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## The Influence of Commercial Activities on Residential Rental Value Dynamics in Rumuokoro, Nigeria: An Empirical Study.

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### ABSTRACT:

Commercial activities are basic, essential activities in people's daily lives and the impact of commercial activities on neighboring residential properties have recently witnessed new stage of progression. The study aims at identifying the effects of commercial activities on residential rental values in Rumuokoro. The study sampled 90 residential properties in the neighbourhood of Rumuokoro /slaughter market axis. The residents of these properties comprising of both landlords and tenants were used as respondents. The survey research method was employed to gather data from respondents on the rental value trends for one and two bedroom flats from the year 2018 to 2023 in the study area. Data was analysed using descriptive statistics, ANOVA, and regression analysis. The findings revealed that the rental values of one and two bedroom flats increased as it gets farther away from commercial activities. This indicates that commercial activities impacts on one and two bedroom flats negatively as the closer the properties are situated to commercial activities the lower the rental values. Recommendations are made to encourage real estate investors to diversify their investment portfolio in residential or commercial properties in Rumuokoro.

**Key Words:** *Commercial activities, Rental Dynamics, Residential Rental Values, Rumuokoro,*

## 1. INTRODUCTION

Commercial activities are basic, essential activities in people's daily lives. Depending on the type of commercial facility, however, the style of activities can be very different. Various types and characteristics of commercial facilities are identified based on their location, usage, and surroundings, but commercial facilities can be compared in two basic forms: street shops, which are located along the streets of residential neighborhood, and mall-type shops, describing a configuration in which shops are concentrated in specific buildings (in contrast to street shops) (Rarasvitania Dinda and Ragil, 2018). Commercial areas in a city structure can take up to about 5% of the city's land and it is used mainly for commercial activities such as food items, boutique, electronics and computer accessories, kitchen utensils, banks, bookshops, filling stations, financial establishments, and wide variety of services that are broadly classified as "business" (United Nation, 2016). These activities ensure the functionality of the city and most often determine the growth of the city in addition, provide jobs and money to the people in the community. Thus, Le-ol Anthony, Kposi and Kika (2019) stressed that a significant proportion of those who find employment in the urban informal sector in the developing countries engage in the buying and selling of goods as the population of cities in those areas continues to grow. It therefore becomes imperative to this continuous proliferation without corresponding increase in provision of urban amenities which has indisputably led to gradual deterioration as commercial activities are found in most public open space and set back.

## 2. LITERATURE REVIEW

### 2.1 Definition of concepts:

**Commercial Activities:** These are business-related activities that take place in buildings, such as commercial offices, or retail outlets aimed at producing income or carrying out trade. Muhammad, et al. (2019) defines commercial activities as activities carried out in the marketplace for the exchange of goods and services while Rarasvitania Dinda and Ragil, (2018) defines commercial activities as basic, essential activities that occur in people's everyday lives.

Various types and characteristics of commercial facilities are identified by Le-ol Anthony, Okposi and Kika (2019) based on their location, usage, and surroundings, but commercial activities can be compared in two basic forms: street shops, which are located along the streets of residential neighborhood, and mall-type shops, describing a configuration in which shops are concentrated in specific buildings (in contrast to street shops).

Property utilized for business-related activities or as workspace as opposed to residential use is known as commercial real estate, or CRE. Tenants typically lease commercial real estate to carry out revenue-generating operations. Anything from a tiny storefront to a huge factory or warehouse can fall

under this broad category of real estate. Commercial real estate comes in a variety of forms, including strip malls, restaurants, healthcare facilities, hotels and resorts, and retail and office space.

Residential property is a basic necessity for urban dwellers with socio-economic characteristics (Almaden and Cagayan, 2014). Residential property is a multidimensional good differentiated into a bundle of attributes that vary in both quantity and quality (Ajilowo and Olujimi, 2010).

Rental value: It is the market rate value of the asset being leased out. In addition, it is the sum paid in accordance with the lease contract in exchange for the right to use the property (Appraisal Institute, 2010)

### **2.1 Theoretical framework:**

Urban Land Rent Theory: Heinrich von Thünen developed the Land rent theory and later it was expanded by Williams Alonso, who explained how commercial activity influences residential property values as different land users are willing to pay different amounts for land depending on their location. In the urban and regional context, land rent as a theoretical concept was initially primarily used to explain agricultural rent, but it was later expanded to analyze various spatial phenomena and urban structures and developments, such as the location decisions of individuals and enterprises, suburbanization, gentrification, etc. Heinrich von Thünen took land rent in the form of differential rent as a key concept for explanation. This means that better land (in this case due to a more favorable location) allows the appropriation of higher rents because the conditions of production are relatively better.

This theory tries to establish that the most profitable land use determines land values.

### **2.2 Empirical Review**

Determining the rental values of residential properties is a complicated and very challenging task that two professionals and educated people in the Nigerian real estate sector must finish, claim Ankeli, Dabara, Oyeleke, Guyimu, and Oladimeji (2015). The activity entails gathering and analyzing detailed and precise information on the characteristics of the property, the area, the landlord and tenant, and the market conditions that are not easily accessible (Bello, Adeniji, and Arowosegbe, 2013; Gavu, E. K. (2020)). According to Chris and Somefun (2007), factors that affect rental values include things like sleeping quarters, a toilet, a restroom, drainage, water supply, trash disposal, a reasonable income, the number of children, and the size of the home.

Some studies have been carried out to determine the effect of commercial activities on residential property rental values. Sa'ad, et al. (2024) in their study on Effects of Commercial Development Closeness and Property Characteristics on Residential Property Rental Value in Bauchi Metropolis used 260 respondents who were randomly selected from the target population. The study revealed that shopping centers and retail stores were found close to residential property. It also discovered that commercial development closeness and residential property characteristics significantly influenced rental value. The proximity to commercial facilities has a positive effect on housing property values by enhancing convenience and reducing transportation expenses. These cumulative helpful effects are denoted to as closeness effects.

Commercial activity has a potential to generate both positive and negative reactions but, at the same time, may have a positive effect on residential property values (Brown, Brown and Perkins, 2004). Other forms of commercial activities that may also yield negative impacts on residential property values can be the presence of abattoirs close to residential properties as noted by the study of (Akpanama and Ekenta, 2022). The study revealed an average of 26.7% and 39.8% decline in demand in the study areas. According to Rosenberg, Ding, Sallis, Kerr, Norman, Durant, Harris and Saelens (2009), on the negative side, owning property near a commercial activity can result in having to deal with noise pollution, increased traffic congestion, increased localized pollution, light intrusion and the potential for increased crime.

Ooi and Sim (2006), analyzed the effect of the Southgate Shopping Centre, Illinois, USA, on adjacent residential property prices and investigated whether "neighborhood shopping centres increase, decrease or both increase and decrease the value of proximate residential property". The study found that houses situated within 500 metres were more negatively affected than houses further away, which suggested that there is an "optimal spatial frequency of these small shopping centres".

Furthermore, Sirmans et al. (2005) conducted a study in the suburb of Walmer focused on the effect of shopping center that is considered to be one of the most popular retail outlets, on the surrounding residential area. The distances from the subject residential properties to Walmer Park were measured using Google Maps. The closest distance was 400m and the furthest distance was 5300m. The study found that there was a significant correlation between the proximity to Walmer Park and the adjacent residential property values in the neighborhood. In this case, the convenience of being situated close to the Walmer Park shopping center outweighed the negatives, such as increased traffic, noise and pollution. All things considered, a deeper understanding of how shopping center affect residential property prices could lead to residential property owners and developers reaping substantial benefits.

Mahan, Polasky and Adams (2000), find a negative relation between residential values and proximity to commercial uses. They used proximity to commercial uses as a control variable in a study investigating the relation of proximity to wetlands as an influence on residential prices. Their results show, all else held equal, that as distance increases between commercial and residential uses, residential price increases. They expect the opposite: based on the notion of convenience, they expect that residential value would increase with proximity to commercial uses. They reasoned that their result might reflect negative externalities such as congestion and noise overriding the positive effect of convenience. The distance measure used by Mahan, et al.(2000) is taken in feet. The mean distance between observations of home sales and the variable of interest; wetlands – is over 3,580 feet, a little over two-thirds

of a mile, with the maximum distance ranging out as far as 11, 930 feet, or 1.3 miles. This is wider ranging than neighborhood-oriented study, but offers more detailed insights than typical metropolitan or city-wide studies.

In the study of Mathew (2006) on the effect of proximity to commercial uses on residential prices observed that there was a net decrease in price at very short distance between houses and retail sites while further away from the retail sites up to a mile reveals a positive effect. He also noticed that the properties that are far from the retail sites have no negative or positive effects on property prices which could be due to greater distances.

Egbenta, et al. (2021) studied the effects of noise pollution on residential property value in Enugu and it was discovered that noise pollution affected the residential properties rental values by 3.1 % compared to those residential properties not affected by it. This invariably suggests that properties situated near commercial outlets like markets and abattoirs where there is persistent noise will have lower rental values.

The study of Eboime et al. (2024) on the assessment of the impact of commercial land use on residential housing in Auchi, Edo State observed that though commercial activities have created jobs in the area and improved the economy of the area, it has also caused the conversion of residential accommodation to commercial due to demand. This invariably causes increase in the rental values and house prices.

### 3.0 METHODOLOGY

The study used the simple purposive and stratified random sampling techniques in the selection of the sample size from the population of the study. The population of the study was achieved by counting the number of residential properties nearest to the market. The population revealed a total of 90 properties and landlords and 234 tenants.

The study sampled the 90 residential properties, 167 tenants and 20 Estate Surveyors and Valuers who manage properties in the area under study. The residential properties were stratified based on their proximity to commercial centers (e.g., properties within 100 metres, and beyond 600 metres from the market). Within each stratum, properties were randomly selected to ensure that the sample is representative of different distance categories. This approach allows for a more precise understanding of how proximity to commercial activities influences property values.

In addition, a purposive sampling method was used to select key informants such as real estate surveyors who can provide expert insights into property values. Data were collected using two sets of questionnaires. These include a set for tenants and landlords and another set for Estate Surveyors and Valuers of real properties. Importantly the questions in the questionnaires were designed with the objective of the study in mind. The trends in rental values of residential real properties near the Slaughter market in Rumuokoro Obio/Akpor Local Government Area, Rivers State from 2018 to 2023 were retrieved. The study used Google map to identify the distances of the type of residential properties under study from the Rumuokoro Slaughter market. Data was analysed using percentages, analysis of variance (ANOVA) and Regression analysis. The analysed data is presented in tables for easy understanding.

#### 3.1 Study Area

The study area is Rumuokoro which is a town in Obio –Akpor, Rivers State, Nigeria and the gateway to and from the city of Port Harcourt. It is a business hub in the city of Port Harcourt. It is characterized by shops, markets, banks, motor parks and abattoirs. It is an adjoining point to several routes like Rumuosi/ Rumuekini, Choba, Rukpokwu, Eliozi, Rumudara and Rumuigbo.

Rumuokoro is one of the most popular towns in Rivers State as it is strategically located and it is also host to the Federal Government College Rumuokoro Port Harcourt, Nigerian Army 2 Amphibious Brigade (Bori Camp).

The study concentrated more on the Rumuokoro Slaughter market axis as that was the area with huge commercial activities to enable the study achieve its set objective. One and two bedroom flats were used for the study as the area appears to be for low and middle income earners and is dominated by one and two bedroom flats.

### 4. Data Analysis

#### 4.1 Impact of Commercial Activities on Rental Value of Residential Property

This section deals with the rental values of residential properties located both near to and far from commercial activities, and how these proximities impact rental values of residential property in Rumuokoro.

##### 4.1.1 Annual Rental Value of Residential Properties Close to Commercial Activities

Table 1 indicates the annual rental values of properties close to commercial activities for the period under review in the study area. In 2018, the annual rental value for a one bedroom flat located close to commercial activities was N180, 000.00, while that of a two bedroom flat was N300, 000.00. By 2019, the annual rental value for a one bedroom flat in same locations increased to N200, 000.00, whereas the rental value of a two bedroom flat rose to N350, 000.00. In 2022, the annual rental values for a one bedroom flat in similar locations rose to N280, 000.00, while that of a two bedroom flat

increased to N650, 000.00. Furthermore, annual rental values for a one bedroom flat close to commercial activities in 2023 increased to N350, 000. 00, while that of a two bedroom flat rose to N700, 000.00.

**Table 1: Rental Value of Residential Properties close to Commercial Activities**

Residential property type	Year / Rental value Per Annum(N)					
	2018	2019	2020	2021	2022	2023
One bedroom flat	180,000	200,000	220,00	250,000	280,000	350,000
Two bedroom flat	300,000	350,000	400,000	500,000	650,000	700,000

Source: Field Survey, 2023.

#### 4.1.2 Annual Rental Value of Residential Properties Distant from Commercial Activities

From Table 2; the annual rental values for one bedroom flat distant from commercial activities in 2018 was N 220,000.00, while two bedroom flat was N 500,000.00. The annual rental value for one bedroom flat in 2019 was N 250,000.00, while that of a two bedroom flat was N 600,000.00. Annual rental value for one bedroom flat in 2022 was N350, 000.00, while that of a two bedroom flat was N 750,000.00. Furthermore, annual rental value for a one bedroom flat in 2023 was N400, 000.00, while that of a two bedroom flat was N 800,000.00.

**Table 2: Rental Value of Residential Properties Distant from Commercial Activities**

Residential property type	Year / Rental value Per Annum(N)					
	2018	2019	2020	2021	2022	2023
One bedroom flat	220,000	250,000	280,00	300,000	350,000	400,000
Two bedroom flat	500,000	600,000	650,000	700,000	750,000	800,000

Source: Field Survey, 2023.

This findings as shown on tables 1 and 2 indicates that rental values of one and two bedroom flats in the study area increases as it moves farther away from the slaughter market. This is corroborated by the study of Akpanama and Ekenta, 2022 who also revealed that there was a decline in demand of residential properties in their study area due to the nearness to abattoirs.

This finding where rental values of one and two bedroom flats near the slaughter market in Rumuokoro increased as the distance to the market is increases could be attributed to noise pollution from traffic and the market, air pollution from the burning of tyres in the abattoirs. This finding is corroborated by the study of Egbenta, et al. (2021) who studied the effects of noise pollution on residential property value in Enugu and discovered that noise pollution affected the residential properties rental values by 3.1 % compared to those residential properties not affected by it.

#### 4.2 Impact of Distance from Commercial Activity on Residential Property Values

Table 3 shows the average rental values of the two residential accommodation types under study at various distances from Rumuokoro Slaughter market. It indicates that at distance 100-200 metres from commercial activities; the average rental values of both one bedroom and two bedroom flats were N200,000 and N400,000 respectively, while at a distance of 210-300 metres for both one bedroom and two bedroom flats, residential accommodation was N225,000 and N475,000 respectively. The study further revealed that from a distance of 310-400 metres for both one bedroom and two bedroom flats rental values were N250,000 and N525,000 respectively, while from a distance of 410-500 metres for both one bedroom and two bedroom flats annual rental values were N275,000 and N600,000 respectively. The study observed that from a distance of 510-600 metres, the annual rental values for one and two bedroom flats were N315,000 and N725,000 respectively, and finally from a distance of 610 & above metres; the average rental values of both one bedroom and two bedrooms flats were N352,500 and N750,000 respectively. From this analysis, it implies that the closeness of commercial activities to both one bedroom and two bedroom residential accommodations have negative impact on rental values, and the distance of commercial activities from both one bedroom and two bedroom residential accommodation impacts rental values positively.

**Table 3: Average Residential Property Rental Value and Distance from Commercial Activity**

Distance (M)	1Bedroom(N)	2 Bedrooms(N)
100-200	200,000	400,000
210-300	225,000	475,000
310-400	250,000	525,000
410-500	275,000	600,000

510-600	315,000	725,000
610 & above	352,500	750,000

Source: Field Survey, 2023.

#### 4.3 Hypotheses of Impact of Distance on Residential Properties

From the Model Summary in Table 4 and Analysis of Variance in Table 5; the adjusted R<sup>2</sup> shows that 35.8% of the variation in rental values of one bedroom apartment is attributed to the independent variable (distance). This is evident by its level of significance which is 0.007 as detailed in Table 5; Analysis of Variance of one bedroom. This implies that the distance from the Rumuokoro Slaughter market significantly affects the rental value of one bedroom apartments.

**Table 4: Summary of Model for One Bedroom Flat**

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of the Estimate
1	0.631 <sup>a</sup>	0.398	0.358	4985.56616

Source: Author's Field Investigation, 2023.

**Table 5: Analysis of Variance for One Bedroom Flat**

Model	Sum of Squares	DF	Mean Square	F	Sig.
Regression	2.464E8	1	2.464E8	9.913	0.007 <sup>a</sup>
Residual	3.728E8	15	2.486E7		
Total	6.192E8	16			

Source: Author's Field Investigation, 2023.

In Table 6, the zero-order correlation indicates that there is a strong positive relationship between distance from the commercial activities in Rumuokoro and the rental value of one bedroom residential apartment. This is significant at 0.007 and implies that rental value for a one bedroom residential apartment increases as distance from the Rumuokoro Slaughter market increases and vice versa. Thus, the regression model can be written as:

$$RV1bedroom = 39088.379 + 6.806 \text{ DIST}$$

Where RV1bedroom = Rental value for one bedroom apartment (₦)

DIST = Distance from commercial activity in Rumuokoro (M).

**Table 6: Regression Coefficients of One Bedroom Flat**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Constant	39088.379	2288.598			
Distance	6.806	2.162	0.631	3.148	0.007

Source: Field Survey, 2023.

From the Model summary in Table 7 and Analysis of Variance in Table 8; the adjusted R<sup>2</sup> shows that 48.6% of the variation in rental values of two bedroom apartment is attributed to the independent variable.

**Table 7: Summary of Model for Two Bedroom Flats**

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of the Estimate
1	0.721 <sup>a</sup>	0.520	0.486	7276.05317

Source: Field Survey, 2023.

This is evident by its level of significance which is 0.002 as detailed in Table 8. This implies that distance from the commercial activity in Rumuokoro significantly affects the rental value of two bedroom apartments.

**Table 8: Analysis of Variance for Two Bedroom Flats**

Model	Sum of Squares	DF	Mean Square	F	Sig.
Regression	8.026E8	1	8.026E8	15.160	0.002 <sup>a</sup>
Residual	7.412E8	14	5.294E7		
Total	1.544E9	15			

Source: Author's Field Investigation, 2023.

In Table 9, the zero-order correlation indicates that there is a strong positive relationship between distance from the commercial activity in Rumuokoro and the rental value of two bedroom apartment. This is significant at 0.002 significant levels and implies that rental value of two bedroom apartment increases as distance from the slaughter market in Rumuokoro increases and vice versa. Thus, the regression model can be written as:

$$RV2brm = 82075.924 + 12.813 \text{ DIST}$$

Where RV2brm = Rental value for two bedroom apartment (₦)

DIST = Distance from commercial activity in Rumuokoro (M)

**Table 9: Regression Coefficients of Two Bedroom Flat**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Constant	82075.924	3734.923		21.975	0.000
Distance	12.813	3.291	.721	3.894	0.002

Source: Field Survey, 2023.

These results from the regression Tables 8 and 9 revealed that the distance from the commercial activities in Rumuokoro significantly impact the rental values of one bedroom and two bedroom flats and are positively correlated as they are significant at 0.007 and 0.002.

Developing residential properties near commercial facilities can have both negative and positive impacts on property values. Such negative impacts like noise and air pollution, overcrowding and presence of crime can actually affect demand of residential properties around such location this can also lead to lower rental values as corroborated by the study of Egbenta, et al. (2021) in their study in Enugu. This negative effect can be ignored if the other benefits and advantages outweigh these other negative effects. It was also observed that most persons who desire to live near the markets are not high income earners but those who desire easy access to transportation and are traders in the market.

## 5. Conclusion

The study examined the impact of slaughter market on proximate residential neighborhood in Rumuokoro, Port Harcourt metropolis. The increasing prevalence of commercial activities encroaching upon nearby residential neighborhoods has become a widespread phenomenon, particularly evident in Rumuokoro, Port Harcourt metropolis. The study observed that residential properties close to the market had lower rental values as compared to those farther away from the market.

Regression analysis revealed that the distance from commercial activities in Rumuokoro significantly impacts the rental values of residential properties, showcasing a strong positive relationship.

The study therefore recommends that real estate investors should diversify their investment portfolio in residential or commercial properties in Rumuokoro especially when investing in neighborhoods or hubs with related factors influencing commercial activities such as higher demand for marketplace, good transportation, increase in commercial actors, modern trading facilities.

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