Impact of Higher Education Institution Development on the Housing Market

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Abstract

The expansion of the student population in Kwara State Polytechnic is evidenced by emerging trends and the development of higher education institutions such as universities and polytechnics. Due to the high demand from students, this scenario has a negative impact on the growth of the student housing market. Housing development is not solely dependent on the growth of HEIs in the surrounding area. This study investigates the theory of the Hedonic Regression Price Model in order to test the hypothesis of housing market attractiveness. Because of the heterogeneity of housing, this model is widely used in studies related to the housing market. The findings revealed that the housing demand in Kwara State Polytechnic was influenced by the studentification scenario, which had a significant negative impact on housing market growth. The housing market is positively capitalized by educational facilities and the city center. It is influenced by the areas' accessibility and function. This study uses housing samples to build a linear hedonic price model for housing accommodation areas using location and surrounding development as independent variables. The overall conclusion of this study is that locational attributes have a significant impact only on the housing market in Kwara State Polytechnic, where the housing price rises when the house is closer to the city center than when it is farther away from the Higher Education Institution.

Keywords: Housing Market, Demand and Supply, Market Attractiveness, Hedonic Price Model.

Introduction

Housing was referred to as a significant feature in one's health and quality of life, and a major source of contentment (Kayode, Muhammad, & Bello, 2021).

Housing is one of humanity's three basic needs. It should meet both technical and general user expectations in terms of efficiency. Because it has such a large

impact on people's lives as well as the lives of the country, the role of home in providing human comfort through humans and nature is critical (Musa, Bello, & Kayode, 2021). Affordability ij housing refers to ensuring that certain housing or other needs are met at a cost or rent that does not place people in financial hardship. (Sakariyau, Uwaezuoke, Olaoye & Sani, 2021).

Housing Market is widely regarded as a basic human requirement, second only to food and clothing. Housing encompasses all of the social services and facilities that make a city or neighborhood a pleasant environment, improves public livelihood, and is a crucial economic investment to any nation.(Roseland, 2012). Rental prices for residential properties are determined by a number of factors related to the area, location, and housing quality (Won & Lee, 2018). It is a complex good that includes many different aspects such as structures, which include all of the dwelling's physical characteristics, accessibility and facilities, which make up a bundle of housing-related services, and neighboring characteristics, which include the surrounding environment.

Today, it is unclear how the various housing qualities mentioned above affect the rental value of residential units in Kwara State Polytechnic. The amount that tenants are willing to pay for home features is also unknown. Such ambiguity may have a negative impact on real estate investment decisions in Ilorin. This large population causes a housing shortage in the area, as well as opportunities for real estate developers to profit from rising property values (Uwaezuoke, Sani, Igoche, Akaehomhen & Sakariyau, 2022). Massive expansion of higher education institutions (HEIs) has the potential to influence local housing market growth. Higher Education Institution (HEI) increase housing market competition and put pressure on an area's limited housing supply. This scenario raises the rent price and the value of the home. However, other factors (microeconomic elements) may influence how much this attribute influences the housing market. This study examines the Hedonic Regression Price Model theory in order to test the hypothesis of housing market attractiveness in the Kwara State Polytechnic by using hedonic price modeling to model residential rental values.

Aim of the Study
The purpose of this research is to look into the impact of student population growth on housing demand, based on microeconomics and a cross-sectional survey, and to fill a critical gap left by the previous scholar.

Research Questions
1 Is the housing market trend in Kwara State Polytechnic influenced by the population demand from the Higher Education Institution (HEI) development.
2 Which attributes between non-locational and locational factors affect the trend of student living at both case study areas in determining housing market attractiveness?
3 How the hedonic regression model could explore the relationship between Higher Education Institution (HEI) student populations and the housing market in the study area?

Objectives of the Study
To achieve this aim, the following objectives were formulated.

i.   To examine the housing market trend in Kwara State Polytechnic
ii. To identify the attributes between non-locational and locational factors affect the trend of student living at both case study areas in determining housing market attractiveness in the study area
iii. To examine the How the hedonic regression model could explore the relationship between HEI (Higher Education Institution) student population and housing market in the study area.

LITERATURE REVIEW
HEDONIC PRICING MODEL APPLICATION IN PROPERTY APPRAISAL

In the early 1920s, HPM was first applied to property valuation. Although the exact year of introduction is unknown, Haas (1922) was the first study to use HPM in property price assessment research, evaluating farmland in Minnesota (United States). The HPM method was first used in real estate price research in 1924, according to Bruce and Sundell (1977). Wallace (1926) also used the HPM method to value farms in the United States. In contrast, Freeman (1979) provided a theoretical foundation for the use of HPM in property pricing assessment research. Court (1939) devised a vehicle price index, demonstrating that demand for automobiles can be explained by a variety of factors such as the vehicle's wheelbase, dry weight, and horsepower. Additional researchers (for example, Oates, 1969) applied HPM to real estate research after that. Rosen (1974) laid the theoretical groundwork for the application of HPM to property valuation. Since Rosen's research in 1974, scholars in various real estate markets around the world have used the HPM approach for real estate evaluation.

THE BENEFITS OF THE HEDONIC PRICING MODEL (HPM)

Hedonic price models attempt to estimate implicit prices for each of a good's features, and an asset is a collection of attributes or services that are classified into structural, neighborhood, accessibility, and other categories. Individual buyers and renters, for example, want to maximize their expected utility, which is limited by time and money.

According to a rebasing of the country's gross domestic product (GDP), which was previously estimated to be US$ 510 billion, Nigeria is Africa's largest economy and the world's 26th (National Bureau of Statistics, 2014). As a result, real estate researchers, investors, and stakeholders must learn as much as possible about the Nigerian real estate market. This would be accomplished by examining published Nigerian studies that used HPM in property valuation research. The functions of hedonic house pricing are first assessed for each possible market group in order to compare the submarket price for a conventional property. Second, a chow test is used to see if there are significant pricing differences between submarkets. Finally, a weighted standard error is calculated for the submarket model, which serves as a second common-sense assessment of the importance of pricing disparities for standard houses in various submarkets. We can also use this technique to see how different submarket definitions and stratification systems affect the accuracy of home price models. Overall, the hedonic regression models provide insight into the nature of evaluating housing characteristics that are related to market determination performance. This model will be encapsulated by this model theory, which will take into account microeconomics principles in order to take into account the spatial dimension of HEI's location and its implications for supply and demand.

Theoretical Framework of the Student Housing Market and Hedonic Regression Pricing Model

From time to time, the housing supply has been rapidly increasing, with house builders delivering larger volumes of housing units to alleviate the housing shortage in major cities. However, this means that the price of a home rises in proportion to the increase in supply. Depending on where you live, home prices are continuing to rise. As a result, the location and what is actually there are critical in determining the prospects and attractiveness of home growth. (Belanger, 2007). A reduction of supply in the market will make the price go up (Register of Scotland, 2003). In other words, an area near HEIs where students are the majority likely indicates a lack of housing availability in the market, which drives up prices indirectly. The excessive demand from this group in the housing market will likely cause family household groups to move out and sell their properties to landlords or estate agents who are willing to invest in the student housing market because the house will be rented to a group of students. Students who occupy a residence, ironically, may have a significant impact on housing values in terms of sales market value and rent value.

METHODOLOGY

In this study, quantitative research methods were used. A questionnaire was given to the respondents to complete. Students from Kwara State Polytechnic Ilorin took part in this study. Three market segments for higher education institutes were studied. It represents a wide range of attributes to examine, including student numbers, the pattern and location of living according to areas, and the types of off-campus housing chosen by students. The total number of housing units tested for the hedonic price models was 400. A sample size of 291 was chosen for distribution to ensure appropriate responses. Following thorough data collection, SPSS Version 22 was used to evaluate the data collected in the field using descriptive, mean ranking, and multiple linear regression.

PRSENTATION AND DISCUSSION OF RESULTS

3-1   Result and Discussions

Table 1 Housing attributes identified for this study

Attributes	Dependent Variables
Locational	Distance to Campus
	Distance to City Centre
	Accessibility
	Surrounding Development
Neighbourhood	Residents/ Community Socio Economic Status
	Population
	Safety

     Source: Field Survey, 2021

Table 1 summarizes the housing market characteristics that are likely to influence housing demand in Kwara State Polytechnic's Off Campus. The housing market is likely influenced by the distance between the housing and the campus. However, location alone cannot be relied upon, as market performance may be influenced by other factors. In this study, all of the attributes are treated as dummy attributes.

Table 2 Regression correlation result

Model	P-value	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.000	.858	.716	13.1406

Source: Field Survey, 2021

In table 2, R square of the model was 0.858, adjusted was 0.716, all of these values indicated the model fitness was high values. The F value was 778.430 and the p-value was 0.000, which indicated the model was statistically useful and the regression was effective in this test.

Table 3 Regression Result

Constant (Variables)	Unstandardized Coefficients		Unstandardized Coefficients (Beta)	T-Value
	B	Std. error		
Z1	-1.328	0.680	-0.016	-1.9543
Z2	0.924	0.339	0.044	2.728
Z3	1.963	0.426	-0.067	4.612
Z4	1.758	0.381	0.041	4.611
Z5	1.630	0.838	0.020	1.924
Z6	5.528	1.293	0.036	4.275

Source: Field Survey, 2021

The average distance from the city center to the campus is 3 miles, while the average distance to the campus is 4 miles. Dummies have been built to assess the distance from nearby development and the amenities that are available. All of the coefficients were found to be medium significant (p 0.05) and low significant (p 0.10), corresponding to 5% and 10%, respectively. The data in table 3 is used to determine the significant level of variables. In table 3, six independent levels have been chosen to construct the model at the significant level of 10%, at the significant levels of four variables (housing type, entertainment, distance to city, and distance from surrounding development) smaller than 1%. All of these variables, according to the signs, have a positive influence on the housing price market. The distance to HEIs was negative and had a significant level of 5.1 percent, while one variable (environment) had a significant level greater than 10%. The high adjusted R^2 value (0.716) indicates that housing price units are correlated. This showed that the data fits the model well and accounts for 71.6 percent of the total variation, while the model results show that residential properties near the campus are less important to choose than those farther away from the city center.

SUMMARY OF FINDINGS
This result was used in conjunction with a regression model to test the correlation between variables in this study. Six characteristics were tested in this hedonic model in terms of model estimation and coefficient analysis, while housing attributes were arranged sequentially from great to small, with distance to the surrounding development being the

most dominant, followed by distance to the city, entertainment, environment, and distance to Higher Education Institution (HEI).

CONCLUSION
The goal of this study is to assess the impact of HEIs on the surrounding housing market development in Kwara State Polytechnic, with locational attributes serving as the primary focus. The hedonic regression model was used to determine the relationship between prices and factors that influenced the housing market in the student housing sector.

RECOMMENDATIONS
The development of Higher Education Institution (HEI) should be aided by adequate infrastructure, as this will foster a positive relationship with the demand for housing development and contribute to the area's regeneration. Predictions of population growth must be taken into account when planning development. Because changes in demand or supply will have a significant impact on housing needs, reflecting the market's attractiveness.

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