HOUSING-RELATED ATTRIBUTES AND THE CHANGING STRUCTURE OF PREFERENCES

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Housing-related attributes of residential properties form influential factors of house consumers' preferences. This study empirically assessed the housing-related attributes (and sizes of attributes) required by tenants in five residential properties categories in Ede, Nigeria, with a view to providing information on consumer preferences that could aid investment decision. The objectives of this study were to analyse the housing-related attributes (and sizes of attributes) currently available in residential properties and assess the preference hierarchy for housing-related attributes (and larger sizes of attributes) among tenants. A survey was conducted to collect the required data directly from a sample of 400 tenants in the study area using multistage and purposive sampling. A total of two hundred and seventy-eight (278) questionnaire were returned, representing a 69.5% response rate. The data collected included tenants' preferences for larger sizes of living room, bedroom, and kitchen among others relative to the current sizes of such facilities in their respective residential properties. Data collected were analysed using descriptive statistical tools (percentile, mean and relative importance index). The results revealed that larger bedroom, a larger kitchen, larger storage room, fully tiled floor and perimeter fence were the five top prioritised housing-related attributes across all residential property categories, although with varying indices. The results further showed that on the overall, tenants held that perimeter fence, fully tiled floor, all en suite bedroom, larger bedroom, a larger kitchen, larger storage room and private backyard were very important in their hierarchy of preferences. On the other hand, larger dining was said to be slightly important. The study provided primary information regarding tenants' expectation toward housing-related attributes in the residential properties in Ede, Nigeria. The result can be a useful guide to stakeholders in the real estate development sector when designing different categories of residential property to suit the changing preferences of residential tenants.

Keywords: Nigeria, prioritising housing structural attributes, residential properties, tenants

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INTRODUCTION

When households want to purchase or rent a residential unit, they have concerns about the attributes of the property. Earlier studies dedicated to identifying the preferences for housing attributes revealed that the main determinants of household home-buying/renting decisions include location/neighbourhood attributes (Wang & Li,2004; Yusuf & Resosudarmo, 2009; Tan, 2011a) and structural/housing-related attributes (Hurtubia et al., 2010; Opoku & Abdul-Muhmin, 2010; Tan, 2012; Moghimi & Jusan, 2015). It is broadly held that housing markets have generally evaluated the requirements for housing-related attributes (Fierro et al., 2009). Opoku & Abdul-Muhmin (2010) posited that housing-related attributes of a building had been recognised in the literature as influencing households' house buying/renting preferences. Thus, housing-related attributes of properties form influential factors of housing consumers' preferences. The significance of housing-related attributes in residential property has manifested in recent times with the ongoing COVID-19 pandemics. Around the world, various governments have imposed restrictions on movement, businesses and social activities. People have been confined to their houses and forced to work from home; this has made the functional aspects of residential property so essential more than ever before. The lockdown restrictions are therefore, having effects on the use of residential properties and preferences, particularly for housing-related attributes. Tan (2012) observed that consumers' preferences in terms of housing-related attributes were associated with intrinsic structural attributes, specifically interior public and private layout, total floor area and building design. In general, housing-related attributes such as number of living rooms and bedrooms, size of living room, bedroom and kitchen, number of toilet and bathrooms, type and quality of floor finishes, level of interior and exterior decorations, perimeter fence and the available space among others have been identified as influencing household decisions when buying or renting residential accommodations (Anthony, 2012; Olayinka et al., 2013; Nishani, 2016). Stigler & Becker cited in Bajic (1984) however, posited that the influence of the various housing-related attributes on house buyers/renters' preferences varies across households. The influence of housing-related attributes on house consumers' preferences could also depend on the individual household's lifestyle and perceptions about housing needs.

Conventionally, housing is perceived as mainly for the need of physical sheltering; however, as time passes, housing needs encompass broader setting (Foley, 1980). Hong et al. (2008) and Yam & Ismail (2008) pointed out that the housing developments have experienced significant transformation, where the end-user's preferences have changed from basic need for shelter to preference for a quality living environment. There is no doubting the fact that the living environment has a profound impact on occupants' productivity and general wellbeing. Therefore, the housing development industry has evolved continually to suit ever-changing households' preferences (Aarland & Nordvik, 2007). To meet the households' preferences, housing developers must have a detailed knowledge of how house consumers perceive and prioritise the different elements such as bedroom, bathroom and kitchen of a house design.

Thus, the involvement of the consumers in the initial design stage remains the critical component of creating a consumer-oriented housing development (Granath, 2001; Isa, 2012; Moghimi & Jusan, 2013).

According to Calvert et al. (2003), consumer-oriented housing development requires intricate knowledge of the consumers' needs as well as the best market at a particular time. Otegbulu et al. (2009) called for in-depth pre-investment planning based on socio-economic and environmental considerations. Miles et al., (2007) suggested that, when deciding on creating a product to fill an identified unfilled human need, the best idea is one that results in a product, which besides serving the user adequately, also adds value to the community and at a profit. The value of any housing development depends on the quantum of utility they can provide to the end-users (Otegbulu et al., 2009). Previous studies (Okorie, 2015; Usman, 2016) have shown that the presence of specific housing-related attributes and or the sizes of such attributes in a property affect price of a property. Accordingly, Anthony (2012) opined that individuals are likely to pay higher value if they get the size of accommodation they want than they would pay for the property with more or less the size of accommodation they require. Studies such as Buys et al. (2005), Sitar & Krajnc (2008), Okorie (2015) and Chiwuzie et al. (2019) confirmed that residential consumers were willing to pay higher rent to have improved housing-related facilities incorporated in residential properties. Consumers' willingness to pay collaborates the assertion in Chiwuzie et al. (2019) that the absence of quality of housing-related attributes could affect rental values in the residential properties market.

The focus of this study is the residential property market in Ede town, Nigeria. The property market in Ede town is emerging and predominated by rental accommodations. According to Chiwuzie et al. (2019), Ede town has witnessed increased economic activities, resulting from the establishment of several tertiary educational institutions in the area. The influx of staff, students, people in business and people providing support services who chose to live close to their employment centres have created upward pressure on the demand for residential properties. The demand for rented residential properties in Ede is more frequent and stable (Chiwuzie et al., 2019); the rental values of residential properties have increased significantly in the recent past (Ankeli et al., 2015); and these trends are set to be sustained in the coming years (Dabara et al., 2018). In general, the housing market in Ede town has experienced robust growth in the recent past and is expected to grow significantly in the subsequent years. This, therefore, presents a great investment opportunity for both individual and institutional investors' consideration. Besides, residential properties development has evolved remarkably in designs, such as unit rooms and apartments (with varying numbers of rooms and supporting facilities). Hence, the need to identify specific user's preferences; what is wanted and where they are wanted so that investors can make plans to meet those requirements (Calvert et al., 2003). Failure to identify specific user's preferences has had severe repercussions on the quality of living environment (Jusan, 2010) and investment viability.

Therefore, to wrestle the dilemma, existing literature had studied the preferences for housing-related attributes among house consumers (Otegbulu et al., 2009; Opoku & Abdul-Muhmin (2010); Tan (2012; Moghimi & Jusan, 2015; Coetzee, 2016). These studies found that sizes of housing-related attributes such as bedroom, living room, bathroom, kitchen, storage were essential in housing consumers' preferences. However, there is little evidence on the sizes of the housing-related attributes preferred by the house consumers. Hence, this research seeks to fill the gap that currently exists in literature by investigating preferences for housing-related attributes (and sizes of attributes) among different residential tenants. With this background, this study aims to empirically assess the housing-related attributes (and sizes of attributes) required by tenants in five residential properties categories in Ede, Nigeria, with a view to providing information on consumer preferences that could aid investment decisions. The objectives of this study were to analyse the housing-related attributes (and sizes of attributes) currently available in residential properties in Ede, Nigeria; and assess the preference hierarchy for housing-related attributes (and larger sizes of attributes) among tenants of five different residential categories in the study area.

LITERATURE REVIEW

Many sources have mentioned housing-related attributes as among significant factors that influence both household home purchase/renting preferences and the values of the property. Hofman et al. (2006) investigated how potential buyers of new houses prioritise the different elements such as bedroom, bathroom, kitchen and roof type of a house design. The study was based on empirical evidence drawn from a mail survey conducted in the Netherlands. The study employed a vignette-based questionnaire retrieved from in 82 respondents from a sampling frame of 304 potential buyers of new houses in the Netherlands. Based on the survey, a list of priority housing attributes was derived. The relative weights were calculated by using Saaty's clustering method for the individual vignettes. The result of the study revealed that the attributes with the highest relative importance were those relating to the interior finish dimension of housing attributes such as kitchen, bathroom/toilet, floor finish, living room, bedroom among others.

Opoku & Abdul-Muhmin (2010) examined housing preferences and attribute importance among low-income consumers in Saudi Arabia. The data was collected through a structured self-administered questionnaire. Relative importance index, chi-square and one-sample t-tests were employed in analysing the data. The result revealed that number and size of bedrooms, size of living room, bathrooms, kitchen, availability of storage room, type of finishes, were among the critical structural attributes that influence house preference among consumers in Saudi Arabia. This finding is consistent with the result in Hurtubia et al. (2010). Al-Momani (2000) equally identified interior design, outdoor space functionality, kitchen size as among the key factors influencing Jordanian housing consumers. In Malaysia, Tan (2012) investigated the housing needs and preferences of first-time buyers in Kuala Lumpur with emphasis on specific characteristics of a dwelling such as the

number of bathrooms, bedrooms, living rooms, kitchen, among others. Data collected was analysed employing regression model. The study revealed that significant preference was often given to the number of bedrooms. Moghimi & Jusan (2015) also examined the perception of the priority of structural housing components from house consumers in Johor Bahru. The study adopted the Non-structural fuzzy decision support system (NSFDSS) model as a tool for determining the perceived relative importance of the set decision criteria. Findings indicated that floor finishing was identified as among primary structural housing attributes that influence the preference of house buyer's choice in Johor Bahru, Malaysia.

In the African context, Shi (2005) examined the housing preferences and priorities among residents in different socio-demographic and socio-economic groups in Stellenbosch. The study surveyed six selected neighbourhoods among a representative sample of 205 respondents. Findings from the study showed that dwelling related attributes were important in Stellenbosch residents' home purchase decisions. The result of the study further showed that the kitchen was the most important attributes that influence respondents' housing choice. Social-related attributes such as air conditioning and swimming pools were the least important to the respondents. Otegbulu et al. (2009) conducted a value hierachy study of building services/components in residential and commercial developments using data of 150 from residential and 100 commercial tenants in areas of Lagos, Nigeria. Analysis carried out using descriptive statistics, and relative index revealed that the five top-ranked building services/components in residential development include electricity, water, amount of space, external/internal design and type of window/ventilation. For commercial developments, the five top-ranked building services/components were electricity, water, external/internal design, toilet quality and parking space. The study further revealed variations in preferences in both types of development and confirmed that occupiers do have prioritised preferences for different building components/services in both residential and commercial developments. Coetzee (2016) investigated the preferences of specific housing attributes among middle-income consumer in Potchefstroom, South Africa. The research found that the housing-related attributes preferences expressed by home-buying respondents were in terms of the quality of the kitchen, number of bedrooms and bathrooms.

Meanwhile, Anthony (2012) analysed the influence of dwelling features on residential house prices in Kumasi, Ghana, using the quantitative research approach. The study used the attributes of location and dwellings as variables. The data obtained were analysed with the aid of the descriptive statistics, the traditional hedonic housing price model and chow test. The findings showed that among other things, the number of rooms, floor type, wall fence and gate, age of the building, swimming pool and car park constitutes primary consideration in estimating residential house prices. Adegoke et al. (2014) evaluated the critical factors that influence the choice and the rental value of residential houses using three density areas of Ibadan Metropolis in Nigeria. The study adopted the random sampling method in selecting 624 residential houses from 3120 tenement houses available in the records of estate surveying

and valuation firms operating in the study areas. The results indicated that different factors influence house rental values at various density areas. Housing-related components such as the number of bathrooms and living rooms were most significant to tenement buildings. Burglary alarm, number of bathrooms and living rooms were critical to bungalow houses in the whole city of Ibadan, while the number of the toilet was a significant factor for duplexes in the area.

Furthermore, the residential properties are typically in different categories, which were based on the numbers of bedrooms and supporting facilities. In Nigeria, the standard categories comprised of tenement houses, apartments (otherwise known as flats) and duplex. A recent study conducted by Dabara et al. (2018) reported that the five dominant residential property categories in Ede town, Nigeria, were tenement building, studio apartment, one, two and three-bedroom apartments. The tenement building (traditionally known as 'Face-Me-I-Face-You'), comprises single rooms in row form with shared toilet, bath and kitchen facilities (see Figure 1). The studio apartment is a room with a toilet and kitchen facilities en-suite (see Figure 2). A one-bedroom apartment also known as 'room and parlour self-contained' is made up of a bedroom and a living room with kitchen and toilet facilities en suite (see Figure 3); two and three-bedroom apartment consist respectively two and three bedrooms, attached with living room, kitchen, dining, toilet facilities and storage room (see Figures 4 and 5).
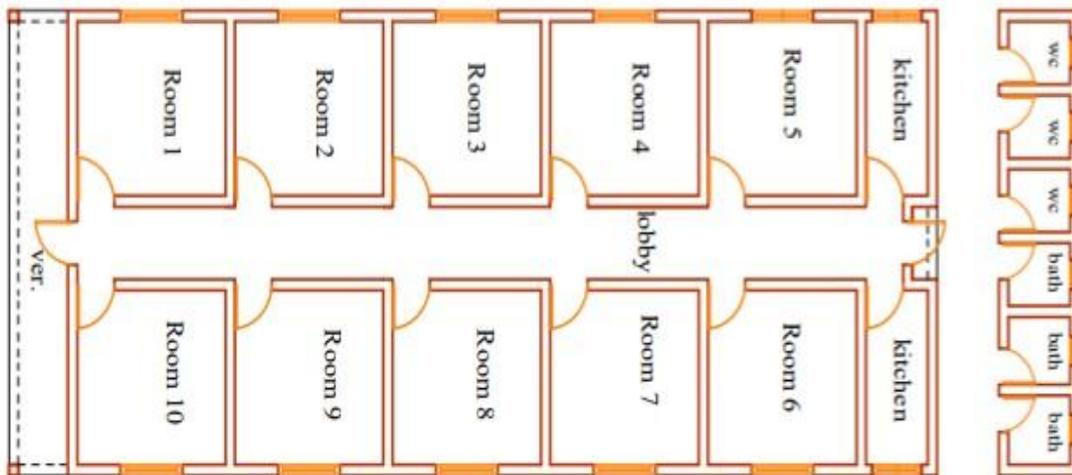

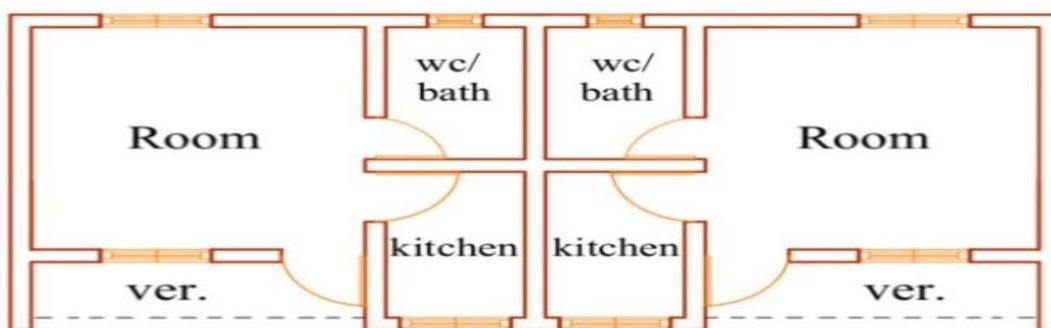Figure 1: Tenement building in Allahu Lateef area Ede, Nigeria

Figure 2: Studio apartment (semi-detached) in Country home area Ede, Nigeria
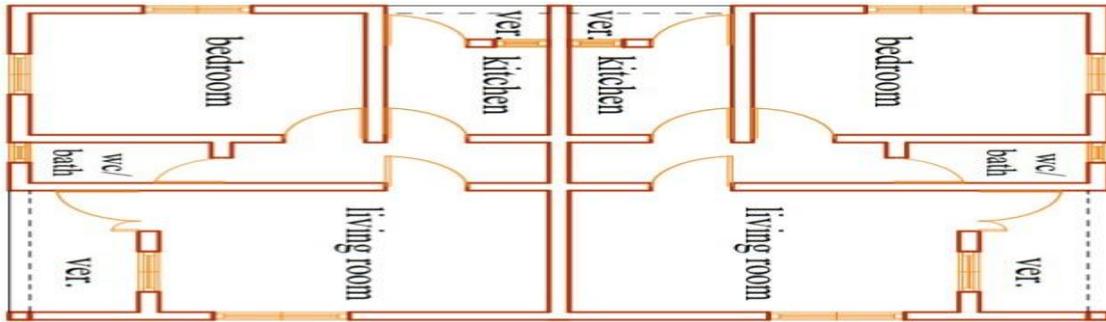
Figure 3: One-bedroom apartment (semi-detached) in the Oke-Gada area Ede, Nigeria
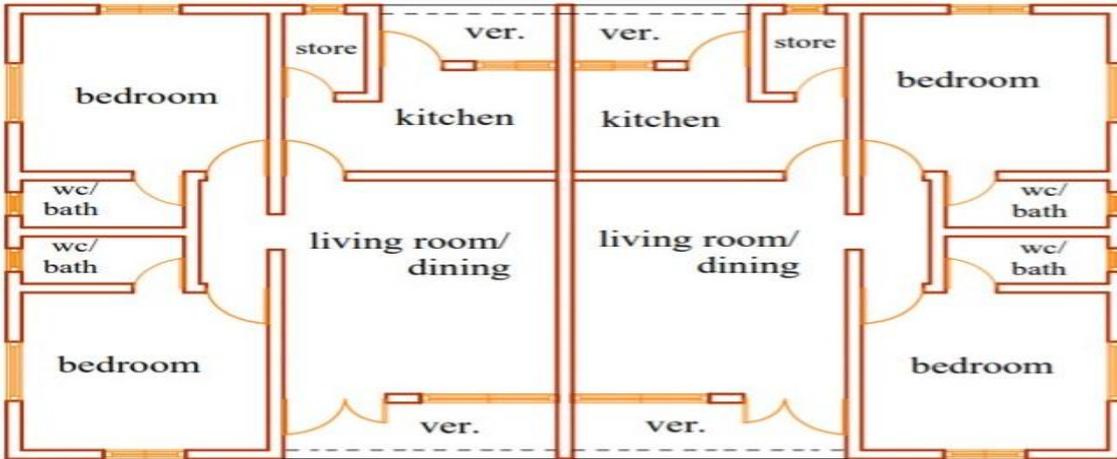

Figure 4: Two-bedroom apartment (semi-detached) in Ya-Salam area Ede, Nigeria
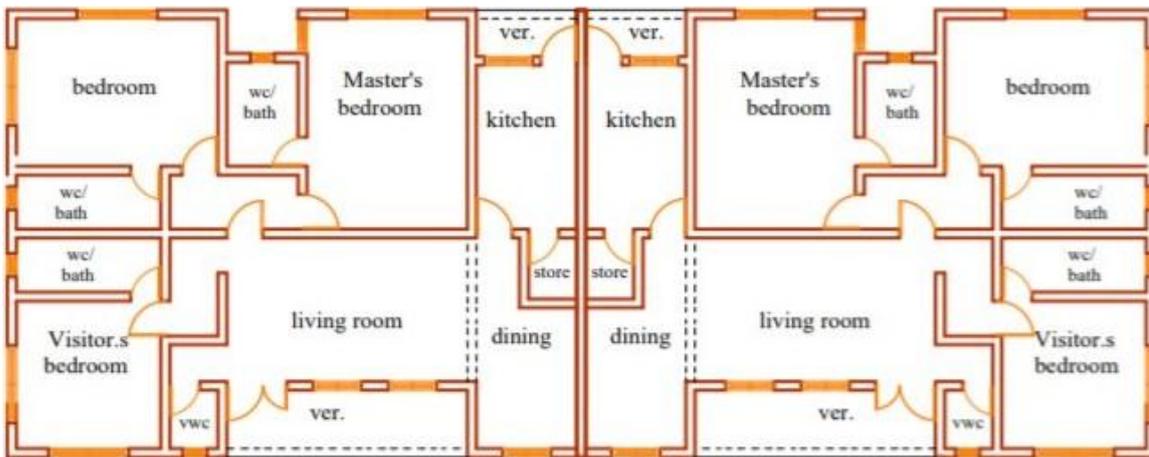
Figure 5: Three-bedroom apartment (semi-detached) in Allahu Lateef area Ede, Nigeria

From the proceeding, the existing literature established the impact of housing-related attributes on housing consumer's preferences and decisions. Additionally, the literature suggested that the relative importance of housing-related attributes in housing consumer's preferences varies across national and household contexts. Typically, housing consumers comprised of buyers and renters/tenants. The residential property is also comprised of different categories. Previous studies on preferences for housing-related attributes such as Shi (2005), Opoku & Abdul-Muhmin (2010), Tan (2012), Moghimi & Jusan (2015) and Coetzee (2016) had examined preferences for housing-related

attributes from homebuyers' perspective. However, there is little evidence on preferences for housing-related attributes from the tenants' perspective. Besides, the studies mentioned above confirmed that the number and size of rooms, size of kitchen and store, among others were essential attributes in residents' home purchase decisions. Nevertheless, the earlier studies did not examine the sizes of the housing-related attributes preferred by the housing consumers. On the other hand, Otegbulu et al. (2009) considered the point of view of tenants, nevertheless, the study by Otegbulu et al. was not specific on the category of residential property studied. This has further created a gap to be filled, because, residential properties in Nigerian urban centres are in various categories (some of which were shown in Figures 1-5). This current research intends to fill the gaps that currently exist in literature by investigating how tenants prioritise housing-related attributes (and sizes of housing-related attributes) in specific residential property categories, from the perspective of attaining a significant level of preferences. This study argues that the preferences for housing-related attributes (and sizes of attributes) could vary across tenants occupying different categories of residential property. This paper, therefore, intends to contribute to the knowledge base by setting forth an understanding on the preferences for housing-related attributes (and sizes of attributes) among tenants (of different categories of the residential property) in Ede, Nigeria with emphasis on larger sizes of rooms, kitchen, store and availability of other housing-related facilities. The outcome of this study could be germane to real property developers and the government in providing public rental facilities that suit consumer preferences.

METHODOLOGY

To assess the preferences for housing-related attributes (and sizes of attributes) among tenants, the authors conducted a self-administered questionnaire to collect the required data directly from tenants occupying residential properties in Ede, Nigeria. The use of questionnaire in this study is consistent with previous related studies such as Otegbulu et al. (2009), Opoku & Abdul-Muhmin (2010) and Coetzee (2016). The rationale for using questionnaire was to be able to reach the target group more feasibly and efficiently. A closed-ended question option was used among a cross-section of tenants, and this was to jettison any potential bias associated with interviews. Multistage and purposive sampling was employed to select a representative sample of 400 tenants following the sample size recommended in Cochran (1977) for an infinite population (taking 95% confidence level with ±5% precision). The sampled tenants were chosen from the five major areas of the town, namely: Okegada, Agip, Allahu Lateef, Ya Salam and Country home. In each of these areas, 80 properties were selected in the ratio of 3:1:1:1:2 for tenement building, studio apartment, one-bedroom apartment, two and three-bedroom apartments respectively. The distribution ratio was based on the population of the various property categories in the study area. Out of the 400 questionnaires distributed, 278 were returned, representing a 69.5% response rate. The areas, as mentioned above, covered prime locations in Ede and

demand for rented accommodations in these areas were observed to be more frequent and stable.

The data requirements for this study include among others the housing-related attributes (and attribute's sizes) currently available in various categories of residential property and tenants' preferences for housing-related attributes (and larger sizes of attributes) relative to the current sizes of such facilities in their respective residential properties. Respondents in each residential property categories were requested to rate their responses on the preference for housing-related attributes (and larger sizes of attributes) on a five-point scale (5 for "extremely important", 4 for "very important", 3 for "moderately important", 2 for "slightly important" and 1 for "not important"). The housing-related attributes used for this study include larger sizes of living room, bedrooms, storage room, bathroom, kitchen and dining; fully tiled floor finish; the presence of perimeter fence and private backyard. The selection of these housing-related attributes among others was based on the preliminary investigation conducted through factor analysis which revealed that they were the primary consideration in the study area. Hence, other attributes such as level of interior and exterior decorations, and quality of building materials were excluded from this particular study. Data collected were analysed using descriptive statistical tools such as percentile, mean score and relative importance index. The various residential property categories and the number sampled were presented in Table 1 below.

Table 1: Types of residential properties and the number sampled in Ede, Nigeria

Types	No. of Properties	Percentage
Tenement house	125	45.0
Studio apartment	14	05.0
One-bedroom apartment	23	08.3
Two-bedroom flat	28	10.0
Three-bedroom flat	88	31.7
Total	278	100

Source: Field survey 2018

Preliminary reliability analysis

Reliability analysis was conducted to test the internal consistency of the scales used in the questionnaire. The reliability of the scales used in the questionnaire for each category of the residential properties was measured by computing Cronbach's alpha coefficients to indicate the degree of consistency. Ideally, the Cronbach alpha value of a scale should be higher than 0.7 (DeVellis, 2003; Pallant, 2010). Table 2 shows the values of Cronbach's alpha coefficient for the multi-item scale of tenants' preference for housing-related attributes (or larger sizes of attributes) in each category of the residential property studied.

Table 2: Cronbach's alpha for the construct of the questionnaire (by property categories)

Construct	Property category	Number of items	Cronbach's alpha
Importance of housing-related attributes (or larger sizes of attributes) in tenants' preferences	Tenement houses	6	0.711
Importance of housing-related attributes (or larger sizes of attributes) in tenants' preferences	Studio apartments	7	0.871
Importance of housing-related attributes (or larger sizes of attributes) in tenants' preferences	One-bedroom apartments	9	0.929
Importance of housing-related attributes (or larger sizes of attributes) in tenants' preferences	Two-bedroom apartments	10	0.850
Importance of housing-related attributes (or larger sizes of attributes) in tenants' preferences	Three-bedroom apartments	10	0.856

Table 3: Characteristics of the respondents

Variable	Frequency	Percentile (%)
Gender		
Male	190	68.3
Female	88	31.7
Age Group		
25-31	21	7.6
32-38	71	25.5
39-45	85	30.6
46- 52	74	26.6
53-60	27	9.7
Marital Status		
Married	169	60.8
Single	73	26.3
Others	36	12.9
Status in Household		
Head	218	78.4
Spouse	60	21.6
Household Size		
1-3	112	40.3
4-6	145	52.1

Table 3 continued: Characteristics of the respondents

7 and above	21	7.6
Educational Qualifications		
Primary level	41	14.8
Secondary level	92	33.1
Diploma/First degree	118	42.4
Postgraduate	27	9.7
Occupation		
Civil servant	103	37.1
Trader	78	28.0
Artisan	74	26.6
Others	23	8.3
Annual Household Income		
Less than ₦500000 (1,388 USD)	76	27.4
₦500,000- ₦ 999,999 (1,388-2,777 USD)	81	29.1
₦1,000,000- ₦1,499,999 (2,778- 4,166 USD)	53	19.1
₦1,500,000- ₦1,999,999 (4,167-5,555 USD)	49	17.6
Over ₦2,000,000 (5,556 USD)	19	6.8

DATA ANALYSIS AND RESULT

This section presented the data analysis and the results of the study research questions. This section started with the characteristics the of respondents and subsequently, on the specific concerns of the study which include the sizes and types of housing-related attributes available in the residential property categories and preferences for housing-related attributes among tenants in the study area.

Characteristics of the respondents

Results in Table 2 showed that majority of the respondents (68.3%) were male. All respondents were adults between the ages of 25 and 60 years, with more than a quarter (30.6%) being between 39 and 45 years. Over half (60.8%) were married and over three-fourths of the respondents (78.4%) were family heads. Over half of the respondents (52.1%) lived in households of four to six persons comprising spouse, children and relatives. Also, the educational qualifications of the respondents ranged from primary school level to postgraduate degree. About 42.4% of the respondents had a National Diploma or a University Degree, suggesting an utterly educated society. On the overall, the samples of respondents demonstrate the socio-economic characteristics of the tenants, which influence their housing attributes' preferences in the study area. These characteristics also revealed that the respondents were in a position to give reliable responses to the research questions.

Housing-related attributes currently available in residential properties in Ede, Nigeria

Housing-related attributes (and sizes of attributes) vary from one residential property to another. Respondents in each category were requested to indicate the housing-related attributes (and sizes of attributes) that were available in their residential properties. The results based on each category of residential property were presented in Tables 4 below.

Table 4: Housing-related attributes by residential property categories (% in parenthesis)

	Tenement house	Studio apartment	One-bedroom apartment	Two-bedroom apartment	Three-bedroom apartment
Average Sizes of facilities (in M2)					
Living room	N/A*	N/A*	9.50	12.25	14.00
Bedroom	6.25	6.25	6.25	6.25	6.25
Bathroom	1.50	1.50	1.50	1.50	1.50
Dining	N/A*	N/A*	N/A*	3.00	3.00
Kitchen	3.00	1.50	3.00	3.00	3.00
Storage room	N/A*	N/A*	N/A*	1.50	1.50
Types of Floor Finishes					
Fully tiled	0 (0.0)	8 (57.1)	4 (17.4)	3 (10.7)	3 (3.4)
Fully tiled except bedrooms	0 (0.0)	0 (0.0)	14 (60.8)	14 (50.0)	34 (38.6)
Fully cemented except bath	7 (5.6)	6 (42.9)	5 (21.7)	11 (39.3)	40 (45.5)
Fully cemented	118 (94.4)	0 (0.0)	0 (0.0)	0 (0.0)	11 (12.5)

Source: Field survey 2018
N/A* (the design does not incorporate the housing-related attribute)

From Table 4 above, analysis of housing-related components in the residential properties showed that the average size of bedroom and bathroom was approximately 6.25 square meters and 1.50 square meters respectively for all categories of residential property studied. Also, the approximate average size of the living room was 9.50 square meters in a one-bedroom apartment; 12.25 square meters in a two-bedroom apartment and 14.00 square meters in three-bedroom apartments. Findings further revealed that the average size of the storage room was approximately 1.50 square meters in the apartments. It is worthy of mentioning that in general, only two and three-bedroom apartments are designed to incorporate storage rooms in the study area. However, the study found that only about 9.48% of the two and three-bedroom apartments sampled had storage room facility implying that majority of the two and three-bedroom apartments in the study area were designed without a storage room.

However, how important is a storage room in tenants' preferences for housing-related attributes, particularly in the apartment categories in the study area?

Furthermore, Table 4 showed the types of floor finish in the residential property categories in the study area. The popular floor finishes in the property were either of ceramic tiles or concrete (generally referred to as cemented floor). In the three-bedroom apartments category, only about 3.4% of the properties had fully tiled floor; the majority (45.5%) had only the bathroom tiled while all other areas had concrete floor; also, 38.6% had every other area tiled except the bedrooms (which had concrete floor); and 12.5% had a full concrete floor. In the two-bedroom apartments category, about 10.7% of the properties had fully tiled floor; a majority (50%) had every other area tiled except the bedrooms (which had concrete floor), and 39.3% had only the bathroom tiled while all other areas had a concrete floor. For one-bedroom apartments, 17.4% of the properties had fully tiled floor, the majority (60.8%) had every other area tiled except the bedrooms (which had concrete floor), 21.7% had only the bathroom tiled while all other areas had a concrete floor. In the studio apartment category, 57.1% of the properties had fully tiled floor; 42.9% had only the bathroom tiled while all others area had a concrete floor. In tenement house category, 94.4% had a full concrete floor, and about 5.6% had only the bathroom tiled while other areas had a concrete floor. These results indicated variations in the floor finish types and styles across all residential property categories. The above findings bring to mind the question of whether these housing-related attributes (in terms of room sizes, floor finish types as well other selected housing-related attributes) meet the expectations of tenants in the study area. If otherwise, what are the tenants' preferences and what is the priority of the selected housing-related attributes in tenants' preferences in the study area?

Preferences for housing-related attributes among residential tenants in Ede, Nigeria
Earlier studies have found that sizes of facilities such as living rooms, bedrooms, kitchen, storage room as well as the number of bathroom and type of floor finish were very critical in tenants' preferences (Opoku & Abdul-Muhmin, 2010; Chiwuzie et al., 2019). Thus, to evaluate the tenants' changing preferences in terms of housing-related attributes' sizes, respondents in each residential property category were requested to rate their preferences for larger sizes of the selected housing-related attributes relative to the current sizes of such facilities in their respective residential properties. A five-point scale (5 for "extremely important", 4 for "very important", 3 for "moderately important", 2 for "slightly important" and 1 for "not important") was used to elicit respondents' opinions. The responses for each variable in each category of the residential properties were analysed using the relative importance index (RII). The results were presented in Table 5. The expressed preferences for housing-related attributes in each property category were presented in hierarchical (ranking) order. For each property category, the most prioritised attribute, which implies the greatest importance on an aggregate level was found at the top of the scale; this was followed by the second most important attribute and continued in that manner. Finally, the attribute which was of least importance occupied the lowest point on the scale.

Table 5: Tenants' responses by residential property categories with relative importance indexes

Property category	1	2	3	4	5	Sum	RII	Rank factor
Tenement building (n=125)								
Larger Bedroom	18	10	22	23	52	456	0.730	1st
Fully Tiled floor	14	19	25	32	35	430	0.688	2nd
Perimeter Fence	19	20	25	29	32	410	0.656	3rd
Larger Kitchen	30	22	15	27	31	382	0.611	4th
Larger Toilet	30	20	22	21	32	380	0.608	5th
Larger Bathroom	43	15	28	21	18	331	0.530	6th
Studio apartment (n=14)								
Perimeter Fence	00	00	03	06	05	58	0.829	1st
Larger Bedroom	00	00	04	05	05	57	0.814	2nd
Fully Tiled floor	00	02	03	04	05	54	0.771	3rd
Larger Kitchen	00	02	04	04	04	52	0.743	4th
Storage Room	01	03	05	03	02	44	0.629	5th
Larger Bathroom	02	03	04	03	02	42	0.600	6th
Private Backyard	03	02	04	03	02	41	0.586	7th
One-bedroom apartment (n=23)								
Perimeter Fence	00	00	06	08	09	95	0.826	1st
Larger Bedroom	00	00	07	07	09	94	0.817	2nd
Fully Tiled floor	01	04	05	06	07	91	0.791	3rd
Larger Kitchen	00	02	07	06	08	89	0.774	4th
Storage Room	00	04	06	05	08	86	0.748	5th
Larger Living room	01	04	05	05	08	84	0.730	6th
Private Backyard	01	04	06	06	06	81	0.704	7th
Larger Bathroom	02	05	04	06	06	78	0.678	8th
Larger Dining	05	05	07	04	02	52	0.452	9th
Two-bedroom apartment (n=28)								
Perimeter Fence	00	00	05	08	15	122	0.871	1st
All en suite bedrooms	00	00	06	07	15	121	0.864	2nd
Fully Tiled floor	00	02	07	07	12	113	0.807	3rd
Larger Bedroom	00	02	03	09	14	110	0.786	4th
Larger kitchen	02	03	05	07	11	106	0.757	5th
Larger Storage room	02	03	05	07	11	106	0.757	5th
Private backyard	02	02	08	06	10	104	0.743	6th

Table 5 continued: Tenants' responses by residential property categories with relative importance indexes

Larger Bathroom	02	03	06	08	09	103	0.736	7th
Larger Living room	05	06	06	06	05	84	0.600	8th
Larger Dining	10	10	06	02	00	56	0.400	9th
Three-bedroom apartment (n=88)								
Perimeter Fence	00	00	11	28	49	390	0.886	1st
All en suite bedrooms	00	02	16	26	44	378	0.859	2nd
Fully Tiled floor	02	05	13	22	46	369	0.839	3rd
Larger Bedroom	02	05	13	22	46	369	0.839	3rd
Larger Kitchen	00	08	14	21	45	359	0.816	4th
Larger Storage room	03	09	18	29	29	336	0.764	5th
Private backyard	03	11	18	29	27	330	0.750	6th
Larger Bathroom	08	18	20	14	28	300	0.682	7th
Larger Living room	17	24	16	09	22	258	0.586	8th
Larger Dining	42	33	08	05	00	156	0.355	9th

Source: Field survey, 2018

From Table 5 above, tenants' preferences for housing-related attributes differ and vary in all residential property categories studied. Larger bedroom, perimeter fence, fully tiled floor, larger kitchen and larger storage room were among the five prioritised housing-related attributes across all property categories, although with varying relative importance indices. Furthermore, it can be seen that perimeter fence, larger bedroom, fully tiled floor, larger kitchen and larger storage room were the five highly ranked housing-related attributes in the studio and one-bedroom apartments. For two and three-bedroom apartments, all the selected housing-related attributes have similar rankings but with differing indices. The five top-ranked attributes were perimeter fence, en suite bedroom, fully tiled floor, larger bedroom, larger kitchen and larger storage room. Meanwhile, private backyard, larger living room, larger bathroom as well as larger dining were the four least ranked housing-related attributes in the residential property categories where they are applicable.

Beyond analysing the preferences for housing-related attributes on individual residential property categories, this study equally assessed on an overall, the tenants' responses (expressed preferences) to determine the consensus opinion of all respondents (irrespective of the property categories). This assessment was necessary to give a general structure of tenants' preferences for housing-related attributes in Ede property market, in other words, how essential tenants generally consider each of the selected housing-related attributes when deciding on renting residential properties.

Consensus opinion of tenants' preferences for housing-related attributes

To determine tenants' consensus opinions on housing-related attributes' preferences in the study area; all respondents' responses for each of the selected housing-related attributes were analysed to determine their mean and interpreted based on the respondents' mean score. The results were presented in Table 6.

Table 6: Consensus opinion of Tenants on Preferences for Housing-related Attributes

Attributes	1	2	3	4	5	Total	Mean	Interpretation (Consensus opinion)
All property categories								
Larger Bedroom	20	17	49	66	126	278	3.94	Very important
Perimeter fence	19	20	50	79	110	278	3.87	Very important
Fully Tiled floor	17	32	53	71	105	278	3.77	Very important
Larger Kitchen	32	37	45	65	99	278	3.58	Very important
Larger Bathroom	56	44	63	52	63	278	3.07	Moderately important
Apartment categories								
Storage room	6	19	34	44	50	153	3.74	Very important
Private backyard	9	19	36	44	45	153	3.63	Very important
Larger Living room	22	32	29	21	35	139	3.11	Moderately important
Larger Dining	57	48	22	11	02	139	1.78	Slightly important
2/3-bedroom Apartments								
All en suite bedrooms	0	2	22	33	59	116	4.28	Very important

Source: Field survey, 2018
Decision rule: Mean score 1.00-1.49 = Not important; 1.50-2.49 = Slightly important; 2.50-3.49 = Moderately important; 3.50-4.49 = Very important; 4.50-5.00= Extremely important

In Table 6 above, the grouped housing-related attributes were items common to specified residential property categories. It can be inferred from the results in Table 6 that on the overall, tenants across all property categories indicated that larger bedroom, perimeter fence, fully tiled floor and larger kitchen were very important in their preferences. On the other hand, larger bathroom was considered moderately important. Besides this, tenants in the apartment categories (comprising studio, one-bedroom, two-bedroom and three-bedroom apartments) held across-the-board that larger storage room and private backyard were very important while regarding a larger living room and larger dining as moderately important and slightly important respectively. Also, the respondent tenants in two-bedroom and three-bedroom apartments generally maintained that all en suite bedroom was very important.

DISCUSSION

The findings of this research revealed that the preferences for housing-related attributes among residential tenants in the study area have changed. The five prioritised housing-related attributes across all property categories include larger bedroom, perimeter fence, fully tiled floor, larger kitchen and larger storage room. This result suggested that tenants now have concern for space, privacy and floor finish in the residential properties. The reason for this changing structure of preferences is a reflection that housing-related attributes of residential property have impacts on the quality of life and welfare of the occupants. Thus, residential property has ceased to be merely a shelter but is currently portrayed as a means or space to reflect the occupant's disposition and self-worth. This finding is consistent with the earlier declaration in Ukoha & Beamish (1996) that most residents have consideration over the amount of available living space in a property and expressed dissatisfaction where there was a space deficit. Otegbelu et al. (2009) in a related study equally found that the amount of space within a property was highly prioritised among residential tenants.

Furthermore, it can be deduced from the results in Table 5 that perimeter fence was of the highest essence to tenants in the apartment categories, unlike tenants in the tenement building. This finding is not surprising as the perimeter fence, which is designed to provide occupants with high-level privacy, is often made available in apartments categories. The tenement building, on the other hand, is seldom provided with perimeter fence in the study area (only about a 4% of the sampled tenement buildings in the study area had a perimeter fence). The tenement building is traditionally designed to afford limited privacy (privacy is only observed inside the individual rooms); hence, the lack of perimeter fence in the majority of such properties. However, the results in Table 5 above revealed a changing preference; tenants in tenement buildings presently desire a perimeter fence as it was ranked third in their preference hierarchy. Tan (2011b) also posited that house consumers might place a priority on gated/fenced compounds because of the security provided by such a facility. This preference for perimeter fence among tenants in tenement buildings is novel and could be attributed to the need for the added security feature. The security feature is one of the main characteristics of properties with perimeter fences. Thefts and break-ins are common phenomena in most urban areas; hence, house consumers generally, are little more concerned about their security. Living in a fenced property, therefore, will provide adequate privacy and to an extent, secure peace of mind amongst the occupants.

Also, it is interesting to note that in two and three-bedroom apartments, all en suite bedroom was the second most prioritised housing-related attribute in the study area. This result is consistent with the findings in Coetzee (2016) and can be attributed to the fact that these property categories are typically occupied by middle-income groups who are usually concerned about conveniences and enhanced family living. Besides, the preference hierarchy revealed that fully tiled floor was commonly ranked third in all the apartment categories and second in the tenement building category. This result indicates

that the quality of floor finish was essential to all the categories of tenants understudied. This finding is congruent with the submission in Vahid (2015), where the author identified floor finishing as among primary housing-related attributes that influence housing consumers' preferences. The relative importance of floor finishes and tiling corroborates the results in Bible and Hsieh (2001) and Lang and Nelson (2007) (as cited in Fierro et al., 2009) where it was submitted that these sorts of variables appear to enhance housing value. The motivation for demanding a preferred type of floor finish and tiling may be derived from a need to have an appealing and attractive housing environment as a premium for social identity and self-expression to guaranty the desired quality of housing facility as reported in Bako and Jusan (2012).

Furthermore, the consensus opinion of the respondent tenants revealed that the level of importance of the various housing-related attribute (and large size of attributes) in each of the five residential property categories. In general, perimeter fence, fully tiled floor, all en suite bedroom, larger bedroom, a larger kitchen, larger storage room and private backyard (where they apply) were considered very important in tenants' preferences. This finding suggests that tenants' have changed their preferences from having just a dwelling to having a spacious and classic housing facilities/environment which, is congruent with the contentions in Ukoha & Beamish (1996); Yam & Ismail (2008) and Otegbelu et al. (2009). On the other hand, a larger living room and a larger bathroom were considered moderately important, while, larger dining was deemed as slightly important. This finding implies that residential tenants have prioritised preferences for housing-related attributes and that the relative importance of selected housing-related attributes (and sizes of attributes) in tenants' preferences hierarchy varies across the different residential property categories. Hence, real estate investors and developers must bear in mind the variations in preferences for housing-related attributes in categories of residential property to plan appropriately. Developers could give more attention to those housing-related attributes that were highly ranked when designing houses while rationalising the others. Incorporating the identified tenants' preferences in house design can result in a product that appeals to users' individual tastes/preferences and consequently attracts high market values for the developments.

CONCLUSION

The immediate purpose of this study was to assess the preferences for housing-related attributes (and sizes of attributes) among tenants of five residential properties categories in specific and general terms. Based on the data collected via a five-point scale, tenants' preferences for housing-related attributes (and larger sizes of attributes) relative to its current sizes in their respective were analysed employing relative importance index and mean score. The results of the study suggested that residential tenants have prioritised preferences for housing-related attributes and that the relative importance of the selected housing-related attributes (and larger sizes of attributes) in tenants' preferences hierarchy varies across the different residential property categories studied in Ede, Nigeria. Specifically, perimeter fence, fully tiled

floor, a larger bedroom, larger kitchen and larger storage room were among the top five prioritised housing-related attributes across all property categories, although with varying indices. Furthermore, consensus opinions of the tenants revealed that they considered perimeter fence, all en suite bedroom, fully tiled floor, a larger bedroom, larger kitchen, larger storage room and private backyard as very important. These results imply that housing consumers' preferences have changed from having just a dwelling to having a spacious and classic living environment. This study mainly brought to fore the expectations of tenants in terms of housing-related attributes' preferences in each of the selected residential property categories as well as the general position in Ede property market. Consequently, residential property investors, particularly in the study area and similar African nations in general, should take cognisance of these when deciding on house design to have a product that appeals to tenant's expectations, which will lead maximisation of return from the real estate investment.

Limitations and pathway for future research
One of the limitations of this study is that it was conducted in Ede, Nigeria. A question might arise on the extent to which the results will also be applicable in other locations. Repeating this research outside the current study area would reveal the extent to which tenants in other areas differ in prioritising housing-related attributes (and size of attributes) in different residential properties' designs. Additionally, this study considered specific housing-related attributes. In contrast, other attributes such as level of interior and exterior decorations, and quality of building materials were excluded from this particular study. This could be a gap for further study. Furthermore, in this study, an assessment was made of tenants' preferences only in general terms. For instance, a larger bedroom was highly ranked and generally considered very important to residents in the study area. However, this study did not address it in terms of the exact size of bedroom preferred. The same applies to other housing-related attributes studied. Future studies can consider the specific sizes of housing-related attributes rather than just general as was done in the current study.

REFERENCES

Aarland, K, Nordvik, V (2007) Low income households and the dynamics of housing demand. Proceeding of European Network for Housing Research Conference, Rotterdam.

Adegoke, O J, Aluko, B T, Adegoke, B F (2017) Determinants of market value of residential properties in Ibadan Metropolis, Nigeria. Journal of Economics and Sustainable Development, 8(4), 178-188.

Ankeli, I A, Dabara, I D, Oyediran, O O, Guyimu, J & Oladimeji, E J, (2015) Housing condition and residential property values in Ede, Nigeria. Proceedings of the International Journal of Arts and Sciences Conference, 2nd to 5th December 2014. KatholischeAkademie der Erzdiozese Freiburg Germany 08 (01), 53-61. http://www.universitypublications.net/proceedings/0801/pdf/DE4C227.pdf

Al-Momani, A H (2000) Structuring information on residential building: a model of preference'. Engineering, Construction and Architecture Management, 7(2), 179–190.

Bako, Z Z, Jusan, M M (2012) Motivational factors influencing housing interior finish choice and preference, Procedia-Social and Behavioral Sciences, 36(1), 177-186.

Bajic, V (1984) An analysis of the demand for housing attributes. Applied Economics, 16(4), 597-610. DOI: 10.1080/00036848400000072

Bible, D S, Hsieh, C (2001) Gated communities and residential property values, The Appraisal Journal of Architectural and Planning Research, 69, 140-145.

Buys, L, Barnett, K, Miller, E, Bailey, C (2005) 'Smart housing and social sustainability: learning from the residents of Queensland's research house', Australian Journal of Emerging Technology and Society, 3(1), 43–57.

Calvert R E, Bartley G, Coles, D (2003) Introduction to building management. Butterworth Heinemann.

Chiwuzie, A, Dabara, D I, Adenipekun, T M, Prince, E M, Ajiboye, B O (2019) Tenant's demand for structural attributes in residential properties: the case of Ede, Nigeria In: Laryea, S and Essah, E (Eds) Procs West Africa Built Environment Research (WABER) Conference, 5-7 August 2019, Accra, Ghana, 1063-1076.

Coetzee, T P (2016) An analysis of housing preferences among middle-income buyers in Potchefstroom, South Africa. M.sc thesis North-West University, Potchefstroom, South Africa.

Cohen, L, Manion, L, Morrison, K (2000). Research Methods in Education (5th Edition). London: Routledge Falmer.

Dabara, D I, Omotehinshe, O J, Uwaezuoke, I N, Soladoye, J O, Chiwuzie, A (2018).

Building material prices and the rental values of residential properties in Ede, Nigeria. Proceedings of the 18th African Real Estate Society (AFRES) Annual Conference Abeokuta, Nigeria, 11th -15th September 2018, 213-233.

DeVellis, R F (2003) Scale development: Theory and applications (2nd edition). Thousand Oaks, California: Sage.

Fierro, K P, Fullerton, T M Jr, Donjuan-Callejo, K E (2009). Housing attribute preferences in a Northern Mexico metropolitan economy", Atlantic Economic Journal, 37(2), 159-172.

Foley, D (1980). The sociology of housing. Annual Review Social 6, 457–478.

Granath, J A (2001), "Architecture: participation of users in design activities", International Encyclopedia of Ergonomics and Human Factors, Taylor and Francis, London. http://granath.arch.chalmers.se/_private/encyklopedia.htm

George, D, & Mallery, P (2003). SPSS for Windows step by step: A simple guide and reference. 11.0 update (4th ed.). Boston: Allyn & Bacon.

Hofman, E, Halman, J I M, Ion, R A (2006) Variation in housing design: identifying customer preferences. Housing Studies, 21(6), 929–943.

Hong, S Y L, Ismail, M, Yin, T (2008) "Corporate social responsibility in Malaysia housing development – the developer's perspective", Pacific Rim Property Research Journal, 14(2) 177-198.

Hurtubia, R, Gallay, O, Bierlaire, M (2010) Attributes of households, locations and real-estate markets for land use modelling. Sustaincity working paper 2.1, Lausanne.

Isa, A A (2012). End-users participation approach towards effective housing occupancy in Malaysia: a review. British Journal of Arts and Social Sciences, 8(1), 183-197.

Jusan, M M (2010), Renovation for Personalisation a Development Arm for Sustainable Housing. Penerbit UTM Press University, Tekonologi Malaysia, Kuala Lumpur.

Miles, M E, Berens, G L, Eppli, & Weiss, M A (2007) Real Estate Development, Principles and Process, ULI Institute, Washington, D.C.

Moghimi, V, Jusan, M B M (2013) Flexible windows design preferred by homeowners: a survey of Universiti Teknologi Malaysia staff members. International Journal of Engineering Research and Applications (IJERA) 3(1), 1020-1031.

Moghimi, V, Jusan, M M (2015) Priority of Structural Housing Attribute Preferences: Identifying Customer Perception. International Journal of Housing Markets and Analysis, 8(1), 36–52.

Nishani, W (2016) Determinants of rental value for residential properties: a land owner's perspective for boarding homes. Built-environment: Sri Lanka Research Journal of the Sri Lanka Institute of Architects, 12(1), 10-22.

Okorie, A (2015). Housing infrastructure facilities as determinants of rental values of residential properties in Osogbo, Osun State Nigeria, Journal of Research in Business Economics and Management (JBREM), 1(1), 7-14

Olayinka, C O, Funsho, R S, Ayotunde, F A (2013) An examination of the factors affecting residential property values in Magodo neighbourhood, Lagos State, International Journal of Economy, Management and Social Sciences 2(8), 639-643

Opoku, R A, Abdul-Muhmin, A G (2010) Housing preferences and attribute importance among low-income consumers in Saudi Arabia, Habitat International 34, 219–227

Otegbulu, A C, Osagie, J U, Famuyiwa, F (2009) A value hierarchy study of building services/components in commercial and residential developments: A comparative analysis In: Dainty, A R J (Ed) Procs 25th Annual ARCOM Conference, 7- 9 September 2009, Nottingham, UK, Association of Researchers in Construction Management, 1193-1200.

Shi, L (2005). Housing preferences of residents in Stellenbosch, South Africa: an application of the hedonic price model. M.sc thesis, University of Stellenbosch, South Africa.

Sitar, M, Krajnc, K (2008) Sustainable housing renewal, American Journal of Applied Sciences, 5(10), 61–66.

Tan, T H (2011a) Measuring the willingness to pay for houses in a sustainable neighbourhood. The International Journal of Environmental, Cultural, Economic and Social Sustainability 7, 1-12.

Tan, T H (2011b) Neighborhood preferences of house buyers: the case of Klang Valley, Malaysia. International Journal of Housing Markets and Analysis, 4(1), 58-69.

Tan, T H (2012) Meeting first-time buyers housing needs and preferences in Greater Kuala Lumpur Cities, Elsevier, 29(1), 389-396

Usman, M (2016) Impact of housing attributes on rental values of residential properties in Minna, Nigeria', Unpublished M.Sc. thesis, Universiti Tun Hussein Onn Malaysia.

Pallant, J (2010) A Step by Step Guide to Data Analysis Using the SPSS Program. SPSS Survival Manual 4th ed. Australia: Allen and Unwin Books.

Ukoha, O M, Beamish, J O (1996) Predictors of housing satisfaction in Abuja, Nigeria. Housing and Society, 23(3), 26-46. DOI:10.1080/08882746.1996.11430249

Wang, D, Li, S M (2004) Housing preferences in a transitional housing system: the case of Beijing, China. Environment and Planning A 36(1), 69–87.

Yam, L H, Ismail, M (2008) Corporate social responsibility in Malaysia Housing Development House-buyers Perspectives, Proceeding of the 14th Pacific Rim Real Estate Society Conference, Kuala Lumpur.

Yusuf, A A, Resosudarmo, B P (2009) Does clean air matter in developing countries' megacities? A hedonic price analysis of the Jakarta housing market, Indonesia. Ecological Economics 68(5), 1398–1407.