

Analysis of Residential Property Demand Factors in Kaduna Metropolis, Nigeria

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ABSTRACT

In developing countries, the high demand for residential real estate in urban areas surpasses the available supply, driving up market prices and leading many people to live in slums and squatter communities. Considering the inadequate information on this imbalance of market forces, this study examined the types of residential property available in the Kaduna property market, the residents' patterns of settlement, and the factors that determine the demand for residential housing in the study area. The 67 registered estate surveying and valuation firms in the study area make up the study population. As a result, 50 out of the 67 distributed questionnaires were collected, yielding a response rate of 74.6%. Data collected were analysed using descriptive statistics. The result shows that among the six types of residential property identified in the study area, the residents mostly occupied tenement buildings and 3-bedroom bungalows with a 32% frequency rate each. The residential settlement pattern in the study area is along high-density areas (Kawo and Sabon-Tsha) that command low rent and low-density areas (Barnawa Government Reserved Area) where rent is on the high side. Among the six residential property demand determinant variables identified in the study area, it was revealed that household income, rent affordability, and population growth were rated to be statistically significant in increasing order of 3.0, 3.54, and 3.68, respectively. Meanwhile, the remaining three factors—inflation rate, interest rate, and change in household taste—were less statistically significant in decreasing order of 1.76, 1.72, and 1.26, respectively. The study recommends that to break the private sector's monopoly on real estate investment, which currently dictates the quantum and quantity of housing available, governments should participate more in the housing supply, particularly in low-income housing. This will help to lower rent in the study area.

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1. Introduction

Living accommodation (shelter) remains one of the essentials of life for human survival, according to Sleight (2017). Healthy housing must be considered in terms of the physical structure and mental and social interactions that support the health and well-being of the inhabitant (World Health Organization 2018). From the economic point of view, housing is referred to as landed property that generates income for the investor (property owner). In real estate, the five (5) principal types of property are residential, commercial, industrial, bare land, and special use. Still, the scope of this study will be limited to residential property.

The term "residential property" or "housing" has various meanings. Some refer to residential property as a building that provides dwelling or sleeping accommodation with or without a kitchen, dining room, or both facilities for the individual(s). Others defined residential property as single-family, owner-occupied accommodation. It could also be described as any building structure or portion that is primarily occupied or designed or intended primarily for occupation as a dwelling by household(s) and that can also be offered for sale or lease. (Insider n.d.)

The theory of supply and demand is a fundamental economic principle that determines market situations. Supply and demand often move against each other until they intercept at an equilibrium price. Like any other commodity market, the property market relies heavily on the market forces of supply and demand; that is, property transactions involve a buyer and a seller or lessee (tenant) and lessor (landlord). The lessee places an offer to lease the property, leaving the lessor to accept or reject the offer. Thus, the law of supply and demand dictates property equilibrium prices. The supply and demand for residential accommodation have been impacted by several major market breakdowns that require investigation. These include, on the supply side, the following: inadequate basic amenities, building plan approval barriers, high building construction and financing costs, scarcity of skilled labour, and others (David Taiwo and Misnan 2020; Egbu *et al.* 2021; Gyourko, Joseph & Saiz 2006; Uwaegbulam 2022). Inaccessible housing loans, a lack of discretionary money for housing, the length of the foreclosure process, and the expense of the foreclosure are the demand-side barriers (Egbu *et al.* 2021; Ellis and Henderson 2022; MANSA 2021; Uwaegbulam 2022). However, for this study, the findings are limited to the demand constraints and the significance of market failures in residential property demands.

The demand for residential property in urban cities has outweighed its supply to the extent that people in the city live in slums and squatter settlements, pushing the market price of residential properties upwards (Gideon 2014). In his opinion, rapid population expansion would impact how resources are allocated, including housing, and might seriously jeopardise Nigeria's efforts to build national housing. Moreover, the participation of the government in the provision of affordable housing is low compared to private involvement; this has made rent control unachievable in developing countries, and as such,

private property investors dictate the quality and quantum of residential property in Nigeria and other developing countries. Despite the National Housing Policy initiative of the Federal Government of Nigeria to provide a framework to make quantitative and qualitative housing supply convenient and affordable to meet the housing needs of the growing urban population in Nigeria, it has recorded little or no success since 1981 (Adeshina and Idaeho 2019; Emiedafe 2015; Jiboye 2011).

The increasing population influx in the developing countries of the world because of urbanisation and industrialisation has led to an increase in the demands for different types of residential property by individuals, groups of people, and institutions, which later outweighed the residential housing inventory in the society and as such encouraged the spring up of slum settlements (Makinde 2012). There is a lot of existing literature regarding residential property demand analysis, especially in advanced countries, but choices vary among different populations and regions because of differences in socioeconomic conditions, cultures, and behaviours. Besides, there are limited studies on residential property demand analysis in the northern region of Nigeria. Hence, the paper contributes new knowledge about demand-side determinants of residential property in Nigeria.

Kaduna has developed into a major manufacturing, commercial, and financial hub in the northern region of Nigeria. According to the 2006 Nigerian census, the population of Kaduna metropolis was approximately 760,084 and has risen, due to rapid urbanisation in the metropolis, to approximately 1,582,102 (United Nations, 2019). The population influx experienced in the Kaduna metropolis as a result of the agglomeration of industries in the area in the eighties has led to an increase in the demand for various types of residential accommodation in the study area to date (Bununu, Ludin, and Hosni 2015; Lloyd-Jones, T, Theis, M, Redin, F, Gusah, D, Erickson and Clark, M, Chauhan, D and Porter 2016; Saleh *et al.* 2013). Furthermore, Dettori *et al.* (2020) studied housing demand in urban areas and sanitary requirements of dwellings in Italy. The study examined the housing situation in Sassari, Sardinia, Italy. The Local Hygiene and Public Health Service (SISP) obtained the dwelling conditions data for the population region between 2012 and 2016 and was used in the study. Both qualitative and quantitative variables were included in the study, and the analysis's findings compared them. On a city map, the residence and the gathered variables were georeferenced. According to the study's findings, 363 certification requests were submitted by 193 nationals of foreign birth and 170 Italians working at SISP offices. These individuals account for 53.2 per cent and 46.8 per cent of the study population.

According to the results, 22.0 per cent and 35.5 per cent of homes were found habitable and unsanitary, respectively, and 15.4 percent of residences were considered uncondusive. Additionally, it was discovered that the residences of immigrants were appropriate in 82.7 percent of situations, whereas the residences of Italian citizens were only appropriate in 28 percent of the observations. The study's findings showed that houses in the city's centre are typically unclean and that congestion, habitability, and unsanitary conditions contribute to a significant housing crisis for the Italian populace. Dettori *et al.* (2020) gave an account of

housing conditions and qualities in Sassari in Italy but did not emphasise factors that guide the residential accommodation demands in urban centres.

Furthermore, Jiboye, Adebayo, and Obakin (2020), in their study on housing demand in Nigeria for sustainable development. The study analysed housing problems in Lagos and the Ibadan southwestern part of Nigeria, and through the systematic method, a few houses were selected for the survey. The result revealed that most residents in Lagos could not afford quality accommodation, and as such, a high percentage of homes in Lagos are below standard level. Likewise, in Ibadan, the capital of Oyo State, most people cannot afford to pay for quality accommodation, and most houses in Ibadan are below the standard level. The poor are homeless, and many of the residents live in deteriorated houses. The study findings indicated that the housing problems identified in the study area include a lack of potable water supply, sanitary facilities, regular electricity supply, and good drainage. The study concluded that the increase in housing accommodation demands is due to urbanisation and population growth factors. However, the study did not identify other factors determining the demand for residential property in the city centres.

In addition, Makinde (2014) examined the housing delivery system, need, and demand in Nigeria. The study reviews past and present housing delivery programs in Nigeria and analyses their demand and supply factors. The study addressed the problem of the housing delivery system, the supply and demand issues, to inform policy on housing provision structure, wants, and requests towards improving the level of housing delivery in Nigeria. The study findings reveal Nigeria's previous housing delivery programs, how they fared, their shortcomings, and the reasons behind their failures. The study concluded that the main reason for the housing shortage in the Nigerian context is the 'low income of the residents', which characterised the high occupancy rate ranging from 5-8 persons per room as against the recommended official range of 2-4 persons per room (Ezeanah *et al.* 2020; Fiadzo 2004). However, Makinde (2014) did not emphasise the details of the factors determining residential housing demand in his study.

In Hafizabad, Pakistan, South Asia, Masoumi *et al.* (2022) investigated the association between commuter travel and socioeconomics and residential location choice. The hypothesis is that commuting patterns have less impact on residential location choices in developing countries than in developed countries. The study compares the results from the South Asian context with the latest research from high-income nations. The study population is residents of Hafizabad town in Pakistan, and the sample size is 365 residents. The variables selected for the survey include neighbourhood characteristics, household demographic structure, housing price, housing types, housing tenure, vehicle ownership, status of housing, travel time, and travel mode choice.

The outcome demonstrates that the disparity in the socioeconomic status of the neighbourhoods was mirrored in the cost of housing; thus, Hassan Town had the lowest percentage of houses (29%), while Nawab Colony had the highest rate of pricey

homes (16%). Moreover, among the variables selected for the survey, only three main variables, neighbourhood, gender, and housing tenure, were significant in correlation to residential self-selection in the study area. This suggests that the social life that locals maintain at the neighbourhood level and its characteristics, the demographic structure of households about decision-making processes, and homeowner occupier tenures with the residential location choices made by the residents are all highly significant. Due to the cultural and lifestyle variations between the two economies, these results do, however, share certain similarities and differences with those from the developed economy.

The study found a strong correlation between the residential location preferences of individuals and the characteristics of their neighbourhood, gender, and length of dwelling. In addition, compared to industrialised countries, residential site preferences for commuter travel and socioeconomic factors are less similar and more dissimilar in emerging countries. Though Masoumi *et al.* (2022) identify some factors that determine residential property location choice, the study result could be different from another country's finding since it was argued in the study that the differences in culture and socioeconomic status of the people have a significant influence in its findings compared with the developed countries.

However, residential property demand in the Kaduna metropolis is segregated along low- and high-density areas (Odebode, Aro, and Agboola 2022). Thus, this study suggests that the residential property demands in the study area must be analysed to identify the factors that drive the residents' mobility, which could aid real estate investment decision-making.

The remaining part of this paper is arranged in the following sections: Section 2 explains the methodological approach adopted to achieve the study objectives. Results and discussion are in Section 3, while the conclusion is contained in Section 4.

2. Methodology

The study relies basically on the primary source of data collection. The study population comprises registered real estate broking firms practising in the study area. The major reason for selecting this group of firms is that the researcher opined that the estate surveyors and valuers, as property experts, would have a more excellent grasp of the unique features of the real estate market and should be able to give adequate information. The study has a sample size of 67 respondents from estate surveying and valuation firms. This information was obtained from the unpublished current directory of the Kaduna state branch of the Nigerian Institution of Estate Surveyors and Valuers (NIESV), indicating that approximately 12% of the total 570 registered real estate broking firms in Nigeria are in Kaduna State. Amongst the 67 firms, a total of 50 firms responded, giving a response rate of 74.6%. The study area was stratified into three typical residential densities: low, medium, and high-density residences. Three residential neighbourhoods of Sabon-Tsha, Kawo, and Barnawa Government Reserved Area (GRA) were randomly selected for the study. The basis of this selection is that they accurately

represent the three typical residential densities in the Kaduna metropolis.

Data were sourced through questionnaires and interviews with the participants. The suitability of the respondents to the study requirement was addressed in Section 1 of the questionnaire through information on the company profile, name of companies, years of operation, number of employees, branch office numbers, number of residential houses in the company portfolio, and number of qualified estate managers. Information on the property market characteristics, residential property types, and accommodation details of dwelling properties in the Kaduna Cities was required from the respondents in Section 2 of the questionnaire. The respondents used a five-point Likert scale to rank a list of six (6) independent variables in the questionnaire gathered from literature and real estate experts. The results showed that the variables' significance in explaining variations in the demand for residential properties in the study area was 4, 3, 2, 1, and 0 for the most significant, more significant, significant, less significant, and insignificant, respectively. Data collected were analysed using descriptive statistics, which include frequency distribution tables and percentages. The sum of the weighted value (SWV) was calculated by adding the product of the number of responses to each identified variable and the weight value attached to each rating. The mean of the residential property demand index (RPDI) was obtained by dividing the summation of the weight of value (SWV) by the total number of respondents. The deviation from the mean was calculated. The standard deviation (SD) and variance of the distribution were also calculated to measure the level of fluctuation of the mean value of the variables. The coefficient of variation was calculated to measure variance in the data relative to the mean in percentage. A positive deviation indicates a high level of significance in the identified variable, while a negative deviation shows a low level of significance variable.

3. Results and Discussion

This section details the results and discussion of the findings of the study.

3.1 Respondents' Profile

The initial enquiries in the survey were to gather details regarding the characteristics of the registered real estate broking companies operating in Kaduna City. The company's year of founding, number of employees, number of qualified estate managers within the firms, branch office numbers, and number of residential houses under administration were all listed in this manner. This data facilitates the assessment of the information's dependability and reliability. Table 1 displays the specifics of the 50 respondents' profiles in the Kaduna metropolitan area. Table 1 lists the characteristics of the sampled Kaduna City registered real estate broking organisations. According to the table, at least sixty-eight percent (68%) of these businesses have been operating for a decade or longer. This shows that their information was

trustworthy, given their years of experience. According to the questionnaire study, most of the estate surveying and valuation companies only had one area of expertise. Since most of them—80.00%—primarily operate in Kaduna, they can predict and determine the area's real estate market. As a result, the data these respondents gave is generally trustworthy. Furthermore, 1-2 qualified property managers comprise 94% of the registered real estate broking firms. One possible explanation for this could be that their job plan was conducted inside the research region; as a result, no more than two estate managers could adequately handle the task.

Additionally, data shows that between 11 and 20 residential houses are managed by 80.00% of these organisations, 2.00% have more than 30 dwelling properties in their management portfolio, and 18% have 21 and 30 dwelling properties. Given that the information received from the respondents regarding the characteristics of the real estate market in Kaduna City is based on their practical experience and can be regarded as authentic, more than 98% of them have prior dwelling property management expertise.

Table 1. Respondents' profile

S/N	Variables	Attributes	Frequency	Percentage
1	Years of Operation	1-5	2	4.00
		6-10	14	28.00
		11-15	14	28.00
		16-20	12	24.00
		Above 20	8	16.00
		Total	50	100.00
2	Number of Employees	1-5	35	70.00
		6-10	14	28.00
		Above 10	1	2.00
		Total	50	100.00
3	Branch Office Numbers	1	40	80.00
		2	7	14.00
		3	1	2.00
		4	-	-
		Above 5	2	4.00
		Total	50	100.00
4	Number of Estate Managers in the Company	1-2	47	94.00
		3-4	3	6.00
		Above 5	-	-
		Total	50	100.00
5	Number of Residential Houses in the Company portfolio	1-10	0	0.00
		11-20	40	80.00
		21-30	9	18.00
		Above 30	1	2.00
		Total	50	100.00

Source: Author's Field Survey, 2020

3.2 Analysis of the Types and Accommodation Details of Residential Property Available in the Study Area

Table 2 summarises the types of residential properties available in the study area based on the participants' responses. The data revealed the existence of six types of residential properties: tenement buildings, 1-bedroom flats, 2-bedroom flats, 3-bedroom flats, 3/4-bedroom bungalows, and 4/5-bedroom duplexes. Respondents ranked these property types in terms of demand within the local rental market: tenement buildings and 3/4-bedroom bungalows both had the highest demand, each accounting for 32.00% of responses. This was followed by 2-bedroom flats, with 16.00% of the demand. Next were 3-bedroom flats, making up 10.00%, while 1-bedroom flats were second to last with 6.00%. The lowest demand was for 4/5-bedroom duplexes, at 4.00%. These results indicate that tenement buildings and 3/4-bedroom bungalows are the most in-demand property types in the area's real estate market.

Furthermore, the study found that only two of the six identified property types—tenement buildings and 3-bedroom bungalows—were predominantly occupied by residents. This pattern influenced residential mobility and highlighted a clear socio-economic division within the study area. High-density areas such as Kawo and Sabon-Tasha were primarily inhabited by lower-income earners residing in tenement buildings, and the low-density areas like Barnawa GRA were occupied by higher-income earners living in 3-bedroom bungalows. This residential segregation reflects the socioeconomic disparities between the two neighbourhoods. The higher rental values in low-density areas, such as Barnawa GRA, limit occupancy to those who can afford the high cost. Others settle in more affordable, high-density areas like Kawo and Sabon-Tasha.

These findings are consistent with Masoumi *et al.* (2022), who highlighted variations in neighbourhood socioeconomic status, as shown by housing prices. For example, in Hafizabad, Pakistan, the most expensive residential properties were in Nawab Colony (16%), while the cheapest was in Hassan Town (29%). Similarly, Odebode *et al.* (2022) observed a clear division in residential property demand in the Kaduna metropolis, split between low- and high-density areas.

Table 2. Types of residential property in the study area

S/N	Types	Frequency	Percentage
1	Tenement building	16	32.00%
2	1-bedroom Flat	3	6.00%
3	2-bedroom Flat	8	16.00%
4	3-bedroom Flat	5	10.00%
5	3/4-bedroom bungalow	16	32.00%
6	4/5-bedroom duplex	2	4.00%
	Total	50	100.00%

Source: Author's Field Survey, 2020

3.3 Analysis of the Factors Influencing Residential Housing Demands in Kaduna Metropolis Property Market

Table 3 presents respondents' perceptions of the determinants of residential property demand. The analysis shows that, of the six factors considered, population growth, rent affordability, and household income were identified as the most significant, with mean scores of 3.68 (highly significant), 3.54 (more significant), and 3.0 (significant), respectively. In contrast, the remaining three factors—change in household taste, interest rates, and inflation rates—were deemed less statistically significant, with mean scores of 1.26, 1.72, and 1.76, respectively. The relatively low significance of interest and inflation rates can be explained by the information gathered from respondents, who indicated that most tenants in the study area pay rent using income derived from wages or capital sources that are not directly affected by interest rate fluctuations.

Additionally, the rent in the study area tends to be relatively stable, diminishing the impact of inflation on rental costs. An exception is seen in the case of full repair and insuring (FRI) leases, where tenants are responsible for property repairs. In such situations, the cost of repairs may be influenced by inflation. Furthermore, as noted earlier, residential accommodation in the study area is characterised by a distinction between low-density and medium- or high-density areas. This division influences the accommodation preferences of tenants. Changes in taste rarely lead to movement between densely populated and more spacious residential areas. However, residents may temporarily relocate from crowded areas to more spacious ones for safety reasons in the event of violence, as observed by Odebode *et al.* (2022).

Table 3. Respondent's perception of the factors influencing residential housing demands in the study area

S/N	Variables						n	SWV	RPDI	$\bar{X}-\bar{X}$	$(\bar{X}-\bar{X})^2$
		4	3	2	1	0					
1	Rent Affordability	30	18	1	1	-	50	177	3.54	1.05	1.1025
2	Household Income	22	12	10	6	-	50	150	3.00	0.51	0.2601
3	Interest Rate	7	6	13	14	10	50	86	1.72	-0.77	0.5929
4	Inflation Rate	4	10	12	18	6	50	88	1.76	-0.73	0.5329
5	Population Growth	34	16	-	-	-	50	184	3.68	1.19	1.4161
6	Change in Household Taste	5	2	9	19	15	50	63	1.26	-1.23	1.5129
Total									14.96		5.4174

Source: Author's fieldwork 2022

SWV = Summation of weight value

RPDI = Residential Property Demand Index = SWV/n

n = Number of respondents

N = Number of variables

Mean(\bar{X}) =

$\bar{X} = \sum(RPDI)/N = 14.96/6 = 2.49$

Variance = $\sum(x-\bar{x})^2/N = 5.4174/6 = 0.9029$

Standard Deviation = $\sqrt{\text{variance}} = \sqrt{0.9029} = 0.9502$

Coefficient of variation = $SD/\bar{x} \times 100\% = 0.9502/2.49 \times 100\% = 38.16\% = 38\%$

4. Conclusion

The study investigated the types of residential properties, settlement patterns of residents, and the factors influencing residential housing demand in the study area. Findings indicated that of the six identified residential property types, tenement buildings and 3-bedroom bungalows had the highest demand, each with a frequency rate of 32.00%. In contrast, 4-bedroom

duplexes had the lowest demand, with a frequency rate of 4.00% in the local property market. Additionally, the study revealed a distinct pattern of residential settlement, characterised by a division between high-density and low-density areas. High-density areas, such as Kawo and Sabon-Tasha, were predominantly occupied by low-income earners and featured more affordable rental properties like tenement buildings and flats. On the other hand, low-density areas, such as Barnawa GRA, were inhabited by high-income earners and had higher rental values, with properties like 3-bedroom bungalows being the norm.

The study concluded that population growth, rent affordability, and household income were the most significant factors influencing residential property demand in the study area. To address the current dominance of the private sector in real estate investment—which influences the type and cost of available housing—the study recommends that all levels of government become more actively involved in housing provision, especially

for low-income residents. This intervention could help reduce rental costs and improve housing affordability in the study area.

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