Analyzing the Dynamics of Residential Properties' Rent in Ede, Nigeria

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Abstract

Rental movement is an important parameter in real estate investment and can influence the supply of rental accommodations in the property market. This study empirically analyzed the trend in rents and growth rates of five residential property categories comprising tenement room, one room self-contained, room and parlour self-contained, two bedroom flat and three bedroom flat to determine the property with highest trend; and whether the growth rates across the five property categories differ significantly in the study area between 2002 and 2017. The study utilized residential properties' annual rent as primary data. The primary data was collected through questionnaire administered to landlords who rented their properties within the study period and comprised rental values of five residential property categories between 2002 and 2017. Descriptive and inferential statistical techniques such as frequency table, chart, ANOVA and linear regression were used to analyze the data collected. The results revealed that annual rental values of all the selected residential properties maintained upward trend over the period studied. Three bedroom flat had the highest trend in rent and highest R^2 value (0.89) implying it is the property whose rental values can be most ascertained with each successive year under study. The findings further revealed that the average yearly growth rates of the selected residential properties ranged from 17.01% to 20.83% during the study period with three bedroom flat having the highest growth rate. The ANOVA result however suggested that the mean rental growth rates across the selected residential property categories at 95% confidence level were not significantly different $F_{(4, 70)} = 0.345$ $P = .847 > .05$. This study brings to fore the localized rental income levels and the impacts they have on rental growth rates, which is necessary in the process of understanding investment returns in the residential submarket.

Keywords: Dynamics; Growth; Nigeria; Rental value; Residential Properties; Trend

1. Introduction

One of the important characteristics of real property investments is income (rental) and capital growth (Johnson, Davies and Shapiro, 2000; Karakozova, 2005 and Kivilahti and Vitanen, 2006). Consequently, these anticipated movements in values of real property have remained the major expectation of property investors. The need to analyze movements in rents has been stressed in earlier studies. According to Nwuba (2008), rental movement analysis would aid entrepreneurs in their planning and cash flow projections; assist developers in investment

decision making; useful to real estate professionals in appraisals and evaluation of proposed development projects; as well as provide information for researchers. Stakeholders in property market such as investors and developers often use rental movements to appraise the performance of their investment in real property (Udoekanem, Ighalo and Nuhu, 2014). Rental movements have also been observed to influence the supply of rental accommodations in the property market. Nwuba (2008) noted that rising rents could be an attraction for rental real estate development as prospect of rental growth is an important viability consideration. On the other hand, Dabara, Olatoye and Okorie (2012) submitted that when values of real property are negatively affected, it injures ownership motives and discourage subsequent investment. There is therefore apparent need to empirically analyse the movement of rents in order to give developers a clear picture of the dynamics of rents in the residential property submarket in Ede for investment decision making.

The residential property investment market in Ede, Nigeria has become very active in the recent past. This could be attributed to the increased economic activities occasioned by the siting of several tertiary educational institutions within the metropolis. The influx of staff, students, businessmen and people providing support services to these institutions resulted to increase in the demand for residential properties within the area (Chiwuzie, Dabara, Prince and Aiyepada, 2019). Renting is seen as an essential component of a healthy housing system of a nation (Dabara, Olatoye and Okorie (2012). This is because renting gives urban dwellers easy access to accommodations. Rental accommodations have become predominant in Ede just as in other urban areas in Nigeria. These rental accommodations exist in different categories presenting an opportunity for investors to choose amongst alternatives in the residential property submarket. It is against this background that this study is undertaken to analyze residential properties' rents with a view to providing information that will lead investors aright on the best decision of the category of residential property to invest in. The research questions this study seeks to find answers to include among other: What were the rental values of five residential property categories in Ede from 2002 to 2017? What are the trends in the rental values of these properties? What were the yearly growth rates in rental values of these residential properties from 2002 to 2017? Is there any significant difference in rental growth rates across the five residential property categories from 2002 to 2017 in the study area?

2. Review of Literature

The movement of rents has remained a major concern to the various participants in the real estate market. A number of studies have been carried out on rental movements in various countries of the world.

In United States of America, Mueller (1999) analysed rental growth rates during different points in the Real Estate Market Cycle. The study utilized asking rents and average rental growth rate to evaluate rental growth rates in the physical real estate cycle. Results of the study suggested that rental growth rates are quite different in different physical market cycle phases and concluded that national average growth rates at each point in the cycle were statistically different.

In Stockholm, Bjorklund (1999) studied residential rent between 1990 and 1997 from investors' perspective. The study was to analyse whether or not rent levels varied between locations holding other rent-affecting variables (age and improvement) constant. Findings from the study revealed that rent levels varied between locations. Dahoa (2003) discovered a drop of 66.9% and 48.7% in house price index and rental index respectively after a peak reached in 1997 in Hong Kong. Langdon and Everest (2003) on the other hand observed that no regular trend was found in office rents in Scotland, although there were fluctuations particularly between 1987 and 2002.

In the Nigerian scene, Nwuba (2004) studied the differences in house rent in various locations in Kaduna between 1986 and 2004 and found the existence of statistically significant house rent inflation rates amongst the study areas. Nwuba and Adeagbo (2007) in a follow-up study also found a steady rise in house rents index in Kaduna during the same period. These results are in line with the findings of similar studies on trends in rental values conducted by Idudu (1989) and Omuojune (1994) in which urban rents in Nigeria were observed to have maintained upward movements in the previous two decades.

Nwuba (2008) further evaluated office rental movements in the Central Area of Abuja, Nigeria, between year 2000 and year 2007, with a view to measuring the rental growth rates. The study specifically determined whether the rental growth rates were significant; and whether significant difference exists between the rental growth rates and CPI inflation rates. The results showed that office rents maintained upward trend during the study period but the growth rates were lower than general inflation rates. Rental growth rates were statistically significant, but no significant difference existed between the growth rates and inflation rates. There was a strong positive linear relationship between time and office rents movement, which could be an indication that office rents grow significantly over time.

Iroham, Oluwunmi, Simon and Akerele (2014) assessed the trend in rental values of commercial properties along Onyemekun road, Akure Nigeria. The study compared trend in rental values of purpose built offices, converted offices and shopping complexes in the study area in order to discover the property with the highest trend. The use of both descriptive and inferential statistical techniques such as the frequency distribution table, simple linear regression and Analysis of Variance (ANOVA) were adopted in analyzing the data. The finding revealed that purpose built office spaces has the highest R^2 of 0.9 suggesting the highest trend in rental values which will result to the fastest recoup of investment. The ANOVA /Tukey post-hoc test reveal that the rental values of three properties at the 95% confidence level are significantly different (p=0.000).

Chukwu, Aniagolu and Obodo (2016) compared the trends in rental values of residential properties (accommodation) in New Haven and Achara Layouts in Enugu, Nigeria using their range, mean, standard deviation and ANOVA. The study found a steady increase in rental value of residential properties in Enugu in the past decade. However, the rate of increase in New-Haven was higher than that of Achara Layout between 2005 and 2009. The study also revealed that there is a significant difference in rental values of residential accommodations in New Haven and Achara Layouts.

The studies so far have established rental movement pattern in various property types and in different locations. However, apart from the fact that earlier studies were conducted outside the study area currently being investigated, there was no direction for investors in making decision amongst given alternatives particularly in the residential property submarket. This present study gives a nudge in this aspect.

3. Methodology and Data

The primary data for the study comprised annual data on rental values of five residential properties categories. The residential property categories include: tenement (single rooms with shared toilet and kitchen facilities); one room 'self-contained' (a room with toilet and kitchen facilities attached); room and parlour 'self-contained' (a bedroom and sitting room with kitchen and toilet facilities attached); two and three bedroom flats respectively. These residential property categories were considered for this study because they are predominant in the study area (Dabara, Omotehinshe, Uwaezuoke, Soladoye and Chiwuzie, 2018). The areas covered for this study includes: Agbale, Agip, Allahu Lateef, Country home, Okeresi and Oke-gada, in Ede (these areas covered both prime locations and non prime locations in Ede). The study period is from 2002 to 2017. The population for this study consisted landlords in Ede. The choice of this population was based on preliminary investigations which revealed that data on rental value of residential properties covering the study period were not readily available in estate firms in the study area; hence, the need to request for such information from landlords who rented out their residential properties within the study period. In order to obtain rent data directly from the aforementioned respondents, questionnaire survey was conducted. A comprehensive list of the respondents (landlords) is not available to the researchers; therefore, a total of three hundred and eighty five (385) questionnaires in line with sample size suggested in Cochran (1977) for infinite population (taking 95% confidence level with ±5% precision) were administered to the respondents by means of random sampling technique; however, only two hundred and eighty seven (287) questionnaires were retrieved representing 74.5% response rate. The questionnaire was structured to elicit information on the types and location of property, age of property and rental values of the property. The data collected were analyzed using descriptive and inferential statistical techniques such as tables, Charts ANOVA and simple linear regression.

This study is however limited by the choice of only five categories of residential properties as well as the absence of a well documented rental data in the study area.

4. Result and Discussion

This section presents analysis of data collected from the study area and the discussion of results. The analysis was structured to show the rental trend in five residential properties types in Ede from 2002 to 2017; and the rental growth rates of the residential properties. The rental value data obtained from the respondents covered both prime and non prime locations of Ede. These rental value data were averaged per annum to give a general picture of the residential property rental market in the Ede. The average annual rental values of the five dominant residential property categories in the study area within the study period are presented in Table 1.

4.1 Rental Values of Residential Properties in Ede

Table1: Average Annual Rental Values of Residential Properties in Ede (in Naira) from 2002 to 2017.

Year	Tenement room	A room self-contained	A room and parlor self-contained	Two bedroom flat	Three bedroom flat
2002	2400.00	3000.00	4800.00	5600.00	7000.00
2003	3600.00	4200.00	6500.00	8000.00	10000.00
2004	3800.00	4600.00	6800.00	9000.00	12000.00
2005	4800.00	5400.00	7000.00	10000.00	14000.00
2006	5000.00	5600.00	7500.00	11500.00	18000.00
2007	5400.00	6200.00	9600.00	14000.00	22000.00
2008	5500.00	6800.00	10500.00	15500.00	25000.00
2009	6000.00	7000.00	11500.00	17000.00	28000.00
2010	6600.00	7800.00	14000.00	20000.00	34000.00
2011	7200.00	8400.00	15000.00	24000.00	38000.00
2012	8000.00	10000.00	20500.00	28000.00	48000.00
2013	11000.00	15000.00	25000.00	38000.00	65000.00
2014	14500.00	18000.00	28000.00	43000.00	78000.00
2015	18000.00	23000.00	36000.00	68000.00	90000.00
2016	22000.00	27000.00	40000.00	75000.00	108000.00
2017	23000.00	28000.00	42000.00	77000.00	115000.00

Source: Field survey 2018

The rental values of all the selected residential properties were increasing over the period under study (see Figure 1). Table 1 showed that the rental value of tenement rooms in Ede increased from 2,400 per annum in year 2002 to 23,000 naira per annum in 2017. Similarly, the rental value for a room self-contained increased from 3,000 naira per annum in year 2002 to 28,000 naira per annum in 2017. Also, rental value of a room and parlour self-contained increased from 4,800 naira per annum in the year 2002 to 42,000 naira per annum 2017. The 2 bedroom flat was also observed to have increased from 5,600 naira per annum in 2002 to 77,000 naira per annum in 2017. The same applies to 3-bedroom flat as the rental value had increased from 7,000 naira per annum in 2002 to 115,000 naira per annum in 2017. This continuous general increase in the rental values of residential properties in the study area is consistent with the observations in Dabara *et al.,* (2018). From the average annual rental values of the different residential properties within the area obtained, the trends in the rental values of the residential properties were obtained are shown in figure 1 below. Furthermore, the future trends of the residential properties were considered using linear regression analysis for each of the property categories in the study area using time as the independent variable. This was done to explain how the rental values of these properties vary with time. The result is depicted in Figure 2 below. From figure 2, the linear equation seen on each of the trend-line can be used in projecting future rental value of the property category. The R^2 in regression analysis represents the level of relationship by which the variation in outcome of the dependent variable (rent) can be accounted for by the independent variable (time). The R^2 of the five residential property categories as shown in the graph were 0.81, 0.82, 0.88, 0.83 and 0.89 for tenement, a room self-contained, a room and parlour self-contained, two bedroom flat and three bedroom flat respectively. Although the R^2 values of the entire residential property categories were high, indicating a very strong

positive relationship between time and rents, it can be seen that the R^2 of three bedroom flat is the highest among the five categories of residential properties. Therefore, it is the property whose rental values can be most ascertained with each successive year under study. Hence, it implies that about 89% of the variation in rent of three bedroom flat is explained by variation in time in the model, making it the property with the highest trend over the years.
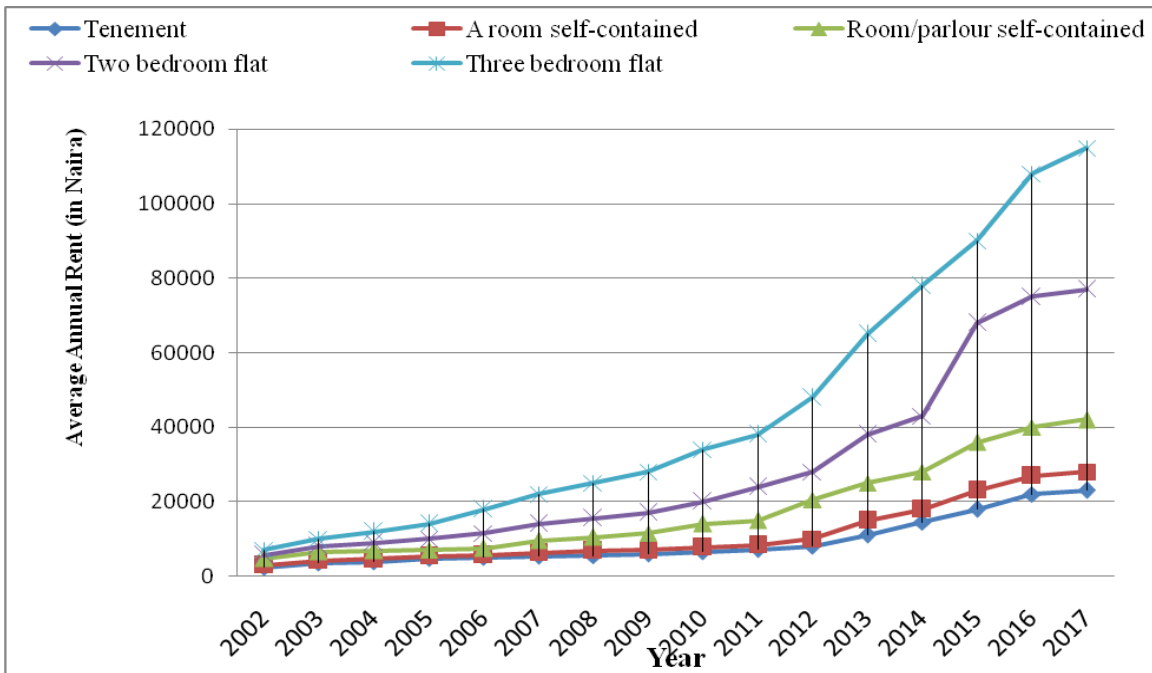

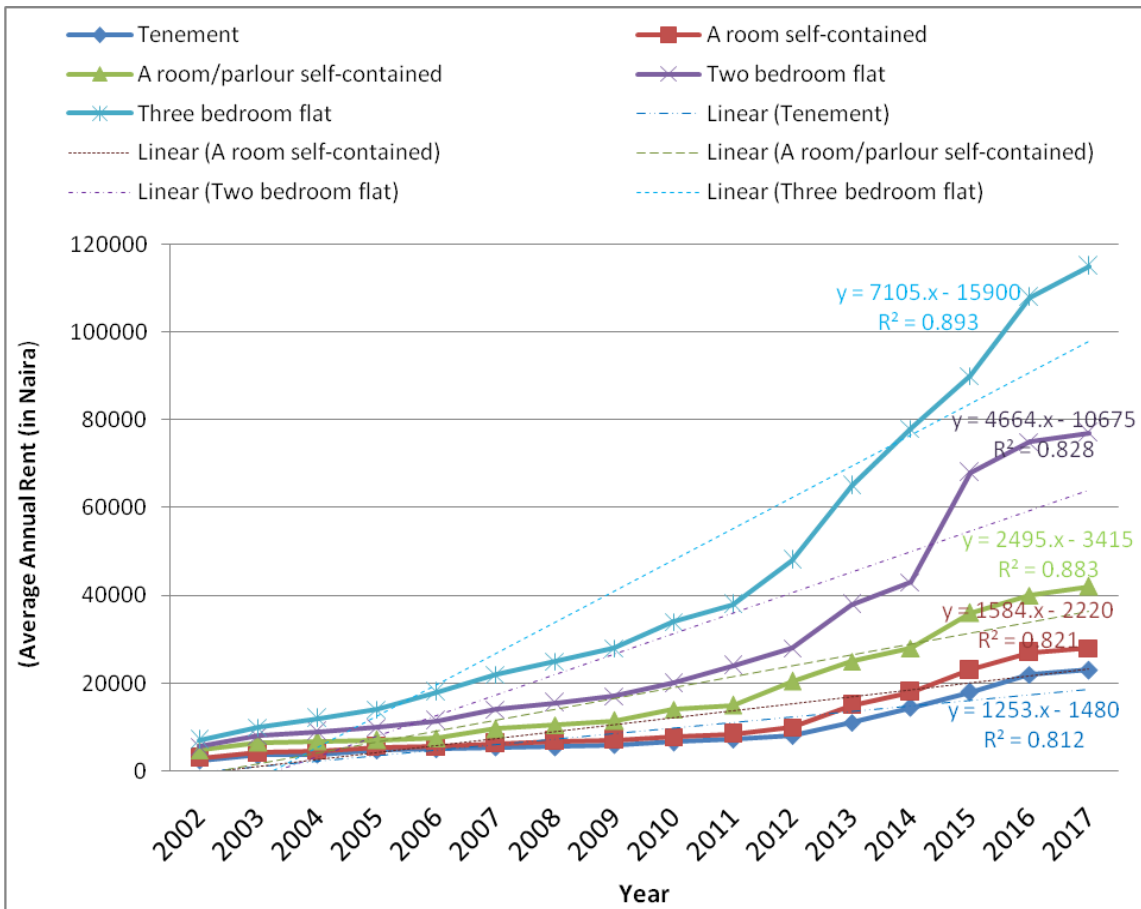**Figure 1: Trend in Average Annual Rents of Residential Properties categories in Ede**

Figure 2: Projections of Average Annual Rents of Residential Properties categories in Ede

4.2 Growth Rates of the Residential Properties' Rents in Ede

Table 2: Yearly Growth Rates of Residential Properties' Rents in Ede between 2002 and 2017.

Year	Tenement	A room self-contained	A room and parlor self-contained	Two bedroom flat	Three bedroom flat
2002	-	-	-	-	-
2003	50.00	40.00	35.42	42.85	42.85
2004	5.56	9.50	4.62	12.50	20.00
2005	26.31	17.39	10.29	11.11	16.67
2006	4.17	3.70	7.14	15.00	28.57
2007	8.00	10.71	28.00	21.74	22.22
2008	1.85	9.68	9.38	10.71	13.36
2009	9.09	2.94	9.52	9.68	12.00
2010	10.00	11.43	21.74	17.64	21.43
2011	9.09	7.69	7.14	20.00	11.76
2012	11.11	19.05	36.67	16.67	26.32
2013	37.50	50.00	21.95	35.71	35.42
2014	31.82	20.00	12.00	13.16	20.00
2015	24.14	27.78	28.57	58.14	15.38
2016	22.22	21.74	11.11	10.29	20.00
2017	4.55	3.57	5.00	2.67	6.48

Source: Analysis of survey data 2018

Table 2 revealed that the growth rates vary from year to year and from one property category to the other ranging from 1.58% to 58.14% during the period under study. Tenement recorded its lowest growth rate of 1.58% in 2008 and the highest growth rate of 50% in 2003. Likewise, a room self contained had its lowest growth rate 3.57% in 2007 while its highest growth rate was 50% in 2013. A room and parlour self contained on the other hand, recorded 4.62% in 2004 as its lowest growth rate and had 36.67% in 2012 as its highest growth rate. Similarly, two bedroom flat had its lowest growth rate of 2.67% in 2017 and the highest growth rate of 58.14% in 2015. Finally, the three bedroom recorded 6.48% in 2017 and 42.85% in 2003 as its lowest and highest growth rates respectively. This finding is represented in figure 3 below.
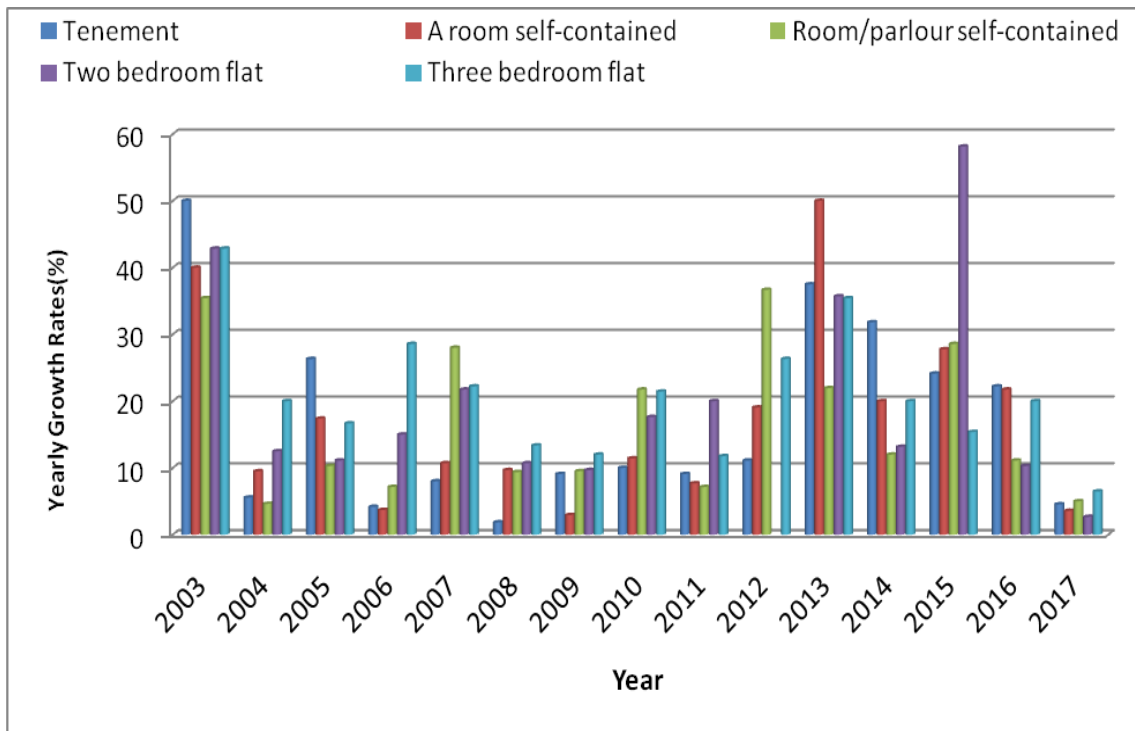
Figure 3: Yearly Growth Rates of Residential Properties' Rents in Ede from 2003 to 2017.

Table 3: Descriptive Statistics for Yearly Growth Rates of Residential Properties' Rent

	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Tenement room	15	17.0273	3.69273	3.69273	1.85	50.00
A room self-contained	15	17.0120	3.51328	3.51328	2.94	50.00
A room/parlour self-contained	15	16.5700	2.87493	2.87493	4.62	36.67
Two bedroom flat	15	19.8580	14.72960	3.80317	2.67	58.14
Three bedroom flat	15	20.8307	9.49105	2.45058	6.48	42.85
Total	**75**	**18.2596**	**12.58290**	**1.45295**	**1.85**	**58.14**

Source: Analysis of survey data 2018

Table 3 presents mean, maximum and minimum of yearly rental growth rates of all the selected residential property types. The table revealed a mean of yearly growth rate of 17.03%, 17.01%, 16.57%. 19.86% and 20.83% for tenement, a room self contained, a room and parlour self contained, two bedroom flat and three bedroom respectively during the period under study. This implies that the mean of yearly growth rates differ across the five residential property categories in the study area within the study period.

Table 4: Result of ANOVA for Yearly Rental Growth Rates of Residential Properties

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	226.425	4	56.606	.345	.847
Within Groups	11489.954	70	164.142		
Total	**11716.379**	**74**			

Source: Analysis of survey data 2018

Analysis of variance (ANOVA) test was employed to determine whether the difference that exist in the mean yearly rental growth rates across the property categories were statistically significant. The results in Table 4 showed that the mean of yearly rental growth rate across the five selected residential property categories at 95% confidence level are not significantly different $F_{(4, 70)} = 0.345$ $p = .847 > .05$.

5. Conclusion

This study analyzed rental values of five categories of residential property in Ede, Nigeria with the aim of determining the property with the highest trend and growth rates across the selected residential property categories. The study found that although all the selected properties maintained upward trend in rent and had quite high R^2 values over the study period, the three bedroom flat had the highest trend with R^2 value (0.89) implying that it is the property whose rental values can be most ascertained with each successive year under study. The findings furthermore revealed that the average yearly growth rates of the selected residential property categories ranged from 17.01% to 20.83% during the study period. The ANOVA result however suggested that the mean rental growth rates across the selected residential property categories at 95% confidence level were not significantly different $F_{(4, 70)} = 0.345$ $P = .847 > .05$. This study brings to fore the localized rental income levels and the impacts they have on rental growth rates, which is necessary in the process of understanding investment returns in the residential property submarket.

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