

# Structural Attributes and Prices of Warehouses in Uyo Urban, Akwa Ibom State, Nigeria

Ekpo, Mbosowo Ebong<sup>1</sup>; Bassey, Nse Akpan<sup>2</sup>; and Abdullahi, Aminat Ndatsu<sup>3</sup>

<sup>1</sup>Department of Estate Management and Valuation, Akwa Ibom State Polytechnic, Ikot Osurua. Ikot Ekpen.

Akwa Ibom State. <sup>2</sup>Department of Estate Management, University of Uyo, Uyo. Akwa Ibom State.

<sup>3</sup>Department of Civil and Environmental Engineering, Air Force Institute of Technology, Kaduna, Kaduna State.

Corresponding author: [mbosowoebong@gmail.com](mailto:mbosowoebong@gmail.com)

DOI: <https://doi.org/10.62154/nb5kd432>

## Abstract

Warehouses have now taken on a greater significance in the development of the economy of any nation. The aim of this study was to evaluate the effects of structural attributes on prices of warehouses in Uyo Urban, Akwa Ibom State. In order to attain the stated aim, the following objectives were set; to assess the structural attributes of warehouses in the study area; to examine the average prices of sampled warehouses across the study area and to establish the relationship between the structural attributes and prices of warehouses in the study area. The research employed the survey design. The independent variables were the structural attributes measured using room size, parking space and state of repairs while the dependent variable was measured using the price of ware houses. Both descriptive and inferential statistics were employed in the analysis of the data, with the help of the SPSS and Microsoft Excel software. The research revealed the prices of 48 selected warehouses in the study area and low prices were noticed in properties with poor structural attributes and vice versa. The study revealed a 99.75% significant relationship between the dependent and the independent variables, with a Durbin-Watson statistic of 1.979 and F-ratio of 5908.123. The study concluded that there was a statistically significant relationship between structural attributes and prices of warehouses in Uyo Urban, Akwa Ibom State. However, the study recommended that investors in industrial properties including warehouses should put structural attributes into consideration as poor structural attributes were noticed to bring about poor returns in prices.

**Keywords:** Structural Attributes, Prices, Warehouses, Uyo Urban, Akwa Ibom State.

## Introduction

Real estate developments come with several attributes such as neighbourhood attributes, locational attributes as well as structural attributes. Babalawe (2021) and Ogunba (2012) asserted that each of the attributes exerts influences on the property by either reducing or increasing the rental value (Usman, 2016). Several studies have found that people intending to rent a warehouse have adjusted their preferences to include other qualities like the condition of the building, adequate parking spaces for offloading and loading of goods as well as the sizes of the warehouses. This advocates that prospective tenants are becoming gradually aware that the condition of a property or its structural attributes in terms of how

well the property is constructed and designed possess a profound effect on their general comfort. Thus, the necessity for warehouses to be planned in such a way to meet with the tastes and requirements of the prospective tenants cannot be exaggerated. Chiwuzie *et al.*, 2019 found that the presence of some structural attributes such as the sizes of rooms, number of bedrooms, number of toilets, among others; determine the price of such a property. Anthony (2012) stated that if prospective tenants have the size of accommodation they want, they will be willing to pay higher value for it than they would pay for property with more or less attributes of accommodation they require. Okorie (2015) found out that about 60% of residential real estate tenants expressed eagerness to pay higher rent to have improved facilities integrated in their properties of choice. Other authors correspondingly observed that consumers of residential properties were willing to pay more for properties with enhanced comfort and quality appearances. The implication is that, if quality structural attribute in a property is not present, it will lead to a reduced rental value. Ekpo *et al.*, (2021) opined that any decrease in rental values negatively affects the viability of landed property investment particularly investment in the property market. Investment in warehouses in Uyo, Akwa Ibom State of Nigeria has evolved remarkably within the past few years. This is not unconnected with the increased economic activities in Uyo. This development has led to influx of students and other workers into the area resulting to high demand for residential properties for renting. Rental holding as observed by Dabara *et al.*, (2012) is an essential component of a healthy housing system of a nation and predominates in most Nigeria's urban areas including Uyo. Additionally, the diverse ethnic composition of inhabitants of Uyo urban has impacted on both the types and quality of warehouse properties available in the real estate market.

### Statement of the Problem

In Uyo Urban, real estate investors usually consider best quality locations and other factors such as population and demand for lettable space before investing in warehouses. Consequently, investment decisions to pay for the property are rarely made based on structural attributes. This tends to lead to wrong investment decisions. While there have been researches on other factors that affect the prices of warehouses, researchers are yet to explore the influence of structural attributes on the prices of warehouses in Uyo Urban. The Uyo property market, which was hitherto dominated by tenement buildings is now filled with a variety of warehouse properties with varying structural attributes. This study therefore tends to examine the effects of structural attributes on prices of warehouse properties. Structural attributes in this research is seen in terms of size of rooms, state of repairs and parking spaces. Hence, understanding the structural attributes and the effects on the prices of warehouses will assist the real estate investors in their bid to satisfy the needs of their customers while maximizing return from investments. In assessment of the above, the study aimed at examining the effect of structural attributes on the prices of warehouses in Uyo Urban, Akwa Ibom State, with a view to providing pieces of information

that will aid real investors on structural improvements that will command higher prices in the study area. In order to achieve the stated aim, the following objectives were set:

- i. to assess the structural attributes of warehouses in the study area
- ii. to examine the average prices of sampled warehouses across the study area and
- iii. to establish the relationship between the structural attributes and prices of warehouses in the study area.

## Hypothesis

The following null hypothesis was stated:

**H<sub>0</sub>:** There is no significant relationship between structural attributes and prices of warehouses in Uyo Urban, Uyo.

## Study Area

Uyo Local Government lies between latitude 70°47' and 80°3' North and between longitude 40°52' and 50°07' East swerving an area of about 914 km<sup>2</sup>. The city is bounded in the North by Itu, in the East by Uruan, in the west by Abak and in the south by Nsit Ibom, Ibesikpo Asutan and Etinan Local Government Area of Akwa Ibom State. Uyo is a home of more than 429, 900 people (National Population Census, 2017). The sub-equatorial south climatic condition of the area affords it a mean annual rainfall of 2480mm and mean annual temperature of 270°C. The town has two dominant land forms namely; the ravine on the North Eastern part of the town that form a tributary of Ikpa river and water-logged depression on the southern part of the town is within the low end of Cross River basin. The local government is endowed with abundant mineral and forest resources among which are gravel, silica, sand, clay and timber. Agricultural produce includes cassava, yam, vegetable and plantain. This feature has attracted investors into agricultural real estate investments. Higher Educational institutions found in the town are University of Uyo, Uyo City Polytechnic, School of Nursing and Midwifery etc. the health institutions are University of Uyo Teaching Hospital (UUTH), St. Luke Hospital Anua. The city can be accessed by road via the Highway such as the Abak road, Itu road, Aka Road etc. Nearby airport is Akwa Ibom International Airport. Uyo has intensive network of divided highways such as Ibrahim Babangida Way, Atiku Abubakar Way, Edet Akpan Avenue and Four-Lane Super Highway which is currently the widest road in Uyo Urban. Flyovers are also constructed to ease traffic. These developments have brought about the establishment of recreational centres by private investors.

## Review of Related Literature

### Theoretical and Conceptual Review

A warehouse, is by definition, a place where people house their wares (Johnson *et al.*, 2000). Warehouses are buildings where products are usually brought where they were awaiting being loaded for shipments or being kept for the goods unloaded to be distributed to other

parts of the country. Warehouses represent an important element in the economic structure of any nation. The investor in warehouses must look out for some qualities, which include the location, site location and the design. Well-planned warehouses have facilities to accommodate lorries waiting to unload, good unloading facilities and easy means of access. A modern warehouse must have easy access to vehicles and loading bays, or bays, so that trucks can easily be brought up to the premises to load or unload. It is always a single-storey to avoid raising goods by lifts or cranes or gantry. It must have clear floor space to allow fork-lift trucks to transfer goods around the property unhindered by columns and walls. The headroom must allow bulky goods to be transported without hindrance and allows smaller items to be stocked to the height limits of the fork-lift trucks or other mechanical devices.

The characteristics of the fabricated structures on a site including the design, scale, quality, materials as well as features that define a real estate is referred to as the structural attributes. Babawale (2021) asserted that prices of real estate are directly related to their structural attributes such as the size and number of toilet and bathrooms, bedrooms, age and condition, standard of construction, facilities, plot size, among other things. In a situation that a particular property possesses more of the aforementioned attributes than other real estate, the extra attributes would be capitalized into higher market prices. However, it is worthy of note that the structural attributes preferences vary between nations, individuals and their relative significance can change as time goes by. For example, while attributes such as the number of bedrooms and their sizes are universal reasonably, other characteristics such as the provision of balcony, servant quarters, garage, swimming pool and bar may differ depending on the culture, tradition, technology, climate and peculiarity of each neighbourhood. The shape and size of a real estate refers to the form and dimensions of existing improvements and area for parking, building and open space. The condition of the real estate refers to the current situation of an existing building and its age, which signals the developer whether it has to be rehabilitated or replaced.

Value is viewed from many perspectives because it means different things to many people. It is the worth of something in terms of money or other goods for which it can be exchanged. Rental value is the worth of lease of a real estate on periodic basis. When the sum is equivalent to the amount any other similar real estate would attract, such rent is called open market rent. Olusegun (2008) posited that rental value is the worth of the property on periodic occupational basis. Rental value is normally employed in the determination of the sales or capital value of a real estate. The comparative method is usually employed by valuers in the determination of the rental value, taking into account the condition and terms of the lease being assessed. In this scenario, the open market value of the real estate is the rent such property would attract or a similar one when it is offered in the property market on the normal tenancy or lease terms and conditions. A clear example is that the rental values of residential real estate are often expressed in terms of scope of accommodation provided they are of the same design standard.

Several researches both in developed and developing countries have been carried out to determine the relationship between structural attributes of a real estate and its rental value. In Kuala Lumpur, Tan (2012) probed the housing needs and preferences of first-time buyers with prominence on certain characteristics of a dwelling such as the number of bedrooms, bathrooms, living rooms, kitchen, among others. Regression model was employed in the analysis of the data collected. The study revealed that prospective tenants usually place major preference to number of bedrooms. Chiwuzie *et al.*, (2019) analysed the structural attributes of five categories of residential property in Ede, Nigeria. It examined the tenant's desire for the size of the property and the willingness of the tenant to pay for the desired attribute. In order to evaluate the willingness to pay, the study hypothesized that 90% of the respondent in each property types could express willingness to pay more for the desired attributes. Copies of questionnaire were administered to residential tenants in the study area to obtain data. A total of 400 copies of questionnaire were distributed and 278 copies were returned bringing the response rate to 69.5%. Both descriptive and inferential statistical tools were employed to analyse the data collected. This included percentages, bar charts, weighted mean score and Chi square. It was found out that larger bedroom was ranked very high as the most sought-after and the most paid for. Beyond that, there were certain structural attributes that respondents across the property categories expressed willingness to pay more for. The chi-square result however revealed there was a significant difference between "would pay more for" response and the expected proportion for the entire selected structural attribute in all categories of residential property. The study concluded that there was evidence to suggest that 95% of tenants in Ede did not express willingness to pay more for the desired structural attribute. The study recommended that investors in the residential property submarket should take those factors into consideration when making decision on house design so as to have a product that matches the tenant's expectations while ensuring return is maximized from investment. In the literature reviewed, it was found out that none employed the quantitative approach to their research and this elicited the interest of the researchers towards this direction. This current research employs the use of ratio and ordinal scales in the measurement of data as well as the application of both descriptive and inferential statistics to arrive at scientifically determined results.

### **Research Methods**

The cross-sectional survey design was adopted in this research. Simple random technique was used in the selection of respondents in the study area, who provided data on the prices of warehouses under study and to obtain 48 properties from the management portfolio of the Estate Surveyors and Valuers who have rendered professional services to their clients across the study area. Data on prices of warehouses were collected from registered Estate Surveyors and Valuers that have rendered professional services in the stratified units of the study area (this is because the Estate Surveyors and Valuers are the only professionals in

Nigeria that are empowered by the law i.e. Decree No 24 of 1975 to determine the value of properties and their interest). In addition, the researchers and their assistants were afforded the opportunity of obtaining firsthand information on the properties from the occupiers who could easily be identified. Descriptive and inferential statistics were employed to resolve the objectives and the formulated hypothesis. Parametric data was used for analysis in this research. Independent variables were room size measured in square meters, parking space also measured in square meters and state of repairs with 1 indicating poor, 2 indicating fair, 3 indicating good and 4 indicating very good state of repairs, while the dependent variable was the average prices of the sampled warehouses (in Naira). To test for the relationship between the dependent and the independent variables, the analysis of variance and linear regression models were used.

### Data Presentation and Analysis

In this section, analysis of the data collected were made in order to accomplish the set objectives of the research. In doing so, the linear regression model was used in the analysis. Average price of warehouses was the dependent variable, while structural attributes measured using room size, parking space and state of repairs were the independent variable. The profile of the respondents was presented in Table 1

**Table 1:** Respondents Profile

Profile	Item	Frequency	Percentage (%)
Position Held in the Firm	Principal Partner	21	43.75
	Associate Partner	27	56.25
	<b>Total</b>	<b>48</b>	<b>100</b>
Educational Qualification	Doctor of Philosophy (PhD)	7	14.58
	Masters of Science (MSc)	9	18.75
	Bachelor of Science (BSc.)	18	37.50
	Higher National Diploma (HND)	14	29.17
	<b>Total</b>	<b>48</b>	<b>100</b>
Professional Qualification	Fellow (FNIVS)	12	25
	Associate (ANIVS)	28	58.33
	Probationer	8	18.67
	<b>Total</b>	<b>48</b>	<b>100</b>
Years of professional practice	Above 15 years	12	25
	10 – 14 years	20	41.67
	5 – 9 years	9	18.75
	1 – 4 years	7	14.58
	<b>Total</b>	<b>48</b>	<b>100</b>

**Source:** Researcher's analysis, 2024

Table 1 presented the profile of the respondents who responded by supplying the data on structural attributes and prices of warehouses in Uyo urban, in terms of their position in the Estate Firm, professional qualification, educational qualification and years of professional practice as Estate Surveyors and Valuers. It was found out that the Associate Partners formed the major part of the respondents with 56.25%, while the Principal Partners constituted 43.75% of the respondents. It was observed that all the respondents held high positions in their firms which provide more credibility to the data obtained. The study further showed 37.50% of the respondents had Bachelor of Science degree, 18.75% had their Masters of Science degree in Estate Management and Valuation, while about 14.58% and 29.17% had their Doctor of Philosophy and Higher National Diploma respectively. Having many Estate Surveyors under the Bachelor of Science category may be related to the fact that Estate Management and Valuation is a lucrative profession, thus graduates are expected to commence practice after their first degree. With respect to the position of the respondents, Moreover, the respondents for this study were in different cadre of professional membership of the Nigerian Institution of Estate Surveyors and Valuers (NIESV). Their distribution showed that Fellows (FNIVS) and Probationers formed only 25% and 18.67% of the respondents, while Associates (ANIVS) formed 58.33% of the respondents. This implies that all the respondents are professionally qualified to respond adequately to the questionnaire. Table 1 also showed that 41.67% of the respondents have been in practice between 10-14 years, 25% of the respondents were in practice above 15 years while 18.75% and 14.58% constituted 5-9 years and 1-4 years respectively. Most of the respondents have professional experience for more than 10 years. This suggests that they have enough practical experience and exposure to supply the necessary data needed for the study. On this note, it can be said that respondents were found professionally and academically fit to supply valid, credible and reliable data for this study.

### **Analysis of the Structural Attributes of Warehouses in the Study Area**

In order to answer objective 1, the structural attributes in terms of room size, parking space and the state of repairs of the 48 sampled warehouses in the study area were studied, examined and analysed and results presented in Table 2.

**Table 2:** Structural attributes of warehouses in the study area

Room size	Parking space	State of repairs
26.84	144	2
15.09	81	1
24.59	128	2
39.58	206	4
27.14	143	2
26.71	141	2
37.38	189	4

19.79	104	2
33.43	174	3
29.33	155	3
34.67	171	3
30.47	158	3
20.9	111	2
13.42	72	1
35.79	192	4
26.72	143	2
27.04	141	3
33.65	173	3
14.36	75	1
20.03	109	1
37.49	201	4
21.06	111	2
35.83	194	4
20.4	106	1
22.12	118	2
34.71	186	4
30.95	161	3
18.42	99	1
23.86	128	2
14.43	75	1
14.96	79	1
22.5	119	2
29.78	157	3
37.86	200	4
31.93	171	3
29.71	152	3
33.75	173	3
34.77	176	4
29.95	154	3
26.66	139	2
37.61	199	4
38.37	205	4
41.69	214	4
36.68	178	3
28.53	148	3
23.84	126	2
40.26	216	4
36.34	194	4

**Source:** Field survey, 2024



Table 2 presents the structural attributes of warehouses in Uyo Urban, Akwa Ibom State. The table showed that room sizes of the sampled warehouses ranged from 13.42m<sup>2</sup> to 14.26 m<sup>2</sup>, parking space from 72 to 216 m<sup>2</sup> and state of repairs with 1 indicating poor, 2 indicating fair, state of repairs, 3 indicating good and 4 indicating very good state of repairs.

### Analysis of Average Prices of Warehouses in the Study Area

In order to answer objective 2, this section presents the analysis of the trend of average prices of 48 sampled warehouses in the study area from 2019 to 2023 and results presented in Table 3.

**Table 3:** Prices of Warehouses in Uyo Urban, Uyo, Akwa Ibom State

Prices of warehouses					Average prices
2019	2020	2021	2022	2023	
17,066,390	17,689,000	18,090,490	18,550,903	18,603,217	18,000,000
9,318,554	9,216,486	9,220,022	10,431,492	12,476,186	10,132,548
15,420,635	15,318,028	16,900,058	16,623,000	18,238,279	16,500,000
25,827,456	25,819,857	26,775,928	26,653,055	27,957,319	26,606,723
16,630,426	17,522,659	18,676,423	18,715,777	19,691,965	18,247,450
17,182,990	17,524,372	17,782,000	18,626,242	18,658,596	17,954,840
23,843,880	24,627,254	25,256,638	25,537,844	26,371,639	25,127,451
11,746,965	12,530,739	13,724,400	13,748,319	14,740,727	13,298,230
21,849,879	21,534,400	22,723,272	22,665,896	23,428,873	22,440,464
18,664,980	18,636,985	19,549,850	20,754,593	20,832,852	19,687,852
20,568,767	20,898,436	21,792,878	22,976,185	22,283,054	21,703,864
19,777,868	19,660,135	20,563,440	20,687,641	21,484,236	20,434,664
12,471,759	13,444,993	14,342,144	14,543,996	15,331,648	14,026,908
7,575,770	8,352,346	9,434,109	9,732,291	9,905,484	9,000,000
22,316,890	23,623,634	24,516,986	24,809,104	24,782,736	24,009,870
16,618,940	17,721,104	17,849,328	18,578,113	18,787,515	17,911,000
16,620,720	17,819,560	18,690,112	18,872,570	18,897,538	18,180,100
21,422,890	21,732,563	22,820,182	23,000,000	24,029,585	22,601,044
8,625,749	8,936,464	9,530,005	9,875,214	11,195,723	9,632,631
12,592,841	12,729,374	13,540,100	13,753,240	14,584,445	13,440,000
24,733,832	24,320,489	25,421,649	25,564,673	25,959,397	25,200,008
12,638,923	13,421,463	14,320,613	14,753,758	15,616,843	14,150,320
22,544,714	23,224,392	24,201,414	24,842,638	25,336,842	24,030,000
11,850,527	12,427,191	13,169,920	13,676,000	14,477,379	13,120,203
13,659,878	14,330,102	14,278,028	15,598,796	16,338,196	14,841,000
21,717,965	22,635,536	23,802,902	23,779,151	24,645,391	23,316,189
19,618,847	19,900,719	20,791,663	20,965,336	22,604,245	20,776,162
11,559,856	11,646,202	12,698,290	12,752,289	13,184,513	12,368,230
14,747,964	15,554,117	16,730,756	16,450,302	16,654,361	16,027,500

8,736,777	8,536,425	9,645,728	9,715,958	11,788,547	9,684,687
8,485,976	9,574,513	10,367,600	10,813,037	10,912,204	10,030,666
14,523,935	14,663,865	15,123,785	15,701,758	15,592,967	15,121,262
18,620,842	19,520,165	20,191,117	20,688,965	20,978,911	20,000,000
24,855,731	24,222,575	25,400,369	26,468,817	26,300,048	25,449,508
20,862,813	20,525,839	21,422,858	21,547,574	22,862,016	21,444,220
18,774,724	18,728,557	19,540,054	19,945,971	22,714,869	19,940,835
21,784,613	21,731,757	22,878,513	22,524,224	24,261,183	22,636,058
22,616,027	22,236,147	23,339,652	23,423,212	24,957,282	23,314,464
19,519,546	19,476,788	20,113,195	20,712,852	20,895,534	20,143,583
16,621,825	16,850,217	17,554,275	18,890,032	19,559,651	17,895,200
24,424,734	24,600,371	25,556,937	25,778,302	25,941,366	25,260,342
23,827,634	24,844,636	25,944,453	25,745,445	26,304,477	25,733,329
26,331,832	27,922,246	28,120,763	28,556,272	29,064,997	27,999,222
21,936,713	21,839,797	22,779,546	22,723,070	23,901,164	22,636,058
18,540,923	18,126,492	19,483,408	19,631,792	19,969,785	19,150,480
14,647,722	15,600,560	16,325,052	16,590,650	16,836,016	16,000,000
25,300,845	26,524,000	26,434,412	27,742,272	28,998,471	27,000,000
23,609,634	23,541,725	24,845,112	24,603,500	25,183,929	24,356,780

Source: Field survey, 2024

Table 2 showed the average prices of warehouses from 2019 to 2023 in the study area. The table showed a consistent rise in the trend of prices of warehouses in the study area with the highest average price of ₦27,000,000 and the lowest average price of ₦9,000,000.

### Analysis of the Relationship between Structural Attributes Prices of Warehouses in the Study Area

In this section, the establishment of a relationship between obsolescence of plant and machineries and prices of warehouses in the study area was carried out in order to proffer solution to objective 3. Multiple Linear Regression was used in analyzing the data and the results presented in Table 4.

**Table 4:** Summary Statistic of the Independent Variable

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	264011.937	197404.4698	1.337416	0.18796	-133830.6307	661854.5
Room size	343920.226	52470.072	6.554598	5.16E-08	238173.7445	449666.71
parking space	54906.6295	10544.06011	5.207352	4.85E-06	33656.47268	76156.786
state of repairs	293100.416	121273.6754	2.416851	0.019869	48689.38297	537511.45

Source: Researcher's Analysis, 2024

The output in Table 4 shows the result of fitting a multiple linear regression model to analyse the variables through establishing a relationship between structural attributes and prices of warehouses in the study area. The model to express the result of the fitting is shown in Equation 1.

$$\text{Prices of warehouses} = 264,011.937 + 343,920.226 (\text{room size}) + 54,906.6295 (\text{parking space}) + 293,100.416 (\text{state of repairs}) \quad \dots \text{Equation 1}$$

Equation 1 shows that the constant value of the dependent variable is 264,011.937. It also showed positive relationships between all the independent variables and the dependent variable. The table finally showed that there is a statistically significant relationship between structural attributes and prices of warehouses at 95% confidence level. The Analysis of Variance of the relationship between structural attributes and prices of warehouses in the study area was carried out and results presented in Table 5.

**Table 5:** ANOVA of relationship between structural attributes and prices of warehouses in Uyo urban

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	1.27712E+15	4.26E+14	5908.123	2.47831E-57
Residual	44	3.1704E+12	7.21E+10		
Total	47	1.28029E+15			
<b>Regression Statistics</b>					
Multiple R	0.99876108				
R Square	0.99752369				
Adjusted R Square	0.99735485				
Standard Error	268429.973				
Durbin Watson	1.979				

**Source:** Researcher's Analysis, 2024

From Table 5, the R Square, also called the coefficient of determination gives the proportion of the variance of the dependent variable (prices of warehouses) that can be explained by variation using the independent variable (structural attributes). Thus, 99.75% of the variation in prices of warehouses can be explained by structural attributes in the study area. The adjusted  $R^2$  statistic, which is more suitable for comparing models with different number of independent variables, is 99.73%. The standard error of estimate which gives a measure of dispersion for prediction equation is 268429.973. When the prediction equation is used, 68% of the data will fall within one standard error of estimate (predicted) value. Just over 95% will fall within two standard errors. Thus, using 95% of the time, our estimated price value will be within ₦536,859.946 of being correct (i.e.,  $2 \times 268429.973 = 536,859.946$ ). The Durbin Watson statistic, which is 1.994, tests the residuals and determines if there is any significant correlation based on the order in which the data occur. The Durbin Watson is between 1.5 and 2.5, which means that there is no violation of autocorrelation in this

study. In addition, the ANOVA report (F-statistics) presented above in table 5 indicates an overall significance of the regression model applied in this study through a significance F value of 0.000<sup>b</sup> indicating  $p < 0.05$  showing a statistically significant relationship between structural attributes and prices of warehouses in the study area thus, the null hypothesis stated before is rejected.

### Discussion of Findings

The structural attributes of warehouses in the study area was measured using room size, parking space and state of repairs. It was found out that room sizes ranged from 13.42m<sup>2</sup> to 14.26m<sup>2</sup> and parking space from 72m<sup>2</sup> to 216 m<sup>2</sup> in the study area and the study revealed that the general state of repairs of the sampled warehouses was good. This implies that little spaces are converted to use as warehouses in Uyo urban. The study also showed the average prices of warehouses in the study area with the lowest average price of ₦9,000,000 and the highest average price of ₦27,000,000 in the study area. This implication of such low returns on investment is there are not much spaces available in the urban area. Finally, in the establishment of the relationship between structural attributes and prices of warehouses in Uyo Urban, Akwa Ibom State, the study revealed there was a significant relationship and the model to express the result of the fitting as shown in Equation 1, can be used in forecasting the prices of warehouses in the study area, given the structural attributes of the property, for instance if the room size is 13.29 m<sup>2</sup>, parking space is 79 m<sup>2</sup> and fair state of repair, the price of that warehouse would be ₦9,758,536.303. That is, price of warehouse =  $264,011.937 + 343,920.226 (13.29) + 54,906.6295(79) + 293,100.416 (2)$  which is ₦9,758,536.303. This research is in congruent with the works of Babawale (2021) and Ogunba (2012).

### Conclusion

This research was conducted to evaluate the structural attributes and prices of warehouses in Uyo Urban, Akwa Ibom State. The study revealed that the general condition of the warehouses was in a good state of repairs. The study further showed the prices of 48 sampled warehouses in the study area and it was found out that lower prices was observed in warehouses with poor structural attributes and vice versa. The study further revealed the analysis of variance of the relationship between structural attributes and prices of warehouses with an F-ratio of 5908.123 and a p-value which is less than 0.05 which implies a statistically significant relationship between structural attributes and prices of warehouses in the study area. Therefore, the study concluded that there was a significant relationship between structural attributes and prices of warehouses in Uyo.

### Recommendations

The following recommendations are made based on the researchers' findings:

- warehouses should be situated on large expanse of land for optimum returns.

- warehouses should be located in the peripheral section of the town due to space.

Property developers and investors should take spacious parking space and spacious room sizes into consideration, when developing any warehouse property, as those are structural attributes that can command high prices in warehouse properties.

## References

- Anthony, O. A. (2012): 'Examination of the determinants of housing values in urban Ghana and implications for Policy Makers', *Journal of African Real Estate Research*, 2(1), pp.58-85.
- Babawale, G. K. (2021). *Real Estate Valuation: Principles and Methods*. University of Lagos Press and Bookshop Ltd, Nigeria.
- Chiwuzie, A., Dabara, D. I., Adenipekun, T. M., Prince, E. M. and Ajiboye, B. O. (2019). Tenant's demand for structural attributes in residential properties: the case of Ede, Nigeria. *Proceedings of the West Africa Built Environment Research: 10th Anniversary Conference, 5 – 7 August 2019*
- Dabara, I. D., Okunola, A. S., Odewande, A. G. and Okorie, A. (2012): Assessment of the rental values of residential properties in urban slums: the case of Osogbo, Osun State Nigeria In: Laryea, S., Agyepong, S., Leiringer, R. and Hughes, W. (Eds) *Procs 4th West Africa Built Environment Research (WABER) Conference, Abuja, 24-26 July 2012*, pp. 1-7.
- Ekpo, M. E.; Raphael, N. V.; Etuk, U. S. (2021). Impact of delay in land registration of title on residential property investment decisions among investors in Ikot Ekpene. Paper presented at the 1st National Conference: Advancing the National Economy via Science, Technology and Management based Knowledge in Post COVID-19 Pandemic.
- Johnson, T., Davis, K. and Shapiro E. (2000). *Modern Methods of Valuation of Land, Houses and Buildings*. Ghana: EPP Books Services.
- Ogunba O. A. (2013). *Principles and Practice of Property Valuation in Nigeria*. Ibadan: Atlantis Books Ltd.
- Okorie, A. (2015): 'Housing infrastructural 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), pp.7-14.
- Olusegun, K. (2008). *Introduction to Property Valuation*. Climax Communications Ltd. Yaba, Nigeria
- Tan, T.H. (2012). 'Meeting First-time Buyers' Housing Needs and Preferences in Greater Kuala Lumpur Cities', *Elsevier*, 29(1), pp.389-396
- Usman, M. (2016): 'Impact of Housing Attributes of Rental Values of Residential Properties in Minna, Nigeria', Unpublished M.Sc. thesis, Universiti Tun Hussein Onn Malaysia.