Student housing investment strategies through location and building services. A study of privately-owned student housing around university campuses in Northern Ghana

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Abstract

The study assesses the investment strategies private investors employ in student housing to remain viable by attracting students to the hostels with minimum impact of location on such decisions of students. The study used a mixed-methods approach involving surveys and interviews. The Hedonic Price Model through Multiple regression and ANOVA were used to analyse quantitative data, while qualitative data were analysed using themes. The study found a gradual rise in student housing rent with increasing distance from university campuses. As a strategy, investors in student housing distant from university campuses offer special building services over and above those hostels near campuses. It allows distant hostels to stay competitive in the student housing market. In addition, the paper highlights student's' preferences such as internet services, private lavatories and security, which investors should consider in the provision of student housing to enhance occupancy rate and eventually increase returns. The study also reiterates the need for specificity in using the Hedonic Price Model in housing research.

Keywords: Student Hostel, Student Housing, Investment Strategies, Building Services, Location, Rental Values.

Introduction

It is widely accepted (See, for example, Ghani & Suleiman, 2017; Nimako & Bondinuba, 2013; Pillai, Vieta, & Sotomayor, 2021; Powley, 2014; Zaransky, 2006) that the student population in Higher Education Institutions (HEIs) is growing tremendously, and has outstripped mainly that which on-campus student housing can accommodate. Thus, the private sector must participate in student housing by providing off-campus accommodation. However, private participation in student housing has not been without support in some countries. For instance, Pillai et al. (2021) report that private participation was with the government's direct support through Canada's Canada Mortgage and Housing Finance Corporation (CMHC). Nevertheless, private sector participation has also provided a business opportunity for bankers and brokers.

Furthermore, the form and strategy that the private sector invests in the student housing market are essential. In addition to providing housing, they must strive to provide satisfactory housing services, especially in a competitive environment. After all, real estate investment seeks to put money into estate development, management and the provision of intermediary services for purposes of making a profit (Wu & Kou, 2016). Moreover, students have special needs to consider in providing housing to facilitate their studies.

Private investors in student housing employ one or a combination of many real estate investment strategies to provide quality services and maximise profit through rent. Geltner et al. (2007) have enumerated some real estate investment strategies that include: property sector investing, contrarian investing, market timing, growth investing, value investing, strategy as to tenants, arbitrage investing, turnaround situation/value-added opportunistic investing, and investing in "trophy or "blue chip" strategies. The objective of investing in real estate and the environment will essentially inform what strategy is adopted. The reason is that real estate can contribute to and is also affected by many of society's social and environmental issues (Pivo & McNamara, 2005).

In the past two decades, student housing has increased rapidly globally (Newell & Marzuki, 2018; Najib, Yusof & Tabassi, 2015; Xulu-Gama, 2019) as one of the investment assets classes. However, an ongoing competition characterises this growth, high cost of operations, and high vacancy amidst complicated demands from student tenants (Erickson, 2012; Khozaei et al., 2014). In addition, there is an increase in research in this housing market, albeit limited. The few student housing researches have focused on the student housing market (Noraini et al. 2017; Opoku & Abdul-Muhmin, 2010); student housing and student success debate (Najib, Yusof & Tabassi, 2015; Xulu-Gam,

2019); Cost and regional variation in student housing rent (NMHC, 2018); and location and rent of student housing (Hubbard, 2009; Zubairu et al. 2018). Other studies focused on building services and rent of student housing (Adama et al. 2018; Chang & Farooq, 2018 Nijënstein et al. 2015); student housing and end-user satisfaction and preferences (Ameway et al. 2016; Barrios et al. 2013; Gawlik et al. 2017; Khozaei et al. 2014; Strzalka, 2019; Verhetsel et al. 2017); and service quality and performance of student housing (Mohammad et al., 2012). However, these studies have not considered student housing investment strategies adopted by investors. Therefore, this paper focuses on the investment strategies employed in student housing using hedonic methods. Investment in student housing and real estate requires careful consideration of important factors such as users' preferences to maximise profit.

We argue that investing in student housing aims to make a profit. Nevertheless, the price of the property determines the profit. The price here is student housing rent, and the level of housing services offered influences rent. Further, the taste and preferences of students inform housing services. Therefore, investing in student housing is influenced by the willingness of investors to provide services that meet students' preferences; it will determine the demand for student housing, and in turn, determine whether the investor makes a profit or not.

Furthermore, there is keen competition in the student housing market. Therefore, student housing investors seek to out-compete each other using the services provided, including other essential attributes such as the location. This paper uses interchangeably student housing, student accommodation, and student hostel to mean the same.

Student housing as a real estate asset vehicle is a composite and heterogeneous product for which hedonic models may be used to deconstruct this landed property into its respective value-adding components. Attakora-Amaniampong et al. (2016) and Chau & Chin (2003) classify these components into property, neighbourhood, and location characteristics. The contributions of these three components determine the price or rent of the property, making hedonic models an additive approach (Gilbert & Gilbert, 2013). This paper examines the investment strategies employed in student housing by private investors. That is, it examines how investors take advantage of location and the provision of building services to increase occupancy and demand higher rents in privately-owned student housing around Higher Education Institutions (HEIs) in general and university campuses in particular. Thus this paper assessed the impact of location and availability of building services in privately-owned student housing around public university campuses in Northern Ghana as a critical determinant of

investment in student housing. Hence, the question answered in this paper is "to what extent does location and building services influence rent and, for that matter, the decision to invest in student housing in Ghana?". The paper is in five sections. The first section, the introduction, explains student preferences and investment strategies in student housing. Section two reviews literature on the hedonic price model, building services and influence in student housing in Ghanaian universities. Section three presents the subjects of the study and methods applied to collect and analyse data. Finally, section four presents and discusses the study results, while section five makes conclusions and recommendations.

Literature Review

Hedonic Pricing Model (HPM)

The hedonic method has been used for price index construction, mass appraisal, and other purposes (Bourassa et al., 2009). The model posits that goods sold are a package of inherent attributes (Chau & Chin, 2003). Two theoretical paths form the basis for empirical studies on determining housing prices relating to locations and building services. First, the law of demand and supply forms the basis for the equilibrium price model. Second, the hedonic price model (HPM) (Lancaster, 1966; Rosen, 1974). The equilibrium price model is weak because it deliberately avoids incorporating utility-bearing characteristics to determine housing values (Lancaster, 1966). Becker (1965), Lancaster (1966), Muth (1966), and Rosen (1974) refined the equilibrium price model to include utility-bearing characteristics such as locational factors and quality building services into what is known as the hedonic price model.

Forms of hedonic pricing models, including linear, semi-log and box-cox models (Sopranzetti, 2015; Chau & Chin, 2003), have many applications in preferences and cost determination (Bayer et al., 2007; Epple, Romano & Sieg. 2006) and price function (Ahmad, Waseem & Anders. 2012; Carew; Hui, Zhong, & Yu. 2012; Panzone, 2011). However, they must be applied in the correct functional form to avoid inconsistent estimates. Applying the hedonic price model to housing rests on several assumptions, including product homogeneity, perfect competition and perfect knowledge. These assumptions, among other things, pose weaknesses in the model. That notwithstanding, the hedonic price model is helpful in that one needs to have certain information such as the price of the property, the composition of housing attributes and specification of the functional relationships to apply it (Chau & Chin, 2003). In applying hedonic models in the housing market, housing characteristics have been classified into locational, structural and neighbourhood attributes. In hedonic property pricing models, measures of property characteristics and proximity to employment are frequently used (Ottensmanna, Paytona and Manb, 2008). In a standard real estate

economics model, proximity to a significant activity centre determines real estate prices according to the concentric assumption (Sopranzetti, 2015). The hedonic price model has been applied extensively in housing research (see Leonard et al., 2016; Nepal, Rai, Khadayat, & Somanathan, 2020; Shin, Washington, & Choi, 2007). Some of these studies (for example, Yun, 2020; Nor, Masron & Gedi, 2019; Huang et al., 2017) on residential housing sales used the hedonic price model to investigate house prices. These have shown that the hedonic price model is a good estimator of housing value. Nor, Masron and Gedi (2019) have used the model to estimate the determinants of housing rent in Mogadishu. Their study revealed that residential property's location, size, and security significantly affect its monthly rental values. Similarly, Yun (2020) used a two-level hedonic price model to examine the effect of housing quality and neighbourhood characteristics on rents in Korea and found that rents are based more on neighbourhood features than on housing quality. This paper applies the hedonic price model to investigate student housing investment strategies through location and building services, whose outcome manifests in the rent levels and the quantum profit investors earn.

The nexus of Location, Building services and Rent

Generally, students expect housing and housing services to meet their tastes and preferences, including privacy (Roche, Flanigan, Kenneth & Copeland, 2010). For instance, students prefer living close to campus to utilise facilities and resources such as computers or ICT services and participate in student activities (Adu-Gyamfi, Brenya and Lamptey 2014; and Owolabi 2015). Therefore, housing proximate to the university campus attracts higher rent than housing at a University's fringes and distant neighbourhoods (Aikman 2014; Nwuba, 2004; Babatunde & Perera, 2017). The reason is that students pay more for the benefit of living close to campus to benefit from campus services.

However, Fields (2011) found a nonlinear relationship between distance to campus and student housing rent. He found that whereas rent increases with distance from campus within the first mile, there is a level of growth in rent between the first and the fourth mile from the campus, after which rent decreases with distance. Also, a study by the National Multifamily Housing Council (NMHC) of the US shows that the difference between off-campus and on-campus student housing rent is a result of diversity in building services (NMHC, 2018). Whereas on-campus student housing has limited building services, their off-campus counterparts have a sufficient supply of these services. Building services in this context include bathroom, bedroom, security and toilet (Adu-Gyamfi, Brenya and Lamptey, 2014). Other services contemplated

include internet services, kitchen, TV and entertainment facilities (Nishi & Asami, 2018; Danso et al. 2017; Kashian's 2009(Simpeh & Akinlolu, 2019).

The neighbourhood characteristics of a particular location is another factor that significantly influences the rent asking. Favourable neighbourhood attributes have a positive relationship with rents, while unfavourable neighbourhood attributes negatively influence rents (Adegoke, 2014; Aliyu et al., 2012; Amole, 2009; Geltner et al., 2006; Lamond, Proverb & Antwi, 2007; Howley, 2009; Olujimi & Bello, 2009). The paper argues that public infrastructure and services enhance the comfortability of a neighbourhood and therefore are a function of a favourable neighbourhood. Some others, for example, Aliyu (2012) and Leggett and Bockstael (2000), have found the presence of services such as hospitals, neighbourhood parks, health care facilities, police stations, water, electricity, schools, market, shopping malls, roads, worship centres to be characteristic of favourable neighbourhoods and therefore are of high value.

Location is another critical factor in determining rent (Ajayi et al., 2012). Location refers to the surroundings of dwellings that affect rent (Oni et al., 2007). A high-quality urban location is the target of every real estate developer. A high-quality location typically exhibits high or stable property values, low migration rates, high household incomes and racial cohesion associated with competitive rent (Kubrin & Wo, 2016). The distance to critical social services or workplaces is integral to the definition of location (Chau, 2003). In this paper, the location attribute used is the distance from student hostels to the university campus.

Privately-owned off-campus student housing in Ghana

Student housing describes housing provided for students during their studies. Fields (2011) categorises student housing into on-campus and off-campus. Off-campus student housing has become relevant in recent times in Ghanaian Higher Education Institutions because of the low capacity and inability of on-campus housing to adequately accommodate the increasing student population. Globally, institutional investors are leading private investment in student housing (Newell & Marzuki, 2018). However, the arrangement for private provision of student housing in the Global South is different (Ameyaw et al., 2016; Ghani & Suleiman, 2017). Private investors provide student housing in consultation with universities (Ameyaw et al. 2016; Attakora-Amaniampong et al. 2015; Sawyerr & Yusof, 2013; Pillai et al., 2021). In Ghana, individual ownership dominates the private student housing market with a few institutional investors such as banks, associations and unions (UG, 2009).

The benefit of private participation in student housing is imperative. It has allowed universities and other tertiary institutions to admit more significant student numbers than they otherwise could (Kolawole and Boluwatife, 2016; Onclin, 2014). Consequently, there is a high demand for privately provided student housing in Ghanaian universities due to increased student numbers and the inability of universities to provide adequate student housing (Shama, 2012). Student accommodation is so important because the comfortability of housing affects students' performance and may even affect the retention of students (Onclin, 2014; Gupta & Maksy, 2014). Indeed, Nimako and Bondinuba (2013) have stated that university student housing is a significant driver of enhanced student living and learning.

Privately provided student housing has become a significant part of university education in Ghana. Higher Education Institutions such as the Kwame Nkrumah University of Science and Technology (KNUST) and the University of Ghana (UG) list private student hostels that meet basic standards to guide students in choosing hostels. However, the private student housing market in Ghana is competitive. Therefore, in an attempt to satisfy the preferences of students, private student hostels vary significantly in terms of their location, rents, quality and finishing, and the building services offered. Therefore, the availability of building services, location, and rent in student housing are linked.

Building services in privately-owned student housing

A central concern area for students and administrators is what building services privately provided student housing offer. For instance, Pillai et al. (2021) report that some Canadian universities use the services provided in student housing as selling points to attract students to their universities. Furthermore, the level of housing services influences students' social and academic lives. Student housing facilities influence students' learning experience and social integration (Simpeh & Akinlolu, 2019). Student housing integrates the social and psychological functions to satisfy students' needs, aspirations and expectations as an ecological environment for learning (Ghani, Suleiman, & Malaysia, 2016). Therefore, student housing must offer comfort, convenience and safety to enhance academic activity. Housing services must satisfy student preferences as far as they promote their socio-academic living. Also, Khozaei, Hassan, Al Kodmany, & Aarab (2014) have noted that satisfying student preferences for housing enhance their attachment to the residence.

Building services include facilities and facility management services. According to Attakora-Amaniampong et al. (2015) and Ameyaw et al. (2016), these services include

lighting and air-conditioning systems, reading or study space, and internet services, among others (see, for example, Khajehzadeh & Vale, 2016; Khozaei, Hassan, Al Kodmany, & Arab, 2014; and Hassanain, 2008) These services can be categorised into special and basic services. Special building services may include; an in-built toilet and bath, a private kitchen, a private living room, and internet services. When these services are shared, they are called basic building services. Sanni-Anibire & Hassanain (2016) found that most students confirm a satisfactory level of indoor air quality in the Global North than the upkeep of building services such as washrooms. Hassanain (2008) also found that most students are not satisfied with building services. Student preferences for these services vary widely. Changing expectations of students has led to more off-campus facilities to meet their preferences (UDS, 2011; University of Ghana (UG), 2009; Adu, 2009; Takyiwaa et al., 2007).

Regarding students' preferences, Ameyaw et al. (2016) indicate that the environment, building services (lighting, study space, building finishes, internet connectivity, response to complaints) and proximity to lecture facilities are significantly different in student housing. Students' preferences for accommodation include proximity to lecture facilities and comfortable rooms (Ameyaw et al., 2016; Sawyerr & Yusof, 2013). Another essential issue is shared lavatory or in-built private lavatory (Danso & Fugar, 2008; Khozaei, Ramayah, Hassan, & Surienty, 2012).

Methodology

Data Collection

The study was conducted in the previous three Northern regions of Ghana. That is Northern, Upper East and Upper West regions. They were selected because the privately provided off-campus student housing in the HEIs in the regions accommodates approximately 80% of the student population (Attakora-Amaniampong et al. 2015; UG, 2007). The hostels contacted were grouped into three: (1) less than 1km, (2) 1 to 2km and (3) greater than 2km from the university campuses. The rationale for the grouping was to ascertain whether or not rents differ relative to the distance to campus and to evaluate the availability of building services and the effect on rents. The study identified 469 PBSH, and 1258 respondents participated. The study also interviewed ten investors of student housing. The study perceived that interviewing these additional ten investors provided sufficient information to supplement the quantitative data obtained from students. However, it was difficult to contact the respondents because they primarily are not residing in or around the student hostels. The study collected primary data using a semi-structured questionnaire and interview

guide from tenants and investors. In all, the study distributed 1269 questionnaires, and 1258 were returned, yielding a response rate of 99%.

Data analysis

The study used log regression to evaluate the contributions to rent by building services and distance to campus. Further, to assess the difference in rent among the three groups, the study conducted an analysis of Variance (ANOVA). Again, ANOVA was used to assess the differences in the availability of building services in the hostels visited across the three stratified groups. Finally, the interview responses were thematically analysed, and verbatim reports of critical responses to support the quantitative data.

Model for the study

This study adopted the log Hedonic Price Model (HPM) (See Attakora-Amaniampong et al., 2015; Bello & Bello 2008, Rahmatian & Cockerill 2004). The model can quantify building attributes into price or rent. Also, the model may be applied to conduct a comparative analysis of properties (e.g. Bello & Bello 2008) and forecast values of properties (e.g. Attakora-Amaniampong et al., 2015). The study used the hedonic price model because of its capability to quantify the attributes of student housing in terms of building services, neighbourhood characteristics and location. This way, we can determine which attribute is a potent driver of student housing rents, impacting the decision to invest in student housing. According to this model, all things being equal, rental values should diminish with increased distance from the campus. Therefore, the following HPM was adopted:

$$InRV_{it} = \sum_{t=0}^{t} k(-D_{it} + Bs_{it} + Ne_{it} + Q_{it}) + e$$

Where D_{it} = Distance characteristics of the PBSH
Bs_{it} =Building Service characteristics of the PBSH
Ne_{it} =Neighborhood characteristics of the PBSH
Q_{it} = Other building services characteristics of the PBSH
e = Error component

In the equation above, the rental value of student housing stated as $InRV_{it}$ is the summation of all the attributes of distance, building services, neighbourhood characteristics, and other building services now and in the immediate past. However, the above model contains an error term, epsilon, which is part of the rental value that the known attributes cannot explain.

Result and Discussion

The respondents and hostels

The study first collected basic data about the respondents as this would be helpful in the analyses.

Out of the 1258 respondents, 818 (65%) were males and 440 (35%) females. All the students contacted lived in student housing for at least a year; therefore knowledgeable to participate in the study.

Of 469 hostels, 123 are within a km from campus, 187 are between 1-2km, and 159 are within a distance greater than 2km from the university campuses (see table 1). Table 3 presents the mean rents for hostels relative to the distance from the campus. For example, the mean annual rent for hostels located 2km from the university is GHS 1,278.43 per annum; for 1-2km is GHS 1,185.62, and for less than 1km is GHS 1,022.58.

Table 1: Distance of hostels from university campuses

Colleges	<1km	1-2km	>2km	TOTAL
SDD-UBIDS	53	65	57	175
UDS-TAMALE	13	29	17	59
WA TECH. UNIV	8	18	7	33
TAMALE TECH. UNIV.	12	16	10	38
UDS-NYANKPALA CAMPUS	9	21	31	61
C.K. TEDAM UNIV.	17	21	14	52
BOLGATANGA TECH. UNIV.	11	17	23	51
TOTAL	123	187	159	469

Source: Field Survey, 2021

Table 2 presents the distribution of hostels according to the availability of basic and special building services per distance from campus. Two hundred twenty-seven hostels have only basic building services, while 242 have special building services.

Table 2: Distribution of hostels by the availability of building services

Basic services				
	<1KM	1-2KM	>2KM	TOTAL
SDD-UBIDS WA	39	32	19	90
UDS TAMALE CAMPUS	7	18	9	34
WA-TECHNICAL UNIVERSITY	7	3	1	11
TAMALE TECHNICAL UNIVERSITY	10	8	2	20
UDS NYAMKPALA CAMPUS	6	9	9	24
CK TEDAM UNIVERSITY	14	10	2	26
BOLGATANGA TECHNICAL UNIVERSITY	7	7	8	22
TOTAL	90	87	50	227
Special services				
	< IKM	1-2KM	>2KM	TOTAL
SDD-UBIDS WA	14	33	38	85
UDS TAMALE CAMPUS	4	11	8	23
WA-TECHNICAL UNIVERSITY	1	15	6	22
TAMALE TECHNICAL UNIVERSITY	2	8	8	18
UDS NYAMKPALA CAMPUS	3	11	23	37
CK TEDAM UNIVERSITY	3	11	12	26
BOLGATANGA TECHNICAL UNIVERSITY	6	10	15	31
TOTAL	33	99	110	242

Source: Field Survey, 2021

The results show that most respondents reside within 2km from the various university campuses. Most of the students live close to the campus and can access on-campus services. Also, the nearness to campus leads to a relatively reduced aggregate cost of living. For instance, there are significant savings on the cost of transportation. The closeness of the hostels to the campus is also advantageous to hostel investors. First, they can demand higher rents because, as stated earlier, students pay a premium to live closer to campus. Second, they almost always have nearly 100% occupancy, and third, these two combine to give them a higher profit or return on investment. One investor expressed his opinion about the nearness of his hostel to the university campus:

> "... it is an advantage on my part to have my facility close to the school which always give me 100% occupancy... likewise it is an advantage to the students in terms of commuting cost, stress and tiredness in walking and accessibility to the campus" (Interview with investor 4, 2021).

Availability of building services

As adequately stated in the literature, building services in student housing must meet student preferences. In addition to the basic building services, the special building services available in the hostels include an in-built lavatory, security, a separate study area and internet services. The study assessed the contribution of these services to rents. Table 3 presents the results for the contribution of building services (in-built lavatory, safety and security, study area, internet, and other building services) to rents. In addition, the table shows the number of respondents contacted, the mean and standard deviation of rent per distance from the campus, and the availability of building services per distance from campus.

Table 3: Contribution of building services to rent

		N	Mean	Std. Dev.
RENT	> 2KM	413.00	1278.43	194.23
	1-2KM	486.00	1185.62	200.47
	< 1KM	359.00	1022.58	218.95
	Total	1258.00	1138.41	227.31
IN-BUILT LAVATORY	> 2KM	413.00	3.59	1.40
	1-2KM	486.00	3.43	1.30
	< 1KM	359.00	2.60	1.22
	Total	1258.00	3.14	1.35
SAFETY AND SECURITY	> 2KM	413.00	3.75	1.04
	1-2KM	486.00	3.41	1.07
	< 1KM	359.00	2.48	1.14
	Total	1258.00	3.11	1.20
STUDY AREA	> 2KM	413.00	3.63	1.30
	1-2KM	486.00	3.11	1.28
	< 1KM	359.00	2.38	1.25
	Total	1258.00	2.91	1.35
INTERNET	> 2KM	413.00	3.10	1.08
	1-2KM	486.00	2.66	0.99
	< 1KM	359.00	2.48	0.94
	Total	1258.00	2.66	1.01
BASIC BUILDING SERVICES	> 2KM	413.00	2.51	1.07
	1-2KM	486.00	2.35	1.11
	< 1KM	359.00	2.59	1.04
	Total	1258.00	2.47	1.08

Source: Field Survey, 2021

From the findings, one can deduce that most hostels within 1km from the university campus have shared basic building services compared to hostels within 1-2km and >2km (see table 3). In addition, investors' responses further highlight how students perceive shared versus special building services.

> "Over the years, students preferred the shared accommodation type for two reasons. One, they think that sharing accommodation reduces their rate of expenditure on electricity, water and food. Second, they also think that sharing provides personal security to them. However, we face many issues on this. Among them include frequent damages and the need for regular maintenance works, increase in waste, fighting and theft in the hostel and so many other problems" (Interview with investor 6, 2021)

> "Sometimes some people think that when we provide facilities far away from the campus, students don't share. For me, it depends on the building services you provide. I have seen other colleagues providing services like internet, air-conditions in their facilities and students rent and share. It is good to have your facility located closer to campus, but now most students want privacy, so they rent a little far from campus because those hostels offer that. You know, most of such hostels are new. Some students think that the services such as w/cs [water closets], kitchens, and the hostels are old". (Interview with investor 3, 2021).

The study observed that the availability of special building services such as an in-built lavatory, safety and security, study area and internet services are prevalent with distance away from campus. Further, hostels with special building services located further away from campus have a high occupancy rate. This finding is against the generally observed trend that locations further from the centre tend to have lower occupancy and attract lower rents (Fields, 2011). From the evidence, one may deduce that the availability of the special building services, coupled with the perceptions of students as expressed earlier by a hostel investor relating to the privacy of students, explain the relationship between location and presence of the special building services on the one hand, and occupancy rate and rent levels on the other hand. Thus, investors use special building services to increase occupancy, enhancing returns. The explanation of a hostel owner corroborates this conclusion.

> "...due to the modern nature of my facility with services such as internet, a big study room, and self-contained rooms with bathroom and toilet facilities, my place is always full all year round. Most of the rooms are one per room."(Interview with investor 7, 2021).

Contribution of location and building services to rents

In this paper, we have argued that location and the availability of building services influence rents. Table 4 depicts the differential contribution of distance, in-built lavatory, safety and security, internet and other basic building services to rent. All the contributions are statistically significant at $p < 0.05$, with safety and security and distance to campus being the top-most contributors to rent. As shown in Table 5, the ANOVA results confirm statistically significant differences in rents with the in-built lavatory and study area, except other basic building services among the three geographic cohorts of students housing. This result compares favourably with the response of an investor who said:

> "...Nowadays if you want to have value for your investment, it is important to include internet facilities, reading area and in-built toilet and bath...this is the taste for the current well-to-do students... they have their means of transport..., who want their privacy and like to reside away from their schools [campus]" (Interview with investor 9, 2021).

Table 4: Contribution of location and building services to rent

	Unstandardised Coefficients		Standardised Coefficients		
Dependent variable is Rent	Beta	Std. Error	Beta	t	sig
Constant	1110.77	79.27		14.01	0.000
DISTANCE TO CAMPUS	82.52	17.52	0.253	4.71	0.000
LAVATORY	21.88	8.483	0.130	2.58	0.010
SAFETY AND SECURITY	48.15	9.994	0.254	4.81	0.000
INTERNET	17.27	11.05	0.077	1.56	0.019
RECREATIONAL	4.61	10.11	0.022	0.45	0.049
BASIC SERVICES	26.56	10.088	0.127	2.63	0.190

Source: Field Survey, 2021

Table 5: ANOVA results

		Sum of Squares	df	Mean Square	F	Sig.
RENT	Between Groups	3004560.89	2.00	1502280.45	35.15	0.00
	Within Groups	13891414.7	325.00	42742.82		
	Total	16895975.6	327.00			
LAVATORY	Between Groups	59.83	2.00	29.91	18.08	0.00
	Within Groups	537.72	325.00	1.66		
	Total	597.55	327.00			
SAFETY AND SECURITY	Between Groups	83.11	2.00	41.56	34.84	0.00
	Within Groups	387.71	325.00	1.19		
	Total	470.83	327.00			
STUDY AREA	Between Groups	67.39	2.00	33.70	20.81	0.00
	Within Groups	526.22	325.00	1.62		
	Total	593.61	327.00			
INTERNET	Between Groups	13.99	2.00	7.00	7.16	0.00
	Within Groups	317.76	325.00	0.98		
	Total	331.76	327.00			
BASIC BUILDING SERVICES	Between Groups	3.92	2.00	1.96	1.68	0.19
	Within Groups	379.71	325.00	1.17		
	Total	383.63	327.00			

Source: Field Survey, 2021

Table 6 presents the multiple comparisons of variables in the categories among the three regions. The results show that rent increases with distance from campus and the availability of special services. In other words, there is a decrease in the availability of special services with increasing proximity to the campus. This finding could significantly explain rent increases as one moves away from campus. As stated earlier, this finding contradicts the findings of Borst (2007) and Fields (2011), who found that rent of student housing decreases with distance from the centre of campus. The findings further confirm significant differences in special building services. However, the availability of basic building services is similar for both hostels that are far and those close to campus.

Table 6: Multiple comparisons based on Least Square Differences

Dependent Variable	(I) DISTANCE TO CAMPUS	(J) DISTANCE TO CAMPUS	Mean Difference (I-J)	Std. Error	Sig.	95% CI	
						Lower Bound	Upper Bound
RENT	> 2KM	1-2KM	92.81**	33.43	0.01	27.05	158.57
		< 1KM	255.85**	34.39	0.00	188.19	323.51
	1-2KM	< 1KM	-92.81**	33.43	0.01	-158.57	-27.05
		> 2KM	163.04**	24.98	0.00	113.89	212.19
	< 1KM	> 2KM	-255.85**	34.39	0.00	-323.51	-188.19
		1-2KM	-163.04**	24.98	0.00	-212.19	-113.89
LAVATORY	> 2KM	1-2KM	0.15	0.21	0.45	-0.25	0.57
		< 1KM	0.99**	0.21	0.00	0.57	1.41
	1-2KM	<1KM	-0.15	0.21	0.45	-0.57	0.25
		> 2KM	.834**	0.16	0.00	0.53	1.14
	< 1KM	> 2KM	-0.99**	0.21	0.00	-1.41	-0.57
		1-2KM	-0.83**	0.16	0.00	-1.14	-0.53
SAFETY AND SECURITY	> 2KM	1-2KM	0.33	0.18	0.06	-0.01	0.68
		< 1KM	1.26**	0.18	0.00	0.90	1.62
	1-2KM	< 1KM	-0.33	0.18	0.06	-0.68	0.01
		> 2KM	.927**	0.13	0.00	0.67	1.19
	< 1KM	> 2KM	-1.26**	0.18	0.00	-1.62	-0.90
		1-2KM	-0.92**	0.13	0.00	-1.19	-0.67
STUDY AREA	> 2KM	1-2KM	0.52**	0.21	0.01	0.11	0.92
		< 1KM	1.24**	0.21	0.00	0.83	1.66
	1-2KM	< 1KM	-0.51**	0.21	0.01	-0.92	-0.11
		> 2KM	.73**	0.15	0.00	0.43	1.03
	< 1KM	> 2KM	-1.24**	0.21	0.00	-1.66	-0.83
		1-2KM	-0.73**	0.15	0.00	-1.03	-0.43
INTERNET	> 2KM	1-2KM	0.43**	0.16	0.01	0.12	0.75
		< 1KM	0.62**	0.16	0.00	0.30	0.95
	1-2KM	< 1KM	-0.43**	0.16	0.01	-0.75	-0.12
		> 2KM	0.18	0.12	0.12	-0.05	0.42
	< 1KM	> 2KM	-0.62**	0.16	0.00	-0.95	-0.30
		1-2KM	-0.18	0.12	0.12	-0.42	0.05
OTHERS	> 2KM	1-2KM	0.15	0.17	0.37	-0.19	0.50
		< 1KM	-0.07	0.18	0.66	-0.43	0.27
	1-2KM	< 1KM	-0.15	0.17	0.37	-0.50	0.19
		> 2KM	-0.23	0.13	0.07	-0.49	0.02
	< 1KM	> 2KM	0.07	0.18	0.66	-0.27	0.43
		1-2KM	0.23	0.13	0.07	-0.02	0.49

** The mean difference is significant at the 0.05 level, Source: Field Survey, 2021

Conclusions and Recommendations

This study aimed to examine the investment strategies adopted by private investors in the student housing market to enhance their competitiveness. Generally, investors in student housing prefer to locate close to university campuses as it assures of higher occupancy rate, a guaranteed income stream, and, all things being equal, yields higher profits. That is in line with the findings and application of the hedonic price model. In the general application of the hedonic price model to housing market research, house prices decrease with distance (an attribute of location) from the centre. However, this study found that hostel rents increase with distance from the university campus. Adding special building services such as private washrooms, security, and private study areas in hostels, making them more attractive to students, may explain this finding. Therefore, the paper concludes that the general application of the hedonic price model is suitable to the extent that the right attributes relative to the sub-housing market and the locality are applied.

The paper concludes that investors use the provision of special housing services, including security, internet services and private lavatories, in addition to the basic housing services as an investment strategy to compete favourably in the student housing market. This conclusion is especially imperative for hostels located distant from the university campus. The paper further concludes that the location and the availability of housing services impact rents in student housing. While other studies have found that nearness to the university campus largely influences rents, this paper notes that in addition to the proximity, what housing facilities are available in student housing are essential in determining rents. Stated differently, what services are mainly available determines whether students are prepared to demand housing at the prevailing rent or not.

As an investment strategy, the paper recommends that investors in student housing students' preferences, particularly issues of privacy, comfort, and convenience, when they decide to invest in student housing. In this regard, an appraisal of student preferences before investing in student housing would be worthwhile. Furthermore, the paper recommends further studies to test and validate the finding reported that hostel rents increase with increasing distance from the university campus to extend the theoretical discourse on the hedonic price model.

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