

The Impact of Neighbourhood Attributes on Real Property Value in Port Harcourt Metropolis

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Abstract: *There are different attributes that influences real property values and these attributes are modeled to assess their impact on property values. Several literatures have revealed that locational, neighbourhood, structural and environmental attributes influence property values. This study looked at the impact of neighbourhood attributes on property values using two locations of Rukpokwu/Rumuagholu and Abuloma in the Port Harcourt metropolis to analyse these variables. The study collected information from the 119 estate firms practicing in the metropolis on the influence of 4 neighbourhood attributes noticed from literature to be relevant to the study areas. These variables were then regressed to ascertain their impacts on property values in the areas. The result of the multiple regression analysis revealed that electricity connection and presence of good road network have very strong correlation to property values in the study areas while the other presence of borehole water and security had negative correlation to property values in the study areas. The variable with the strongest correlation is electricity connection. The study therefore recommends that government should provide the needed facilities and amenities in the metropolis so as to enhance property values.*

Keywords: Hedonic Pricing Model, Multiple Regression Analysis, Neighbourhood Attributes, Property Value, Real Property.

1. Introduction

Due to the importance attached to real property investment, it is relevant to assess the value of real property in order to give its true value to both the investor and the consumer. This importance has led to several researches on the determinants of real property values using the hedonic pricing model. The model assesses the prices of the characteristics that are present in a property so as to arrive at its true value and also assesses the levels of impacts of these determinants to real property values. The model was recommended by Rosen (1974) to show the way market for differentiated goods like real estate works.

The origin of the hedonic pricing model as stated in the study of Malpezzi (2003), opined that Court (1939) is most times cited as the "Father" of hedonic pricing model, though the study was mainly to assess the variables that affect the demand for automobiles. He found out that more variables were needed to explain the demand for automobiles. Other studies like that conducted by Colwell and Dillmore (1999) opined that Haas (1922) and Wallace (1929) had used the model on the value of farmland.

The results that emanate from the application of the hedonic pricing model are usually specific to a particular location thereby difficult to generalize across different geographic locations but can help in establishing the housing attributes that consistently affect values positively or negatively.

The study aims at assessing the impact of neighbourhood variables on residential real property values in Port Harcourt metropolis so as to help an investor in real property gain insight on the workings of the property market in the study area.

2. Study Areas

Port Harcourt metropolis in Rivers State of Nigeria is made up of Port Harcourt local government area and of Obio-Akpor local government area Ogbonna, Amangabara and Ekere (2007) and it is part of the Greater Port Harcourt City. The study used Rukpokwu/ Rumuagholu and Abuloma towns representing the two local government areas that make up Port Harcourt metropolis. For the purpose of this study, Rukpokwu/Rumuagholu is regarded as one town and it is located in Obio/Akpor local government area while Abuloma town is in Port Harcourt city local government areas. Rukpokwu/Rumuagholu is located northwards in the outskirts of Port Harcourt metropolis while Abuloma is situated towards the east of Port Harcourt metropolis. The study areas are fast developing towns with huge residential development.

Figure 2.1 shows the map of Port Harcourt metropolis indicating the two study areas of Rukpokwu/Rumuagholu and Abuloma towns.

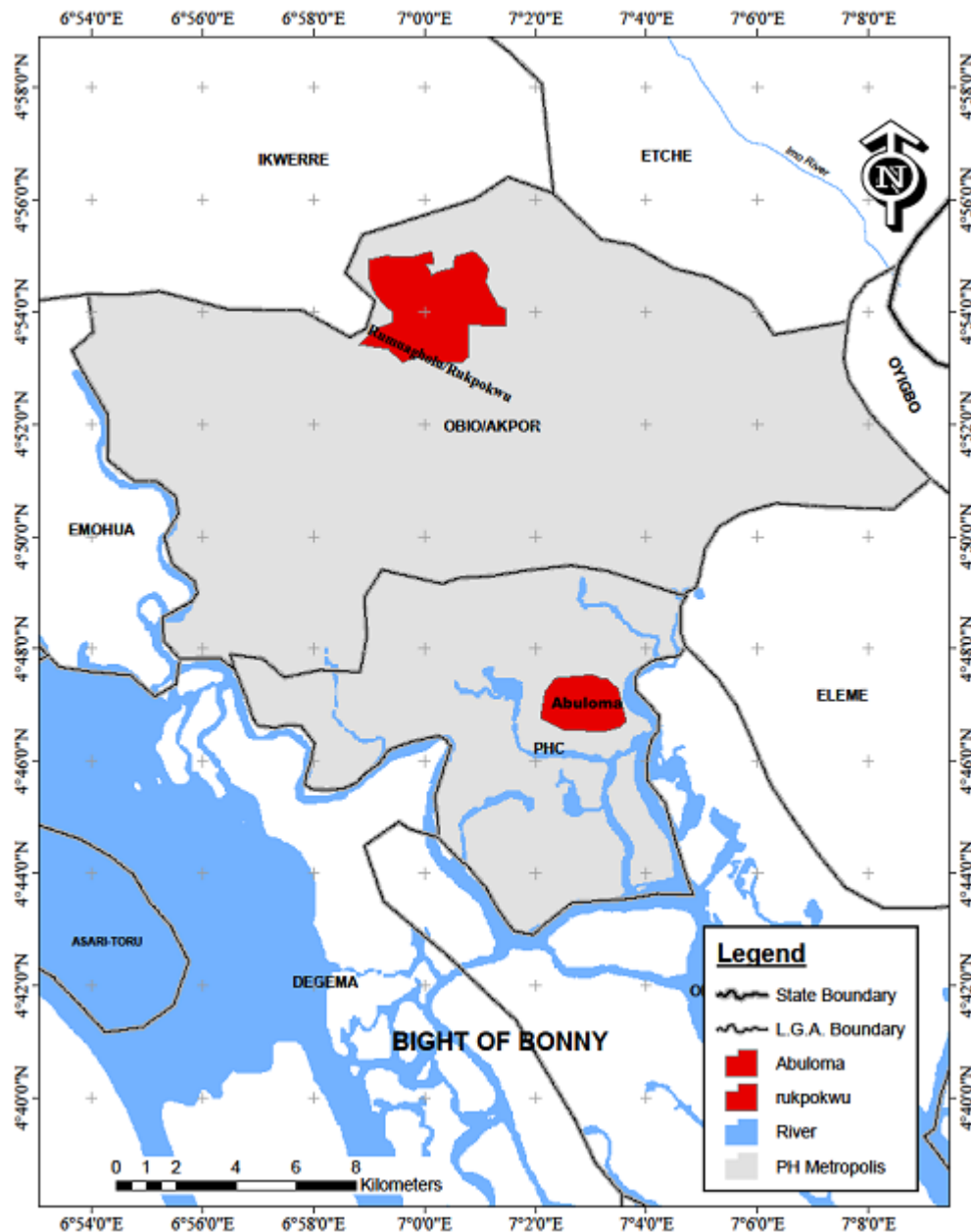


Figure 2.1: Map showing Rukpokwu/Rumuagholu and Abuloma towns.

Source: URP GIS LAB RIVERS STATE UNIVERSITY

3. Literature Review

The need to assess the attributes that influence values of real property has led to many researches like Megbolugbe (1986), McCluskey, Deddis, Lamont and Borst (2000) and Tse and Love (2000). In the study of Tse and Love (2000) on “Measuring Residential property values in Hong Kong” the hedonic pricing model was used and it identified four groups of attributes that determines real property values to include structural, locational, neighbourhood and environmental characteristics. This paper will focus on analyzing the impact of neighbourhood characteristics on the value of residential properties.

It was observed by researchers like Gavu and Asante (2017) that there are some difficulties in quantifying neighbourhood variables. Neighbourhood variables could be described as infrastructure that exist in an area and according to the(Oxford Advanced Learner's Dictionary, 2010),

“infrastructure is the basic systems and services that are necessary for a country or organization to run smoothly, for example buildings, transport, water and power supplies”.

According to Gatawa and Murungi (2015) infrastructure include housing, pipe borne water, electricity, telecommunication, waste disposal, roads, health, fire service, police station, public transportation and the provision of these infrastructure enhances value of real estate. According to Ellen and Turner (1997), to consider a variable as a neighbourhood variable it has to be a local service that has quality and adds to value of the property in its vicinity. It therefore implies that infrastructure could be termed neighbourhood amenities as they make residing in an area better, comfortable and enhances economic and developmental growth of an area.

Infrastructure available in a neighbourhood has been identified as a factor that affects property value as posited by

Hammer, Booth & Love (2000), who observed that good and adequate infrastructure highly affects property values. Their study was supported by a later study by Johnson, Davies & Shapiro (2005) who also observed that infrastructure influences increase in property values. Ajibola, Awodiran & Salu-Kosoko (2013) studied the effect of infrastructure on property values in Unity estate Lagos and observed that availability of water and roads ranked the most important infrastructure that affects property values in the estate. Anyanwu and Erhijakpor (2010) in their study also revealed that road infrastructure helps reduce poverty in Africa by reducing cost of transportation and improving property values in those areas where the roads are good. This indicates that presence of road infrastructure can cause new buildings to emerge thereby creating demand for such building, boosting the income of the investor and invariably the economic growth of the area.

The security of an area has been identified as a variable that influences property values as posited by Ajibola, Ebikefe and Awodiran (2014) who studied the effects of militant activities on property values in Port Harcourt and observed that militant activities negatively affected rental values hence property values in the areas where these activities occurred were also affected negatively. This implies that an area with adequate security is likely to command higher rents and property values.

4. Methodology

The study employed a survey design to gather information from the respondents who were the 119 estate firms in Port Harcourt metropolis as observed from the records of the Rivers State branch of Nigerian Institution of Estate Surveyors and Valuers (NIESV). A questionnaire was used for this purpose and they were administered on the valuers to elucidate from them which neighbourhood factor influences real property values to the best of their knowledge as practicing valuers and the property value range of 1, 2 and 3 bedroom flats in the study areas. The valuers were expected to rank the neighbourhood variables noticed from literature and tick the appropriate price range of the properties used for the study. The numbers of retrieved questionnaires from the firms were 96 giving a response rate of 80.7%.

The responses from the valuers as regards the four variables noticed from literature and listed on the questionnaires were analysed using inferential statistics to ascertain their impact to real property values in the study areas.

5. Findings and Interpretation

5.1 The variables were regressed using multiple regression analysis to know the exact impact of the variables to property values in the study area. The property values retrieved from the valuers were employed for the analysis.

Table 4.1: Property Values for 1, 2 and 3bedroom Flats in Rukpokwu /Rumuagholu and Abuloma.

Property value range	Rukpokwu/Rumuagholu		Abuloma	
	F	%	F	%
Price range for 1bedroom flat (N)				
5m-10m	80	83.3	70	73
11m-15m	10	10.4	15	15.6
16m-20m	6	6.3	11	11.4
Price range for 2bedroom flat				
6m-10m	7	7.3	12	12.5
11m-15m	79	82.3	76	79.2
16m-20m	10	10.4	8	8.3
Price range for 3bedroom flat				
10m-15m	4	4.2	10	10.4
16m-20m	86	89.5	12	12.5
21m-25m	6	6.3	74	77.1

Source: field data, (2017)

Table 4.1 indicates that 83% (80 no) of the valuers stated that property values of 1, bedroom flats in Rukpokwu/ Rumuagholu is between 5m-10m, 10 (10.4%) valuers indicates that property value for 1bedroom flat in the same location is 6 (6.3%) while for Abuloma, 70 (73%) of the respondents indicates that the property value for 1bedroom flat is between 5m to 10m. From the analysis it indicates that for the 2 bedroom flats in Rukpokwu/ Rumuagholu 79valuers responded that the value is between 11m-15m and 76valuers stated that the value is between 11m-15m for 2bedroom flat in Abuloma also. The property value for the 3 bedroom flats in Rukpokwu/Rumuagholu showed that 86 of the valuers indicated that it is between 16m-20m while for Abuloma, 74 of the valuers indicated that the value of 3bedroom is between #21m-#25m.

These findings reveal that the property value for 1 and 2 bedrooms in the two study areas are similar but differ for the 3 bedroom flats which revealed a disparity in values. This could mean that 3 bedroom flats in Abuloma may have better finishing and appears more sophisticated in style due to its proximity to the CBD.

5.2 The four neighbourhood variables used for this study were analysed using descriptive statistics and the result presented in table 4.2.

Table 4.2: Indicates the individual neighbourhood variables that influence property values in the study areas and their ranking.

S/N	Variables	RII Values	Ranking
1	Presence of good road network	0.93	1 st
2	Has electricity connection	0.88	2 nd
3	Neighborhood security	0.86	3 rd
4	Has borehole	0.82	4 th

Source: Elenwo and Akujuru (2018)

5.3Application of the Multiple Regression Analysis (MRA)

The variables identified from the study were regressed with the property values of 1, 2 and 3 bedroom flats in the study areas and the results are shown in tables 4.3 using Pallant (2013) decision rules for strengths of correlation as a guide.

Table 4.3: Result of the Regression analysis for the Linear Model

Model	Unstanardize coefficients		Standardize coefficients			95.0% confidence interval for B		Collinearity Statistics	
	B	Std. Error	Beta	T	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	-5.741	3.901	5.321	-1.472	.1472	.13.519	2.036	.112	8.898
PRESENCE_OF_GOOD_ROAD_NETWORK	.070	.469	.042	.150	.881	-.865	1.006	.063	15.984
HAS_ELECTRICITY_CONNECTION	.855		.515	1.716	.091	-.138	1.848	.054	18.625
NEIGHBORHOOD_SECURITY	-.278	.211	-.235	-1.320	.191	-.699	.142	.153	6.528
HAS_BOREHOLE	-.190	.456	-.934	-2.607	.011	-2.099	-.280	.038	26.520

a. Dependent Variable: PROPERTY_VALUES

Table 4.3 shows the result of the linear regression analysis with respect to Port Harcourt metropolis

From the table, it is observed that 2 out of the 4 estimated coefficients have expected positive signs while 2 produced unexpected negative signs.

The variables that revealed expected positive signs are electricity connection 0.515 which could be attributed to occupants desire to live in areas with constant electricity supply and presence of good road 0.042 as residents also are ready to pay more for an area that has good roads due to easy accessibility and reduced cost of car maintenance. The findings showed that has borehole revealed an estimated negative coefficient of -0.934 and neighbourhood security -0.235.

This finding revealed that the 4 variables all have significant impacts on property values in the study area.

6. Conclusion and Recommendations

The study identified the neighbourhood variables that influenced real property values in the study areas using descriptive analysis as presence of good road networks, electricity connection, presence of security and presence of borehole water. When these variables were regressed it revealed that electricity connection, presence of good roads, presence of borehole water and presence of security extremely influenced property values in the study areas. The study recommends that government should Endeavour to provide the needed facilities and amenities in the metropolis so as to enhance property values in Port Harcourt metropolis.

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