



# Effects of Commercial Development Closeness and Property Characteristics on Residential Property Rental Value in Bauchi Metropolis, Nigeria

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**Abstract:** Real estate development or the process of land development to construct commercial and residential structures figures tomorrow's municipal scene. It is evident that neighbourhood commercial properties contain office, malls, retail stores, bakery and restaurant which exert repulsive effects of too much traffic and pollution that disturb the peace and tranquillity of nearby residents. The study also considers the influence of structural, neighbourhood and locational characteristics on the rental value of residential properties. The study adopted the use of quantitative approach. Data were collected through a questionnaire survey from 260 respondents who were randomly selected from the target population in Bauchi metropolis. The data collected were subjected to analysis using descriptive and inferential statistics with mean ranking, frequency tables and multiple regression analysis to determine the impact of commercial development closeness on residential property rental value. The study reveals that shopping centers and retail stores were found close to residential property. It also discovered that commercial development closeness and residential property characteristics significantly influence rental value. It is recommended that there is need on the part of government to improve neighbourhood characteristics through facilities upgrade in the low quality areas in order to ensure high property value in the study area.

**Keywords:** Commercial Development, Closeness, Characteristics, Residential Property, Rental Value.

## 1. Introduction

Commercial property offers regular convenience belongings and services easily reachable to the inhabitants of the immediate area. In conventional utilization of landed property, it is considered vital that residential property development ought to be shielded from commercial development (Nhiwatiwa, 2018; Behera, Bala, Tata & Rana, 2023). From this fact of view, the problems bordering commercial development to residential properties incorporates formation of disturbances, drawing crowds, delivering tumult pollution, intrusion of safety and making drive clog to the concerning inhabitants. Neighborhood commercial properties might comprise office

building, malls, retail stores, bakery, restaurant and drug store. It is obvious that when commercial development takes place in adjacent range to residential housing, the real estate value can be either positively or negatively influenced (Austin, 2017; Crompton & Nicholls, 2020). Commercial development concurrently exercises both attractive and repulsive special effects which can influence a family's closeness choice. It is attractive when it delivers convenience to the occupants (that is savings in mobile time) in the nearby vicinity to it. It becomes a negative externality when it produces too much traffic that flow, sound and effluence to interrupt the peace and serenity anticipated by occupants of adjoining households (Kwame & Yu, 2010; Muralidharan & Muralidharan, 2021). Similarly residential properties neighboring to commercial development in Bauchi have both negative and positive effects on the rental value. Residential property value first rises, and achieve a maximum 470m buffer and then fall almost afterward and the impact stretches further in the distance (Aliyu, Kasim & Martin, 2011). It is alongside this foundation that this investigation aim to assess the effect of commercial development on abutting residential real estate rental value in Bauchi metropolis. The objectives include determining the rental value and extent of adjoining residential properties to commercial development, the features of the properties and the influence of residential property characteristics and closeness to commercial development on residential property rental value in Bauchi metropolitan was also determine.

## **2. Literature review**

Ankeli, Dabara, Oyeleke, Guyimu and Oladimeji (2015) stated that the determination of residential property rental values is a multifaceted and a major challenging task facing two professionals and educated people in the real estate profession in Nigeria. The exercise involves the collection and analysis of comprehensive and accurate data on the property characteristics, neighborhood characteristics, landlord and tenant characteristics and the market conditions which are not readily available (Bello, Adeniji and Arowosegbe, 2013; Gavu, E. K. (2020)). Chris and Somefun (2007) attributed that rental value determinant comprises sleeping quarters, toilette, restroom, drainage, water supply, waste discarding, decent earnings, and quantity of offspring and extent of dwelling. According to Kim & Nelson (1996), evaluating the rent payment worth of domestic goods is a multifaceted and challenging procedure to both consultants and surveyors since it encompasses examining the rent payment, vicinity features and market situations. Also Chris and Somefun (2007) display that building features, property-owner features, renter features and area features are the main features that determine rental value of residential property. A study by Wang, Tsai and Lin (2016) revealed that these features might be inherent or extrinsic. The inherent features comprise rise in request in lieu of lettable space, locality, and state of neighboring possessions, proximity to gardens and relaxation, indigenous and nationwide fiscal state of affairs. Extrinsic features are due to the normal physical appearance of the property, which disturbs the metropolitan wherever the property is situated.

## **3. The Influence of housing characteristics on residential property value**

Olawande (2009) pronounce that property value is an essential facet of property marketplaces internationally. The diversity of features and the fortitude of those features is an important portion of property appraisal, these characteristics comprises time of life, place, dimensions, vicinity characteristics, fiscal movement, populace and transportation (Mayungbo, 2015). Ge and Du (2007) stated that housing characteristics that influence property values includes structural characteristics and vicinity characteristics. Structural characteristics comprises of quantities of

rooms, firesides, garages, four-sided footage of household, proportion magnitude, period of building, presence of swimming pool and the likes. Meanwhile, vicinity characteristic includes socio-economic features of adjoining inhabitants, the superiority of adjoining buildings and cultural arrangement. Besides that, locational features may affect the property value as well such as closeness and convenience to numerous facilities comprising discarded places, authority outlines, arteries, institute and levy areas grocery shopping centers, place of worship, colleges, traditional chances, airstrip, municipal carrying and ecological idiosyncratic such as sound levels, contamination levels and storm water (Kasioumi, 2021; Rai, Kang, Sakai, Tejada, Yuan, Conway & Dablanc, 2022).

Crompton (2005) in his study of vicinity physical characteristics on household value, recognized binary groups of locality variables which may perhaps be either positively or harmfully persuading inhabited on property value. Positive vicinity characteristics drew by Crompton (2005) is characterized vicinity features. These embrace graduate school, community playground, clinics and health centers. Others are police station, gardens and leisure services, sporting amenities, spending centers, communal service area and additional ecological considerations like decent drainages and discarded dumping management tools. The harmful vicinity characteristics known as dis-amenities comprise manufacturing sound, community criminality level, air smog, weighty traffic flow on highways and polluted environs. Franco and Macdonald (2018) focus on the Chinese city Hangzhou, their study consisted of the characteristic classes' structure, neighborhood and location which can be sub-divided into 18 housing characteristics, under which floor area, housing age, proximity to a university and distance to the central business district (CBD) and availability of public transport. The empirical analysis shows that floor area has the largest influence on the house price Good public transport in the neighborhood also has a positive effect on the transaction price. Wen, Jia and Guo (2005) enumerated traditional characteristics that remained regularly swaying property value such as ease of access features, vicinity level influences, precise harmful externalities, communal facilities, levies, and density features. Oloke, Simon and Adesulu (2013) acknowledged four classes of characteristics, that is operational, physical, vicinity and ecological, to quantify domestic property values by means of a hedonic equality in Hong Kong. The study displays that estate-type apartment components are valued by the homebuyers as characteristics reflecting the favored class of living surroundings. In accumulation, the obtainability of car parks has a robust influence, and opinion of a graveyard has a destructive effect on property value living surroundings. In accumulation, the obtainability of car parks has a robust influence, and opinion of a graveyard has a destructive effect on property value.

#### **4. Relationship between Commercial Development and Adjoining Real Estate Values**

The association among commercial events and housing property value, municipal fiscal philosophy offers binary explanations (Wang, 2011; Grady, 2023). On the other hand, the affluence of contact to commercial facilities has a progressive effect on housing property value by encouraging suitability and decreasing mobile expenses. These cumulative helpful effects are denoted to as closeness effects. In dissimilarity, exterior diseconomies, such as sound, disorder, and mobbing, have an adverse impact on inhabited environs and property value. These adverse impacts are named dis comfort sound effects. Tse and Love (2000) displays a quadratic association among household values and the quantity of commercial development in a general residential

region, in that study, minor volumes of commercial development remained truly progressive whereas, greater sums (in extra of 5% of the entire vicinity parcel) remained statistically substantial adverse on household values. Pivo and Fisher (2011) revealed an adverse comparative among residential property values and closeness to commercial usages. They use closeness to commercial practices as a regulator variable. Their outcomes display that as coldness rises among commercial and residential usages, domestic property value rises. They reasoned that their outcome might replicate adverse externalities such as overcrowding and sound overriding the optimistic impact of suitability. Short, Fleming and Witt (2021) exposed that there is a minor progressive connection among housing rate and aloofness from manufacturing action and private housing areas. The results are built on a hedonic pricing model that is used to assess the influence that closeness to manufacturing plot usages has upon household values. The aforesaid observed study displays contrary outcomes on the influence of commercial developments on property value. These show that the study has unsuccessful identify the extremely contained character of the impact. Mahan, Polasky and Adams (2000) reveal how residential property value in a community reformed from previously and afterward the introduction of the indigenous commercial developments that property values inside 1500 bases of the development reduced as distance augmented. However, after this critical distance was stretched residential property revealed an upsurge in value the nearer they were located to the commercial development amenities. In a study showed by Lieber (2022) employed hedonic pricing model (HPM), to determine the closeness effects of a planned office development on the present enclosed residential households. The study originates that the anticipated high rise workplace improvement had both constructive and adverse closeness effects. The residential households situated from 1000 and 2500 beats from the office improvement site advanced through augmented household fees. For housing properties situated further than 2500 beats, the improvement did not influence their values and hence had no advantage. Though, the general result of the study proposed that the net influence of the high rise office structure augmented collective housing property values (Colwell, Surinder & Christopher, 1985).

## **5. Methodology**

The study adopts exploratory design using quantitative approach; the strategy for the study was a survey, which involves the use of a questionnaire as an instrument of data collection. The questionnaire was administered individually to the respondents. The study population consists of residential houses close to commercial development that is occupied by tenants in the study area. The study sample frame consists of 841 residential rental houses in three outskirts areas of Bauchi metropolis (Dan'iya, Miri and Tirwin), the residential properties in those areas are predominantly for rental purpose. Krejcie and Morgan's (1970) table of determining sample size was adopted to determine the sample size. Two hundred and sixty (260) respondents were randomly selected in the study area.

The questionnaire design incorporates the use of closed-ended questions. The closed-ended gives choice to a respondent ranging from 1 to 5 ideas rating (Likert-style) questions and standing. The closeness on the instrument was measured based on the tenant perception to the commercial development. Mean ranking was adopted to identify the extent of commercial development closeness to residential properties while multiple regressions were adopted to

determine the influence of residential property features as well as commercial development closeness on residential property rental value in Bauchi metropolis. Statistical Package for Social Science (SPSS, version 24) was adopted for statistical analysis of the data collected from the questionnaire survey.

**6. Findings**

Descriptive statistics based on the mean ranking was carried out to explore the rental values of adjoining residential properties to commercial development in Bauchi metropolis.

**Table 1.** Rental values of adjoining residential properties to commercial development

	₦	Range	Minimum	Maximum	Mean	Std. Deviation
Rent	260	460000	₦70,000	₦750,000	191807.19	112820.409

The analysis of Table 1 shows that the minimum rental value of residential properties close to commercial development in the study area is ₦70, 000, while the supreme rental value is ₦750, 000. From the above finding, the result clearly indicates ₦70,000 is likely to be for a smaller or less well-maintained property, while the maximum rental value of ₦750,000 is likely to be for a large or luxurious property.

Also, the extent of residential property closeness to commercial developments in the study area, Table 2 highlights the response of the respondents on the extent of commercial developments closeness to residential property.

**Table 2.** Extent of residential property closeness to commercial development

Commercial development	Mean	Std. Deviation	Rank	Remark
Shopping center	3.4810	1.27244	1th	Close
Retail stores	3.4180	1.28172	2th	Close
Office	3.0261	1.21438	3th	Moderate
Restaurant	2.9804	1.22793	4th	Moderate
Hotels	2.9444	1.31331	5th	Moderate
Supermarket	2.5523	1.21151	6th	Far
Bakery	2.4771	1.30615	7th	Far

From the Table 2 the data displays that the mean value ranged from a high mean value of 3.4810 to the low mean value of 2.4771. It can be perceived from the Table that shopping centers and retail are close to residential properties with the highest mean value of (3.4810) and (3.4180). Office building has a mean value of (3.0261), restaurant with (2.9804) and hotels with (2.9444), their mean value shows moderate distance between commercial development and residential properties, while supermarket and bakery are the commercial development that is not close to residential properties with mean value of (2.5523) and (2.4771). This finding shows that shopping

centers and retail stores are found close to residential properties within Bauchi metropolis. This study adapted the mean score decision interval based on the mechanism of (Black, 2019)

**Table 3.** Effect of residential property characteristics and closeness to commercial development on residential property rental value

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F	df1	df2	
1	.491	.241	.239	.59517	.241	119.831	1	378	.000

Predictors: (Constant), Location, Structure, Neighborhood, Closeness  
 Dependent Variable: Rent

Table 3 shows that r square value demonstrates how much of the variance in the dependent variable, residential property rental value is explicated by the independent variables of locational, structural and neighborhood characteristics and closeness to commercial development. In this case, the value was  $r^2=.241$ ,  $f(1, 378) = 119.831$ ,  $p < .001$ . This indicates that the independent variables of locational, structural and neighborhood characteristics and closeness to commercial development is explained at 24.1% effect on residential property rental value, with significance impact at  $p < 0.001$ .

**7. Conclusion and recommendation**

The study concluded that commercial development closeness and property characteristics have significant relationship with rental value in the study area, while demonstrating the impact of each residential property characteristics (structural, neighborhood and locational) on the rental value of residential properties. The study recommend that potential property inventors should take awareness of locational, physical and vicinity features that influence the rental value in the study area as this would aid the marketability and feasibility of the venture. Also there is also a need on the part of government to expand locality facilities through services advancement in the low quality areas in order to guarantee high property value and improved venture incomes

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