urbanization and proliferation of urban population due to various factors. Despite that urbanization comes with multiple economic opportunities, it equally isn't without challenges (Obange and Wagah, 2019). Particularly, providing essential infrastructure services and decent housing, especially for low-income households is considered one of the greatest challenges facing most urban centers. Kenya substantially experiences an acute shortage of housing in the urban areas. This has necessitated a significant portion of its population to reside in slums. Most of the slum inhabitants are from the lower income bracket (Theuri, 2013). Equally, majority of the population in Kisumu Urban areas live in slums, occupying a relatively small portion of the available residential land. The formal supply of urban housing in Kisumu City has increasingly fall short of meeting the growing

demand caused by rapid urbanization and uncontrolled population growth (Simiyu eat al., 2019). This status quo has further been attributed to multiple factors such as outdated building codes, limited availability of serviced land, zoning regulations, and high cost of construction. Therefore, the high demand for housing and the underlying complexities resulting to it, underscore the varying factors that influence household decisions on matters housing in Kisumu.

1.1.1 Conceptualizing key factors of housing demand

Economic factors

According to Smith (2020), housing demand is an intricate economic aspect that's influenced by multiple factors, but more significantly income levels and housing unit prices which are investigated in this study. Smith's economic theory asserts that the demand for housing by households is inherently tied to the affordability of the housing unit, shaped by the prevailing market prices and the level of income of the potential renters or buyers. Jones and Brown (2018) posit that the prevalent economic principles suggest an inverse relationship between housing demand and housing prices. They opine that an increase in housing prices may lead to decrease in housing demand. In such instances, most households opt for alternative cheaper housing options or make notable adjustment in their housing preferences to align with their budgetary constraints (Smith, 2021). Conversely, a reduction in housing prices stimulates housing demand. According to Johnson (2020), Affordable housing potentially broadens the spectrum of households to access higher-quality housing and homeownership especially among households in search of quality housing and first-time buyers. Additionally, William and Garcia (2021) opine that lower prices incentivize

speculative buyers into acquiring a house due to the anticipation of possible future increase in prices consequently amplifying demand.

As earlier stated, income equally serves as a critical factor shaping housing demand (Williams et al., 2019). Brown and Miller, assert that a household's level of income profoundly influences their housing choices, determining the housing location, type of house, and the size that they can afford (Brown and Miller, 2017). Generally, a higher income level means a greater ability to afford housing at different price-points, subsequently augmenting the range of housing options available to households. Johnson (2020) supports this notion by asserting that households tend to exhibit increased demand for larger and better properties in desirable neighborhoods when their income increases. Contrarily, lower income households are often limited in accessing housing options resulting to a higher preference for affordable housing alternatives (Smith, 2021). Jones and Brown (2018) posit that in the lower income households, housing demand tends to be more price sensitive hence affordability is a primary consideration. In addition, growth and income stability are also regarded as significant considerations in the dynamics of housing demand. Johnson (2020) further reinforces these thoughts by stating that consistent and stable growth of income enhances household's confidence in their long-term financial capabilities, consequently increasing their willingness to invest in higher-priced properties or homeownership. However, stagnation or volatility in income levels can potentially dampen housing demand, resulting to cautious spending behaviors and a higher preference for cheaper housing options.

Demographic factors

Myers and Vidaurri posit that demographics are influential in housing demand dynamics (Myers and Vidaurri, 2016). They suggested that the effects of varying demographics are significantly felt in housing markets. Over the years, multiple demographic factors have been noted to influence demand for housing, however, this study was limited to the following three factors; household size, migratory patterns and a household's lifecycle. The size of a household, defined by the number of individuals residing together in the same house, is a pivotal housing demand determinant. As Smith (2018) posits, a larger household basically necessitate larger dwellings to comfortably accommodate members of that household. This consequently results to increased demand for housing units that are more spacious or residences with multiple bedrooms. However, smaller households such as those without children or those consisting of couples or single individuals often tend to seek relatively smaller apartments or housing units (Johnson and Brown, 2020). Myers and Vidaurri (2020), assert that the variability in housing preferences based on the size of a household influences, the type, size and spatial layout of the demanded residences within a housing market.

Chen et al., (2019) defined migratory patterns as the movement of families or individuals within urban areas or across regions, postulating that they significantly impact housing demand. In rapidly urbanizing urban areas such as Kisumu, an influx of migrants seeking better economic opportunities affects housing demand. Jones (2017) elucidates this notion by stating that seasonal or temporary migration might lead to a higher demand for low-cost accommodations or rental houses, while permanent relocation may drive demand for owned housing units. In this purview, he suggests that it's crucial to understand both the

transient and permanent nature of migration patterns in order to forecast future fluctuations in housing demand within a region.

The household lifecycle, characterized by various stages such as formation, expansion, consolidation, and dissolution, exerts a profound influence on housing demand (Smith & Johnson, 2021). Young households in the formation stage, comprising newlyweds or individuals starting families, typically seek larger accommodations to accommodate future growth, leading to increased demand for family-oriented housing units (Clark, 2016). On the other hand, households in the consolidation or empty-nest stage may downsize, reducing the demand for larger dwellings in favor of smaller, more manageable residences.

Physical factors

Downs (2010) suggests that the significance of location in housing decisions cannot be overstated. In his work, he emphasizes that location remains a critical factor in housing demand dynamics. This notion is supported by Gibbons and Machin (2013) who posit that the decision-making process involved in housing choices is greatly influenced by geographical setting, transportation networks, proximity to social amenities, the quality of environment and neighborhood characteristics. They further assert that location and characteristics of a residential area are complementary factors to housing decisions. According to Glaeser and Gyourko (2015), housing affordability and the trade-off between the cost of housing and accessibility to economic opportunities further underscore the critical role of location in housing demand.

Equally, Rosen (1974) asserts that housing type significantly influences the demand for housing as it corresponds directly to individual preferences, economic factors and lifestyle

choices. He further opines that the type of housing serves as a fundamental determinant in consumer housing choices due to its impact on utility derived from housing characteristics. For instances, he asserts that single-family homes are often preferred for their space and privacy, appearing more appealing to families seeking autonomy whereas condominiums and apartments offer convenience and shared amenities thereby attracting individuals who prefer community living or urban dwellers (Haurin and Brasington, 2016).

Social factors

According to the broader literature on housing demand dynamics, social factors such as ethnicity, culture and social networks substantially influence housing demand. Rapoport (2010) asserts that culture has a significant impact on housing preferences by defining ideals regarding family structures, communal spaces and living arrangements. For instance, in collectivist cultures, they put emphasis on close-knit familial ties which consequently drive demand for larger homes or multi-generational housing to accommodate extended families. According to Smith and Johnson (2018), cultural traditions and norms often tend to dictate the type of housing that individuals seek, whether it's a preference for suburban homes with ample privacy, or urban apartments close to communal spaces, thus impacting the patterns of demand in the housing market.

Social networks equally play a critical role in housing choices, as individuals tend to reside closer to their social circles. The presence of social networks within certain specific residential areas or neighborhoods tend to drive demand due to the desire for familiarity, social support and shared resources (Bailey et al., 2016). Research by Brown and Lee (2019) further elucidate that social network comprising of family, friends and cultural

communities influence housing decisions through recommendations, social activities, and shared experiences, ultimately influencing the housing demand in particular residential locations. Ethnicity, further contributes to housing choices as specific ethnic groups might have specific housing preferences in terms of location, type of housing and architectural designs that reflect their ethnic identities and practices, thereby impacting housing decisions (Jackson and Garcia, 2020).

1.1.2 The concept of household housing demand

According to Shucksmith (2022), housing demand represents a market driven concept that involves a household's willingness and ability to acquire a housing unit. He further describes housing demand as the relationship between housing prices and the quantity and quality of housing for which households or individuals are able and willing to pay. Robinson (2019) opines that this concept isn't to be confused with housing need, which is a distinct interrelated concept defined as the quantity of housing required to meet a given minimum standard for a population, disregarding the ability to pay. Oxley (2009) posits that when effective demand for suitable housing cannot be exercised, unmet housing need arises. Addressing housing needs and demand is essential for empowering individuals to live in satisfactory housing irrespective of their financial constraints (Tighe and Mueller, 2013).

Oxley (2009) assert that the importance of understanding and addressing household demand lies in its significant influence on economic development and societal well-being of individuals or households. He further suggests that housing problems often tend to emanate from lack of comprehensive understanding of the demand concept and its

influencing factors. Best and Porteus (2012), highlights factors such as changing household compositions, population growth, and increasing housing quality expectations to contribute to the evolving and dynamic nature of housing demand. Furthermore, Wilson (2010), opine that in measuring household housing demand, one should consider several factors including; demographic changes, economic conditions, social statuses and general societal expectations. Over the years, multiple methodical approaches have been developed and used in measuring household housing demand such as the household and dwelling balance sheet approach, affordability approach, net-stock approach and gross flows approach which offer different perspectives on how to estimate household housing requirements (Bramley, 2010). However, while these approaches offer invaluable insights, they come with limitations such as potential inaccuracies, overlooking of certain factors and a focus on specific aspects of housing need and demand necessitating the need for more comprehensive approaches.

1.1.3 State of Urban housing in Kisumu County

World Bank 2021 estimates, places population growth rate in Kenya at 2.8% annually. Given the urbanization rate of 4.2%, projections indicate that by end of 2023 the growth rate would have surpassed 50% (World Bank, 2021) . In Kisumu City, Western part of Kenya, urban households have recorded an increment from 380,982 in 2015 to 400,000 in 2020. This increment was mainly attributed to rural-urban migration, population growth and household formations (Government of Kenya, 2021; Kenya National Bureau of Statistics, 2021). Globally, urbanization has been greatly linked to significant social and economic benefits with the regard of most urban centers as growth centers especially in economic functions and activities (World Bank, 2021).

However, multiple challenges also ensue as a result of urbanization, the major one being the ability to provide all the necessary economic infrastructure to support the socio-economic backbone of the mushrooming urban areas. In most urban areas in Kenya, there has been an acute shortage of urban housing supply, especially for households in the low-income cadre. Estimates from the Government of Kenya indicate an acute shortage of urban housing of 150,000 units annually. Seventy percent of the affected households being categorized as poor. Based on previous reports, only 23% of the reported acute shortage can be formally supplied. Unfortunately, only 20% of the formally supplied units are dedicated for households that are in the low-income categories (Government of Kenya, 2021).

According to UN-Habitat (2021), it was reported that seventy percent of the population in urban areas such as Kisumu Kenya, reside in slums characterized with housing that's of poor quality, high levels of poverty, insufficient infrastructure, overcrowding, tenure insecurity and exclusion. Urban households squat on vacant land near income-earning opportunities, resulting in slums on abandoned quarries, marshlands, and other inappropriate locations (Kirima, 2016). Slum dwellers face risks such as disease, fire, flooding, and indignity due to overcrowded, poor-quality housing without basic services.

Nyayiemi posits that in most cases, owners of the informal settlements in urban areas are mainly driven by the need to maximize rental income and that they are generally absent and have minimal motivation to improve the conditions of the settlements (Nyayiemi, 2012). Furthermore, Smith (2017), opine that fifty seven percent of landlords in Obunga and Nyalenda resided in Nairobi and Kisumu City and not in the slums themselves. Eighty per cent of Nyalenda, Obunga and Manyatta residents are tenants of illegal structure

owners (Musyoka, 2012). In Kisumu County, 50% of the total population constitutes of slum residents. However, they only occupy 5% of the County's residential areas (Government of Kenya, 2021).

Undoubtedly, Kisumu housing formal supply has been unable to meet the sky rocketing demand which is being propelled by population expansion, rapid urbanization and continued rural-urban migration. Furthermore, Røed Larsen posit that factors such as poverty, strained provision of adequate serviced land, land zoning laws, building codes that are strict and outdated, poor performance of the economy, and ant-urbanization approaches, also hinder sufficient supply of urban housing (Røed Larsen, 2014). A report from World Bank (2012), further supported this notion by stating that high construction cost, which hinder the ability to provide low-cost urban housing, is greatly caused by the zoning laws and the outdated urban building codes (World Bank, 2012)

Kisumu County's population growth, demographic patterns, and urbanization rate are driving housing demand in the urban areas. Through the policy documents, the government's commitment to provide all Kenyans with adequate shelter is apparent. However, multiple challenges including availability of serviced land that's affordable, housing mismatch from the previous programs and scaling of housing projects, continue to hinder the success of current and future urban housing initiatives.

1.2 Research Problem

The factors influencing demand for urban housing represent a critical study area that continues to warrant further inquiry. Several studies have been conducted on this subject matter, illuminating the existing complex relationship between housing demand and its

influencing factors. Multiple studies, such as, Musyoka (2012) and Huchzermeyer (2008), have provided invaluable insights into the determining factors of housing demand in urban settings. Musyoka investigated the impacts of income while Huchzermeyer investigated effects of household preferences. Both reported the two factors to have a significant influence on the demand for urban housing. Vigdor (2013) analyzed factors influencing housing demand in the US and reported that indeed factors such as housing price expectations, demographic changes, and expected future income changes have the most influence on housing dynamics. Mankiw further reported that factors such as population growth, income levels and housing policies are to be considered in urban housing as they have a significant influence on the housing market (Mankiw, 2014).

In Kenya, Kisumu County residents continue to face significant challenges in urban housing. Over the years, Kisumu has faced and continues to face an acute housing shortage which has made it difficult for acquisition of urban houses. Agnes (2004), attributed this shortage to factors such as poor urban planning, population growth, continued rural-urban migration and rapid urbanization. She opines that these factors have greatly strained the housing supply in Kisumu resulting to majority of the population living in slums characterized by inadequate infrastructure and poor-quality housing. High construction costs, limited serviced land availability, zoning regulations and outdated building codes further serve to compound the housing challenges in the region (Røed Larsen (2014). This situation has consequently convoluted the housing choices of households in Kisumu. According to Agnes, unlike most urban areas in Kenya, the demand for urban housing in Kisumu, is greatly influenced by a myriad of factors given the complex nature of Kisumu housing market (Agnes, 2012).

The existing literature explore various variables that influence housing demand. However, there is a critical gap in these studies. While numerous studies have extensively explored the impacts of these factors on housing demand, there remains a notable scarcity in integrated studies that simultaneously consider the interplay between these factors. The existing literature primarily focuses on individual factors in isolation, overlooking the intricate interactions between these factors. Specifically, there is a deficit of comprehensive studies that holistically assess how economic status, social factors, physical attributes and demographic characteristics collectively influence housing demand. Therefore, there is need for a more comprehensive study that considers the confluence of economic, social, physical and demographic factors to provide a comprehensive understanding of household demand for urban housing. Therefore, this study aims to fill this gap by answering the question; what is the impact of economic, social, physical and demographic factors on household demand for housing in Kisumu City?

1.3 Research Objectives

This study's general objective is to assess the effects of various factors on housing demand at the household level across various income cadres and housing tenures in Kisumu City in Kenya.

Specifically, the study will seek to:

i) To examine the effects of economic factors on household demand for urban housing in Kisumu City.
ii) To examine the effects of demographic factors on household demand for urban housing in Kisumu City.

iii) To examine the effects of social factors on household demand for urban housing in Kisumu City.

iv) To examine the effects of physical factors on household demand for urban housing in Kisumu City.

1.4 Value of the Study

Understanding the household demand for urban housing in Kisumu County presents multiple benefits. For lecturers and students, the study provides a real-world empirical case study that potentially enriches the academic coursework and future research in the fields of economics and urban planning. Also, policy makers, mainly including actors from the national government, county government and regulators will potentially gain from evidence-based insights that can go a long way in shaping housing policies that are aligned with constitutional requirements and national goals. The findings of this study can help optimize allocation of resources and address the unique housing challenges in Kisumu County. Equally, investors in the housing sector also stand to gain as they can make use of the study's findings to make informed investments decision. They'll be able to tailor housing projects to local needs and also be able to identify opportunities for growth.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

In this chapter of the study, the key theories that underpin the study shall be outlined, the researcher shall further undertake a detailed review of literature from previous empirical studies that have been done on this topic. A comprehensive summary of the reviewed literature shall be provided together with the conceptual framework that the study shall adopt.

2.2 Theoretical Literature

2.2.1 Hedonic price theory

The Hedonic Price Theory, introduced by Sherwin Rosen in 1974, suggests that the price of a housing unit is determined by the characteristics and amenities it offers, as well as the attributes of the surrounding neighborhood (Rosen, 1974). It is anchored in urban economics and serves as a pivotal framework for understanding urban housing pricing. This theory has been applied extensively in urban housing research, giving valuable insights into the determining factors of housing prices, housing market dynamics, and policy implications (Xiao and Xiao, 2017).

Rosen applied the Hedonic Price Theory in the context of urban housing markets. The study posits that various attributes strongly influence the housing prices. These included; age, location, size, and quality of housing units (Greenstone, 2017). Furthermore, it shed light on the significance of neighborhood amenities and externalities, such as proximity to

schools or parks in shaping housing prices. This research laid the groundwork for subsequent research aiming at exploring the complex relationships between market values and housing characteristics.

Hill (2013) extended the Hedonic Price Theory's application to investigate housing markets in several U.S. cities. Their findings put emphasis on the important role of macroeconomic factors, including income levels and interest rates, alongside housing attributes in influencing urban housing prices. Moreover, they indicated that housing markets are not homogenous, with variations in the effects of these factors across different urban areas. This research underscored the need for location-specific policy interventions in urban housing markets. Given the successful previous application of this theory in various contexts, the hedonic price theory therefore serves as a crucial tool to investigate how the specific housing features such as size, location and amenities influence the housing demand in Kisumu

2.2.2 Permanent-Income Housing Theory

The Permanent-Income Housing Theory, developed by Milton Friedman in 1957, states that households make housing consumption decisions on two bases; based on their contemporary income and their long-term income expectations. This theory serves as a key framework in urban housing economics, giving valuable insights into housing consumption pattern dynamics and their implications on both urban communities and individuals. According to Friedman, individuals select housing plans that best aligns with their lifetime income prospects, in order to balance consumption over time, which significantly impacts urban housing markets (Zheng et al., 2018).

Vigdor (2013) analyzed factors influencing housing demand in in the US. They found empirical evidence that supported the theory's predictions. The findings indicated that when making housing decisions, households take into account their future income prospects. This study highlighted the significance of factors such as housing price expectations, demographic changes, and expected future income growth in shaping urban housing dynamics. Building on this work, Case and Shiller (2011) undertook a seminal study that investigated the application of the PIHT in urban housing markets. Their study focused on the boom-and-bust cycles in the Boston housing market, the findings demonstrated that speculative bubbles in housing prices could be explained, in part, by deviations from the PIHT. Their findings underscored the relevance of the theory in explaining urban housing market volatility.

2.3 Empirical Review

Smith (2021) explored the correlation between economic factors and their impact on household demand within the US Metropolitan areas, focusing on dissecting the influence of household level of income on housing demand. He analyzed response from a sample of 1000 households from census data gathered between 2018 and 2020 by use of multiple linear regression. The study findings revealed a positive correlation indicating that as the level of household income increased, there was a corresponding rise in urban housing demand, with a notable 5% increase for every 10% rise in income.

In another local study conducted in Kenya, Mwangi and Wanjiku (2019), also focused on investigating the effects of income disparity on demand for urban housing in Nairobi. The study was conducted in the diverse Nairobi City neighborhoods, targeting 800 households

over a two-year period. Employing a mixed method research approach involving both the quantitative and qualitative analysis methods, their study findings suggested a notable correlation between income disparities and housing preferences, with households with a higher income displaying increased demand for upscale urban housing compared to households with lower income.

In a study by Chen et al., (2020), conducted by in major cities of China, the study aimed at assessing the impacts of housing prices on urban housing demand elasticity. This research, done in 2019 and comprised of data from 700 households across five cities, utilized panel data analysis to estimate elasticity. The results unveiled a noteworthy price elasticity in housing demand, highlighting a 0.8% decline in demand for every 1% increase in price of housing. This signified the sensitivity of demand to price fluctuations.

Furthermore, Odhiambo et al., (2020) assessed the impacts of government housing policies in regards to affordability on housing demand in Mombasa. He focused on several socioeconomic groups within the city, the study was conducted over two-year period and involved a sample of 384 households. By use of structural equation modelling, the study established the significance of policy interventions in moulding housing demand, unravelling a positive correlation between favorable policy frameworks and increased urban housing demand among low to middle income groups in Mombasa.

Halicioglu (2005), in an investigation of the demand for housing in Turkey, reported that the demand for housing is determined by both demographic and economic factors in Turkey. The study findings suggested that economic factors of real income and house prices were the most significant factors in determining the housing demand level closely

followed by demographic factors. Studies by Smith, Garcia and Chen, supported the significant relationship between demographic factors such as household size, migratory patterns and household lifecycle and urban housing demand.

Smith (2020) conducted a study that sought to establish the underlying relationship between size of a household and their housing choices. By examining response from a sample of 196 households by use of regression analysis, Smith identified a positive relationship between a larger household size and an increased demand for multiple bedroom housing in urban areas.

On the other hand, Garcia's (2021) study, assessed the influence of migratory patterns on demand for housing in the urban areas. This inquiry undertaken in 12 months in a city in Spain that experienced a substantial influx of migrants, comprised of 300 transient migrant households. The findings highlighted that such households showed a tendency to favor smaller, more affordable housing compared to permanent residents. They opined that short term planning and financial constraints as the primary drivers of their housing choices.

Chen (2019), explored the influence of household lifecycle on housing decisions in a highly dynamic urban setting. By utilizing a sample of 216 households with varying household composition and at different lifecycle stages, cluster analysis revealed distinctive demands for housing based on the lifecycle stages. Younger families exhibited preference for larger homes that were in close proximity to education centers, while those in the empty-nest stage preferred downsizing to smaller, more convenient housing units. This underscored the significant association between the housing demand and the household's lifecycle.

Chen and Wang (2019), examined the impacts of various neighborhood attributes on housing demand. Their study aimed at understanding how various features such as accessibility, safety, and amenities influence households housing choices. The study was conducted on a sample of 350 households residing in metropolitan areas. By employing geographic information system (GIS) for spatial analysis, the researchers mapped out neighborhood characteristics and their association with the households housing preferences. Their findings underscored a significant relationship between accessibility, amenities and safety and demand for urban housing, with the respondents indicating a clear preference for secure and well-connected residential neighborhoods.

Furthermore, in a study by Harper et al., (2022), the findings further supported the influence of physical attributes on housing demand. The research's focus was to examine how various types of housing such as apartment complexes and detached houses influenced demand. They conducted the study in a rapidly growing urban setup, targeting a population of 260 households. By use of a choice modeling approach, the researchers presented participants with hypothetical housing options to capture their preferences. The findings indicated a significant relationship between the two factors highlighting a notable preference for detached houses among residents in urban areas, further emphasizing the significance of type of housing in meeting the diverging needs of the population.

Rodriguez et al., (2021) delved into sociological considerations of housing demand. Their research aimed to undertake an exploration of how cultural factors including tradition and values impacted their preference for urban housing. The study surveyed a population of 384 from various cultural backgrounds. By use of a mixed-methods approach, the study

findings established that cultural factors significantly influenced the size, layout and design preferences for urban housing with distinct variations across different cultural groups.

2.4 Summary of Literature Review

The reviewed literature established four variables including demographic, economic, social and physical characteristics that influenced housing demand. However, the reviewed literature highlighted several critical gaps in the previous studies. While numerous studies have extensively explored the impacts of various factors on housing demand, there remains a notable scarcity in integrated studies that simultaneously consider the interplay between demographic, social, economic, and physical factors. The existing literature primarily focuses on individual factors in isolation, overlooking the intricate interactions between these factors. Specifically, there is a deficit of comprehensive studies that holistically assess how economic status, social factors, physical attributes and demographic characteristics collectively influence housing demand. Therefore, there is need for a more comprehensive study that that put into consideration the confluence of economic, social, physical and demographic factors to provide a comprehensive understanding of household demand for urban housing. This study intends to fill this gap and investigating the simultaneous effects of the four variables on household demand for housing in Kisumu City.

2.5 Conceptual framework

Conceptually, the study shall adopt the framework illustrated below.

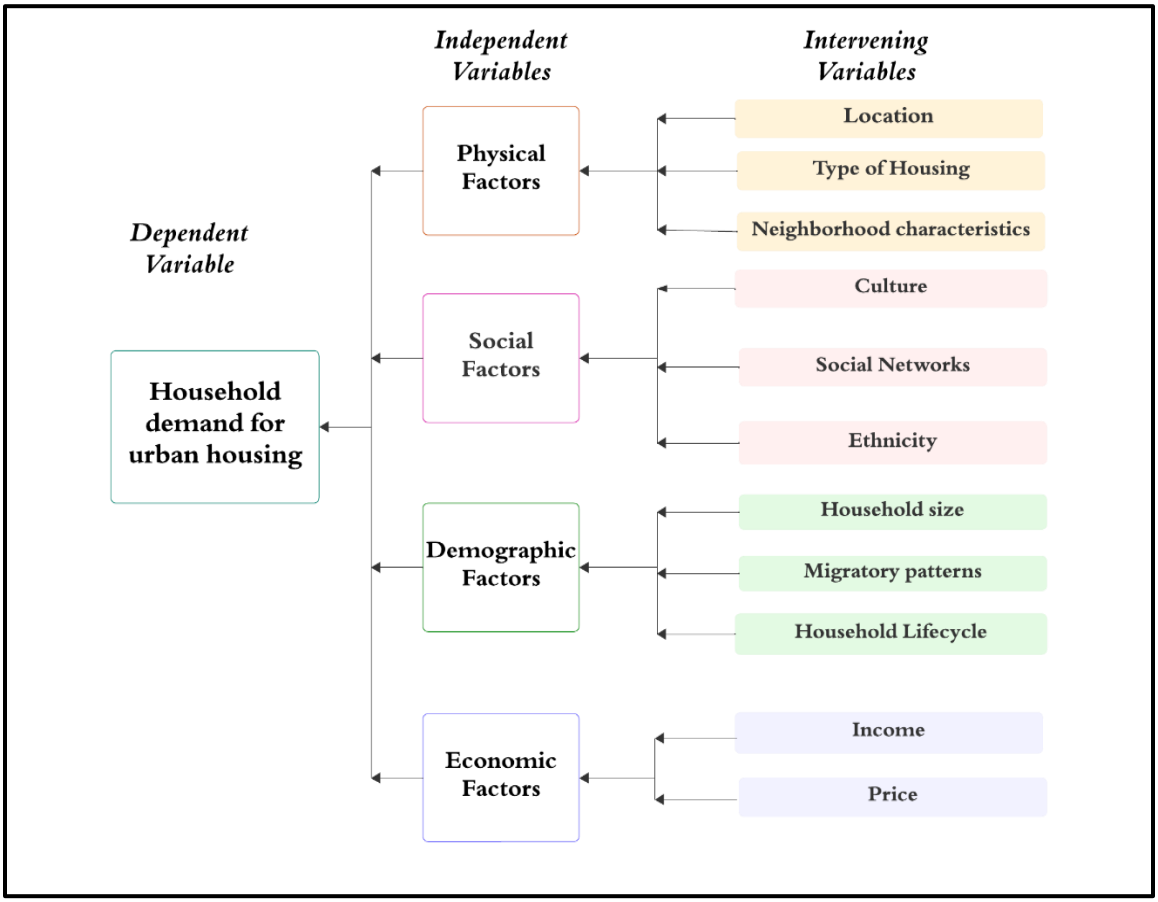


Figure 1: The conceptual framework

Source: Researcher (2023)

The conceptual framework, comprises of three types of variables namely; the dependent variable, the independent variables, and the intervening variables. The direction arrows illustrate the logical and sequential flow of influence in this study. The direction arrows from the independent variables to the dependent variables indicate the direct relationship between household demand for housing and physical, social, demographic and economic factors. They indicate a direct impact of the independent variables on the dependent

variable. This suggests that changes or variations in the independent variables are expected to result to variations the dependent variables. On the other hand, the direction arrows from the intervening variables to the independent variables imply that these variables serve a moderating/mediating role between the independent variables and the dependent variables. This framework shall enable the researcher to not only explore the direct effects of the independent variables but also the context and condition through which these effects occur.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the methodological plan that this research study adopted. The chapter outlines the research design that guided the study, the targeted population, the sample size and the sampling technique used, the data collection procedures and instruments to be used and finally the data analysis procedure adopted.

3.2 Research Design

A research design, as defined by Siedlecki, refers to the specific plan that a researcher adopts in order to answer the research questions and to control variance (Siedlecki, 2020). This study employed a descriptive research design. Brown et al., (2020), defined a descriptive research design as a scientific technique that allows for systematic collection, organization and presentation of information as they occur in their natural state. This study aimed to systematically establish the underlying relationship between household housing demand and the various determining factors of housing demand in urban Kisumu. This aim aligned with the core functions of a descriptive research. Additionally, this design enabled the utilization of quantitative methods of data collection and analysis.

3.3 Population

Grove and Burns (2012) define a target population as an aggregation of all the targeted respondents that meet a particular set criterion. In this study, the targeted population comprised of all the households within Kisumu City which is comprised of Kisumu East, Kisumu West and Kisumu Central sub-counties. Based on Kisumu County Urban

Development Strategy 2018 report, an estimated 50.3% of the total county population reside in the urban area of Kisumu City. Therefore, this study targeted a total of 160,135 households residing in the urban area of Kisumu City.

3.3.1 Inclusion criteria

Connelly (2020), refers to inclusion criteria as specific characteristics that prospective subjects of a study must possess in order to be included in a study while exclusion criteria refer to those characteristics that when a prospective subject possess, they are disqualified from inclusion in the study. In this study, subjects were included only if they resided in the urban area of Kisumu City at the time of the survey and excluded if they resided outside the City at the time of survey.

3.4 Sample Design

3.4.1 Sampling Frame

Creswell (2013), defines a sampling frame as the complete list of elements in an accessible population from which a sample to be included in a study is drawn. This study targeted all the households from all the sub-counties that constitute Kisumu City. Therefore, this study's sample frame comprised of households in Kisumu East, Kisumu Central and Kisumu West. The table below further illustrates the distribution of the sample frame.

Table 1: Sample distribution

Sub - County	Household Distribution
Kisumu East	61,871
Kisumu Central	52,331
Kisumu West	45,933
Total	**160,135**

Source: KCUIDS (2018)

3.4.2 Sample size determination

Sample size determination plays a crucial role in a study as it allows the researcher to determine an optimal number of respondents to be included in a study. In this study, the Cochran's formula for sample size calculation was used. The following formula was used in determining the sample size;

$$n_0 = \frac{Z^2 pq}{e^2}$$

Where,

Z is the desired confidence level, e is the desired level of precision (margin of error), P is the estimated proportion of the population which has the attribute in question and q is 1 – P

In this study, the sample size was calculated at 95% confidence level and a 7% precision level. A standard proportion of 50% was used as illustrated in the formula below;

$$n = (1.96)^2 * (0.5) * (0.5) / 0.07^2 = 196$$

Therefore, a sample size of 196 households was drawn from the accessible population.

3.4.3 Sampling Technique

Stratified Sampling

This technique involves the proportionate division of the study's population into homogenous subgroups referred to as strata. In this study, the targeted population was divided into three strata based on the three sub-counties that constitute Kisumu City as illustrated in the Table 2 below.

Table 2: Sample size distribution

Strata	Sub-County	Target Population	Sample size distribution	Sample size (n)
Stratum 1	Kisumu East	61,871	39%	76
Stratum 2	Kisumu Central	52,331	33%	65
Stratum 3	Kisumu West	45,933	28%	55
Total		**160,135**	**100%**	**196**

Source: Researcher (2023)

Therefore, a sample size of 76, 65 and 55 households were randomly selected from the accessible population in Kisumu East, Kisumu Central and Kisumu West sub-counties respectively.

3.5 Data Collection

In order to obtain the data set of this study, a quantitative data collection procedure was used. This entailed the use of a household survey. Prior to commencement of the data collection process, the necessary approvals were sought from UON Ethics Committee. A

representative adult was selected from each household to respond to the questionnaire. A structured questionnaire was formulated and administered to the study participants either digitally or manually based on prevailing respondents' dynamics. Data collection commenced by distribution of the questionnaires to the selected and well-trained research assistants stationed in the three strata who administered the questionnaires to the respondents. Two approaches were used in administering the questionnaires: Self-administration approach and personal approach. The former entailed the issuance of questionnaire to the respondents and allowing them to fill at their own free time and followed up after three days, while the latter involved the research assistants administering the questionnaires by asking the questions on site and recording the responses.

3.6 Data Analysis

Data collected was analyzed by use of quantitative techniques of analysis.

3.6.1 Data Analysis techniques

The analysis procedure started by data cleaning and preparation in Excel software. This process ensured that the data was clean, consistent, well encoded and ready for analysis in SPSS software. The data was analyzed by two broad techniques; descriptive analysis and inferential analysis.

Descriptive analysis

This entailed analyzing the data by use of summary statistics including; measures of central tendency (mean and median) and measures of variability (variance, standard deviation and

interquartile ranges). The summarized data was presented by use of visualizations (such as histograms, bar graphs, pie charts etc.) and frequency tables.

Inferential analysis

This involved the use of three analysis techniques in order to draw inferences and conclusions about the factors affecting household demand for urban housing in Kisumu. This analysis utilized Multiple Linear Regression to assess the underlying relationship between the various factors of housing demand and the choice of household's housing. This method allowed the assessment of the significance of each of these factors and interpretation of their impacts on households' demand for urban housing. Secondly, Pearson's correlation analysis was used to measure the strength and direction of the established relationships between the multiple variables being measured. A correlation matrix was used to present these relationships. Lastly, parametric method of hypothesis testing (ANOVA) was used to test the various study hypothesis based on the research questions. This enabled the researcher to establish whether demographic factors, social factors, economic factors and physical factors significantly affected households' demand for Housing in the urban Kisumu County. A p – value of 5% (0.05) was used to determine the significance of each factor.

3.6.2 Analytical Model: Multiple Linear Regression

As earlier stated, the study used multiple linear regression model to analyze the underlying relationship between the response variable (Household demand for urban Housing) and the various predictor variable (Physical factors, Economic factors, social factors, and Demographic factors). The model was represented as follows:

Household demand for urban housing (Y) $= \beta_0 + \beta_1 \cdot$ Economic factors (ECF) $+ \beta_2 \cdot$ Demographic factors (DGF) $+ \beta_3 \cdot$ Social factors (SOF) $+ \beta_4 \cdot$ Physical factors (PHF) $+ \varepsilon$

Response Variable (Y): Household demand for urban housing, measured by household's level of demand for housing.

Predictor Variable (ECF…. PHF): These entailed all the four factors (both continuous and categorical) that may influence Urban Housing.

β_0: The intercept term.

$B_1, \beta_2, \ldots\ldots, \beta_{11}$: The regression coefficients representing the effect of each of the predictor variable on Urban Housing.

ε: The error term that account for the unexplained variance

The assumptions of normality, linearity, homoscedasticity and multicollinearity were checked prior to commencement of the multiple linear regression analysis. The significance each of the model coefficients was measured by use of the significance value (p-value). The R – Squared value was used to assess the overall fit of the model while the R value described the overall correlation between the model predictors and the response variable.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the outcome of the data analysis conducted in this study. The chapter was segmented to address the respondents' demographics, descriptive statistics, correlation analysis and regression analysis done in the study. These findings were presented in form of frequency tables and graphs. The chapter concludes by briefly discussing the study findings in line with the study objectives.

4.2 Response Rate

A total of 196 questionnaires were digitally distributed to the selected respondents and the recorded response rate was as presented in the table below.

Table 3: Response rate

Category	**Frequency**	**Percentage**
Completed questionnaires	185	94.4%
Uncompleted questionnaires	11	5.6 %
Total	**196**	**100 %**

Source: Research Data (2023)

As presented in Table 3 above, only 11 (5.6%) of the questionnaires distributed were uncompleted while 185 (94.4%) were completed. This indicated that the study had recorded an exceptional response rate of 94.4% which was in line with Mugenda and

Mugenda (2012) opinion that a response rate of 50% was sufficient, 60% was good and 70% and above was exceptional.

4.3 Data Reliability and Validity

The researcher conducted reliability and validity tests to ensure that the study findings were valid and reliable.

4.3.1 Reliability test

The Cronbach's alpha test was used to test for the reliability of each of the study variable items in the data collection instrument (questionnaire). Table 4 below illustrates the test results.

Table 4: Cronbach's alpha reliability test

Variable	Item	Alpha value	Recommendations
Economic factors	4	0.821	Reliable
Demographic factors	4	0.742	Reliable
Social factors	4	0.714	Reliable
Physical factors	4	0. 802	Reliable

Source: Research Data (2023)

From the findings presented, economic factors had an alpha value of 0.821, demographic factors had 0.742, social factors had 0.714 and physical factors had 0.802. Based on the generally accepted rule of acceptance as postulated by Hulin, Netemeyer, and Cudeck (2011) that an alpha value of 0.7 indicates an acceptable reliability level while a value of 0.8 or above indicated a very good level of reliability. Therefore, it could be concluded that

demographic and social factors had an acceptable reliability level while economic and physical factors a had a very good reliability level.

4.3.2 Validity test

Kane (2013), posit that one way that validity of a research instrument can be assessed is by use of panel of experts. In this study, the researcher relied on the supervisor's expert opinion to determine the validity of the research instrument. It was determined and accepted that the instrument used in this study had the ability to deliver results that were valid

4.4 Descriptive Analysis

A descriptive analysis was conducted in order to describe the demographic details including the residential location, age, gender, employment status, marital status, and education level of the respondents. Also, the responses based on the study variables were also analyzed and summarized.

4.4.1 Demographic analysis

4.4.1.1 Gender category

The findings revealed that the gender distribution of the respondents in this study was almost equal with majority of the respondents 94 (51%) being female and 91 (49%) being male. This indicated that both genders in the study were represented adequately hence no gender bias. The chart in figure 2 below further illustrates the gender distribution of the respondents.

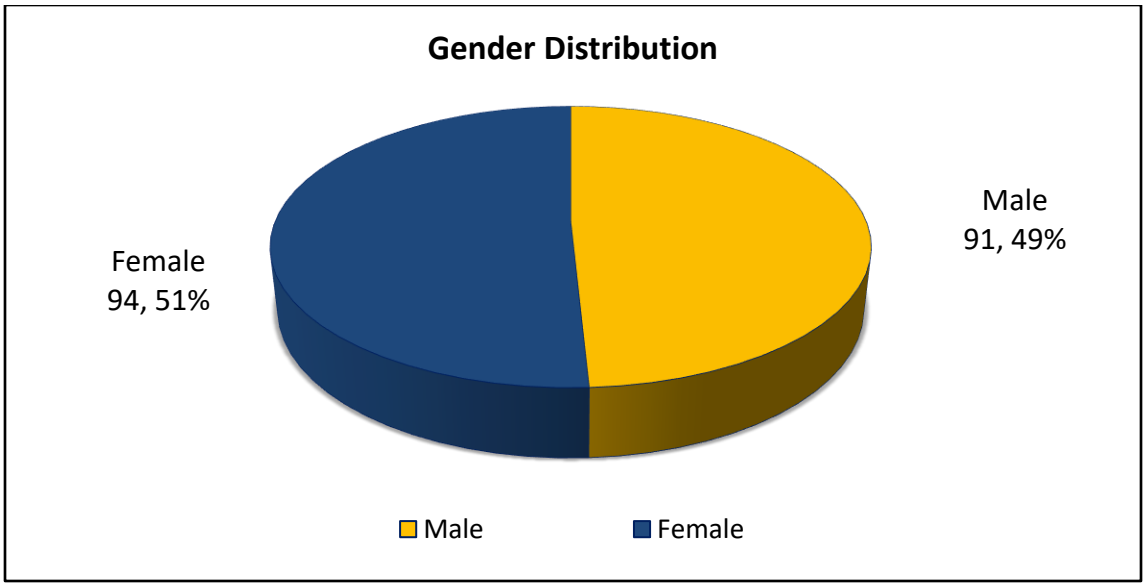


Figure 2: Gender distribution

Source: Research Data (2023)

4.4.1.2 Age category

The researcher also sought to establish the age distribution of the study participants by asking the age groups within which they belong. Majority of the respondents indicated to be between the age of 36 to 45 years accounting for 55 (30%) of the respondents. This was followed by 45 (24%) of respondents between 26 to 35 years, 38 (21%) having ages between 46 to 55 years, 36 (19%) being above 55 years and only 11 (6%) being between 18 to 25 years. Generally, these findings indicated that majority of the respondents in this study were of a youthful and active age. Figure 3 further illustrates the distribution of the respondents' age groups.

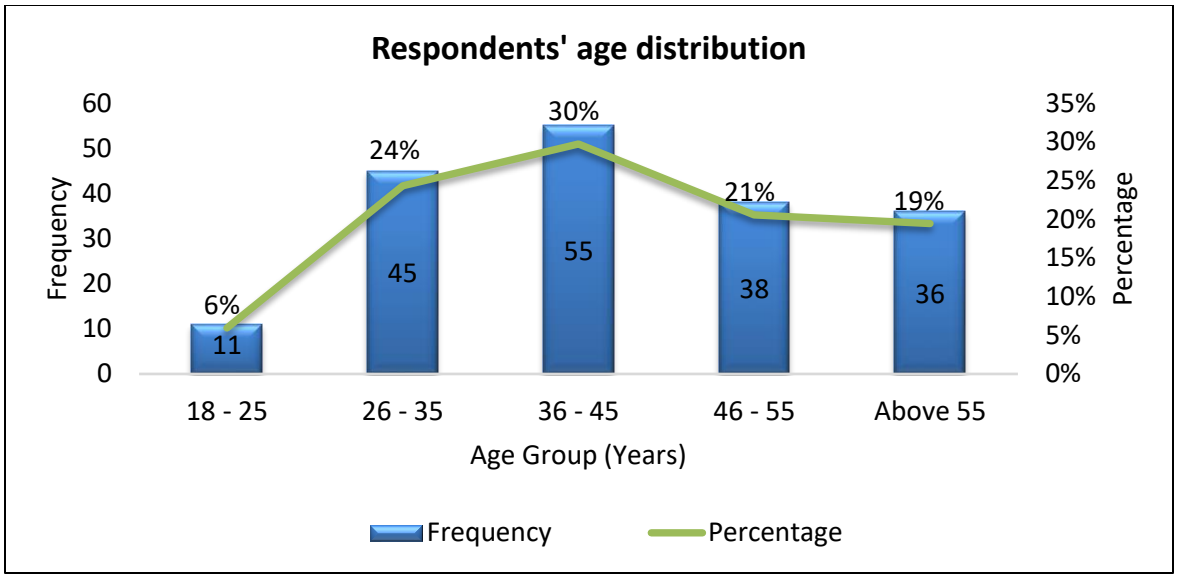


Figure 3: Age distribution

Source: Research Data (2023)

4.4.1.3 Marital Status

The assessment of the marital status of the respondents revealed that majority of them 54 (29%) were married and 39 (21%) being unmarried at the time of the survey. The remaining 92 respondents indicated to have been in marriage but 34 (18%) divorced with their spouses, 30 (16%) were widowed and 28 (15%) separated with the spouses (Table 5).

Table 5: Respondents marital status

Marital Status	Frequency	Percentage
Married	54	29%
Unmarried	39	21%
Divorced	34	18%
Widowed	30	16%
Separated	28	15%
Total	**185**	**100%**

Source: Research Data (2023)

4.4.1.4 Education Level

The research also sought to establish the highest level of education attained by the respondents. Table 6 presents the summary of the findings.

Table 6: Respondents' level of Education

Education level	Frequency	Percentage
Bachelor's Degree	45	24%
Master's Degree	41	22%
Secondary	36	19%
Diploma	35	19%
Other	28	15%
Total	**185**	**100%**

Source: Research Data (2023)

Majority of the respondents 45 (24%) had attained Bachelor's Degree. Those who had reached Master's level were 41 (22%), those who reached Diploma level were 35 (19%) and 36 (19%) had only reached secondary level of education. The remaining 28 (15%) of the respondents indicated that they attained other levels of education. The findings indicated that majority of the respondents were adequately educated and hence were able to give reliable and informed responses.

4.4.1.5 Employment Status

The researcher also established that only 46 (25%) of the participants were employed, and only 27 (15%) were self-employed. The remaining 112 (61%) of the respondents were

either unemployed (44, 24%), retired (37, 20%) or homemakers (31, 17%). This indicated that majority of the respondents didn't have a source of income at the time of the study and that they were dependents. Table 7 below presents the summary of these findings.

Table 7: Respondents' employment status

Education level	Frequency	Percentage
Employed	46	25%
Unemployed	44	24%
Retired	37	20%
Homemaker	31	17%
Self employed	27	15%
Total	**185**	**100%**

Source: Research Data (2023)

4.4.1.6 Residential Location

The respondents that completed the questionnaires in this study, were distributed as illustrated in the pie chart below (Figure 4).

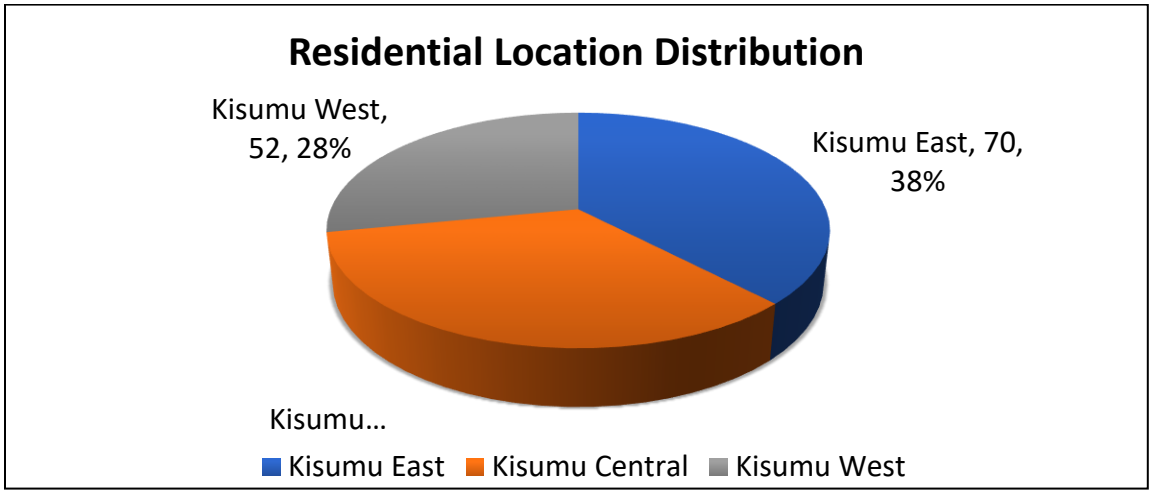


Figure 4: Distribution of respondents' residential location

Source: Research Data (2023)

Majority of the participants representing 70 (38%) of the respondents resided in Kisumu East sub-county while 63 (34%) of the participants were from Kisumu Central sub-county and 52 (28%) lived in Kisumu West sub-county.

4.4.2 Analysis of the study variables

In this section, the study variables were described in terms of their means and standard deviation. These included all the four independent variables together with the response variable.

Table 8: Household demand for housing

Assertion	N	Min	Max	Mean	Sd
There is a household demand for urban housing	185	1	3	2.17	0.773

Source: Research Data (2023)

As shown in Table 8, household demand for urban housing had a mean of 2.17 and a standard deviation of 0.773. This signified that majority of the respondents indicated that they had a moderate demand for urban housing in Kisumu City. The low standard deviation was an indication that there was consistency in the responses in regards to household demand for housing.

Table 9: Summary of Economic Factors

Assertion	N	Min	Max	Mean	Sd
Household's housing decision is influenced by the level of income	185	1	5	3.06	1.399
Household anticipates a future income increase which will influence future housing decisions	185	1	2	1.59	0.501
Housing prices influence the household's housing decisions	185	1	5	3.02	1.414
Housing prices are reasonable compared to housing quality and size hence affect housing decisions	185	1	2	1.51	0.501
Average				**3.04**	**0.954**

Source: Research Data (2023)

Table 9 demonstrates the study findings in regards to economic factors that influence households' demand for housing. A mean of 3.06 and standard deviation of 1.399 were obtained for the assertion that the households' income levels influenced their housing decisions. Also, when asked whether or not they anticipated a future income increase which will influence their future housing decisions, majority of the respondents accepted that they do (mean = 1.59, standard deviation = 0.501). Similarly, they also acknowledged that the current housing prices in Kisumu are reasonable when compared to the size and quality of the housing units (mean = 1.51, standard deviation = 0.501). Furthermore, with a mean of 3.02 and standard deviation of 1.414, the respondents indicated that the price of housing units moderately influenced their housing decisions. The overall mean of 3.04 and low standard deviation of 0.954 indicated that the economic factors of household income levels and housing prices, moderately influenced the household's demand for housing. The low standard deviation indicated that the respondents were consistent with this opinion.

Table 10: Summary of Demographic Factors

Assertion	N	Min	Max	Mean	Sd
Current household's size substantially affects housing choices	185	1	5	2.98	1.411
Size of a household greatly influences the household's housing decision	185	1	5	4.20	1.351
Household's migration pattern influences its housing decision	185	1	5	2.98	1.441
Household's lifecycle influences its housing decisions	185	1	5	3.72	1.412
Averages				**3.47**	

Source: Research Data (2023)

From the findings in Table 10, the study established that majority of the respondents had a household size of 6 to 9 people (mean = 2.98, standard deviation = 1.411). When asked whether the sizes of their households influenced their housing decisions, majority of the respondents indicated that their household sizes influenced their housing decisions to a great extent. When asked of the influence of their migration patterns on their choice of housing, they agreed to moderate impacts (Mean = 2.98, standard deviation = 1.441) of these patterns on their housing choices. Lastly, a mean of 3.52 and standard deviation of 1.412 was recorded when asked of the impact of a household's lifecycle on housing decisions. This inferred that the respondents were of the opinion that the stage of a household in its lifecycle, influences its housing decisions to a great extent. However, the mean of 3.41 indicated that demographic characteristics of household size, migratory pattern and lifecycle of a household, influenced the households' housing demand to a great extent.

Table 11: Summary of Social Factors

Assertion	N	Min	Max	Mean	Sd
Cultural factors influence a household's housing decision	185	1	5	2.97	1.427
Ethnic considerations affect the housing decisions of a household	185	1	5	2.87	1.416
Social networks play a pivotal role in housing decisions of a household	185	1	5	2.96	1.455
It is important for a household to have a sense of belonging within a neighborhood	185	1	5	3.00	1.403
Averages				**2.95**	

Source: Research Data (2023)

Table 11 represents the findings on the respondents' social considerations when making housing choices. When asked whether cultural and ethnic factors influenced their housing decisions, the respondents indicated that the two factors influenced their housing decisions moderately (mean 2.97 and 2.87, standard deviation 1.427 and 1.416 respectively). Equally, the respondents indicated with a mean of 2.96 and standard deviation of 1.403 that social networks also affected their housing decisions to a moderate extent. This was supported by their unanimous response that it was moderately important for members of a household to have a sense of belonging within their residential neighborhood (mean 3.0 and standard deviation 1.403). The aggregate mean of 2.95 indicated that majority of the respondents were in support of the notion that social factors of culture, ethnicity and social networks moderately influenced the households' housing decision.

Table 12: Summary of Physical Factors

Assertion	N	Min	Max	Mean	Sd
Location of a housing unit influences a household's housing decision	185	1	5	3.12	1.327
Type of housing influences household's housing decision	185	1	5	3.09	1.436
The characteristics of a neighborhood influences housing decisions of a household	185	1	5	3.02	1.349
Safety and security is an important neighborhood characteristic in housing decisions	185	1	5	3.05	1.449
Noise levels is an important neighborhood characteristic in housing decisions	185	1	5	3.12	1.391
Quality of schools is an important neighborhood characteristic in housing decisions	185	1	5	3.04	1.435
Proximity to public transportation an important neighborhood characteristic in housing decisions	185	1	5	3.10	1.391
Access to parks and recreational areas are important neighborhood characteristics in housing decisions	185	1	5	2.98	1.365
Averages				**3.07**	

Source: Research Data (2023)

The study findings on Table 12, indicated the respondents opined that location, type of housing and neighborhood characteristics influenced the households' housing decisions to a moderate extent. This was evident in the recorded means of 3.12, 3.09 and 3.02 and standard deviations of 1.327, 1.436, and 1.349 respectively. On the inquiry of the most important neighborhood characteristics to be considered in housing decisions, the means of 3.05, 3.12, 3.04, 3.10 and 2.98 indicated that the respondents unanimously agreed that all the characteristics of safety and security, noise levels, quality of schools in the neighborhood, proximity to public transportation and access to park and recreational areas

respectively, are moderately important considerations when making housing decisions. Overall, the mean of 3.07 indicated that the physical factors of location, type of housing and neighborhood characteristics moderately impacted the households demand for housing.

4.5 Correlation Analysis

In this study, Pearson's correlation coefficient was used to test the strength and direction of correlation and association between the study variables. The figure 5 below illustrates the findings of the analysis.

Correlations

		Housing Demand	ECF	SOF	DGF	PHF
Housing Demand	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	185				
ECF	Pearson Correlation	.558	1			
	Sig. (2-tailed)	.000				
	N	185	185			
SOF	Pearson Correlation	.360	.439	1		
	Sig. (2-tailed)	.039	.108			
	N	185	185	185		
DGF	Pearson Correlation	.537	.327	.551	1	
	Sig. (2-tailed)	.001	.091	.156		
	N	185	185	185	185	
PHF	Pearson Correlation	.419	.692	.321	.113	1
	Sig. (2-tailed)	.044	.057	.438	.141	
	N	185	185	185	185	185

Figure 5: Pearson's correlation matrix of the variables

Source: Research Data (2023)

From the findings, it was evident that economic status (r = 0.558) and demographic factors (r = 0.537) moderately correlated with households housing demand while physical attributes (r = 0.419) and social attributes (r = 0.360) had a low positive correlation with housing demand. The estimated p-values of 0.000, 0.001, 0.044 and 0.039 were all less than 0.05 indicating that the correlation between the predictor variables and household housing demand was statistically significant. Based on the results, economic factors including income level of the households and price of housing units had the strongest correlation with household housing demand while social factors such as culture, ethnicity and social networks relatively had the least correlation.

Despite the established significant correlations between the predictor variables and the response variable, further analysis was conducted to check for multicollinearity of the independent variables. The study utilized collinearity statistics of tolerance and Variance Inflation Factor (VIF) in achieving this. Table 13 below presents the results of the test.

Table 13: Multicollinearity test

		Collinearity Statistics	
Model		**Tolerance**	**VIF**
1	ECF	.556	1.622
	DGF	.672	1.591
	SOF	.716	1.405
	PHF	.796	1.365

a. Dependent Variable: Housing demand

Source: Research Data (2023)

From the results, all the predictor variables in the study had low VIF scores which were below 5 and close to 1. These scores indicated the absence of multicollinearity between the

independent variables. Furthermore, the tolerance levels of all the four predictor variables were high above 0.25, further ruling out the existence of multicollinearity. These findings inferred that the predictor variables were reliable in fitting and interpreting a regression model between the four factors and the response variable.

4.6 Regression Analysis and Hypotheses Testing

The researcher further tested for regression assumptions of normality and linearity prior to fitting a regression model by use of Kolmogorov-Smirnov normality test, normal Q-Q plots and histograms. Kolmogorov Smirnov test was used due to its appropriateness in handling larger sample sizes ($n \geq 50$). Table 14 below illustrates the findings of the normality test.

Table 14: Kolmogorov-Smirnov normality test

Tests of Normality			
	Kolmogorov-Smirnov[a]		
	Statistic	df	Sig.
Housing Demand	.806	185	.076
ECF	.992	185	.414
DGF	.993	185	.579
SOF	.995	185	.765
PHF	.995	185	.741

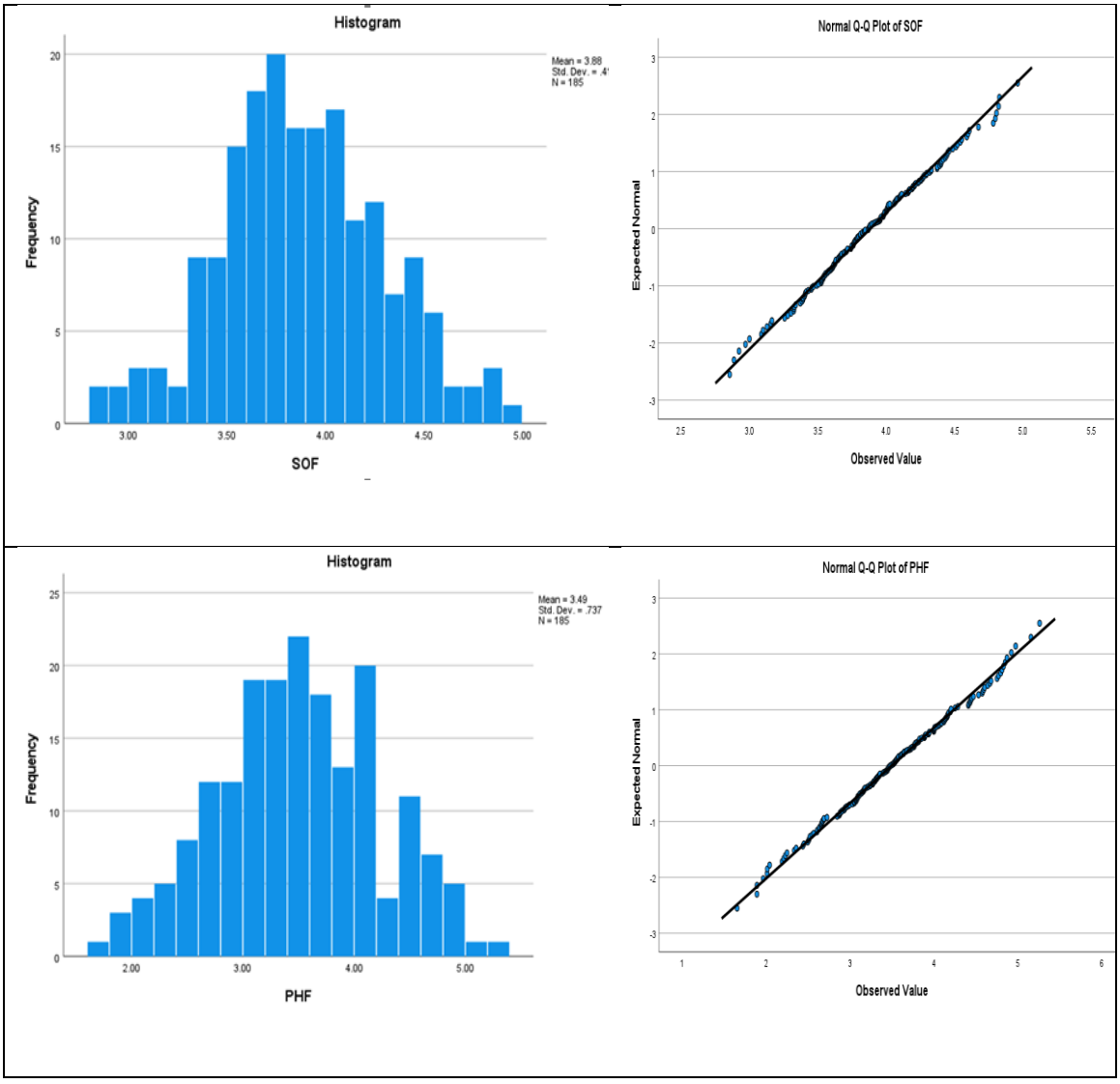
*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Source: Research Data (2023)

From the above findings, it could be concluded that the dependent variable "housing demand" and the predictor variables "Economic status"," Demographic characteristics", "Physical attributes" and "social factors" were all normally distributed. This was evident

from the high significance values of greater than 0.05 that were recorded for each variable. This indicated that the researcher could not reject the null hypothesis and conclude that the variables followed a normal distribution. Furthermore, the normality of these variables was further illustrated graphically in the following qq plots and histograms.



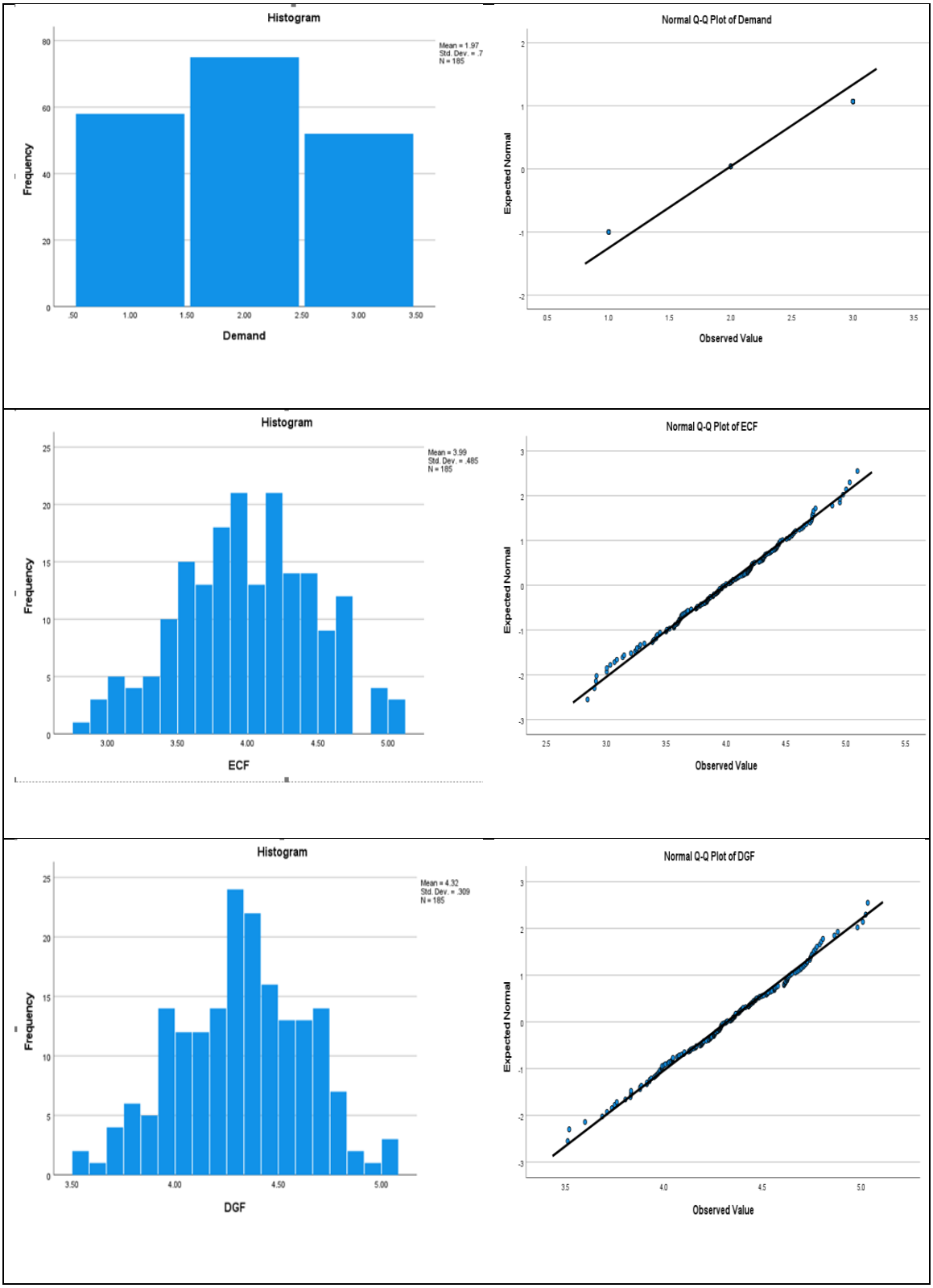


Figure 6: Normality charts of study variables

Source: Research Data (2023)

The histograms in the figure above, illustrate the normal distribution of the variables. Both the histograms of the dependent and independent variables appear to take a symmetrical shape while the observations in the Q-Q plot (Figure 6) closely follow the normal line further supporting the normality of the study variables.

Also, homoscedasticity assumption was also investigated by visual examination of a scatterplot of the regression residuals. According to Tabachnick and Fidell (2007), residuals and the inherent residual variance should be similar for all the scores predicted. They suggested that when this condition is met, the assumption of homoscedasticity holds and the scores in the plot will tend to concentrate about the zero point. From visual inspection of the scatterplot (Figure 7), the assumption of homoscedasticity in this study is met as there seems to be same variance of the residuals for all the predicted scores. Equally, the scores seem to concentrate around the center (zero point).

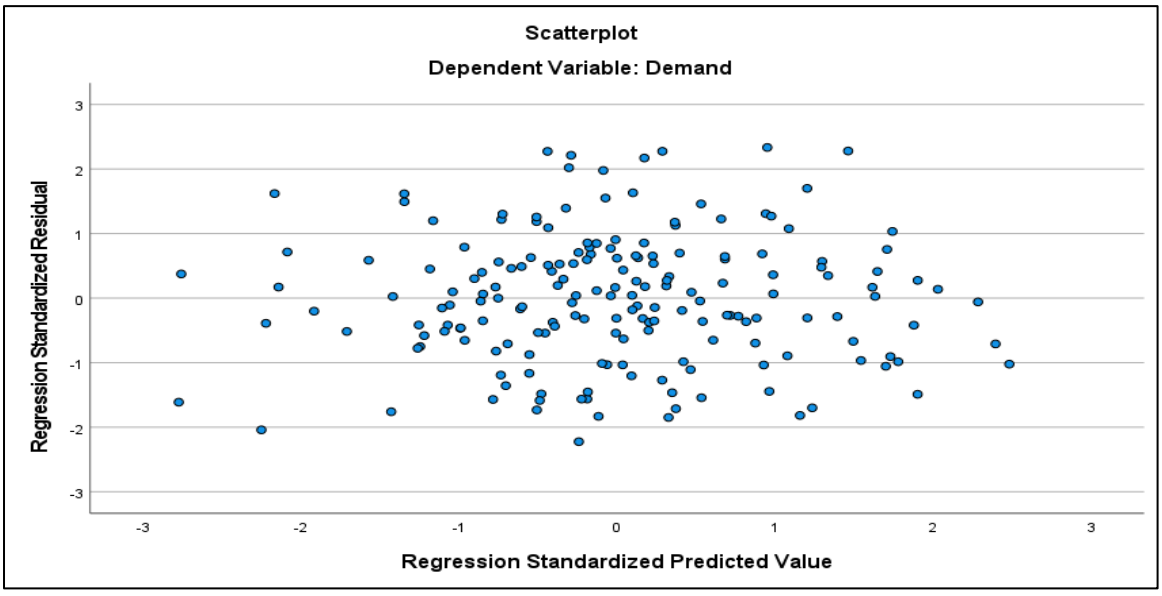


Figure 7: Scatterplot for regression residuals

Source: Research Data (2023)

All the regression assumptions of normality, linearity, homoscedasticity and multicollinearity having been met, a regression model was fitted and the coefficients of the regression model (equation) was a summarized in the coefficient Table 15 below.

Table 15: Model coefficients summary

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	7.921	2.143		11.173	.000
	ECF	.132	.118	.168	3.214	.000
	DGF	.319	.185	.687	2.808	.000
	SOF	.140	.136	.206	4.032	.010
	PHF	.125	.684	.119	2.606	.009

Source: Research Data (2023)

The following hypothesis was being tested for each of the predictor variables:

H_0: Coefficient (B) = 0

H_1: Coefficient (B) $\neq$ 0

From the findings, all the predictor variables recorded significant model coefficients. They recorded p-values of less than 0.05 providing a basis for rejecting the null hypothesis and concluding that the model coefficients were not zero. Therefore, Economic status (p = 0.000), demographic characteristics (p = 0.000), social factors (p = 0.010) and physical attributes (p = 0.009) are all significant predictors of household demand for housing.

Based on the findings, the following regression model was fitted:

Household housing demand (y) = 7.921 + 0.132 * (Economic Status) + 0.319 * (Demographic characteristics) + 0.14 * (Social factors) + 0.125 * (Physical attributes)

From the model, it could be inferred that for every unit change in the economic status of the households, there is a 13.2% change in the household's housing demand, also a unit change in the demographic characteristics results to a 31.9% change in the household's demand for housing. In addition, a unit change in the social factors caused a 14% change in the demand for housing by the households while a unit change in the physical attributes resulted to 12.5% variation in the demand for housing.

Table 16: Summary of the model

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.726[a]	.527	.509	5.64097

a. Predictors: (Constant), PHF, SOF, DGF, ECF

Source: Research Data (2023)

The model summary (Table 16) above showed that the fitted model had an estimate R value of 0.726, indicating a strong relationship between the model and the dependent variable. Also, R Square value of 0.527 indicated that 52.7% of the variations in household demand for housing could be explained by the model's predictors comprised of the economic, demographic, social and physical factors. This also meant that 47.3% of the variations in the dependent variables is still unexplained signifying the need for adding more predictors

to further improve the fit of the model. However, the high R^2 value indicated that the model's predictions were fairly reliable.

Further analysis of variance was conducted to assess whether the fitted model was useful and of good fit. From the ANOVA summary in the table below, the regression model had an estimate F Statistic of 17.363 and a p-value of 0.000. At a 5% significance level and (4, 180) degrees of freedom, an F critical value of 2.37 was obtained. Since the obtained F statistics (17.363) was greater than the F critical value (2.37), it was concluded that the regression model as a whole was statistically significant. This was equally supported by the p-value of 0.000 which was less than 0.05 hence indicating statistical significance.

Table 17: Analysis of variance

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	41.323	4	10.331	17.363	.000[b]
	Residual	107.134	180	.595		
	Total	148.457	184			

a. Dependent Variable: Housing Demand

b. Predictors: (Constant), PHF, SOF, DGF, ECF

Source: Research Data (2023)

4.7 Discussion of Research Findings

The study findings appear to be in line with the theoretical premises of both the Hedonic Price Theory and the Permanent-Income Housing Theory to a considerable extent, offering substantial support for the two theoretical frameworks. The Hedonic Price Theory emphasizes the influence of various characteristics and attributes on housing prices, extending its reach to understand the dynamics of urban housing demand. From the findings, economic factors including household income and housing unit price were established to have a moderate positive correlation with housing demand in Kisumu City. This finding that shows the linkage between income level and housing demand echoes Milton Friedman's Permanent Income Housing Theory, which asserts that households base their housing decisions not solely on present income but also on future income expectations. The observed correlation between economic factors, by extension income and housing demand in this study supports this theory's assumption.

Furthermore, the findings establish that demographic factors such as household lifecycle, size, and migration patterns, significantly influence housing demand. These findings resonate with the Hedonic Price Theory's core premise that factors beyond physical features impact housing preferences and, by extension, demand. Similarly, the Permanent Income Housing Theory’s emphasis on long-term income expectations aligns with the observed relationship between demographic factors and housing demand, as households likely consider their future income trajectory when making housing decisions across different lifecycle stages.

The recognition of social factors such as ethnicity, culture, and social networks affecting housing demand in this study further complements the holistic view presented by the Hedonic Price Theory, emphasizing that housing demand is not solely dictated by a housing physical characteristic but also by intangible societal elements. This acknowledgment corresponds to the theory's notion that the value of a house incorporates both observable and unobservable characteristics.

The findings regarding the relationship between physical attributes of housing location, type of housing, and neighborhood characteristics with housing demand align well with both the HPT and PIHT. The HPT emphasizes the significance of these factors in determining housing prices, and by extension, demand, while the PIHT indirectly incorporates them by recognizing households' consideration of long-term income expectations when choosing housing options, which may be influenced by these physical attributes.

Generally, the findings of this study corroborate with the adopted theoretical framework that guided this study.

.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This study's aim was to examine the effects of various factors including economic, demographic, social and physical factors on household demand for housing in Kisumu. This chapter undertakes a discussion of research findings as per the study variables and objectives. The study findings were summarized and conclusions made as per the objectives. The chapter ends by giving recommendations, highlighting the limitations of the study and giving suggestions for further study.

5.2 Summary of Key Findings

Economic factors

The empirical findings of this study established a significant relationship between household housing demand and economic factors including household's level of income and the price of a housing unit. These economic factors displayed a moderate positive correlation with the households' housing demand. Furthermore, this relationship was also confirmed by regression analysis which registered a significant p-value for the economic factors. The findings revealed that for every unit change in the economic factors, there was a subsequent 13.2% variation in the household's demand for urban housing in Kisumu City. These findings corroborate with Smith (2021) who also explored the correlation between economic factors and their impacts on housing demand in the US. Smith found that there was a positive correlation between household income and housing demand,

highlighting that for every 10% rise in income, there was a notable 5% increase in housing demand. Further, Chen et al., (2020) findings also resonate with these study findings as they noted a significant relationship between price of housing units in China and the demand for the units. These findings underscore the critical role of a household's financial stability and housing affordability in shaping housing preferences.

Demographic factors

Equally, demographic factors of household lifecycle, size, and migration patterns emerged as significant influencers of household demand for housing in Kisumu City. Overall, this factor recorded a positive correlation with household demand for housing, revealing that there was a substantial change of 31.9% in the demand for housing whenever there was a unit change in the demographic characteristics of a housing unit. Several studies support these findings, highlighting the positive correlation between these demographic factors and housing demand. Smith (2020), identified a positive relationship between the size of a household and housing demand. He reported that a larger household size resulted to an increased demand for multiple bedroom housing. Chen (2019), in his investigation, reported a significant relationship between different household lifecycle stages and housing demand. Furthermore, Garcia's (2021) study highlighted the significant relationship between transient households and the demand for smaller housing units. The findings of this study, appear to be in line with the broader literature on effects of demographic characteristics on housing demand.

Social factors

In this study, the researcher also established that social considerations comprising of ethnicity, culture, and social networks had significant relationship with household demand for housing. This finding, as supported by both significant regression and correlation coefficients, indicated that social factors played a crucial role in household demand for housing in Kisumu. It was established that there was a 14% change in housing demand whenever there was a unit change in the social factors. These findings aligned with Rodriguez et al., (2021) who explored sociological considerations of housing demand. In their study, they postulate that cultural factors, significantly influenced the size, layout and design preferences for urban housing with distinct variations across different cultural groups. These findings, underscore the relevance of social cohesion and identity in shaping housing decisions.

Physical factors

The empirical findings inferred that there was a significant relationship between housing demand in Kisumu and physical attributes of housing location, type of housing and neighborhood characteristics. The findings equally established a positive low correlation between these two factors. It was noted that for every unit variation in the physical attributes, the households' demand for housing had a 12.5% change. These findings resonate with Harper et al., (2022) whose findings supported the significant impact of physical attributes on housing demand. In their research, which was aimed at assessing how various housing types influenced demand, they emphasized the significance of type of housing in meeting the diverging housing needs of the population. Chen and Wang

(2019), further support these findings as their study underscore a significant relationship between location and various neighborhood characteristics and demand for urban housing.

5.3 Conclusion

This study revealed key significant relationships between economic, demographic, social and physical factors and household demand for housing in Kisumu City. Firstly, it was established that economic factors had a significant influence on household demand for housing, highlighting the critical role of a household's financial stability and housing affordability in shaping housing decisions in Kisumu City. Secondly, it was established that demographic factors significantly affected households' demand for housing in Kisumu, underscoring the need to consider factors such as household sizes, household migration patterns and lifecycle in order to meet the high demand for housing in Kisumu. Thirdly, the study confirmed a significant relationship between social factors and housing demand in Kisumu City, highlighting the relevance of social cohesion and identity in shaping housing decisions in Kisumu City. Lastly, physical factor was found to have a significant influence on household housing demand in Kisumu City, highlighting the need for putting attributes such as location of a housing unit, type of housing and neighborhood characteristics when making housing decisions.

5.4 Recommendations

Based on the findings on economic factors, this study recommends promotion of affordable housing initiatives that would focus on ensuring that Kisumu's housing market remains

balanced and addresses the City's diverse economic classes. This would assist mitigate the housing demand pressure emanating from affordability issues.

Based on the significance of demographic factors in this study, the study recommends that urban areas should come up with urban planning strategies that accommodate households that have diverse compositions and at different lifecycle stages. This can be achieved through adopting of flexible zoning policies that would allow mixed-use developments and adaptable housing designs to cater for the different household sizes, migration patterns and lifecycle needs thus reducing the strain on specific housing types and addressing the evolving population dynamics of the Cities.

Based on the study findings on social factors, the study recommends the integration of cultural diversity of households into housing designs and neighborhood planning. This would serve to encourage inclusive housing policies and initiatives that factor in a people's social fabric, aiming to develop neighborhoods where residents feel a sense of belonging and identity hence reducing demand pressures on specific housing preferences.

Finally, this study recommends a focus on diversifying and enhancing neighborhood characteristics in Kisumu residential areas. By doing so, the prevalent high demand for housing in Kisumu City will more evenly diffuse throughout the city, releasing pressure on specific high demand locations.

5.5 Limitations of the Study

This study had two main limitations. Firstly, the study was time constrained especially during data collection and analysis process. The researcher acknowledges that this limitation might potentially affect the study's statistical power and representativeness due to a reduced response rate. Equally, time limitations may impact the thoroughness of data analysis process. Secondly, the study had a limitation in methods of data collection. The singular use of survey only might omit significant contextual details or overlook variations in responses of the participants.

5.6 Suggestions for Further Research

This study recorded an adjusted R-Square value of 0.509, suggesting that only 50.9% of the variability in the response variable could be explained by the four independent variables including economic factors, demographic factors, social factors and physical factors. This study recommends a future study that includes more variables related to housing demand in order to further explain the remaining variability of 49.1% in the response variable. Also, the study recommends a research study that utilizes mixed methods of data collection in order to enhance research findings on the subject matter.

REFERENCES

Agesa, R. U. (2004). One Family, Two Households: Rural to Urban Migration in Kenya. *Review of Economics of the Household*, *2*(2), 161–178. https://doi.org/10.1023/b:reho.0000031612.77882.29

Brown, T. N., Culver, J., Wilkins, K., Gorman Jr, Q., Bento, A., Alvis, A. M., ... & Caldwell, C. H. (2020). A descriptive study using the comprehensive race socialization inventory: Findings from the national survey of American life-adolescent supplement. *Journal of black studies*, *51*(2), 147-167.

Bubba, N., & Lamba, D. (1991). Urban management in Kenya. *Environment & Urbanization*, *3*(1), 37–59. https://doi.org/10.1177/095624789100300105

Cannari, L., Nucci, F., & Sestito, P. (2000). Geographic labour mobility and the cost of housing: evidence from Italy. *Applied Economics*, *32*(14), 1899–1906. https://doi.org/10.1080/000368400425116

Case, K. E., Quigley, J. M., & Shiller, R. J. (2011). *Wealth effects revisited 1978-2009* (No. w16848). National Bureau of Economic Research.

Case, K. E., Shiller, R. J., & Thompson, A. (2014). What have they been thinking? Homebuyer behavior in hot and cold markets—A 2014 update.

Connelly, L. M. (2020). Inclusion and Exclusion Criteria. *Medsurg nursing*, *29*(2).

Creswell, J. W. (2013). Steps in conducting a scholarly mixed methods study.

Dieleman, F. (2017). *Households and housing: Choice and outcomes in the housing market*. Routledge.

Glaeser, E. L. (2012). The challenge of urban policy. *Journal of Policy Analysis and Management*, *31*(1), 111-122.

Glaeser, E. L., Gyourko, J., Morales, E., & Nathanson, C. G. (2014). Housing dynamics: An urban approach. *Journal of Urban Economics*, *81*, 45-56.

Glaeser, E., Gottlieb, J., & Gyourko, J. (2010). Can interest rates explain the US housing boom and bust. *V, Vox. August 28th*.

Gottdiener, M., Budd, L., & Lehtovuori, P. (2015). *Key concepts in urban studies*. Sage.

Government of Kenya. (2021). *Kisumu County Population*.

Green, R. K., & Lee, H. (2016). Age, demographics, and the demand for housing, revisited. *Regional Science and Urban Economics*, *61*, 86-98.

Greenstone, M. (2017). The continuing impact of Sherwin Rosen's "Hedonic prices and implicit markets: product differentiation in pure competition". *Journal of Political Economy*, *125*(6), 1891-1902.

Grove, S. K., Burns, N., & Gray, J. (2012). *The practice of nursing research: Appraisal, synthesis, and generation of evidence*. Elsevier Health Sciences.

Hamadeh, M., & Khoueiri, R. (2012). Local public services and residential real estate markets. *International Journal of Business and Public Administration*, *9*(1), 149-158.

Hamadeh, M., & Khoueiri, R. (2012). Local public services and residential real estate markets. *International Journal of Business and Public Administration*, *9*(1), 149-158.

Hill, R. J. (2013). Hedonic price indexes for residential housing: A survey, evaluation and taxonomy. *Journal of economic surveys*, *27*(5), 879-914.

Huchzermeyer, M. (2008). Slum Upgrading in Nairobi within the Housing and Basic Services Market. *Journal of Asian and African Studies*, *43*(1), 19–39. https://doi.org/10.1177/0021909607085586

Kader, S. A., Zayed, N. M., Faisal-E-Alam, M., Salah Uddin, M., Nitsenko, V., & Klius, Y. (2022). Factors Affecting Demand and Supply in the Housing Market: A Study on Three Major Cities in Turkey. *Computation*, *10*(11), 196.

Kirima, I. W. (2016). *Recognition of the right to adequate housing of the police in Kenya* (Doctoral dissertation, Strathmore University).

Knoll, K., Schularick, M., & Steger, T. (2017). No price like home: Global house prices, 1870–2012. *American Economic Review*, *107*(2), 331-353.

Kokx, A., & Van Kempen, R. (2010). Dutch urban governance: Multi-level or multi-scalar?. *European urban and regional studies*, *17*(4), 355-369.

Kumssa, A., & Mwangi, I. K. (2011). Challenges of sustainable urban development: the case of Umoja 1 Residential Community in Nairobi City, Kenya. *Eco-city Planning: Policies, Practice and Design*, 181-197.

Łaszek, J., Olszewski, K., & Waszczuk, J. (2016). Monopolistic competition and price discrimination as a development company strategy in the primary housing market. *Critical Housing Analysis, 3*(2), 1.

Lee, H., Myers, D., Painter, G., Thunell, J., & Zissimopoulos, J. (2020). The role of parental financial assistance in the transition to homeownership by young adults. *Journal of Housing Economics, 47*. https://doi.org/10.1016/j.jhe.2018.08.002

Letdin, M., Sirmans, C. S., Sirmans, G. S., & Zietz, E. N. (2019). Explaining REIT returns. *Journal of Real Estate Literature, 27*(1), 1-25

Levy, D. K., McDade, Z., & Bertumen, K. (2013). Mixed-income living: Anticipated and realized benefits for low-income households. *Cityscape*, 15-28.

Lim, G. C., & Tsiaplias, S. (2018). Interest rates, local housing markets and house price over-reactions. *Economic Record*, *94*, 33-48.

MacHaria, T. N., Ochola, S., Mutua, M. K., & Kimani-Murage, E. W. (2018). Association between household food security and infant feeding practices in urban informal settlements in Nairobi, Kenya. *Journal of Developmental Origins of Health and Disease, 9*(1), 20–29. https://doi.org/10.1017/S2040174417001064

Magutu, J. M. (2023). Civil Society Organisations' Policy Entrepreneurship Roles in Kenya and Uganda's Housing Policies. In *State Politics and Public Policy in Eastern Africa: A Comparative Perspective* (pp. 305-324). Cham: Springer International Publishing.

Mahalik, M. K., & Mallick, H. (2016). Are house prices guided by fundamentals or speculative factors? An empirical inquiry for India. *International Journal of Economic Policy in Emerging Economies, 9*(1), 47–64. https://doi.org/10.1504/IJEPEE.2016.074945

Makinde, O. O. (2014). Housing delivery system, need and demand. *Environment, development and sustainability*, *16*, 49-69.

Mankiw, N. G. (2014). *Principles of economics*. Cengage Learning.

Marcuse, P., & Van Kempen, R. (Eds.). (2011). *Globalizing cities: a new spatial order?*. John Wiley & Sons.

Musyoka, P. K. (2012). Discussion Paper No. 135 of 2012 on Demand for Housing in Urban Kenya: The Case of Households in Nairobi and Mombasa Counties.

Nurkhayati, F., & Fitrady, A. (2023). The impact of immigration on urban housing prices in Indonesia. *International Journal of Housing Markets and Analysis*.

Nyayiemi, S. K. (2012). Determinants of effective solid waste management in Kakamega Municipality, Kenya.

rates and absentee landlords and neglect of house maintenance (World Bank, 2006).

Røed Larsen, E. (2014). The engel curve of owner-occupied housing consumption. *Journal of Applied Economics*, *17*(2), 325–352. https://doi.org/10.1016/S1514-0326(14)60015-5

Saiz, A. (2010). The geographic determinants of housing supply. *The Quarterly Journal of Economics*, *125*(3), 1253-1296.

Saiz, A. (2019). Some brief thoughts on housing supply and policy. *Hot Property: The Housing Market in Major Cities*, 109-119.

Schuetz, J., Giuliano, G., & Shin, E. J. (2018). Does zoning help or hinder transit-oriented (re) development?. *Urban Studies*, *55*(8), 1672-1689.

Siedlecki, S. L. (2020). Understanding descriptive research designs and methods. *Clinical Nurse Specialist*, *34*(1), 8-12.

Smith, N. (2013). Gentrification, the frontier, and the restructuring of urban space. In *Gentrification of the City* (pp. 15-34). Routledge.

Smith, S. (2017). Landlordism and landlord–tenant relations in Kisumu and Kitale's low-income settlements. *International Journal of Urban sustainable development*, *9*(1), 46-63.

Suhartini, N., & Jones, P. (2019). Urban Governance and Informal Settlements. *Switzerland: Springer Nature Switzerland AG*.

Tandoh, F., & Tewari, D. D. (2016). The income and price elasticity of demand for housing in Ghana: Empirical evidence from household level data. *South African Journal of Economic and Management Sciences*, *19*(2), 160-174.

Thissen, M., Burger, M. J., & van Oort, F. G. (2010). House Prices, Bubbles and City Size.

Tiwari, P., Shukla, J., & Tirumala, R. D. (2022). Financial constraints to adequate housing: an empirical analysis of housing consumption disequilibrium and household

decisions on meeting housing requirements in India. *International Journal of Housing Policy*, *22*(4), 474-499.

UN-Habitat. (2021). *Planning Sustainable Cities: Global Report on Human Settlements 2009, London: Earthscan.* .

Verma, P., & Shankar Singh, G. (2019). Agricultural growth and land use land cover change in peri-urban India. *Environmental monitoring and assessment*, *191*, 1-17.

Vigdor, J. L. (2013). Weighing and measuring the decline in residential segregation.

Woltjer, J. (2014). A global review on peri-urban development and planning. *Jurnal Perencanaan Wilayah dan Kota*, *25*(1), 1-16.

Won, J., & Lee, J. S. (2017). Investigating How the rents of small urban houses are determined: Using spatial hedonic modeling for urban residential housing in Seoul. *Sustainability*, *10*(1), 31.

World Bank. (2012). Gender equality in development. In *World Bank*. https://doi.org/10.1080/13552070512331332273

World Bank. (2021). *Kenya Population 2021*.

Xiao, Y., & Xiao, Y. (2017). Hedonic housing price theory review. *Urban morphology and housing market*, 11-40.

Yankson, P. W., & Bertrand, M. (2012). Challenges of urbanization in Ghana. *The mobile city of Accra*, *25*.

APPENDICES

Appendix I: Survey Questionnaire

Factors Affecting Household Demand for Urban Housing In Kisumu County, Western Kenya

---

Introduction

My name is Beryl Odhiambo. I am a Master's student at the University of Nairobi undertaking research towards a thesis above-entitled.

To assist my research, I request that you spare some time to answer the questions in this questionnaire. Your responses will be treated with utmost confidentiality and used only for the intended purpose of this research.

Please read each question carefully and respond to it appropriately. Kindly answer all the questions to your utmost ability.

SECTION ONE

General Information

1) Kindly indicate your gender.
   Male [ ] Female [ ]
2) Kindly indicate your age bracket.
   18 – 25 [ ] 25 – 35 [ ] 36 – 46 [ ] 47 – 57 [ ] 58 or above [ ]
3) Please indicate your current employment status.
   Homemaker [ ] Unemployed [ ] Self-employed [ ] Employed [ ] Retire [ ]
4) Please indicate your marital status.
   Single [ ] Married [ ] Separated [ ] Divorced [ ] Widowed [ ]
5) Please indicate your highest education level.
   Secondary [ ] Diploma [ ] Bachelor's Degree [ ] Master's Degree [ ]
   Other [ ]
6) Please indicate your residential location.
   Kisumu East [ ] Kisumu Central [ ] Kisumu West [ ]

7) How would you rank your households' current housing demand level in Kisumu City? Rank from 1 to 5 where 1 indicates a very low demand level and 5 a very high demand level.

   Very low demand 1 | [ ] Low demand 2 | [ ] Moderate demand 3 | [ ]

   High demand 4 | [ ] Very high demand 5 | [ ]

SECTION TWO

PART I: Economic Factors and Demand for Housing

1) To what extent does your household income influence your housing choices and decisions in Kisumu?

   To a very low extent [ ] To a low extent [ ] To a moderate extent [ ]

   To a great extent [ ] To a very great extent [ ]

2) Do you anticipate a future household income increase influencing your future housing decision?

   Yes [ ] No [ ]

3) To what extent do the current housing prices in Kisumu City influence your housing decisions?

   To a very low extent [ ] To a low extent [ ] To a moderate extent [ ]

   To a great extent [ ] To a very great extent [ ]

4) Do you think the housing prices in Kisumu City are reasonable compared to the quality and size of housing available?

   Yes [ ] No [ ]

PART II: Demographic Factors and Demand for Housing

5) How many people currently reside in your household, including yourself?

   Less than 3 [ ] 3 – 5 [ ] 6 – 9 [ ] 10 – 12 [ ] Above 12

6) To what extent does the size of your household influence your housing choice in Kisumu City?

   To a very low extent [ ] To a low extent [ ] To a moderate extent [ ]

   To a great extent [ ] To a very great extent [ ]

7) To what extent does your household's migration pattern influence your housing decision in Kisumu City?

To a very low extent [ ] To a low extent [ ] To a moderate extent [ ]
To a great extent [ ] To a very great extent [ ]

8) To what extent does your household's lifecycle influence your housing decision in Kisumu City?

To a very low extent [ ] To a low extent [ ] To a moderate extent [ ]
To a great extent [ ] To a very great extent [ ]

PART III: Social Factors and Demand for Housing

9) To what extent do cultural factors influence your housing decision in Kisumu (e.g., living close to family, adhering to cultural practices)?

To a very low extent [ ] To a low extent [ ] To a moderate extent [ ]
To a great extent [ ] To a very great extent [ ]

10) To what extent does ethnic considerations influence your housing decisions in Kisumu City?

To a very low extent [ ] To a low extent [ ] To a moderate extent [ ]
To a great extent [ ] To a very great extent [ ]

11) To what extent does a sense of community, neighborly and social interactions influence your housing decision in Kisumu City?

To a very low extent [ ] To a low extent [ ] To a moderate extent [ ]
To a great extent [ ] To a very great extent [ ]

12) How important is it for you to have a sense of belonging within your neighborhood?

Not at all important [ ] Slightly important [ ] Moderately important [ ]
Very important [ ] Extremely important [ ]

PART IV: Physical Factors and Demand for Housing

13) To what extent does location influence your housing decision in Kisumu City?

To a very low extent [ ] To a low extent [ ] To a moderate extent [ ]
To a great extent [ ] To a very great extent [ ]

14) To what extent does type of housing influence your housing decision in Kisumu City?

To a very low extent [ ] To a low extent [ ] To a moderate extent [ ]
To a great extent [ ] To a very great extent [ ]

15) To what extent does a neighborhood's characteristics influence your housing decision in Kisumu City?

To a very low extent [ ] To a low extent [ ] To a moderate extent [ ]

To a great extent [ ] To a very great extent [ ]

16) Please rate the following neighborhood characteristics on a scale of 1 to 5, with 1 being "not important" and 5 being "extremely important" for your housing choice

No	**Characteristic**	**Rating**				
		1	2	3	4	5
a.	Safety and Security					
b.	Noise Levels					
c.	Quality of schools in the area					
d.	Proximity to public transportation					
e.	Access to park and recreational areas					