

Critical determinants of residential property value: Professionals' perspective

Abstract

Purpose - Real estate property has been established to be a composite goods and its value is determined by a bundle of variables. The heterogeneous nature of real estate property has made different stakeholders to value these variables differently. Therefore, this study sets out to identify and evaluate these set of variables which influence residential property value in the Lagos metropolis property market, Nigeria, based on professional valuers' perception.

Design/methodology/approach - List of variables that influence property value was generated through literature review and the list was used to design an online questionnaire that was administered on valuers practicing in the metropolis. The valuers were asked to rank these variables in order of significance. Their response was analysed to establish the mean score of each variable that depicts their level of significance.

Findings - In order of importance, property location, neighbourhood characteristics, property state of repair, size of property, availability of neighbourhood security and age of property are the most highly significant variables that are influential to property value in the Lagos metropolis.

Practical implications - The findings of this study will inform all existing and prospective real estate stakeholders including facility managers of the major determinants of the value of their investments and at the same time be a tool for valuers and researchers in property value modeling.

Originality/value - This study is the first attempt to develop a framework of property value determinants in this research area, in Nigeria.

Keywords Property value, Property variables, Valuers, Lagos metropolis, Nigeria, Real estate stakeholders

Paper type Research paper

1. Introduction

The significance of real estate properties to the economy of a nation as well as the various stakeholders cannot be overemphasized. This class of asset contributes to the GDP of a nation, while some stakeholders (individuals and corporate) store their wealth in real estate, making the value of real estate properties to be of great importance to its holders. Real estate property serves as consumption (owner-occupier) and investment (investors) goods to its holder (Chin and Chau, 2002). Real estate property is complex in nature, that is, it is made up of many unique set of characteristics that influences its value wherever it is located (Rosen, 1974; Sirmans et al., 2005). Previous studies (Tse and Love, 2000; Mbachu and Lenono, 2005; Selim, 2008; Adegoke, 2014) have reported that the value of a real estate property is influenced by several independent attributes. The impacts of these attributes on property value are perceived differently by the different stakeholders due to the heterogeneous nature of real estate properties.

The characteristics of the property market (imperfect, heterogeneous, complex legal interest, land laws and regulations, etc.) have made the services of a real estate professional inevitable to a rational real estate investor/stakeholder (Shapiro et al., 2012). A real estate professional (valuer, hereafter) is often sought to appraise the value of an interest in a property and in so doing, what the valuer analyse during this exercise are the bundles of characteristics of the subject property (Appraisal Institute, 1994).

In appraising an interest in a real estate property, valuers usually employ valuation methods, which they complement with industry experience and understanding of the subject property market. This practice is attributed to why property valuation is referred to as an 'art' and 'science' of estimating the value of a real estate property (Kummerow, 2003; Aluko, 2007; Azmi et al., 2013). Therefore, the 'art' of property valuation, which is the intuitive knowledge of the property market of an experienced real estate valuer is not to be ignored in property valuation

(Aluko, 2007). In other words, valuers' judgement on the significance of the property characteristics in property valuation is noteworthy and should not be discarded by all the stakeholders.

In contrast, previous studies (Ajide and Kareem, 2010; Aluko, 2011; Babawale et al., 2012; Famuyiwa and Babawale, 2014) carried out in Lagos, Nigeria, using quantitative market data, argued that valuation can be considered as the 'science' part of the practice. Moreover, the findings of these studies may become undermined by the occurrence of a critical event (Rosenhead, 1989), such as the global economic meltdown. Therefore, this research takes a different dimension by evaluating valuers' judgement on the level of significance of property value determinants in the Lagos metropolis property market.

As the value of a real estate property is created in the minds of the real estate market stakeholders and not in the physical property (Appraisal Institute, 1994) and the identification of the property characteristics is imperative for real estate appraisal, this establishes the motivation for the present study. The main objectives of the study are to identify the attributes that influence property value from the literature and evaluate the identified attributes in order to establish the property attributes that are highly significant to property value formation. The findings of this current study are expected to be valuable to real estate stakeholders (practitioners, facility managers, investors, regulators etc.), as they will be informed about the critical attributes that influence the value of residential properties in Lagos, Nigeria.

In addition to this introduction, this paper consists of six sections. The first section presents a review of literature, where property value determinants is discussed and a framework is developed. The second section describes the methodology adopted for the study, while the third section presents the data analysis and results. The fourth section discusses the results of the

analysis, fifth concludes the paper, while the last section presents the limitation of the study and further research.

2. Literature review

2.1. Theoretical framework of property value determinants

Studies conducted in different parts of the world (Tse and Love, 2000; Kauko, 2003; Oloke et al., 2013; Famuyiwa and Babawale, 2014) have reported that property value is determined by some sets of attributes which have been categorized into groups. The classification of these attributes as posited by Chin and Chau (2002) are locational, structural and neighbourhood factors. A further analysis of Chin and Chau (2002) showed that all of the structural attributes contribute positively to property value with the only exception of age of property. Whereas, some of the locational and neighbourhood attributes impact property value positively while others negatively affect property value.

Wong et al. (2002) mentioned that property attributes are classified into three classes namely location attributes (access to social and economic facilities); structural traits (floor area, floor height etc.) and neighborhood characteristics (neighborhood quality). In another view, property value determinants were grouped into three categories by Wen et al. (2005). Property value has been established to be a function of some set of attributes in the real estate domain and these attributes are inherent attributes, neighborhood characteristics, accessibility and environmental quality (Choy et al., 2007).

As documented by Pozo (2009), the independent variables that influence property value are explained by structural, neighbourhood and location factors. Ajide and Alabi (2010) argued that property value determinants are classified into three groups namely, structural traits, neighbourhood characteristics and locational traits. Likewise, Babawale et al. (2012) asserted that

property value are determined by attribute that are categorized into three classifications which include structural attributes, location and neighbourhood attributes.

The extant literature has established that the attributes that affect property value are classified into three broad groups - locational, structural and neighbourhood factors. Based on the existing literature, a framework of the property value determinants in the Lagos metropolis property market was constructed. Studies conducted in the Lagos metropolis were retrieved from online databases. The attributes that featured in these studies were extracted and grouped into the framework established in literature; that is, into the three broad categories as presented in Figure 1. This framework depicts what is obtainable in the Lagos metropolis property market.

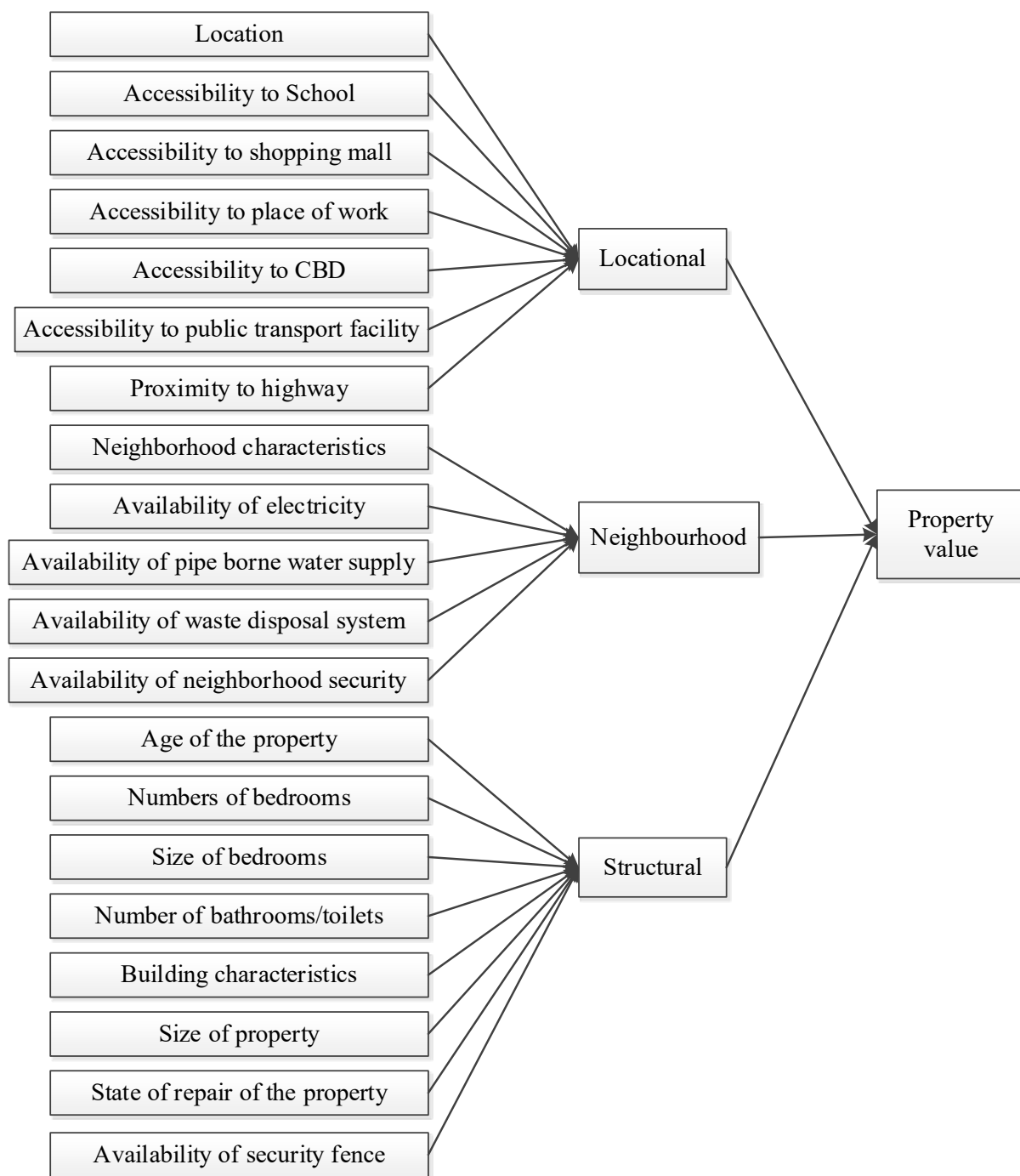


Figure 1. Framework of property value determinants in the Lagos metropolis

2.2. Property value determinants

The importance attached to real estate property by different stakeholders, has warranted series of studies conducted in different economies of the world to investigate the attributes that influence property values and the dynamics of property values in these real estate markets. Moreover, the

price of real estate properties in different international real estate markets may not be similar due to difference in the cultural, economic, financial and legal structures of different countries (Jenkins, 2000; Olayiwola et al., 2005). This is why real estate property values are essentially determined by location, location, location (Hui et al., 2007; Li et al., 2011).

Sirmans et al. (2005) reviewed 125 studies that have adopted the hedonic pricing model to measure the influence of property characteristics on property values in the US. The authors extracted the attributes that appeared often in literature in terms of their number of appearances, number of positive impact, number of negative impact and the number of times not significant. The analysis shows that age is the most occurred variable and expectedly, its negative significance on property value was recorded in 63 instances out of the 78 appearances. Square feet, garage space, number of bathroom and bedroom were positive in almost all of their appearances.

Studies carried out in the Lagos metropolis were reviewed alongside these conducted in other real estate markets of the world. A total of 20 attributes were found to be significant in these studies as shown in Table I. From the Lagos metropolis studies, it is obvious that availability of neighbourhood security significantly influence property value in the metropolis, at the same time, accessibility to place of work, number of bedrooms and number of toilet/bathrooms appeared more often too. On the other hand, emphasis is placed on size of a property in property value formation in other real estate markets. Considering the attributes on a category basis, structural attributes appeared often as property value determinants in other international real estate markets, whereas, the appearance of the attributes were spread across the three classes in the Lagos metropolis. This cross-national analysis reveals that different set of attributes influence property value in Lagos, Nigeria compared to other parts of the world and the evaluation of these attributes is to be pursued in this study.

Size of property		✓			1	✓	✓	✓	✓	✓	✓		7
Age of the property	✓				1								0
Numbers of bedrooms		✓	✓	✓	3	✓	✓	✓			✓		4
Number of bathrooms/toilets		✓	✓	✓	3				✓	✓		✓	3
Building characteristics		✓			1	✓		✓	✓			✓	4
Availability of security fence				✓	1	✓							1
Size of bedrooms			✓	✓	2	✓							1

3. Methodology

The adequacy or otherwise of a particular research method has been a subject of academic debate in several fields. Despite the predominance of survey research approach evident in built environment studies (Laryea and Leiringer, 2012), it is pertinent to note that scholars (Wing et al., 1998; Phua, 2013) point out that quantitative research methods can adequately address the need to generalize, test a hypothesis and carry out a comparative assessment of research data. Thus, survey research approach was adopted for this study.

The authors have decided to focus on the Lagos metropolis property market as the case study area for this research. This is due to the fact that the United Nations has declared Lagos as a megacity and also projected that the city will be the third largest in the world by 2015, after Tokyo and Bombay (Lagos State Government, 2015). The Lagos metropolis accommodate most multinational companies in Nigeria (Babawale and Oyalowo, 2011) and head offices of over 90% of commercial banks operating in the country (Central Bank of Nigeria, 2015). In addition, over 50% of the registered real estate firms in Nigeria have their head offices in Lagos (Ibiyemi and Tella, 2013), which in turn translates to over half of registered valuers in Nigeria operates in the Lagos metropolis.

3.1. Survey respondents

The criteria for selecting the respondents for this study were being a professional member of the government recognised body regulating the practice of real estate profession in Nigeria - Nigerian Institution of Estate Surveyors and Valuers (NIESV) and at the same time, practicing in the Lagos metropolis property market. One hundred and fifty valuers that met the selection criteria were randomly sampled from the 2014 edition of the membership directory of NIESV. This sample was chosen by bearing in mind the range of the sample size used in previous studies and even in built

environment research domain. See for instance, Finlay and Tyler (1991); Kauko (2007); Bello and Bello (2009); Adewunmi and Olaleye (2011); Oloke et al. (2013); Ameyaw and Chan (2015).

3.2. Questionnaire survey

A comprehensive list of residential property value determinants in Lagos was generated from previous studies conducted in the study area. These articles were sourced for from various online databases. In the light of the findings of the reviewed studies, a total of 20 attributes were identified as attributes that influence residential property value in the Lagos metropolis property market.

An online questionnaire was designed on the survey monkey platform. The questionnaire was designed based on a five - point Likert scale with options ranging from 1 to 5, where 1 signifies highly insignificant, 2- insignificant, 3- indifferent, 4- significant and 5- highly significant. The respondents were asked to rate the level of significance of the identified attributes.

The questionnaire was electronically administered on the respondents. The respondents were initially given two months to respond to the survey. Additionally, a reminder was sent at the end of the two months for one month extension period and this was done to improve the response rate. In sum, 55 questionnaires were received, out of which 52 were valid for further analysis. The effective return rate of about 34.67% was recorded and this could be attributed to the busy nature of the Lagos metropolis. Akintoye and Fitzgerald (2000) posit that a response rate of about 20-30% is common in related studies and hence, adequate for generalization of the results of electronic questionnaire survey. In addition, the collection of data through the use of an online-based platform ensures reliability. This is because it affords a wider coverage of the respondents and at the same time gather data that are less susceptible to error (Dix and Anderson, 2000).

3.3. The valuers' characteristics

The characteristics of the respondents that participate in a survey indicate the veracity of the data collected and eventually the reliability of the research findings. As expected, none of the valuers

possesses high school certificate as the highest academic qualification and in the same vein, none of the professionals has acquired a PhD degree. Almost 25 (46%) valuers possess Master of Science degree and other postgraduate degrees, whereas, 17 (33%) valuers have obtained Higher National Diploma. A total of 11 (21%) valuers possess a Bachelor of Science degree certificate (B.Sc.). This statistics shows that majority of the valuers (a total of 67%) have acquired at least university education, either at undergraduate level or at postgraduate level. This higher educational qualification of this large percentage of the total study population, suggests that the respondents are well informed.

It should be noted that all the valuers are professional members of NIESV that have gained varying years of professional experience in different aspects of the real estate profession. The distribution of the valuers' years of experience shows that almost half (44%) of the professionals have 6-10 years working experience, the percentage is 33% for valuers with 0-5 years of experience. Nine (17%) valuers have industry experience ranging between 11 and 15 years, while two valuers have gained working experience of 16-20 years. Lastly, only one valuer has been working in the real estate industry for over two decades. It can be suggested that majority of the valuers have intimate knowledge of the Lagos real estate market, as about 67% of them have not less than five years real estate related working experience. It may be safe to suggest that the study population are young professionals, since most of them possess less than 20 years professional experience.

Real estate professionals in practice specialise in different areas of specialisation of the profession. Even at that, valuers gather experience in every area of the profession, which makes them an all-round professional (Mooya, 2015). For this study, twenty-two (42%) of the valuers specialise in the general practice area of the profession, fourteen (27%) valuers are into property management, while 25% specialise in property valuation. The remaining three professionals are

into real estate agency. The high proportion of valuers that are into general practice as well as property valuation, gives validity to the data collected for this study (Mooya, 2015) .

3.4. Data analysis methods

The data collected was analysed using the Statistical Package of the Social Sciences (SPSS) 20.0 software to rank the attributes in establishing their mean scores (MS), as well as to conduct the reliability test (Cronbach's alpha) of the data collected. These MS were used to evaluate the importance and significance of each variable, as this is widely employed in literature (Adair et al., 1996). As such, a variable with MS of 4.00 and above is adjudged as highly significant, these with MS of values ranging between 3.50 and 3.99 as significant, attributes with MS of 3.00 to 3.49 as slightly significant, while attributes with less than 3.00 were regarded as insignificant. The MS was estimated using the formula in Equation (1).

$$MS = \frac{5n_5 + 4n_4 + 3n_3 + 2n_2 + 1n_1}{N} \quad (1)$$

Where n is the score given by valuers based on a five-point scale of 1 to 5 and N is the number of valuers that rated a variable.

The coefficient of variation (COV) of each variable was calculated. COV is the measure of the standard deviation as a percentage of the mean and it expresses the relative variability of valuers' responses of each variable (Elhag and Boussabaine, 1998). According to Elhag et al. (2005), a low COV value signifies a relatively high agreement amongst the respondents and vice-versa. The COV was computed using the formula in Equation (2).

$$COV = \frac{S}{\bar{X}} \times 100\% \quad (2)$$

Where S is the standard deviation and \bar{X} represents the sample mean.

4. Analysis and results

4.1. Reliability analysis

In measuring the internal consistency of the attributes included in the survey instrument, the Cronbach's alpha analysis was conducted. This is done in order to establish the validity of the data collected. Cronbach's alpha value ranges between 0 and 1, however, Nunnally and Bernstein (1978) posits that a value between 0.50 and 0.60 signifies a reliable consistency amongst the subjects, while Hair et al. (2010) put the value at 0.70 and above. The Cronbach's alpha value of the overall attributes is 0.843, which depicts a high internal consistency level. This suggests internal consistency and ensures that valid inferences can be drawn from the data collected.

Information in Table II shows the Cronbach's alpha when each variable is deleted. According to Oyedele (2013), the Cronbach's alpha if item is deleted measures the significance of each variable to the overall Cronbach's alpha. This means that the value of a variable that is equal to or less than the overall Cronbach's alpha value (0.843) suggests a significant contribution, whereas, a value higher than the overall Cronbach's alpha value signifies insignificant contribution. Following this rule, it was revealed that all the attributes contributes significantly to the internal reliability and hence, were all retained in the analysis because they all have values less than 0.843 as presented in Table II.

Table II. Reliability analysis of the variables

Overall Cronbach's alpha reliability = 0.843	
Property value variables	Cronbach's alpha if item deleted
<i>Locational Variables</i>	
Location	0.838
Accessibility to place of work	0.822
Accessibility to CBD	0.828
Accessibility to public transport facility	0.838
Proximity to highway	0.835
Accessibility to School	0.840
Accessibility to shopping mall	0.832

<i>Neighbourhood variables</i>	
Neighborhood characteristics	0.836
Availability of neighborhood security	0.831
Availability of electricity	0.829
Availability of pipe borne water supply	0.827
Availability of waste disposal system	0.833
<i>Structural variables</i>	
State of repair of the property	0.841
Size of property	0.839
Age of the property	0.837
Numbers of bedrooms	0.838
Number of bathrooms/toilets	0.839
Building characteristics	0.824
Availability of security fence	0.835
Size of bedrooms	0.822

4.2. Analysis of attributes significance

The level of significance (i.e. MS), COV, category ranking, overall ranking and the criticality of each variable are presented in the second to the sixth column in Table III. The coefficient of variation (COV) of each variable was calculated. The COV of the attributes ranges between 8.85% (location) and 31.63% (accessibility to school). These variations are low, which suggests a high agreement amongst the valuers as regards the significance of these attributes.

As evident in Table III, the MS of the attributes ranges between 4.92 and 3.13. Considering these MS values, six out of the 20 attributes are considered as highly significant, 11 are significant,

while the remaining three are slightly significant to property value formation, whereas, none of the attributes is insignificant. Property size and neighbourhood security had same MS of 4.06. In a similar vein, accessibility to CBD and building characteristics recorded 3.75 as their MS respectively. This suggests that same value is been place on these pairs of attributes when appraising a property.

Table III. Ranking of property value determinants

Factors	Mean Score	COV	Category ranking	Overall ranking	Criticality
<i>Locational Variables</i>					
Location	4.92	8.85	1	1	H. significant
Accessibility to place of work	3.79	25.78	2	9	Significant
Accessibility to CBD	3.75	21.04	3	10	Significant
Accessibility to public transport facility	3.62	19.86	4	13	Significant
Proximity to highway	3.56	25.14	5	15	Significant
Accessibility to School	3.15	31.63	6	17	S. significant
Accessibility to shopping mall	3.13	27.55	7	18	S. significant
<i>Neighbourhood variables</i>					
Neighborhood characteristics	4.31	15.61	1	2	H. significant
Availability of neighborhood security	4.06	20.36	2	4	H. significant
Availability of electricity	3.81	22.69	3	8	Significant
Availability of pipe borne water supply	3.65	24.76	4	12	Significant
Availability of waste disposal system	3.38	27.53	5	16	S. significant
<i>Structural variables</i>					
State of repair of the property	4.23	16.62	1	3	H. significant
Size of property	4.06	22.87	2	4	H. significant
Age of the property	4.00	15.65	3	5	H. significant
Numbers of bedrooms	3.98	13.61	4	6	Significant
Number of bathrooms/toilets	3.90	18.47	5	7	Significant
Building characteristics	3.75	21.04	6	10	Significant
Availability of security fence	3.73	27.12	7	11	Significant

Size of bedrooms	3.60	22.87	8	14	Significant
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Note: COV is Coefficient of variation, H. significance is highly significant and S. significance is slightly significant.

5. Discussion

5.1. Ranking of locational attributes

Residential location theory centers on the principle that utility is a function of accessibility to the central business district (CBD) (Wilkinson and Archer, 1973). However, in analysing residential property location, accessibility is considered not only to the CBD, but in relation to other social activities like schools, public transport, recreational center etc. (Jenkins, 2000). Residential locational attributes are attributes that relate to access to both social and economic facilities (Mok et al., 1995). The social and economic facilities that surround a property influence its value, because accessibility to these facilities will determine the travel time and cost to access them which home seekers considers when making informed decisions. Surprisingly, the highest and lowest ranked attributes in the overall variable list (location and accessibility to shopping mall) are in this locational category.

Property location has been considered widely in literature. This variable was ranked as the most highly significant variable by the valuers, both in the locational category as well as in the overall category with a MS of 4.92. The early study of Wilkinson and Archer (1973) stressed that location is an important variable that influence property value. Authors (for example, Cheshire and Sheppard, 1998; McCluskey et al., 2000; Han et al., 2002; Kauko, 2003; Joslin, 2005; Ge and Du, 2007) have reported that location is highly significant in property value formation. In the Lagos metropolis, a property located in the high-income neighbourhood for instance Ikeja GRA, Banana Island, Ikoyi, Lekki Peninsular etc. will command a high value than these located in the lowbrow areas of Mushin, Oshodi, Iyana-Ipaja etc.

5.2. Ranking of neighbourhood attributes

This classification consists of attributes that are regarded as public services provided within a neighbourhood that the residents make use of. The significance of neighbourhood attributes in property value formation cannot be underestimated, as Linneman (1980) reported that neighbourhood characteristics explains between 15-50% of property value and explains as much as 100%, where the properties in the neighbourhood are similar in terms of structural characteristics.

In this study, neighbourhood characteristics was ranked as the highest in this category and at the same time second in the overall list of the attributes. This depicts its significance to property value formation as it is recorded a MS of 4.31. The study of Cheshire and Sheppard (1998) found that the characteristics of a neighbourhood where a property is located, influences its value. Home seekers will be willing to pay for a property located in a neighbourhood characterised with good features. Han et al. (2002) reported that property in neighbourhood with good characteristics commands high property value and at the same time, Kauko (2003) established that this variable is a significant property value determinant. This is what is obtainable in Lagos, as neighbourhood with good characteristics for example, Ikeja GRA, Banana Island, Lekki Peninsular Phase 1, Victoria Garden City, etc. that are provided with good facilities – good roads, buildings with modern designs, properties finished with modern materials, properties with ocean view, neighbourhood with large composition of high-income earners etc. attract a higher property value. This was confirmed by Iroham et al. (2014).

Gallimore et al. (1996) mentioned that home seekers will be willing to pay for an apartment in a neighbourhood that is free of crime, kidnapping and other forms of social vices. At the same time, Clark and Herrin (2000) reported that murder rate in a neighbourhood have an adverse effect on property value. This was also noted by Amenyah and Fletcher (2013) that reported that residents prefer to live in a neighbourhood that has no history of theft, kidnapping and robbery cases. Hence,

it is not surprising that the variable was ranked as highly significant by the valuers with a MS of 4.06. This suggests that home seekers place more value on the security of their lives and properties, in other words, a property in a safe neighbourhood will command a high property value. In the Lagos metropolis, properties located in areas that are perceived to be free of crime either because it is a gated neighbourhood with a corporate regulated security or close to a police station will be highly sort for. This is also the case in Ibadan metropolis, Nigeria, where Adegoke (2014) found that the availability of burglar alarm is significant to property value.

5.3. Ranking of structural attributes

The attributes under this category are attributes that are property specific as shown in Table III. Property structural attributes has been established to be highly significant in property value formation and are hence, widely adopted in property value analysis studies (Wilhelmsson, 2000). Palmquist (1984) found that structural attributes have high contributory power to property value in the US. Wen et al. (2005) also reported that structural characteristics contribute 60% to property value. The information in Table I conforms to these positions and at the same time, the finding in Table III shows that all the structural attributes are either highly significant or significant, with none being slightly significant. In the overall attributes category, structural attributes occupy the 3rd to the 7th position. All this depicts the contribution power of structural attributes in property value formation from literature and also valuers' point of view in the Lagos metropolis.

In this category, a property's state of repair is the most important structural variable and indeed highly significant with a MS of 4.23. This variable describes the aesthetics and the finishes of the property. This variable influences the value place on a property, meaning that a property that is well maintained will command a high value, unlike these that are not well maintained. A property in a poor state will hence, require some amount of money to repair or replace some of its components. This will be factored into the value, which will result to a lower value. This is also

the case in South Africa as reported by Mbachu and Lenono (2005), where aesthetic design in terms of design, finishes etc. was ranked as significant by real estate valuers.

The taste, needs and the preference of different home seekers will influence the size of property they will be willing to pay for. Also, the size of a property will determine the value they will place on such property (Owusu-Ansah, 2012). Implying that big households will all things been equal demand for a large property and will be willing to pay for such. Out of the twenty most occurred property features used in related studies reviewed by Sirmans et al. (2005), property size positively influenced property value 42 times out of the 52 appearances. This suggests that the bigger a property, the higher the price the property will command. The case is not different in the Lagos metropolis, the influence of the size of a property is confirmed with the MS of 4.06 (highly significant) recorded by the variable.

According to Chin and Chau (2002), the expected sign of the age of property on property value is negative. This means that the value of a property decreases as the age increases (in a case where the property is not being maintained). This variable being ranked as highly significant to property value in the Lagos metropolis is justifiable, because a home seeker will make provision in terms of premium on the amount to offer considering the age of the property, because it is expected that as a property get older, wear and tear of its components begins to set in, which will warrant some level of repair, replacement or refurbishment as the case may be. This means that a new property will command a higher value, when compared with an older property.

6. Summary and conclusion

An attempt has been made to establish the major property value determinants in the Lagos metropolis, Nigeria. A list of applicable property attributes were generated from the literature. A review of these studies revealed that different set of property attributes influence property value in different real estate markets and this corroborates existing literature. These twenty attributes were

categorised into the established property value determinants framework of structural, locational and neighbourhood characteristics, in order to develop the framework of property value determinants for the Lagos metropolis property market. These attributes were used to design a questionnaire that was administered on valuers practicing in the metropolis. The valuers ranked them in their order of importance and significance. In this order, location, neighbourhood characteristics, state of repair of property, size of property, availability of neighbourhood security and age of property are the most highly significant attributes that determine residential property value in the Lagos metropolis. The location of a property was the highest ranked significant variable, which conforms to existing literature. The Lagos metropolis property market has been proven to be the most vibrant real estate market in Nigeria, hence, when making financial and economic investment decisions and also managing real estate properties in the metropolis, real estate professionals and other stakeholders ought to consider these set of highly significant attributes in order to record profit maximization on their investments.

7. Limitations and further research

This study focuses on the identification and evaluation of attributes that influence real estate property value in the Lagos metropolis property market. The generalisability of the results of the present study is subject to certain limitations. The limitations are due to respondents bias and low response rates associated with survey research. Also, being limited to the Lagos metropolis affects the generalisation of the findings to other states in Nigeria. However, selecting samples from a qualified pool of real estate professionals ensures reliable and robust inferences can be drawn from the results reported here. More research covering notable real estate markets in Nigeria (e.g. Abuja, Port-Harcourt and Kano) will provide valuable insights to stakeholders (investors, professionals and academic) on factors that influence property value in Nigeria. These future studies will further validate or question the findings of this study. At the same time, a holistic survey of all the valuers practicing in Nigeria may yield a much higher response rate that can permit the data to be subjected

to other analytical techniques like factor analysis, structural equation modeling (SEM) and fuzzy logic system.

Moreover, the results of this study reveal the most important attributes that influence property value, but the significance of each category of variable (structural, locational and neighbourhood) require further investigation to reveal the contributory power of each category to property value formation. This can be achieved by the application of modeling research analysis tools. It is noteworthy to mention that this paper is a preliminary study of a larger scope research. The list of attributes in the property value framework developed will be used in modeling the Lagos metropolis property market value, using advanced artificial intelligence techniques, which has been proven to be accurate and reliable in property value forecasting and has not received much attention in the Nigerian real estate research.

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