



Probability Selection of Dormitory House for Students

Yunisvita Yunisvita¹, Imelda Imelda^{2*}, Fachrizal Bachri³, Nazeli Adnan⁴, Saadah Yuliana⁵

¹Department of Development Economic, Sriwijaya University, Indonesia, ²Department of Development Economic, Sriwijaya University, Indonesia, ³Department of Development Economic, Sriwijaya University, Indonesia, ⁴Department of Development Economic, Sriwijaya University, Indonesia, ⁵Department of Development Economic, Sriwijaya University, Indonesia. *Email: imeldazainal@unsri.ac.id

ABSTRACT

This research aims to analyze the factors that determine the student probability to choose their residence between private boarding houses and Unsri dormitories. Using the Binomial Logistic Regression models of the 275 samples of student respondents of Unsri in Indralaya Campus, the probabilities to choose where to live in private boarding houses is significantly affected by the rental price, but the changes of the rental rates do not alter in the student probability to live in private boarding houses. The most decisive variable is the perception of the location such as the distance to the campus location, public facilities, entertainment, dining, efficiency motive and transportation costs. The negative sign of the value of perception of the location means that the better the perception of respondents about the location of residence will increase the possibility of choosing to stay at private the boarding house. Similarly, the increase in income will increase the likelihood of respondents to choose boarding house, while on the contrary when it comes to the the number of facilities.

Keywords: Logistic Binomial, Boarding/Dormitories House, Rent Price, Income, Location

JEL Classifications: D31, R3

1. INTRODUCTION

The number of Unsri students has increased every year which comes from the city of Palembang or from districts/cities in South Sumatra and other regions of South Sumatra. For students coming from outside the region, the choice to continue their studies at Sriwijaya University due to several reasons, partly because of faculties/departments is desirable and in accordance with the interests and talents are not in the area of origin, or because they received scholarships that require to continue his studies in Unsri.

As a result, demand for a place to stay for prospective students who become temporary shelters for the undergoing study increases. The large number of students who come to the city brings a result the demanding needs of temporary residence (dormitory) is still required for their studies. Boarding house is not just a place to rest, but also a place to learn, discuss, create, work assignments and other necessities.

Students who have family or relatives can stay there, although now it is rarely done. For students there are few options besides

staying in the family, among others, is a contract house, boarding school students, guard mosques, boarding and lodging house.

Contracts house is rented house, the form of the house were rented out to the community, especially for students who settle near the campus, during a period in accordance with the lease agreement and the agreed price. Around Unsri campus there are also many houses that are rented, the tenant is usually the immigrant students who will live together with a group of friends to be more thrifty.

Campus Unsri like several other campuses also provide the building as a dormitory building to be occupied by students. Definition hostel in KBBI are residential buildings that are homogenous (similar). Student dormitory at the University of Sriwijaya called the rusunawa and there is also Apartment Unsri.

There are several factors that influence the decision of students to choose his residence. Students also put out the costs for daily needs are numerous, so that the students should be able to anticipate the expenditure to be able to reduce the cost of his life. For economic

reasons, some students prefer to rent a modest boarding house rooms that are cheaper when compared to boarding houses especially with the luxurious apartment or house.

Apart from the the great need of life that affect student's decision in choosing a place to stay there are also other factors, for example, choosing a place to stay in a strategic location as close to the campus, where to eat, cafe, photocopy, shopping centers, or places of entertainment, According to Soemantri various reasons that lead students chose to stay or spend the night at a location nearby the campus is able to save on transportation costs, provided various facilities required for students, and the ease of obtaining information because it is close to a fellow student.

Some choose a place to stay because of supportive environment and conducive to learning or some are more like the crowds. Moreover, rental prices and facilities is also a consideration students in choosing a place to stay. Therefore, this research wants to analyze the factors that influence the decision of students in choosing a place to stay. It also will compare prices between rental Apartment Unsri Apartment or Boarding house around Unsri Indralaya Campus.

2. LITERATURE REVIEW

Eckert (in Karsidi, 2002) indicate the factors which are very important and affect the demand for the housing market, which is:

- Economic factors, changes in economic factors that affect housing demand is income, interest rate, lending policies, the level of rents and house prices.
- The social factor is population density, family size, education, crime rate and age distribution.
- Factors including zoning administration, government services and tax levels of society.
- Environmental factors, changes in the environmental factors that affect the demand for housing is topography, landform, soil conditions and services such as parking facilities, shopping centers, schools, places of worship, transportation.

The main determinant of the demand for housing is demographics, but other factors such as income, housing prices, the cost and availability of loans, consumer preferences, the preferences of investors, the price substitution and price all play a complementary role. The core of demographic variables include the size of the population, and population growth, more and more people in the economy, the greater the demand for housing.

Consumer behavior towards a particular item can be analyzed through the theoretical value (utility theory), which discusses the pleasure obtained satisfaction or a person from consuming goods (Sukirno, 2003). There are basically two approaches used to explain consumer behavior, which is marginal utility approach and indifference approach. Marginal utility approach starts on the supposition that means that every consumer satisfaction can be measured by money or other units. With the theory of this approach consumers always try to achieve the maximum total satisfaction. While this indifference approach, the approach that requires the belief that customer satisfaction can be measured by making a choice.

Choice theory (theory of choice) in economics begins by describing preference (choice) of a person. Choice theory is the interrelationships between preference (choice) and a variety of obstacles that cause a person to determine his choices. Preferences include options from the simple to the complex, to show how anyone can feel or enjoy everything done. But everyone is not free to do anything you want and they are constrained by time, income and many other factors in determining his choice.

The model used by economists should also describe how the obstacles can determine how individuals make choices based on their preferences. There are two requirements of consumers achieve a balance of consumers (consumer equilibrium), which is: (1) Can be purchased with the resources they have (revenue), and (2) satisfaction reached as high as possible (Figure 1).

Rachmawati (2013) states that the students allowance and significant negative effect, rental rates and facilities offered boarding positive and significant effect, on students preferences in choosing a boarding house in the Village or Village Tawanggede Summersari. Kos is an elastic goods, which is kos requested is strongly influenced by the large-small price. If based on the income elasticity of demand, it is stated that the boarding is a necessity goods (primary) students. If based on the cross elasticity, stated that the relationship between kos kos upper middle and lower middle is the substitution (replacement).

Using multiple dimensions of factors, including factors references, reputation, safety, price, environmental, service, amenities and location, Hajar et al. (2012), concluded that the most dominant factor affecting student's decision in choosing a boarding an environmental factor boarding with eigenvalues which is 4.119 and diversity of variants of 19.613%. Rated loading greatest factor in this factor is owned by boarding a clean environment variable that is equal to 0.797.

Research by Muliana and Kustiwan (2011) concluded that the distribution pattern of location of residence students who live away from the family is concentrated closer to the campus area. This is because the main priority in the choice of location of residence by students who live away from the family is a short distance from the campus. Location of residence is a factor that affects the characteristics of student travel.

Weighting Method with known that the place of residence is determined by many factors, including the location, facilities, contracts and pricing. The results showed that the location criteria is factors that are most appropriate to determine boarding places (Supriana, 2012).

Cahyani and Diah (2012) investigated consumer preference Apartment in Bandung using quantitative descriptive method. The results of this study is that there are five (5) factors in considering the purchase of an apartment which is the proximity to the workplace, completeness apartment facilities, ease of access to the toll, the price and the location in the city center.

For the convenience students have higher expectations on shelter than their parents and are willing to pay the extra fee. This led the university plans to build houses in addition to existing dorms so

that it becomes an important option for students. Although security and cost is an important consideration, but it turns out there is a very important facility for the students which is the bedrooms, parking, bed, laundry, internet access, fitness center, showers, cable TV and Dinner (La Roche et al, 2010).

The choice of staying on campus for students is also associated with factors such as the characteristics of the campus, the composition and activities of students, campus security, the cost of living outside the campus, and the crime rate. Ong et al. (2013) found that there is a positive and significant relationship between the percentage of students who live on campus to campus activities, the size of the campus, campus security and rental rates small apartment off campus. It was also found negative and significant relationship between the percentage of students who live on campus with students acceptance rate, the number of enrolled students, the existence of distance learning programs, population, crime rates and rental rates in the large apartment outside campus.

The study of student satisfaction choose where to live in Trondheim, Norway examined through a quantitative survey which covers five aspects: (1) Type of the owner, (2) the impact of demographic variables, (3) Location of residence, (4) Different characteristics of residence, and (5) individual facilities (eg kitchen/bathroom). The results showed that the most important variable for student satisfaction on a place to stay, the first is the type of owner. Second, the quality characteristics of the dwelling and the third, is the location (Thomsen and Eikemo, 2010).

According to Muslim et al. (2012), conceptually there are some views to measure student satisfaction of the residence is the condition of student life, community, facilities and services, social activities students, cost of living and students preferences. All views are very informative for all stakeholders in the university provide a conducive environment for students to improve a better life.

3. RESEARCH METHODS

This study discusses the factors that influence the selection and the price difference lease student residence Sriwijaya University Campus Indralaya dependent variable is the election decision Dwelling, while the independent variable is the price of the rent, household income, facilities, and location. This type of research is Hypothesis Testing with the unit of analysis is students who choose to stay in Apartment/Rusunawa Unsri and students living in boarding houses around Unsri Campus Indralaya.

The number of samples to be taken to follow the provisions of Gay and Diehl (Sanusi, 2014). Therefore this study correlational nature of the sample of college students either choose a place to stay at Apartment Unsri and boarding around the campus Indralaya as many as 275 people. The sampling technique is done by using the technique of accidental, which is a technique to determine the respondents by anyone who is deemed suitable as a source of data will be given a questionnaire.

A statistical technique used is the Binomial Logistic Regression method. The model used is the cumulative density function or

a function is asymptotically (between 0 and 1) in the objective function, in this case is a logit model with the following equation:

$$\Pr (Y = 1 | x) = \frac{e^{b_0 + b_1x_1 + b_2X_2 + b_3X_3 + b_4X_4}}{1 + e^{b_0 + b_1x_1 + b_2X_2 + b_3X_3 + b_4X_4}}$$

Where: Y = Response Selecting Dwelling (a value of 1 if the respondent choose boarding houses and 0 if not); b_0 = Constant; b_1, b_2, b_3, b_4 = Regression coefficients of the variables X_1, X_2, X_3, X_4 ; X_1 = Rental Price; X_2 = Income Families; X_3 = Facilities; X_4 = Location.

Tests of significance on the parameters is done by looking p value compared with α (level of significance) used in two tail null hypothesis. As for the overall significance statistics using the likelihood ratio (LR statistics). LR statistic follows the χ^2 distribution (Chi-square) with df equal to the number of independent variables (Gujarati, 2013).

3.1. Goodness of Fit Test

To assess the goodness of fit of the mode, two criteria are used, namely (Sujarweni, 2014):

1. Hosmer and Lemeshow's Goodness of Fit Test, i.e., if the probability value is $>5\%$, it means the binomial logistic regression model was unfit for further analysis.
2. Assess the fit model, namely the reduction in the value -2Log Likelihood -2Log Likelihood initial value in the next step will mean hypothesized model fit to the data.

3.2. Operational Definition of Variables and Indicators

Variable	Dimension	Indicator	Scale
Y=Selection decisions shelter	Selection Decisions Shelter	Selection Dwelling 1=Select lodging house 0=Select Apartment/ Rusunawa	Nominal
X_1 =Rental Price	Housing rental prices that must be paid by the consumer	The amount of student expenditure on Shelter in Rupiah (IDR)	Interval
X_2 =Family Income	Total family income of students	Total revenue in Rupiah	Interval
X_3 =Facility Shelter	Facilities offered Dwelling	Number of facilities provided by the owner of the dwelling such as a wardrobe, a bed, a desk, wifi, living room, kitchen and bathroom	Interval
X_4 =Location	The location of Dwelling refers to the economic factors of existence Shelter considered	Student perceptions about the existence Shelter to the location of the campus, public facilities, places of entertainment, dining, efficiency motif and transportation costs	Ordinal

4. RESULTS AND DISCUSSION

4.1. Distribution of Respondents by Economic Variables

Characteristics of respondents by economic variables are categorized based on the price of rent, income parents and an extra amount of rent. Respondents who paid the rent of IDR 3,900,001 - IDR 6,500,000 is the biggest part of all respondents surveyed, the proportion was 50%.

Table 1 also shows that the lease on the top two intervals have a distribution of respondents do not differ much, respectively 19.27% and 21.45%, or a total of about 40%, while 10% of the respondents to pay the rent more than IDR 6,500,000. On average their rent paid respondent is IDR 4,505,273, means that there are 43.27% of the respondents to pay the rent above that average.

The next economic variables are parents income respondents. In Table 2, there are two intervals of the income distribution have <10% are on <IDR 1 million and between> IDR 2,000,000 to IDR 2,500,000. Most distributions are parents income respondents interval of Rp 1,000,000 - IDR 1,500,000 ie, a quarter of all respondents surveyed. In proportion differed very well there (the proportion of about 25%) in the highest income interval or> IDR 3,000,000. Overall Table 2 shows that the income of the parents respondents varied greatly.

4.2. Distribution of Respondents by the Social Demographic Variables

Socio-demographic variables were observed from respondents include age, gender, national origin and the number of facilities provided by the owner of the dwelling. Based on the respondent's age interval is 16–21 years. Respondents who are 19 years old is the biggest part in the study, which covers two-fifths of all respondents. Followed by respondents aged 20 years who is a third of the respondents and the other part is a quarter of respondents

Table 1: Frequency distribution of respondents by rental housing

Rent Interval (IDR)	Respondent total (%)
1.300.000–2.600.000	53 (19.27)
2.600.001–3.900.000	59 (21.45)
3.900.001–6.500.000	137 (49.82)
6.500.001–9.100.000	19 (6.90)
>9.100.000	7 (2.55)
Total	275 (100.00)

Source: Field Survey, 2016

Table 2: Frequency distribution of respondents by income parents

Income Interval (IDR)	Respondent total (%)
<1.000.000	17 (6.2)
1.000.000–1.500.000	67 (24.4)
>1.500.000–2.000.000	54 (19.6)
>2.000.000–2.500.000	24 (8.7)
>2.500.000–3.000.000	49 (17.8)
>3.000.000	64 (23.3)
Total	275 (100.00)

Source: Field Survey, 2016

aged 16–18 years. If the gender aspect of concern, then the ratio of the number of respondents male and female is 2: 3, or 45% of respondents are male and 55% female.

For students who choose to stay in boarding houses or apartments/ rusunawa Indralaya, then it assumes that the respondents were at least not from Indralaya. Based on the category of the origin of South Sumatra, respondents still dominated by students from all districts/cities in the province of South Sumatra, while respondents from outside of South Sumatra in Sumatra island including the North Sumatra, Lampung, Bengkulu, Aceh, Jambi, West Sumatra and Riau. It is quite encouraging that 1 out of 4 students from other provinces in Sumatra. In terms of competition among Universities in Sumatra, Sriwijaya University seems quite competitive.

Issues that should be pursued further was able to compete in Indonesia, as it seems from all respondents surveyed, <10% of it comes from outside Sumatra, some of them in West Java, Jakarta, Banten, Central Java, Makassar and Bangka Belitung. Especially when considering the University's vision Srwijaya who wants to become a world class research university, optimism should continue to be built in order to interested students from abroad. One factor that can not be overlooked is the preferred place to stay, both on campus and around campus Indralaya, along with the facilities available.

Here are the facilities provided by the owner or manager of a place to stay either in boarding houses and apartment/ rusunawa. In this research facility that serves both may include a bed, a dresser, a desk, wifi, kitchen and bathroom, as shown in Figure 2.

Number of facilities provided by either the owner or manager of a place to stay fully as 6 kinds as mentioned earlier is the biggest distribution is 24%. Followed by 5 kinds of facilities are available as much as 20.7% with four main facilities ie bed, desk, kitchen and bathroom while the latest types vary between cabinets and living room. Respondents who declared three kinds of facilities available numbers were almost as much as stating provided 5 kinds of facilities, where two major facilities are bathroom and kitchen, while the third facility varies between the bed or the living room.

4.3. BINOMIAL LOGISTIC REGRESSION ESTIMATION RESULTS

In the model of respondents preferences in choosing a place to stay dependent variable is a dummy, the probability of staying in boarding houses = 1 and rusunawa = 0. The result indicates the value of Chi-square was significant with 95% confidence level as shown in Table 3. Table 3 indicated that the feasibility of regression models assessed using arithmetic significance value that is equal to $0.174 > 0.05$. This means that the binomial logistic regression models unfit for further analysis, because there is no real difference between the predicted classification by classification were observed.

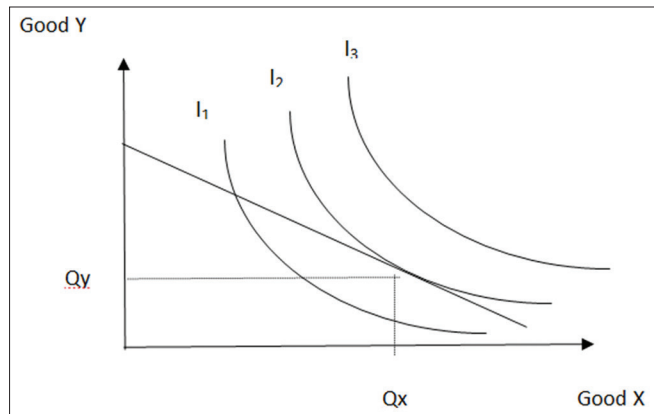
To assess the model fit is with a reduction in the value of $-2 \text{ Log Likelihood}$ beginning with a value of $-2 \text{ log likelihood}$ in the next

Table 3: Results estimation of rental price, parent’s income, total facility and location perception according to respondent against housing options

Variable	B	S.E	Wald	Sig	Exp (B)	95% CI for exp (B)	
						Lower	Upper
Rent Price	0.000	0.000	24.354	0.000	1.000	1.000	1.000
Income	0.452	0.158	8.171	0.004	1.572	1.153	2.143
Facilities	-1.049	0.234	20.002	0.000	0.350	0.221	0.555
Location	-1.594	0.600	7.055	0.008	0.203	0.063	0.659
Constants	3.865	2.119	3.327	0.068	47.722		

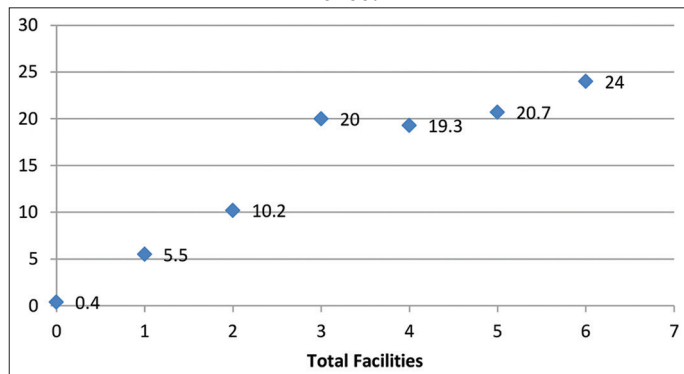
Initial - 2 Log Likelihood: 324,217; -2 Log Likelihood: 130,765
 Model Chi Square: 11,517 (df=8; sig=0,174)

Figure 1: Indifference curve



Source: Nicholson, 2002: 77. 1 - I_1 shows yet optimal customer satisfaction. 2 - I_2 shows the consumer reaches the point of maximum. 3 - I_3 showed consumer budgets are not enough to meet the needs of goods X and Y.

Figure 2: Distribution of respondents by number of facilities available for both



Source: Field survey, 2016

step. Demonstrated that the results of this study are impairment -2 Log Likelihood early (in block 0) is equal to 324.217 with -2 Log Likelihood in the next step (block 1) that is equal to 130.765. Thus, the hypothesized model fits the data.

Based on the results of the regression, all independent variables significantly. Value B variable rental rates and income is 0,000; and 0,452; means that every one-unit increase in rental rates, for example, from IDR. 1,300,000 to IDR 2,600,000 makes odds choose where to live in the boarding house does not change with $\exp(0.000) = 1.000$. Different with the income variable in which the sign of the coefficient is positive then the income of parents

of respondents causes a direct effect. The estimation results show any accretion income of parents of respondents would make the odds possibility to live in boarding houses be increased by $\exp(0.452) = 1.572$, an increase of 57.2%.

Different from the income of parents who bring a positive influence, the number of facilities led to a negative influence. The estimation results show each additional type of facilities will make the odd possibility to live in boarding houses to be reduced by 65%. It turns out that the facility did not make a lot more respondents would prefer to stay in the boarding house. These results are consistent with the findings of La Roche, et.al, (2010), that Student live on campus (dormitory) due to the availability of facilities. Conceptually the existing facilities can indeed be a measure of the level of student satisfaction in choosing a place to stay (Muslim et al., 2012).

While the negative correlation of respondents’ perception about the location means that the odds of the possibility of choosing a place to stay in boarding houses will be reduced by 79.7% if the perception assessment score increased by one unit. The smaller score indicates higher the value perception of respondents. In other words, if the respondents rate the better location (value score of close to 1), the possibility to live in boarding houses increased. The real effect of variable this location is an important determinant of student satisfaction and the election of residence (Thomsen and Eikemo, 2010; Supriana, 2012)

5. CONCLUSION

From the results of descriptive analysis, binomial logistic regression models and test the average difference, it can be concluded the following matters:

1. Parents income of respondents and the number of facilities available at the residence to variations with an average of IDR 3.77 million per month and 4 types of facilities combined beds, cabinets, desks, wifi, kitchen, and bathroom.
2. Almost half of the respondents pay their rent between IDR 3,900,000 to IDR 6,500,000, with an average rental price IDR 4.51 million per year. There are differences in the average rental price between boarding houses and subsidized apartments with a difference of IDR 507,030.4.
3. Opportunity of choosing a place to stay in boarding houses significantly influenced by the price of the rent, the income of the parents, the number of existing facilities and the perception of location of residence. The variables most decisive

opportunity to live in boarding houses is the perception of the location such as the distance to the campus location, public facilities, places of entertainment, dining, motif efficiency and transportation costs. The negative sign means that the value perception of the location, the better the perception of respondents about the location of residence will increase the possibility of choosing to stay at the boarding house. Similarly, the increase in income will increase the likelihood of respondents chose boarding houses, whereas the opposite with the number of facilities.

REFERENCES

- Cahyani, P, Diah, D. (2012), *Preferensi Konsumen Apartemen di Kota Bandung*. Temu: Ilmiah IPLBI.
- Gujarati, D.N. (2013), *Dasar-dasar Ekonometrika*. Edisi 5. Jakarta: Salemba Empat.
- Hajar, S., Susilawati, M., Nilakusmawati, D.P.E. (2012), Faktor-faktor yang memengaruhi keputusan mahasiswa dalam memilih rumah kost. *E-Jurnal Matematika*, 1(1), 25-31.
- Karsidi, A. (2002), *Analisis Faktor-faktor yang Berpengaruh Terhadap Permintaan dan Penawaran Rumah Sederhana di Kota Semarang*. Tesis. Program Pasca Sarjana Universitas Diponegoro.
- La Roche, C.R., Flanigan, M.A., Copeland, P.K. (2010), Student housing: Trends, preferences and needs. *Contemporary Issues in Education Research*, 3(10), 45-50.
- Muliana R. and Kustiwan I. 2014 *Perilaku Pemilihan Lokasi Tempat Tinggal dan Karakteristik Perjalanan Mahasiswa di Kota Bandung* *Jurnal Perencanaan Wilayah dan Kota B* 1 37-43.
- Muslim, M.H., Hafazah, A.K., Ishak, C.A. (2012), Satisfaction of students' living environment between on-campus and off-campus settings: A conceptual overview. *Procedia-Social and Behavioral Sciences*, 68, 601-614.
- Nicholson, W. (2002), *Microeconomic Theory Basic, Principles and Extensions*. New York: The Dryden Press.
- Ong, S.E., Milena, P., Andrew, S. (2013), Demand for university student housing. *Journal of Housing Research*, 22(2), 141-164.
- Rachmawati, S. (2013), Analisis preferensi mahasiswa dalam pemilihan tempat kos (Studi: Kawasan kos di kelurahan ketawanggede dan kelurahan sumbersari, Kota Malang). *Jurnal Ilmiah FEB*, 2(1), 1-15.
- Sanusi, A. (2014), *Metodologi Penelitian Bisnis*. : Salemba Empat.
- Sujarweni, V.W. (2014), *SPSS Untuk Penelitian*. : Pustaka Baru Press.
- Supriana, I.W. (2012), Sistem pendukung keputusan dalam pemilihan tempat kost dengan metode pembobotan (Studi Kasus: Sleman Yogyakarta). *Jurnal Ilmu Komputer*, 5(2), 11-16.
- Sukirno, S. (2013), *Mikroekonomi*. Edisi Ketiga. : Rajawali Pers.
- Thomsen, J., Terje, A.E. (2010), Aspect of student housing satisfaction: A quantitative study. *Journal of Housing and The Built Environment*, 25(3), 273-295.