

Analysis of Private Student Accommodation and Rental Values in Public Universities: Case Study in University of Sri Jayewardenepura

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ABSTRACT

*Every student has a basic right to an education. Students relocate to other parts of the nation or even abroad for educational purposes. The bulk of students relocate from rural to urban areas to pursue higher education. In Sri Lanka, the gross enrolment rate for higher education is 19.8%. Higher education enrolment is increasing year after year, and Sri Lankan universities are unable to offer on-campus housing for them. As a result, there is a need for private student housing, which is mostly driven by students, and private housing providers are providing this demand in the current market. The majority of students that enroll at Sri Jayewardenepura Institution come from rural locations, most of which are more than 30 kilometers away, making daily travel to the university from their homes impracticable. Approximately 60% of undergraduate students at the University of Sri Jayewardenepura do not have access to the university's dormitory facilities. As a result, student housing has become a basic requirement for undergraduates to complete their higher education. However, a considerable majority of students (60%) do not obtain university student accommodation amenities (hostel facilities), as provision is becoming restricted with the rising number of undergraduates each year. As a result, students are required to locate private housing near the institution, yet about 90% of undergraduates confront several challenges while selecting private housing in a short period of time. Because most students are unfamiliar with the region, it would be extremely beneficial if the institution could give adequate suggestions for selecting private housing. Through the research itself, a comprehensive statistical framework for analyzing private student accommodations in public universities with rental value variation estimations is established. There are two key influencing factors for private student accommodations: level of convenience in Accommodation (0.929** Correlation/ R2 0.855) and level of convenience in Accommodation (0.919** Correlation/ R2 0.844). In addition, the level of Services (0.870** Correlation/ R2 0.805) indicated a high Relationship, whereas the level of Utility in Accommodation indicated a moderate Relationship.*

Keywords - Private Student Accommodation, Rental values, Student Facilities

INTRODUCTION

Students everywhere have a fundamental entitlement to an education. Students move to various locations within the country or even overseas for educational purposes. The majority of students move from rural to urban regions primarily to seek higher education. Considering 170 million additional students since 1990, the gross enrolment rate in higher education is predicted to be 160% globally (Sharma, 2012). However, the gross enrolment rate for higher education in Sri Lanka is shown as 19.8%. The average yearly growth rate has increased from 11.1% in 1970 to 19.8% in 2015 (Knoema Corporation (US), n.d.). Governments in many developing nations now have to accommodate university students, which is a huge burden for many. This seems to be caused by an increase in the rate of higher education enrolment. Therefore, a need for private student housing has emerged, driven mostly by students, and private housing providers are meeting this demand in the present market.

About 60% of the University of Sri Jayewardenepura's undergraduate students do not have access to the university's hostel facilities (student council – 2020). As a consequence, there is now an opportunity for private housing businesses to provide student accommodation. The responsible parties should take a few things into account when it comes to private accommodation options, nevertheless. There are laws and regulations for university hostel accommodations, but there is no legislation passed by the parliament to manage or regulate student private housing. As a result, the majority of lodging accommodate client needs for private lodging. Those students who are not eligible for university housing must obtain private housing. When choosing private housing for students, they consider a variety of factors, including location, accessibility to the institution, rental costs, safety and security, amenities, quality, and independence (RealEstateRama, 2020). To provide a useful tool to help students identify appropriate housing, this study will examine the private accommodations that are currently available.

The majority of students who enter the university of Sri Jayewardenepura are from rural areas, mostly beyond 30 kilometers, which makes daily travel to the university from their residences impractical. Hence, student accommodation has become a basic need for undergraduates to accomplish their higher education. However, among the undergraduates, a large proportion (60%) do not receive university student accommodation facilities (hostel facilities) as the supply is becoming limited with the increasing

number of undergraduates yearly. Therefore, students are compelled to find private accommodation around the university, but about 90% of undergraduates face numerous problems when choosing private accommodation in a short time (KII findings, 2022) Since most students are not very familiar with the area, if the university can provide proper guidelines about choosing private accommodation, it will be very useful for students.

Research Problem

Existing private student accommodations are not registered in the university and accommodation is provided without proper standards. Hence, students are not guaranteed good security and the basic infrastructure required. The university authorities are unaware of the facilities of those private boarding houses, and the private accommodation providers have no recommendations given by the university as well. Those factors may affect student security and education. There are no proper guidelines or databases to identify private student accommodations for anyone. Everyone must visit the accommodations in person and check them when choosing an accommodation. It has become a major problem for both undergraduates and property owners. This is real research gap focused on following research questions. Apart from that, this particular research is more aimed to identify the influence key factors for Private student accommodation.

What are the different type of student accommodation located surrounding the University?

Is it appropriate facilities available in the student accommodation located surrounding the University?

What are the relationship between Status of student accommodation and rental value?

Research Objectives

the main objective of this research is to identify relationship between the facilities and rental values of private student accommodation surrounding of the university of Sri Jayewardenepura. For achieve this main objective following specific objectives were developed.

To identify type of private student accommodation in the surrounding area of the university?

Analysis of the facilities of student accommodation located surrounding the University

To analyze the relationship between rental value and Status of the student

accommodation located surrounding the University.

LITERITURE REVIEW

Education is the primary means of increasing knowledge and typically achieving certain objectives. Education is a lifetime experience that aids in the growth of the individual on the inside (Anon, 2013). University housing should be made available to the majority of students since it is a basic requirement. Most students who pursue higher education often come from diverse rural areas. The government is the main provider of dorm space for higher education institutions in underdeveloped countries. A facility that has been made available to students whose homes are far from their educational institution is known as student housing, sometimes referred to as a student hostel or housing (Chiguvi & Ndoma, 2018).

Universities are frequently found in nearby cities. Metropolitan locations have fewer open spaces than rural places. The housing market eventually attracts private providers to fill the hole by providing students with private homes due to a lack of resources. Private housing for students most often includes landlords who live in the same home as a portion that is rented out. The students can often share the room with others, depending on its size. Many universities place a strong emphasis on providing impressive resources to attract students, particularly those from outside the city and overseas students who should consider the availability of suitable and affordable accommodation. College funding has been reduced recently, and large infrastructure projects like housing may compete for the remaining discretionary funds (Clement, 2003).

Most college freshmen are between the ages of 19 and 20. The majority of them have never lived away from home or been in a hostel. Thus, by spending a significant amount of time away from home, young pupils may learn a lot about life. They may pick up skills such as how to manage their daily duties, live independently, collaborate and work with roommates, share bathrooms and kitchens, etc (Ghani & Suleiman, 2016). Additionally, Garg, et al. (2014) pointed out that relocating away from their families to seek higher education has had a major influence on students' personalities and psychological well-being. Days of classwork may be missed by students while they hunt for suitable student accommodation. In addition, students often miss class, assignments, and practices, which might occasionally affect their grades (Chiguvi & Ndoma, 2018). Furthermore, substandard student housing may lead to arguments between housemates. Students must be able to adapt to any

type of private student housing to ensure the comfort of property owners. There are times when a student's only criteria are to share a room with two or more other students and have a furnished room (Rugg, et al., 2010). Only a small portion of students can and desire to live alone at the moment. Private homes for students solely aren't generally constructed with that objective in mind. They are first constructed as family homes before being converted into student housing. Thus, the facilities required for students' educational activities are inadequate and of poor quality (Ghani & Suleiman, 2016). The bulk of private accommodations falls well below the minimal minimum norms, which supports the aforementioned statement about their poor quality. If the university maintains many boarding houses and its caliber as a database with locations, students may easily find boarding homes.

In Sri Lanka, giving university students lodging is a necessary condition for their capacity to learn (University Grant Commission, 2004). But there isn't enough accommodation for all of the university students who are enrolling every year. The University Grants Commission has proposed several factors to identify students who would essentially be provided hostel residence due to the limited supply of university housing, including academic year, distance from home, and parental income. The following table describes the University of Sri Jayewardenepura's student housing.

Table 1: Hostel Facilities of the University of Sri Jayewardenepura

Hostel facilities of the University of Sri Jayewardenepura						
Faculty			No: of undergraduates in the university		No: of undergraduates who are eligible to get hostel facility	
			girls	boys	girls	Boys
Management & Commerce	Studies	&	3019	1776	1229	343
Humanities and Social Science			2786	659	1853	322
Applied Science			1402	870	200	110
Engineering Faculty			123	359	48	167
Technology Faculty			388	549	188	357
Medical Science			493	303	109	125
Paramedical Science			210	55	124	44
Total			8421	4571	3751	1468

Source: student council – 2020

The University of Sri Jayewardenepura has (8421 + 4571) 12,992 undergraduate students enrolled in its degree programs, according to the table. Only (3751 + 1468) 5,219 freshmen are selected for university residence, though. 40% of the student population, or the remaining 60%, must find private housing. This fraction includes undergraduates who commute from their homes and reside in private housing.

Students who are not chosen for university housing must find a private apartment to live in throughout their undergraduate studies. Most university students in Sri Lanka do not have the necessary resources to find affordable, high-quality private housing. As a result, the institution needs to find and add private lodgings to its database (student council – 2020). For this, it is planned that GIS, a system based on maps, will be used. It is a capable tool for geographical analysis that can input, store, process, and produce spatial data. Several scholars have used GIS to find more acceptable residential accommodation.

The Review of Factors Influencing Rental Values

Rental values are influenced by several factors in the majority of markets. These include infrastructure, government taxation, supply and demand, interest rates, inflation, and affordability (Ghani & Suleiman, 2016) (2014) Jeremy & Wu Assets for businesses are frequently ones that may be rented out. These include residential residences as well as structures like offices, retail businesses, and industries that may be very profitable for investors and landlords in Nigeria. "Housing is vital because everyone needs a place to live with amenities and a place to live for shelter," says the lecture note for macroeconomics (2012). In contrast, most households in developed nations purchase more than they truly require, and as a result of this level of consumption, housing is frequently viewed as a luxury good (RealEstateRama, 2020). The majority of countries consider owning real estate to be an investment. So, housing might be good to buy and investment. Even if some households opt to rent from public (social) landlords, this is a practice that is becoming less common worldwide. The following are the main factors that influence rental values, according to Jack Harvey's book *Urban Land Economics*: Harper (1996)

Table 2: Urban Land Economics of Jack Harvey the Main Factors Influencing Rental Values

Determinants	Independent Variables	Dependent Variable
<ul style="list-style-type: none"> • Size of the bed room/Floor area per person • Number of bed rooms • Age of the building • Quality of construction 	Physical attributes of the building	Rental Value of residential property
<ul style="list-style-type: none"> • Distance to bus route • Distance to Wijerama Junction • Distance to University of Sri Jayewardenepura 	Locational factors	
<ul style="list-style-type: none"> • Availability of electricity • Availability of water • Neighbourhood characteristics • Characteristics of tenants • Practices of comparisons 	Amenities services and other factors	

Source - Jack Harvey's book Urban Land Economics: Harper (1996)

Jack Harvey claims that the physical attributes of the buildings, their location and orientation, as well as their amenities, services, and other features, are the main factors influencing the dependent variable of rental value. In their essay Key factors affecting the rent of buildings: a case study on Taipei, Hsing and Perng also noticed the following table of variables (Hsiung & Perng, 2019). Hsing and Perng have identified five crucial factors that affect building rent. At level 2, there are indicators for each scale element. 25 important symptoms have been highlighted.

Table 3: Hsing and Perng, Key Factors Affecting the Rent of Buildings: Case Study in Taipei

Goal	Level 1	Level 2	
Key factors affecting office building rent	Building facilities	1. Ceiling height	
		2. Seismic damper	
		3. High-grade building materials	
		4. Independent air conditioning	
		5. Backup power supply	
		6. Main business district	
	Geographical location	7. Shopping district	
		8. Restaurant selection	
		9. Zoning	
		10. Recreational space	
		11. Public facilities	
		12. Business facilities	
	Nearby facilities	13. Two power stations supply	
		14. Healthcare resources	
		15. Accommodation selection	
		16. Proximity to Taipei Mass Rapid Transit (MRT) stations	
		Transportation convenience	17. Proximity to highway interchanges
			18. Parking space
	19. Public transportation		
	20. Road connection to major networks		
	21. Renowned landmark		
	Image		22. Green building and smart building[10]
		23. Friendly neighbors	
		24. Social image	
		25. Adequate property management	

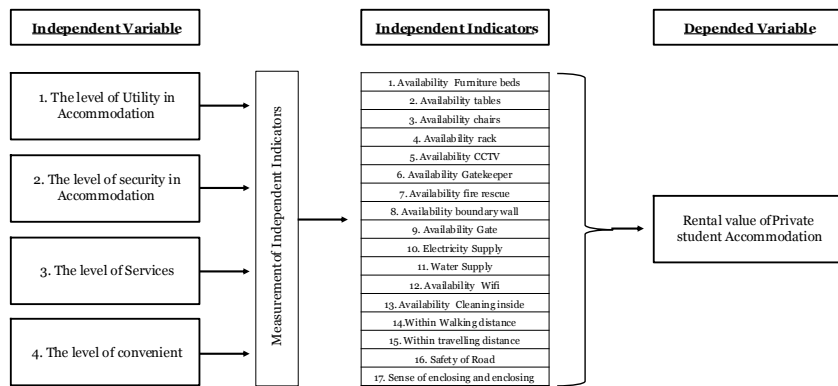
Source - Key factors affecting the rent of buildings: a case study on Taipei, Hsing and Perng

CONCEPTUAL FRAMEWORK

This conceptual framework is divided into three parts: one with four independent variables, one with seventeen independent indicator measurements, and the last one with a dependent variable of the rental value of private student accommodation.

The independent variables are the level of status and characteristics described by the many literature reviews (in table 5) and it elaborate that the sensitivity or variability of the dependent variable. In the first phase, the independent variable varies with the variation of Measurement of Independent Indicators, which has a direct impact on the variation of the dependent variable of Rental value of Private Student Accommodation in the case study of the University of Sri Jayewardenepura.

Table 4: Conceptual Framework



Selected Factors which influence Private accommodation in USJ

A statistical model was created using around 17 measures, or indicators, according to earlier research that was done along with a variety of literature. The selection process of the most appropriate and effective parameters to be employed took into account the following criteria and variables, including frequency of use, convertibility for quantitative analysis, applicability for statistical models, availability of data, and problematic data.

Table 5: Selected Factors which Influence the Private Accommodation in UOJ

Parameter	No	Measures	Calculation/Equation/ Measurement/ Method of Presentation	Study and supporting literature
The level of Utility in Accommodation	1	Availability Furniture beds	Availability (Physically Appearance)	Marcus, 2010; Sayyar & Marcus, 2013
	2	Availability tables	Availability (Physically Appearance)	
	3	Availability chairs	Availability (Physically Appearance)	Harvey, 1996)
	4	Availability rack	Availability (Physically Appearance)	(Hsiung & Perng, 19
The level of security in	5	Availability CCTV	Availability (Physically Appearance)	Harvey, 1996)

Accommodation	6	Availability Gatekeeper	Availability (Physically Appearance)	(Physically Appearance)	(Hsiung & Perng, 2019).
	7	Availability fire rescue	Availability (Physically Appearance)	(Physically Appearance)	Harvey, 1996)
	8	Availability boundary wall	Availability (Physically Appearance)	(Physically Appearance)	Harvey, 1996)
	9	Availability Gate	Availability (Physically Appearance)	(Physically Appearance)	Marcus, 2010; Sayyar and Marcus, 2013
The level of Services	1 0	Electricity Supply	Availability (Method of providing like Free, Added to Rent)	(Method of providing like Free, Added to Rent)	(Hsiung & Perng, 2019).
	1 1	Water Supply	Availability (Method of providing like Free, Added to Rent)	(Method of providing like Free, Added to Rent)	(Hsiung & Perng, 2019).
	1 2	Availability Wifi	Availability (Method of providing like Free, Added to Rent)	(Method of providing like Free, Added to Rent)	(Hsiung & Perng, 2019).
	1 3	Availability Cleaning inside	Availability (Method of providing like Free, Added to Rent)	(Method of providing like Free, Added to Rent)	Marcus, 2010; Sayyar & Marcus, 2013
The level of convenient	1 4	Within Walking distance	within 500 m buffer zone	within 500 m buffer zone	Harvey, 1996)
	1 5	Within travelling distance	within a 2km buffer zone	within a 2km buffer zone	Marcus, 2010; Sayyar & Marcus, 2013
	1 6	Safety of Road	personal preference - Likert Scale	personal preference - Likert Scale	(Hsiung & Perng, 19
	1 7	Sense of enclosing and enclosing	personal preference - Likert Scale	personal preference - Likert Scale	(Hsiung & Perng, 2019).

Source – Compiled by Author

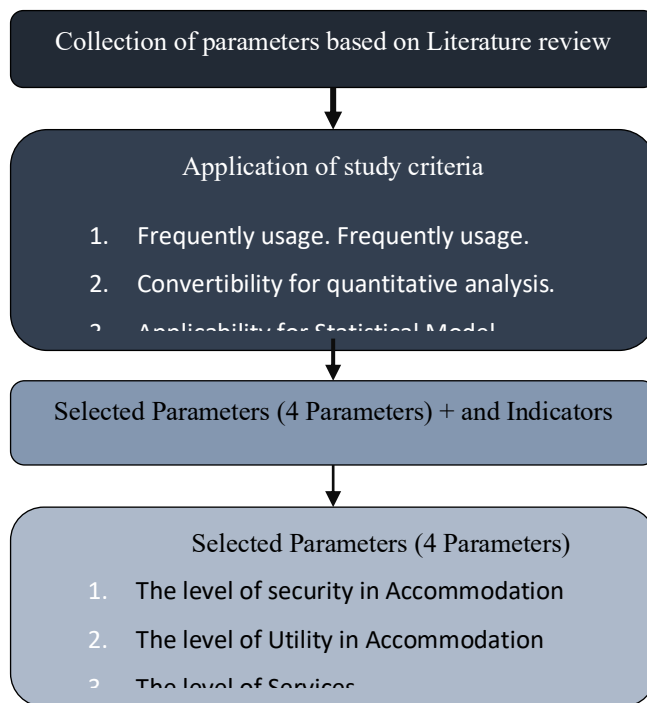
Parameter Selection Process

The procedure for choosing the study's parameters and measurements is depicted in the flowchart below. The parameters are determined based on four major study criteria: frequency of data usage, convertibility for quantitative analysis, applicability for statistical models and data availability, and data questionability. The primary goal of this critique is to figure out the

appropriate parameters for study.

With reference to the preceding paragraph, four major study criteria have been identified as the four parameters that determine the status of rental value for private student accommodation in public universities. These selected parameters are the level of security in private student accommodation, the level of utility in private student accommodation, the level of services in private student accommodation, and the level of convenience in private student accommodation. In addition, to indicate those selected parameters, the research itself identified the 17 measurements (Indicators).

Figure 1: Parameter Selection Process



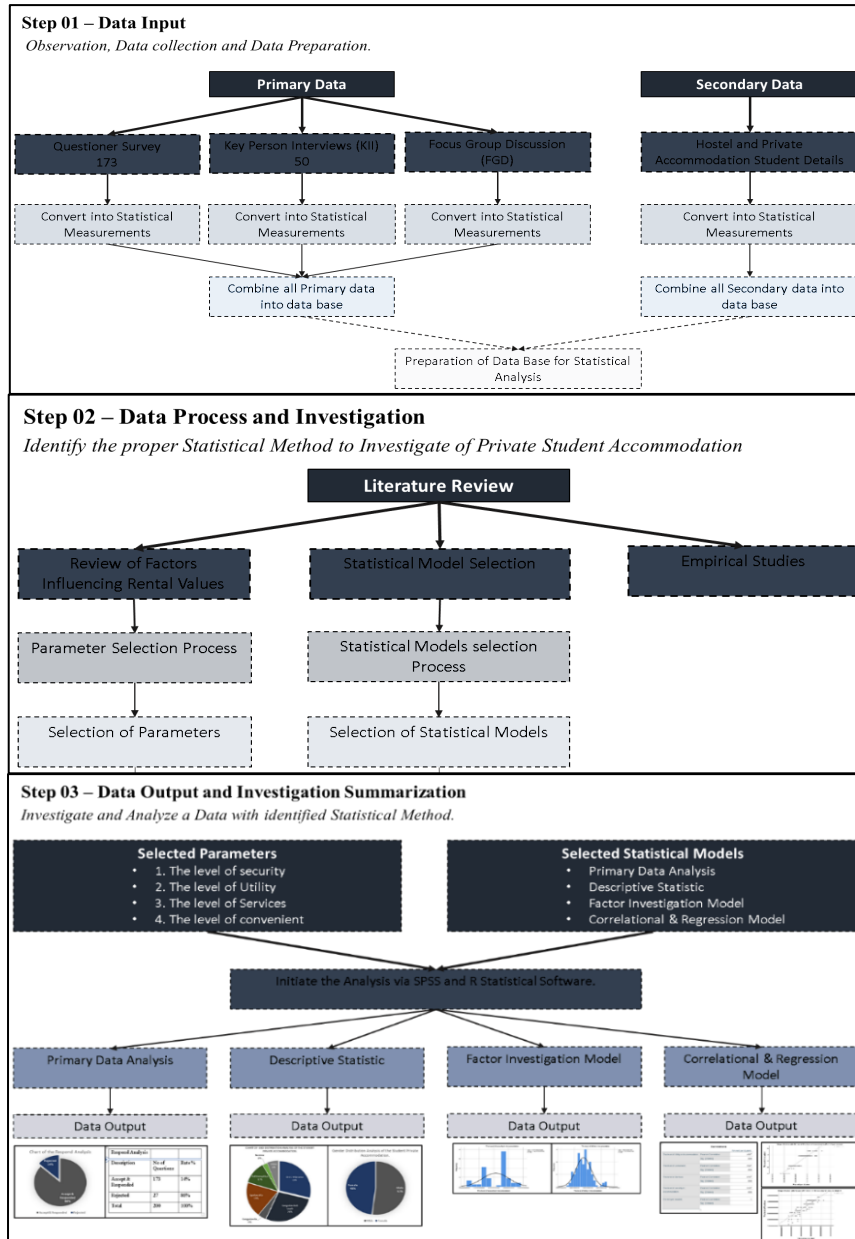
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The Research Process

Suggested Research Process has three main phases that correspond to the study's necessity for an investigation of private student Accommodation utilizing a framework with the cooperation of statistical methods. To get a general overview, the observation and data-collecting technique's first phase

was completed. The next step was to choose the best statistical approach to analyze the data that was gathered. Investigating and Analyzing Data Using a Statistical Method is the Third and Last Step.

Figure 2: Proposed Conceptual Framework



Source – Compiled by Researcher

DATA AND METHOD

The research design consists of 3 key stages. Each stage has been discussed in the following sections- whereas a detailed discussion has been carried out about the proposed framework under chapter 3

Literature review of the existing investigations of the Accommodations.

Stage 01 involved the examination of the literature review. The numerous types of empirical research and investigations that relate to student housing have been recognized through literature. Additionally, the analysis of the employed methodologies has revealed their shortcomings. Finally, taking into account the aforementioned restrictions, a unique investigation statistical measurement was found and created to do away with those restrictions and contain the new information and planning approach.

Data Collection and Data Preparation

The primary component of the research design was Stage 02, which involved data collection and data preparation. The practical and ground-level works are processed in stage two. The primary and secondary data had been utilized at Stage 2. Participatory rural appraisal served as the primary data source and the primary learning strategy (PRA Methods). The strategy attempts to include public knowledge and opinions in the formulation and administration of development initiatives and programs. 200 Household questionnaires were collected using PRA procedures, and only 176 answer sheets were collected. 50 Key Informant interviews (Semi-Structured Interviews) and Focus Group Discussions (FGD) were conducted with Owners of private student accommodations. The following is a summary of PRA methodologies.

Table 6: Primary Data Collection Process

No	PRA Method	Number of interventions
1	Household Questioners (Owners of private student accommodations)	200
2	Key Informant interviews (Semi – Structured Interviews) (Owners of private student accommodations)	50
3	Focus group Discussions (Owners of private student accommodations)	

Source – Compiled by Author

The University Hostel Office is the secondary data source, and it has collected information on a variety of hostel amenities, current restrictions on

providing hostel amenities, and the number of students who would have private lodgings.

Data Preparation

Software like R and SPSS were used to prepare the data. This software allowed us to locate the three main types of data, including statistical and spatial data. only acknowledged in this study by the inventive structure for gathering statistical data. As statistical data, some of the data were classified, some were scaled, and others were paragrahed. I'll now go into more detail about how these three data kinds are transformed into analytical and static data.

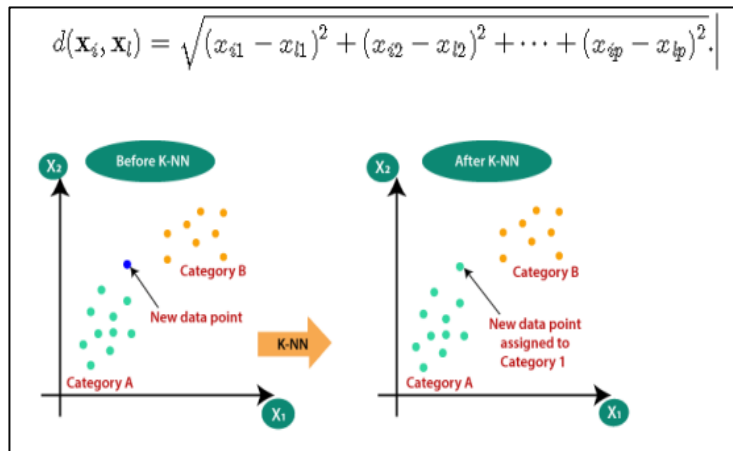
Classified Data Convert into Statically and Analytical Data via R

Using the class Labels (AI Algorithm) under the K Nearest Neighbor primary AI Algorithm scheme, this categorized data was transformed into statically and analytical data through R.

K-Nearest Neighbor (KNN)

When there is little or no prior knowledge about the distribution of the data, K-nearest-neighbor (KNN) classification should be one of the first options considered for classification research. The necessity to perform discriminant analysis when accurate parametric estimates of probability densities are unknown or challenging to calculate led to the development of K-nearest-neighbor classification (Peterson, 2009) The Euclidean distance between a test sample and the designated training samples is the basis for the k-nearest-neighbor classifier in most cases. Let n be the total number of input samples ($i=1,2,\dots,n$) and p be the total number of features ($j=1,2,\dots,p$) for input sample x_i with p features ($x_{i1}, x_{i2},\dots,x_{ip}$). Samples x_i and x_l 's Euclidean distance ($l=1, 2, n$) is given by,

Figure 3: K-Nearest Neighbor (KNN)



Source – Compiled by Author

Likert Scale Data Convert into Statistical and Analytical Data

The data from the Likert scale was effectively utilized as a rating scale to gauge people's opinions and general levels of contentment. But these data must be converted into statistical and analytical data to be used in a statistical model. Utilizing SPSS IF - Compute a Variable for a Selection of Cases, the conversion was carried out. (Whereas DO IF can have an impact on other transformations, such although RECODE or COUNT, IF is a conditional COMPUTE command.)

DATA ANALYSIS

The questionnaire was hand-delivered to 200 respondents and collected the next day, and it took 1 week to compile all of the interviewees' replies. Twenty-seven (27) of the response sheets were eliminated for not fully completing the questionnaire after receiving all of the submissions. As a result, there were 100% of the total replies, and 98% of those were examined.

Basic Data Analysis – Descriptive Analysis

Gender Distribution Analysis of the Student Private Accommodation.

There were 173 responders, of whom only 48% were female students living in private accommodations and the remaining 52% were male students. Therefore, the sample population's gender distribution is not evenly

distributed.

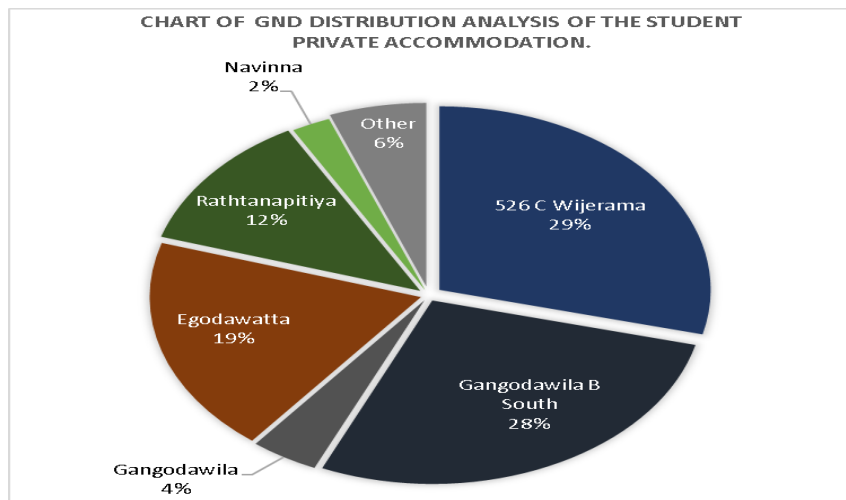
GND Distribution Analysis of the Student Private Accommodation

Table 4 :GND Distribution Analysis of the Student Private Accommodation

Description	No	Rate %
526 C Wijerama	50	29%
Gangodawila B South	48	28%
Gangodawila	7	4%
Egodawatta	33	19%
Rathtanapitiya	21	12%
Navinna	4	2%
Other	10	6%
Total	173	100%

The Grama Niladhari Division Analysis of the Student Private Accommodation was computed from a total of 173 responding populations. According to the research, 29% and 28% of respondents, respectively, said that the majority of student private lodgings were located in Gangodawila South (B) GND and Wijerama (526 C) GND. In addition, Raththanapitiya made 12% and Egodawatta GND noted 19%, respectively. Only 2% of

Figure 4: GND Distribution Analysis of the Student Private Accommodation

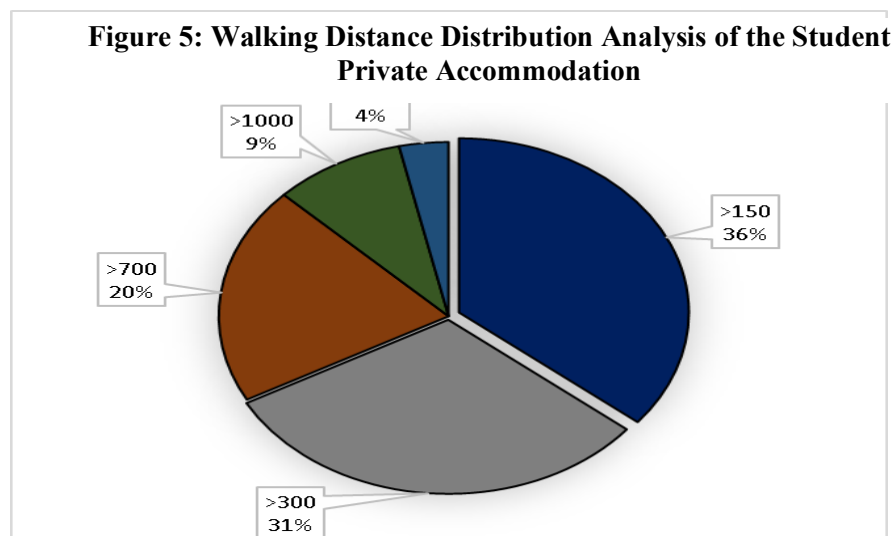


respondents, from the Navinna GND, had the lowest percentage of students living in private accommodations.

Walking Distance Distribution Analysis of the Student Private Accommodation

The Walking Distance Distribution Analysis of the Student Private Accommodation was computed from a total of 173 responding populations. According to the data, 36% of the population under investigation and the bulk of the student's private rooms were located within 150 meters of each other. The second-highest frequency, which represents around 31% of the overall population, occurred between 150 and 300 meters. Then, 20% for a range of 300 to 700 meters and 9% for a range of 700 to a kilometer. The smallest distance was over a kilometer, and just 4% of the population was affected.

Table 5: Walking Distance Distribution Analysis of the Student Private Accommodation.



Distance to the university	Corded	Frequency	%
>150	1	62	36%
>300	2	54	31%
>700	3	35	20%

>1000	4	16	9%
<1000	5	6	4%

Monthly Rent Distribution Analysis of the Student Private Accommodation

The Monthly Rent Distribution Analysis of the Student Private Accommodation was calculated from a total of 173 responding- According to the analysis, the majority of Student private accommodations have monthly rent values between 3000 and 4000 LKR and account for about 36% of the population under investigation. The second-highest monthly rental amount, which represented around 33% of the entire population, ranged from 4,000 to 5,000 LKR. Then, 20% for amounts between 5000 and 6000 LKR and 17% for sums greater than 6000 LKR.

Figure 1: The Monthly Rent Distribution Analysis of the Student Private Accommodation

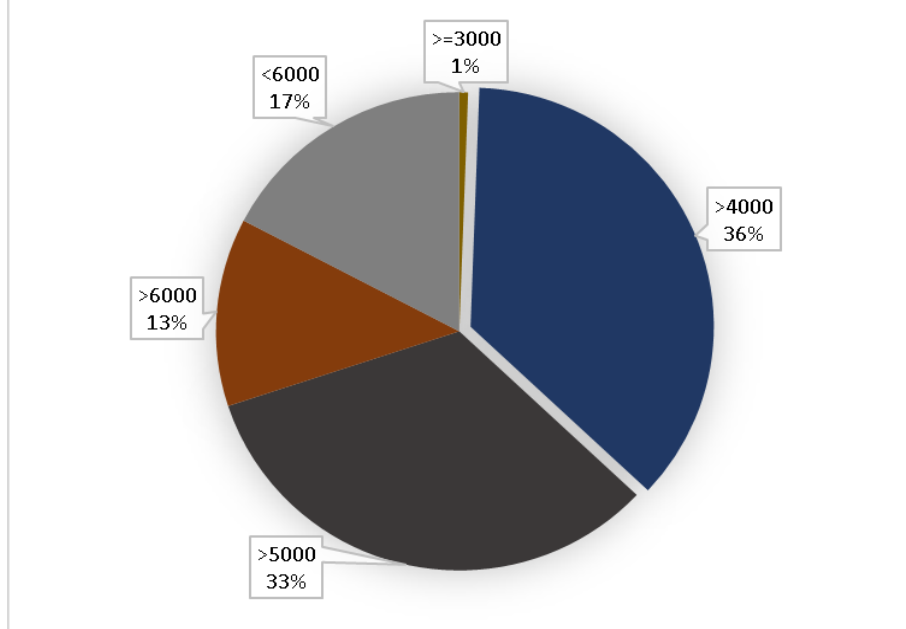


Table 6: The Monthly Rent Distribution Analysis of the Student Private Accommodation

rent per student	Code	Frequency	%
>=3000	1	1	1%
>4000	2	63	36%
>5000	3	57	33%
>6000	4	22	13%
<6000	5	30	17%

DATA ANALYSIS

Reliability Test via R

The well-known statistical measurement known as Cronbach's alpha looks at the internal consistency (reliability) of various sample sets of data. When creating a scale out of several Likert items in a survey or questionnaire, Cronbach's alpha approach is frequently utilized. If the scale is accurate, the result of this analysis will be the solution. It is regarded as a gauge of scale dependability. Technically speaking, Cronbach's alpha is a coefficient of dependability or consistency rather than a statistical test.

Reliability Analysis for Independent Variables

Internal consistency, which is represented in the table number, is recognized as the independent variable under the reliability analysis.

Table 7: Reliability Analysis for Independent Variables

Scale: independent variable	Cronbach's alpha	No of items
The level of security in Accommodation	0.355	5
The level of Utility in Accommodation	0.796	4
The level of Services	0.833	4
The level of convenient	0.607	4

Source – Compiled by Author

The level of Services has an alpha coefficient of 0.833 among all independent variables, which indicates that the items have a substantial degree of important internal consistency. The amount of Utility in Accommodation, an independent variable, had the second-highest consistency, with an alpha value of 0.796. Additionally, it was discovered that the convenience level had a high alpha coefficient of 0.607. The amount of security in accommodations has an effect that has rather low internal consistency, with a Cronbach's alpha coefficient of 0.355. The disadvantage of the coefficient is that it lacks internal coherence.

The following table 13 elaborates on the mean values for the degree of utility in accommodations, level of security in accommodations, level of services, level of comfort, and rent amount per person based on descriptive data. The degree of Utility in Accommodation has the biggest standard deviation, with a maximum of 0.556. This indicates that there is a somewhat bigger variety in the amount of utility in accommodations. The level of security in lodging has a 0.200 variation factor, which is the minimum variance. This shows that, in comparison, there is little variation in the level of security in Accommodation. All of the skewness coefficients fall between -1 and +1. According to this, data are typically disseminated. Absolute kurtosis levels are less than three times the kurtosis standard error. This demonstrates that the data are typical. As a result, the analysis can use parametric methodologies.

Table 8: Descriptive Analysis

Statistics	The level of Utility in Accommodation	The level of security in Accommodation	The level of Services	The level of convenient	Fin rent per student
Mean	2.6	4.1	4.1	4.0	3.7
Median	2.67	4.3	4.28	4.4	3.79
Mode	2.833	4.33	4.57	4.4	3.32
Std. Deviation	.556	.44	.47	.53	.38
Variance	.310	.200	.221	.282	.148
Range	2.83	1.66	2.28	1.8	1.79

Source – Compiled by Author

The Histogram Representation

Histograms are computed following the variance components and data distribution. The generated histogram is detailed in terms of how frequently events occur about the indicators.

The frequency with which a value falls into each bin is shown by a histogram. The height of each bar indicates how many values in the data set to fit into a particular bin. When the y-axis is labelled as "count" or "number," the numbers along the axis typically consist of discrete positive integers.

The Histogram of the Level of Utility in Private Accommodation and Level of Security in Private Accommodation

A variety of classifications are divided into columns along the horizontal x-axis in the histogram's portrayal of data for the Level of Utility in Private Accommodation. The bell curve and histogram representing the utility level in private accommodations are symmetric, with the mean and median being equal. An asymmetric histogram will be split in half if we draw a line through its center. The two parts will be exact replicas of one another. It is argued that the asymmetric histogram has zero skewness (no skewness). Since the standard deviation is 0.55 and the histogram's mean value is 2.69, the data points are likely to be near the mean. The histogram of the level of Security

Figure 3: The histogram of the Level of Utility in Private Accommodation

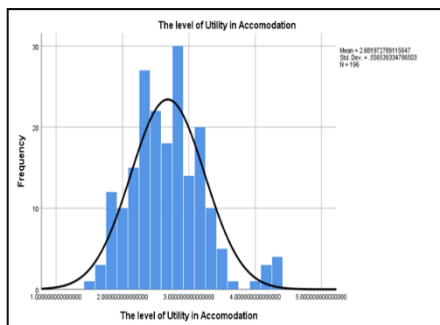
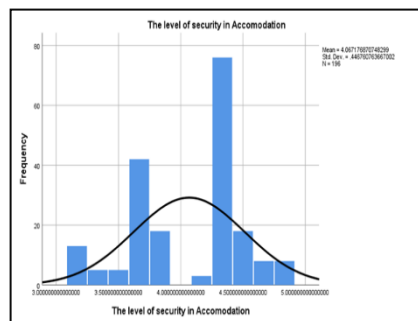


Figure 3: The histogram of the Level of Security in Private Accommodation.



Source – Compiled by Author

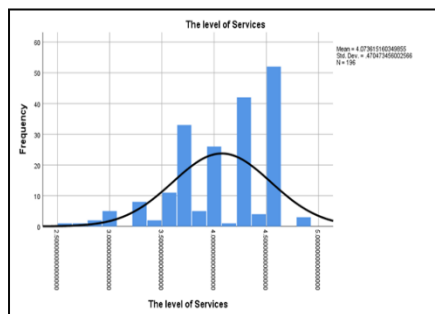
in Private accommodation Since it has two peaks or two highest primary points, the level of security in the private accommodations histogram is bimodal and is depicted in the upper figure. The two peaks indicate that the two groups in the frequency table have the highest frequency of occurrence even though these points are not the same height. The histogram's mean value

was 4.06 and its standard deviation was 0.44, both of which show that the data points are close to the mean.

The histogram of the level of Service and level of convenience in Private accommodation.

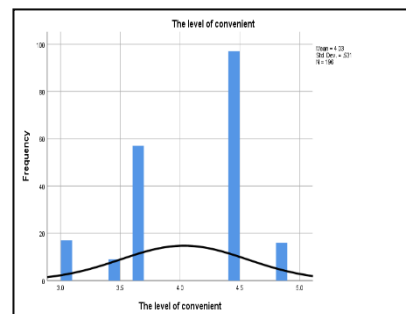
The following figure shows the histograms for the level of service in private accommodations and the level of convenience. Both of these histograms are left-skewed because their peaks were to the right of the center and subsequently tapered to the left. It is unimodal, with the mode being more pronounced and situated to the right of the mean and median. The mean is smaller than both the median and the mode and is located more to the left.

Figure 4: The Histograms for the Level of Service in Private Accommodations



Source – Compiled by Author

Figure 10: Histograms for the Level of Convenience



Overall Multiple Regression Analysis – All Independent variable variation with Dependent variables.

Multiple regression analysis was used to find the various traits of the All-Independent variable variance with Dependent variables. When it comes to output, the Model Summary (see table below) can show the various iterations of the model.

The R2 is 0.855, which suggests that a significant percentage of the variance for a dependent variable is explained by one or more independent variables, according to the Summary. As a result, this model has a sizeable coefficient of determination.

The adjusted R-squared value, which is the same as R2, indicates that the model can be explained by chance. The Durbin-Watson statistic, which similarly lies on 1.566 and denotes positive autocorrelation, follows. When

an error of a certain sign tends to be followed by an error of the same sign, the stated positive autocorrelation occurs. The final Significant of F change is 0.00, which shows that the performed multiple regression analysis was Significant with the variability of independent variables fluctuation to the dependent variable when everything is taken into account.

Table 9: Overall Multiple Regression Analysis – All Independent Variable Variation with Dependent Variables

Model Summary						
Model	R	R Square	Adjusted R Square	Std. The error in the Estimate	Change Statistics	
					R Square Change	F Change
1	.924 ^a	.855	.854	.1468	.855	0.000

The residual of the mean square for the Anova table is 0.022, indicating that the model has a good line that fits a single data point. The beta coefficient shows how much the outcome variable varies for each unit of variance in the analyst variable. In terms of the coefficients table, the interactive management unstandardized coefficients beta value had been decreasing, hovering at -0.484. This demonstrates that the outcome variable will drop with every 1-unit increase in the predictor variable, which represents the performance of the logistic branch.

Table 10: ANOVA Table

ANOVA

<i>Model</i>		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.590	1	24.590	1140.052	.000 ^b
	Residual	4.184	194	.022		
	Total	28.774	195			

- a. Predictors: (Constant), The level of convenient
- b. Predictors: (Constant), The level of convenience, The level of Utility in Accommodation
- c. Predictors: (Constant), The level of convenience, The level of Utility in Accommodation, The level of Services
- d. Predictors: (Constant), The level of convenience, The level of Utility in

Accommodation, The level of Services, The level of security in Accommodation

e. Dependent Variable: Fin rent per student

	B	Std. Error	Beta	
<i>(Constant)</i>	1.015	.081		12.595
<i>The level of convenient</i>	.669	.020	.924	33.765
<i>(Constant)</i>	.428	.037		11.671
<i>The level of convenient</i>	.654	.008	.903	83.185
<i>(Constant)</i>	.184	.015		12.478
<i>The level of convenient</i>	.459	.006	.634	75.750
<i>The level of Services</i>	.248	.007	.303	36.351
<i>(Constant)</i>	-	.000		.000
	9.548			
	E-15			
<i>The level of convenient</i>	.250	.000	.345	41956801.996

Regarding the multiple regression analysis mentioned above, the table shows that there are four major independent variables—the level of convenience, the level of utility in lodging, the level of services, and the level of security in lodging—that significantly affect the dependent variable, the rental price of private lodging.

The significant indeed imputable variables are The level of convenience, The level of Utility in Accommodation, The level of Services, and The level of security in Accommodation. Of those major 3 Imputable variables, the level of convenience is the extreme Imputable variable and it's around 0.669 of significant impact recorded in Beta Value. Deceptions that 0.878. (87% of Rental value variation) These factors are the major impactable independent variables that impact dependent variables.

Table 11: Pearson Correlation Table

		Fin rent per student
The level of Utility in Accommodation	Pearson Correlation	.406**
	Sig. (2-tailed)	.000
The level of convenient	Pearson Correlation	.924**
	Sig. (2-tailed)	.000
The level of Services	Pearson Correlation	.870**
	Sig. (2-tailed)	.000
The level of security in Accommodation	Pearson Correlation	.919**
	Sig. (2-tailed)	.000
Fin rent per student	Pearson Correlation	1
	Sig. (2-tailed)	

Scatter Plot Diagram Pairs of Numerical Data

To find a relationship between two pairs of numerical data, a scatter diagram graphs them with one variable on each axis. If the variables are correlated, a line or curve will be formed by the points. The points will hug the line closer the better the association.

The following diagrams show the rental value per hour as the dependent variable on the X axis and the level of utility, convenience, services, and security in the accommodation as the independent factors on the Y axis.

Through examination of where points lie on a line or curve, it is possible to find a positive association between the level of conviction and rental value in the scatter plot diagram. Additionally, the R² value is 0.855, indicating a strong positive link between the amount of conviction and rental value.

Utilizing the scatter plot illustration Through examination of points that fall along a line or curve, it is possible to find a Moderately Positive link between the amount of utility in accommodations and rental value. Additionally, the R² score is 0.165, indicating a moderately positive link between the level of conviction and rental value.

Figure 11 : Scatter Plot Diagram of the Level of Convenience & Rental Value Per Student

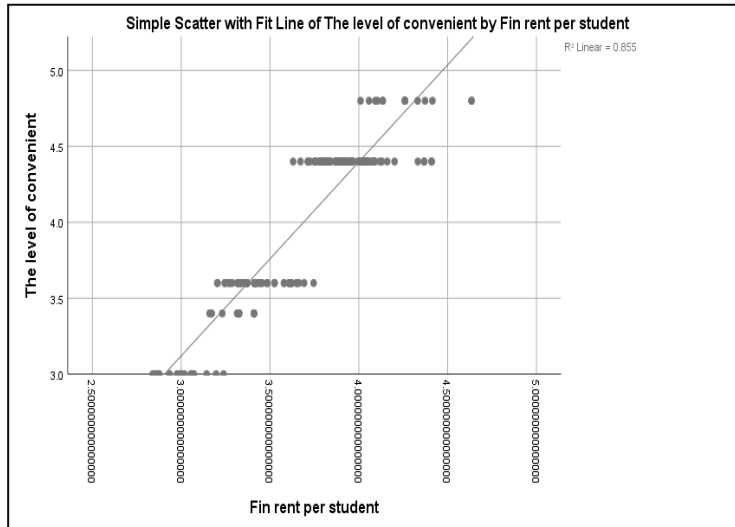
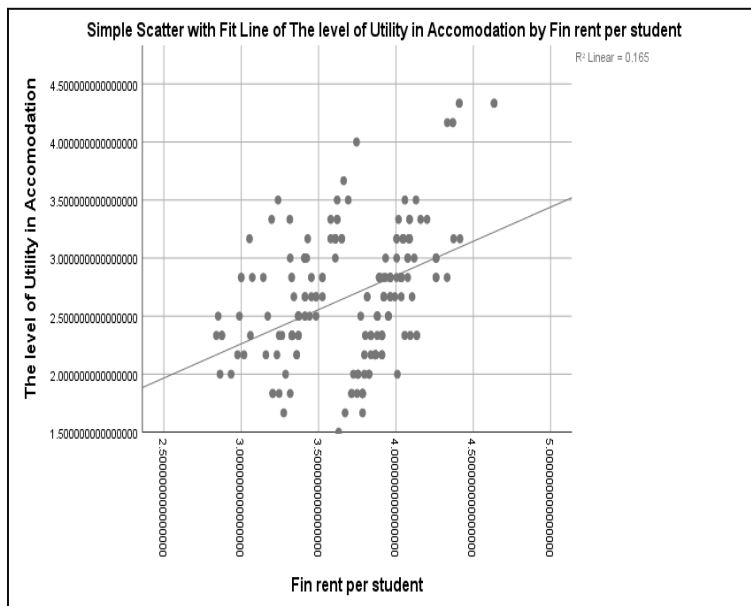
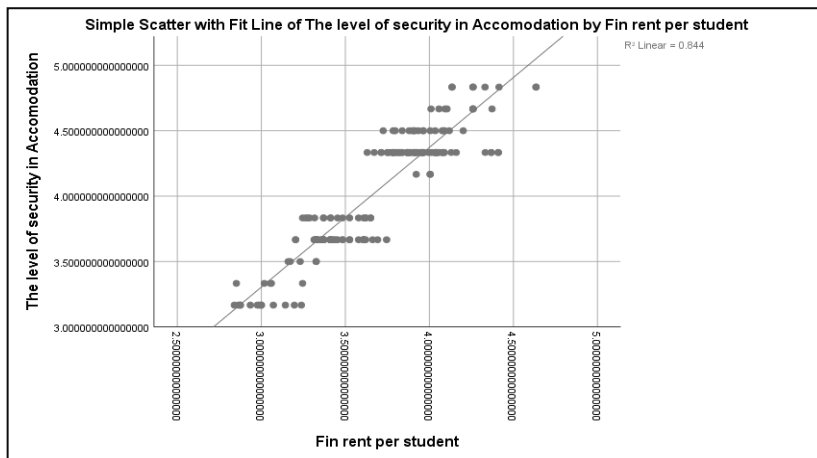


Figure 5: Scatter plot Diagram of The Level of Utility in Accommodation & Rental Value Per Student



Relating to the scatter plot the analysis of points that fall along a line or curve can reveal a Strong Positive link between the level of security in accommodations and rental value. Additionally, the R2 score is 0.844, indicating a Strong Positive association between the level of conviction and rental value.

Figure 6: Scatter plot Diagram of The Level of Security in Accommodation & Rental Value Per Student



RESULTS AND DISCUSSION

The research itself demonstrated that statistical analysis of rental values in private student accommodation in public universities and the use of independent variables are correlated with the depended variable. As a result, it is necessary to research what factors influence rental value changes and which indications require additional consideration for the development of private student accommodation in public universities. According to the research findings, the level of convenience in accommodation is the key element in the inability to adjust or variate the rental values in private student accommodation at public universities. As summation There are two key influencing factors for private student accommodations: level of convenience in Accommodation (0.929** Correlation/ R2 0.855) and level of convenience in Accommodation (0.919** Correlation/ R2 0.844). Furthermore, a strong Relationship was indicated by the level of Services (0.870** Correlation/ R2 0.805), meanwhile a moderate Relationship was indicated by the level of Utility in Accommodation.

It's significantly correlated with 0.929**, with an R2 value of 0.855 and a significant value of 0.00**. Furthermore, the Left-Skewed histograms, whose peaks were at the right of the center, gradually tapered to the left side, confirming the Strong Relationship between level of convenience and Rental value verification.

The level of security in accommodation is the second most important factor in changing or varying the rental values in private student accommodation in public universities. Similar to the level of convenience in Accommodation, it also represents a Strong Positive Correlation with 0.919** and R2 value is 0.844 and 0.00** Significant value with Strong Relationship with Rental Value Verification. Third, the level of services is the most highly correlated variable with rental value variation, with Pearson Correlation 0.870** and R2 values of 0.805 and 0.00** Significant level. The amount of utility in accommodation is notable, with Pearson Correlation 0.406** and a low level of R2 value (0.165). The table below summarizes the overall findings of the R.

Table 15: Summary Table of Results and Discussions

independent variable	Relationship Dependent variable	Histogram and Scatterplot	Regression interpretation	correlation	Significant & R2 value
The level of convenience,	Pearson Correlation 0.924**	Left-Skewed histograms since their peak were in the right of the center, more gradually tapering to the left side	Strong Positive relationship	Strong Positive correlation	the R2 value is 0.855 and 0.00** Significant

The level of Utility in Accommodation,	Pearson Correlation 0.406**	the histogram is a symmetric bell curve	Moderate Positive relationship	Moderate Positive correlation	R2 value is 0.165 and 0.00** Significant
The level of Services,	Pearson Correlation 0.870**	Left-Skewed histograms since their peak were in the right of the center, more gradually tapering to the left side	Strong Positive relationship	Strong Positive correlation	the R2 value is 0.805 and 0.00** Significant
The level of security in Accommodation	Pearson Correlation 0.919**	bimodal histogram since it has two peaks or two highest main points	Strong Positive relationship	Strong Positive correlation	R2 value is 0.844 and 0.00** Significant

CONCLUSION

In order to examine private student accommodations, the study develops a novel statistical framework. This method was removing the constraints and limitations prevalent in current statistical applications. Because of present statistical applications, planning is inefficient, especially in terms of time and money. Additionally, it is considered to be a labor-intensive, inefficient, and highly limited use. As a result, it recommended a creative framework for assigning accommodations that is efficient, straightforward, and effective.

The study's findings reduce the knowledge gap for decision-makers and students regarding the availability of private housing at the institution. Common variables that can be applied to the setting of any other institution in Sri Lanka with just slight adjustments are those that are anticipated to be identified in the research of the neighborhood conducted at the University of

Sri Jayewardenepura. Last but not least, this study aims to improve the procedures and datasets that can be successfully used in Sri Lankan universities going forward. Additionally, this study aims to produce recommendations that can be used in decision-making in the future.

According to data analysis results, it is clear that the level of comfort and security in an accommodation are the key determinants of the rental value of private student housing. The variation of the real value is mostly influenced by these two parameters, which is a significant finding discovered in the study. It was described using a histogram and a scatterplot, and the interpretation of the regression showed that it is significant and has a higher R² value than other variables. Consequently, the degree of utility in the accommodation and the amount of services have an impact on the rental price of the accommodation, respectively. However, they are not as high as the degree of comfort and security in the accommodations. Instead, they are greater than the histogram and scatterplot, regression interpretation, significant & R² value. Therefore, the primary identified factors are those that will have the most impact on changes in rental prices.

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