

A Study of the Determinants of Rental Values of Students Accommodation around the Federal Polytechnic Bida

Daniya Yahaya Nma

Department of Estate Management and Valuation, Federal University of Technology, Minna, Niger State.

Keyword:

*Determinants,
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Quality,*

Abstract

This paper is titled “Indigenous Knowledge of Integrated Soil Fertility Management (ISFM) in Kafanchan and its environs” it is aimed at investigating the demographic and socioeconomic characteristics of the respondents, indigenous ways of determining soil fertility and land suitability and soil fertility management. The Stratified and Random Sampling techniques were adopted in selecting the sampled respondents. A sample size of 313 was determined by applying the Krejcie & Morgan, (1970) formula for determination of sample size of a given population. Questionnaire and few oral interview were used in sourcing for the information. The collected data was analysed using the Statistical Package of Social Science. The Results show that 28.8% of the respondents are mainly farmers and the remaining 71.2% have one form of occupation or the other including farming. Virtually every body farms, hence the need for ISFM in the area. Results also show that

Introduction

The significance of real estate properties to the economy of a nation and the various stakeholders cannot be over emphasised. This class of asset contributes to the gross domestic product of a nation, whereas 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 sets of characteristics that influence 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 impact of these attributes on property values is perceived differently by the different stakeholders because of 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 analyses during this exercise are the many characteristics of the subject property (Appraisal Institute, 1994).

In appraising an interest in a real estate property, valuers usually use 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; Azmiet *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.

Housing is a multidimensional good differentiated into a package of attributes that differ in both quantity and quality (Wickramaarachchi, 2016). Adequate housing provides the foundation for stable communities and social inclusion (Azeez *et al.*, 2016). An excellent housing and decent accommodation play an important role in healthy living and guide to improved productivity especially those in higher level of educational institutions, who require sound accommodation in a tranquil environment for proper assimilation of what they have been taught and when students are content with the facilities provided in

their residence halls, it will lead to improvement in the academic excellence of the students(Razak, *et al.*, 2017).

Students' housing (student hostels) has been recognized as one of the indispensable components of tertiary institutions as well as a unique residential property. The accessibility of accommodation for students enables tertiary institutions to draw massive number of students of diverse nationalities and backgrounds to pursue higher education (Zotorvie, 2017).

Statement of the Research Problem

The population of students admitted into Nigerian tertiary institution is more than the population of students accommodated in recent time from 55 in 1948 to 8,000 in 2010. The increase is consequent upon the increase in real term which had lead to overcrowding, poor health, poor academic performance, squatting in the halls of residence, therefore has required some students to stay off-campus housing in most various institution across the country (Oluwaseyi, 2015).

The deficit in student accommodation on campus coupled with the poor sanitary condition of the existing ones have forced students to scramble for off-campus accommodation where the housing situation is not any different or better(Daniel et al., 2017)

There is no doubt, that student's housing is a common feature in areas with tertiary educational institutions like Bida, polytechnic. This immediate environment of the institutions always experience rapid proliferation of student's accommodation in other to meet the demand of housing for both the new and old students. However, little is known about the dynamic of investment in student accommodation which is a sub-market of residential property. Although, studies abound on the determinant of rental values of residential properties both within and outside the country; the same cannot be said for students' accommodation. Therefore, it is important to understand the dynamics of investment in student's accommodation; particularly, the determinant of rental values of students off-campus accommodation.

Aim and Objectives

The aim of this study is to determine the factors influencing residential property value of students housing around the immediate environment of Bida, Polytechnic with a view to enhancing investment decision in students housing.

To achieve this aim, the following objectives were evolved:

1. Assess the characteristic of students housing in the study area
2. Examine the quality of students housing in the study area
3. To examine the rental value of student housing over a period of 10 years
4. Identify the factors that influence the rental value of student housing in the study area.

METHODOLOGY

The study adopts the descriptive cross sectional research design approach. Although, the descriptive research approach support the collection of both qualitative and quantitative data type; the study was be restricted to the collection of quantitative data to provide answers to the research questions.

The unit of measurement for this study is the number of student off-campus hostel within the immediate environment Bida polytechnic. Therefore, the study population for this study is the total population of all houses used as off campus student hostels in Bida. However, the population of the buildings is not readily available. Therefore, a preliminary enumeration of the building was carried out to estimate the number of student off-campus hostel within 2.5kilometre radius of the polytechnic. The preliminary survey shows that at least there are 350 houses dedicated as student off-campus hostel around Bida polytechnic. Therefore, the 350 houses was adopted as the study population for the study.

Sampling size

Having estimated the study population to be 350 off campus hostels. The sample size of the study was estimated. To arrive at a sample size that will be a representative for the entire population in the study area, Taro Yammane (1967) sample size formular was adopted and the formular is expressed mathematically in equation 3.1.

$$n = \frac{N}{1 + Ne^2} \quad (3.1)$$

Where

n = sample size sought

N = The finite population (1000)

1 = Unit (a constant)

e = level of significance (unit of tolerable error 5% (0.05))

$$n = \frac{N}{1 + Ne^2}$$

Thereby, substituting in the variables into the equation gives a sample size of 200. Therefore, the sample size was for the study is 200 houses. However, only 192 questionnaires were returned, while after cleaning a total number of 9 questionnaires were invalidated due to wrong filling or incomplete information. Therefore, the total valid questionnaire analysed for this study is 183.

$$\frac{350}{1 + 350(0.05)^2}$$

$$\frac{350}{1 + 350 * (0.0025)}$$

$$\frac{350}{1 + 0.875}$$

$$n = 200$$

Sampling Technique

The study employed simple random sampling technique for the study. Simple random sampling is considered appropriate for the study firstly in such a way that each unit in the population has equal chance of being selected. The distance areas to be cover for the study were within 1-2 kilometers distance around federal polytechnic Bida Therefore the researcher considered the entire off-campus student hostels within this environment.

Data Analysis Techniques Required for the Study

The data collected for this study was subjected to both the descriptive and inferential analytical tool. The descriptive analytical tool employed in this study include frequency, percentage, minimum value, maximum value and mean. The result were presented in Tables and charts. The inferential tool adopted is the multiple regression analysis. This was used to identify and model the determinant of rental value of student off-campus accommodation in the study area. The regression analysis is expressed mathematically in equation

$$Y = C + B_iX_i + B_{ii}X_{ii} + B_{iii}X_{iii} + B_{iv}X_{iv} + B_vX_v.....B_nX_n$$

Objective One: Attribute of Off-campus Student Hostel

The data was subjected to simple descriptive analysis. The descriptive tools employed include, minimum, maximum, mean, frequency and percentage.

Housing Quality:

The quality of the student off-campus housing was determined using descriptive statistics such as frequency and percentage. The housing quality index was also evolved by weighting the materials and condition of the houses.

Rental Value of Off-campus student hostels

The rental value of the properties was analysed descriptively. The minimum, maximum and mean rent for the various types of student off-campus housing was computed using descriptive analytical tool.

Regression Analysis

The multiple regression analysis was carried out to identify the effect of the housing attribute on the rental value of off-campus student housing in Bida. The rental value was loaded as the dependent variable, while the housing attributes were loaded as the independent variable. The independent variable is as follows: Accessibility, housing quality, age of building, availability of fence, availability of gate, number of rooms in a building, availability of dedicated transformer, and availability of water source

Rental Value of Student Hostels in the Study Area

The rental value of student hostel in the study area ranges from less than thirty-thousand naira to above a hundred-thousand naira. Table 4.16 shows the distribution of rental of value of the student hostels in Bida. The result revealed that 41% of the student hostel has a rental value of about 50,000 –79,000 naira. Student hostels with a rental value of between 30,000 – 49, 0000 naira accounted for 32%, while those with rental value of between 80,000 – 89, 000 naira accounted for 24%. The Table also shows that houses that attract a rental value of less than 30,000 naira and those that attract 100,000 and above accounted for 1.5% of the houses respectively.

Table 1.1: Rental Value of Students Hostels in Bida

<i>Rental Value</i>	<i>Frequency</i>	<i>Percentage</i>
<i>Less than 30, 000</i>	3	1.5
<i>30, 000 – 49, 000</i>	58	32
<i>50, 000 – 79, 000</i>	75	41

<i>80, 000 - 99, 000</i>	44	24
<i>100, 000 and Above</i>	3	1.5
Total	183	100

Rental Value of Single Room Apartments

However, there is variation in the rental value of properties based on types. The rental value of single room apartment is presented in Table 1.2. The result shows that the minimum rent paid for single room apartment is 21,000 naira and a maximum of 65,000, while the average rental value of single rooms is 41,984 naira. The Table also shows that 83% of the single rooms attract a rental value of between 30,000 – 49, 000 naira, 14% attract 50, 000 – 79, 000 naira rent, while only 3% of the single rooms attract less than 30,000 naira rent.

Table 1.2: Rental Value of Single Rooms in the Study Area

<i>Rental Value</i>	<i>Frequency</i>	<i>Percentage</i>	<i>Statistics</i>	<i>Value</i>
<i>Less than 30K</i>	2	3	Minimum	21000
<i>30 - 49k</i>	53	83	Maximum	65000
<i>50 - 79k</i>	9	14	Mean	41984
Total	64	100		

Rental Value of Single Room Self-Contain Apartments

The rental value of single room self-contain apartment in the study area is presented in Table 1.3. The Table shows that majority of the single room self-contain apartments attract a rent of 50,000 – 79, 000 naira, and they accounted for 57% of the apartments. Single room self-contain apartments that attract a rent of 80, 000 – 99, 000 naira accounted for 36%, while those with rent value of between 30, 000 – 49, 000 and those that attract a rent of 100, 000 naira and above accounted for 5% and 2% respectively. Table 4.18 also shows that the minimum rent for a single room self-contain apartment in the area is 40, 000 naira, maximum of 110, 000 naira, while the average rental value is 71,252 naira.

Table 1.3: Rental value of Single Room Self-Contain Apartment

<i>Rental Value</i>	<i>Frequency</i>	<i>Percentage</i>	<i>Statistics</i>	<i>Value</i>
<i>Less than 30K</i>	0	0	Minimum	40,000
<i>30 - 49k</i>	6	5	Maximum	110,000
<i>50 - 79k</i>	63	57	Mean	71252

<i>80 - 99k</i>	40	36
<i>100k and Above</i>	2	2
Total	111	100

Rental Value of Two Rooms' Self-Contain Apartments

The rental value of two rooms' self-contain apartment is presented in Table 1.4. The minimum rental value of two rooms' self-contain apartments is 65, 000 naira, maximum of 120, 000 naira, with an average rental value of 85, 000 naira. Table 1.4 shows that 88% of the houses attracts rent of 80, 000 – 99, 000 naira, while only one (12%) apartment attracted a rental value of 120, 000 naira.

Table 1.4: Rental Value of two Rooms' Self-Contain Apartment

<i>Rental Value</i>	<i>Frequency</i>	<i>Percentage</i>	<i>Statistics</i>	<i>Value</i>
<i>Less than 30K</i>	0	0	Minimum	65,000
<i>30 - 49k</i>	0	0	Maximum	120,000
<i>50 - 79k</i>	0	0	Mean	85,000
<i>80 - 99k</i>	7	88		
<i>100k and Above</i>	1	12		
Total	8	100		

Determinant of Rental Values of Students Hostels in the Study Area

In other to identify the factors/determinant of student hostels in the study area, multiple regression analysis was carried out. Where rental value was loaded as dependent variable and building characteristics including distance away from Bida polytechnic was loaded as independent variable. The regression analysis was carried out for each of the sub-market (single room, single room self-contain, and two-rooms self-contain) before that of the student hostel as a market.

Determinant of rental value for single room apartments

The model summary of the regression analysis is presented in Table 1.5. A total of 64 observed cases were loaded. The Summary Table shows that the analysis recorded a R2 value of 0.5287 and adjusted R2 value of 0.4451. This shows that the 52.87% of the rental value is accounted by the independents variables; however, the adjusted R2 value suggested that 44.51% of the rental value can

be predicted by the independents variables. Table 1.6 (ANOVA Table) shows the significance of the regression analysis.

Table 1.5: Regression summary table for Single Rooms

<i>Observations</i>	64.0
<i>Sum of weights</i>	64.0
<i>DF</i>	53.0
<i>R²</i>	0.5287
<i>Adjusted R²</i>	0.4451
<i>MSE</i>	52069883.9
<i>RMSE</i>	7215.9
<i>DW</i>	2.17

The regression analysis recorded F-statistic value of 4.7928 and a p-value of 0.0001. This shows that the regression analysis is statistically significant. Therefore, the model parameter for the regression analysis is presented in Appendix II. The model parameter shows that only accessibility (<0.0001) and distance (<0.0001) of the single rooms away from Bida polytechnic are significant contributors to the rental values, while the contribution of other variables to rental value of single room is not statistically significant. The model equation for the regression analysis is presented in equation 1.5.

Table 1.6: ANOVA Table for Single Rooms

<i>Source</i>	<i>DF</i>	<i>Sum of squares</i>	<i>Mean squares</i>	<i>F</i>	<i>Pr > F</i>
<i>Model</i>	9	2246042183.0563	249560242.5618	4.7928	0.0001
<i>Error</i>	53	2759703848.6897	52069883.9375		
<i>Corrected Total</i>	62	5005746031.7460			

Model Equation

Rental value = 21715-0.45173*Dist-1.59308*Age of building+1646*Housing Quality-22.96438*No of Rooms+7340*Accessibility-5869*Gated-No+1285*Fenced-No-4724*Transformer-No-1780*Water-No (4.1)

Determinant of rental value for single room self-contain apartments

The regression summary table for single room self-contain apartments is presented in Table 4.22. The Regression summary Table shows that a total of

111 observations was loaded for both dependent and independent variables. The degree of freedom (DF) is 101 was recorded, R^2 of 0.3784 and adjusted R^2 value of 0.3283. Going, by this result, it therefore implies that about 32.83% and 37.8% of the rental value of single room self-contain apartment can be explained by the independents variables.

Table 1.7: Regression Summary Table

<i>Observations</i>	111.0000
<i>Sum of weights</i>	111.0000
<i>DF</i>	101.0000
<i>R²</i>	0.3784
<i>Adjusted R²</i>	0.3283
<i>MSE</i>	3124126820.6
<i>RMSE</i>	55893.8889
<i>DW</i>	1.9960

Furthermore, the significance level for the regression analysis for single room self-contain apartment is presented in Table 4.23. The regression analysis recorded F-statistics value of 1.3566 and a p-value of 0.0001. Since the p-value is less than 0.05, it therefore implies that the regression is statistically significant at 95% confidence level. Although the regression analysis is statistically significant, the model parameter Table shows that only four variables had statistically significant contribution to the rental value of single room self-contain apartments, and they are: housing quality (0.042), accessibility (0.013), number of rooms in the building (0.022), and availability of water (0.049) (Appendix II). While all other variables do not have statistically significant contribution to the rental value of single room self-contain apartments in Bida. The model equation is expressed mathematically in equation 1.7.

$$\text{Rental} = 38507 - 2.42092 * \text{Distance} - 1942 * \text{Age of building} - 7015 * \text{Accessibility} + 18243 * \text{Housing Auality} + 430.92146 * \text{No of Rooms} - 13546 * \text{Gated-No} - 992.55403 * \text{Fenced-No} + 14168 * \text{Transformer-No} - 16710 * \text{Water-No} \quad (1.7)$$

Table 1.8: ANOVA Table for Single Room Self-Contain

<i>Source</i>	<i>DF</i>	<i>Sum of squares</i>	<i>Mean squares</i>	<i>F</i>	<i>Pr > F</i>
<i>Model</i>	9	38142380307.8	4238042256.4	1.3566	0.0001
<i>Error</i>	101	315536808881.2	3124126820.6		
<i>Corrected Total</i>	110	353679189189.1			

Determinant of rental value for two rooms' self-contain apartments

The summary Table for regression analysis for two rooms' self-contain is presented in Table 1.8. The result as depicted in Table 1.9 shows that eight observations was loaded for all the nine independent variables in the study. The study record a very low R^2 value of 0.058 and adjusted R^2 value of 0.052. This shows that only 5% of the rental value of the two rooms' self-contain apartment can be explained by the independents variable. This shows that a larger proportion of the rental value can be explained by other variables not considered in this study.

Table 1.9: Summary Table for Regression Analysis for Two-rooms self-contain

<i>Observations</i>	8.0
<i>Sum of weights</i>	8.0
<i>DF</i>	1.0
<i>R²</i>	0.058
<i>Adjusted R²</i>	0.052
<i>MSE</i>	94391685.0
<i>RMSE</i>	9715.5
<i>DW</i>	2.0089

Similarly, the ANOVA Table for the regression analysis as depicted in Table 4.25 shows that the regression analysis is not statistically significant having recorded a p-value of 0.4043 which is greater than 0.05. This implies that the contribution of the independents variables was not statistically significant and hence do not contribute meaningfully to the rental value of two-room self-contain apartments in the study area. Appendix III shows the model parameter for the regression analysis. Appendix III shows that none of the independent variables are statistically significant, while availability of gate, fence, and water source within the building was removed from the regression due to the constant nature of the variable.

<i>Source</i>	<i>DF</i>	<i>Sum of squares</i>	<i>Mean squares</i>	<i>F</i>	<i>Pr > F</i>
<i>Model</i>	6	1805608314.9	300934719.1603	3.1881	0.4043
<i>Error</i>	1	94391685.0	94391685.0384		
<i>Corrected Total</i>	7	1900000000.0			

Summary of Findings

This study examined the determinant of rental value for student hostels around Bida polytechnic in Bida, Nigeria. The study was conducted using a descriptive cross sectional design approach, while questionnaire, GPS, and direct observation were the primary instrument of data collection. The data required for this study was gathered from students male and female occupants of the off campus student hostels. These students were within the age range of less than 18 years to above 35 years across different level of academic levels in the polytechnic.

Conclusion

This study carried out investigation on the factors influencing the rental value of off-campus student accommodation in Bida. The aim of the study was achieved through the following objectives, which include; characterizing student off-campus accommodation (distance, accessibility, age of building, number of rooms in a building, availability of gate, fence, water source and dedicated transformer), examine the housing and environmental quality (housing material and condition), assess the rental value of the houses and determine the factors influencing the rental value of the off-campus student hostels.

The study concluded that the rental value of student housing in Bida is influenced by the attributes of the off-campus student housing. The rental value of the different sub-market (single room, single room self-contain and two rooms' self-contain) react differently to the attributes of the houses.

Recommendation

Based on the findings of the study, the following recommendations were made.

- I. The study therefore recommends that, for investor interested in the development of single room apartment adequate attention must be paid to the location of the building within walkable distance of about 10 -1000 metres. This will go a long way in enhancing the rental value of the building. Although, some category of student does not consider the proximity of the hostel to the school, however, it plays a vital role in influencing the rental value of the property.
- II. The study also recommends that when developing single room self-contain apartment, adequate attention must be paid to the quality of the

buildings, and provision of ancillary services such as water with less number of room units. This factors plays important role in influencing the rental value of such type of housing and hence, it must be adequately accounted for.

- III. Investors should also pay attention to the economic background and dynamic s of the student. Therefore, houses of different range and types should be developed to cater for the housing needs of the students.
- IV. Attention should also be paid to the types of materials used in the construction of different components of the building as well as the condition of the building. Because the general housing quality is a function of the materials used for construction and the condition of the building, which is a vital factor that influence the rental value of the buildings.

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