The effect of service quality on students' satisfaction in the University Health Centre at Universiti Utara Malaysia

O efeito da qualidade do serviço na satisfação dos alunos no University Health Center da Universiti Utara Malaysia

El efecto de la calidad del servicio en la satisfacción de los estudiantes en el Centro de Salud Universitario de la Universiti Utara Malaysia

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Abstract
Service quality is an issue that organizations must address particularly service-oriented organizations. This quality will indicate whether the organization achieved the requisite level of quality based on the expectations of the organization and the students. This study is aimed to determining that focus on the effect of service quality on students' satisfaction in the University Health Centre at Universiti Utara Malaysia. The methodology of this research, design used was a quantitative approach and assessed the five dimensions of service quality (independent variables), which were tangible, reliability, responsiveness, assurance, and empathy. This study employed a cluster sampling technique. The questionnaire was distributed to students of Universiti Utara Malaysia who stayed in Sime Darby Student Residential Hall and 117 students responded to the questionnaire. The SPSS version 29 was used to analyse the data. The findings from the analysis revealed that tangible, reliability, responsiveness, assurance, and empathy were found to record significant effects towards students' satisfaction. In addition, the responsiveness, assurance, and empathy variables were highly significant in determining students' satisfaction. Practical and theoretical implications for comprehending the characteristics of the effect of tangible, reliability, responsiveness, assurance, and empathy would make academic and service providers be more concern about students' satisfaction to improve service quality in the University Health Centre.
Keywords: Students' satisfaction; Tangible; Reliability; Responsiveness; Assurance; Empathy.

Resumo
A qualidade do serviço é uma questão que as organizações devem abordar, particularmente organizações orientadas a serviços. Essa qualidade indicará se a organização atingiu o nível de qualidade exigido com base nas expectativas da organização e dos alunos. Este estudo tem como objetivo determinar o foco no efeito da qualidade do serviço na satisfação dos alunos no University Health Center da Universiti Utara Malaysia. A metodologia desta pesquisa, o design utilizado foi uma abordagem quantitativa e avaliou as cinco dimensões da qualidade do serviço (variáveis independentes), que foram tangíveis, confiabilidade, capacidade de resposta, garantia e empatia. Este estudo empregou uma técnica de amostragem por conglomerados. O questionário foi distribuído aos alunos da Universiti Utara Malaysia que ficaram no Sime Darby Student Residential Hall e 117 alunos responderam ao questionário. O SPSS versão 29 foi utilizado para análise dos dados. Os resultados da análise revelaram que tangível, confiabilidade, capacidade de resposta, segurança e empatia registraram efeitos significativos para a satisfação dos alunos. Além disso, as variáveis responsividade, segurança e empatia foram altamente significativas na determinação da satisfação dos alunos. Implicações práticas e teóricas para compreender as características do efeito de tangibilidade, confiabilidade, capacidade de resposta, segurança e empatia fariam com que acadêmicos e prestadores de serviços se

preocupassem mais com a satisfação dos alunos para melhorar a qualidade do atendimento no Centro de Saúde Universitário.

Palavras-chave: Satisfação dos alunos; Tangível; Confiabilidade; Capacidade de resposta; Garantia; Empatia.

Resumen

La calidad del servicio es un tema que las organizaciones deben abordar, en particular las organizaciones orientadas al servicio. Esta calidad indicará si la organización logró el nivel de calidad requerido según las expectativas de la organización y los estudiantes. Este estudio tiene como objetivo determinar ese enfoque sobre el efecto de la calidad del servicio en la satisfacción de los estudiantes en el Centro de Salud Universitario de la Universiti Utara Malaysia. La metodología de esta investigación, el diseño utilizado fue de enfoque cuantitativo y evaluó las cinco dimensiones de la calidad del servicio (variables independientes), las cuales fueron tangibles, confiabilidad, capacidad de respuesta, seguridad y empatía. Este estudio empleó una técnica de muestreo por conglomerados. El cuestionario se distribuyó a los estudiantes de la Universiti Utara Malaysia que se alojaron en el Salón Residencial de Estudiantes Sime Darby y 117 estudiantes respondieron al cuestionario. Para el análisis de los datos se utilizó el SPSS versión 29. Los hallazgos del análisis revelaron que lo tangible, la confiabilidad, la capacidad de respuesta, la seguridad y la empatía registraron efectos significativos en la satisfacción de los estudiantes. Además, las variables capacidad de respuesta, seguridad y empatía fueron altamente significativas para determinar la satisfacción de los estudiantes. Las implicaciones prácticas y teóricas para comprender las características del efecto de lo tangible, la confiabilidad, la capacidad de respuesta, la seguridad y la empatía harían que los académicos y los proveedores de servicios se preocupen más por la satisfacción de los estudiantes para mejorar la calidad del servicio en el Centro de Salud Universitario.

Palabras clave: Satisfacción de los estudiantes; Tangible; Confiabilidad; Sensibilidad; Garantía; Empatía.

1. Introduction

Health issues were becoming a need for society. The need for high-quality health care also rose with the rise in people's living standards. This required that healthcare providers, such as hospitals, increased the quality of services, not just curative services but also preventative services, to enhance the quality of life and ensure consumer satisfaction. In response to the increase in service quality, health service operations must be made more effective, efficient, and satisfying to patients, their families, and the general public (Jacobis, 2013). Due to the highly involved and risky nature of healthcare services, as well as the general lack of basic customer awareness, healthcare services hold a distinct position among other services (Sharmila & Krishnan, 2013).

According to its primary role in generating patient happiness and hospital profitability, patient perception of service quality was a major predictor of a healthcare organization's performance. In most cases, patients who were dissatisfied with their services will file a complaint with the relevant health centre. Patients will have a lower level of satisfaction with the capabilities of the health services provided at the health centres if their complaints were not immediately responded to when they were made. In such a case, the concept of customer satisfaction has emerged as a primary topic of discussion in the fields of business and management. In general, customers expect that the things they purchased in the form of goods or services will be acceptable to them and that they will enjoy them with good or excellent service (Assauri, 2003).

University Health Centre, also known as Pusat Kesihatan University (PKU) in Universiti Utara Malaysia, was a health centre utilised by all students who are enrolled in courses at UUM. The PKU was a health centre that has excellent infrastructure and facilities, including a comfortable waiting area, a laboratory with technology to analyse blood and urine, an x-ray room, and a dental treatment room.

Generally, there were a few characteristics of services that can influence the level of students' satisfaction. Parasuraman et al. (1988) identified five characteristics that consumers used when evaluating the quality of service for goods and services to realise the quality of service: tangible, reliability, responsiveness, assurance, and empathy. If consumers believe that health centre employees are compassionate and caring, they will not hesitate to continue consuming the services. This will determine the customer satisfaction level.

Service quality exists purely to achieve customer satisfaction. Customer satisfaction was the reaction of the customer to the quality of service received in relation to the service. Customer satisfaction was similar to patient satisfaction since patients were consumers or customers. In line with Pohan (2007), indicators for assessing patient satisfaction with service quality were medical care received, recommendation of services to relatives and friends, and cost of services.

Considering the importance of students' satisfaction and in the context of the preceding discussion, the University Health Centre must measure service quality and the importance of students' satisfaction. This study intends to examine the effect of service quality on students' satisfaction in the University Health Centre (PKU) at Universiti Utara Malaysia.
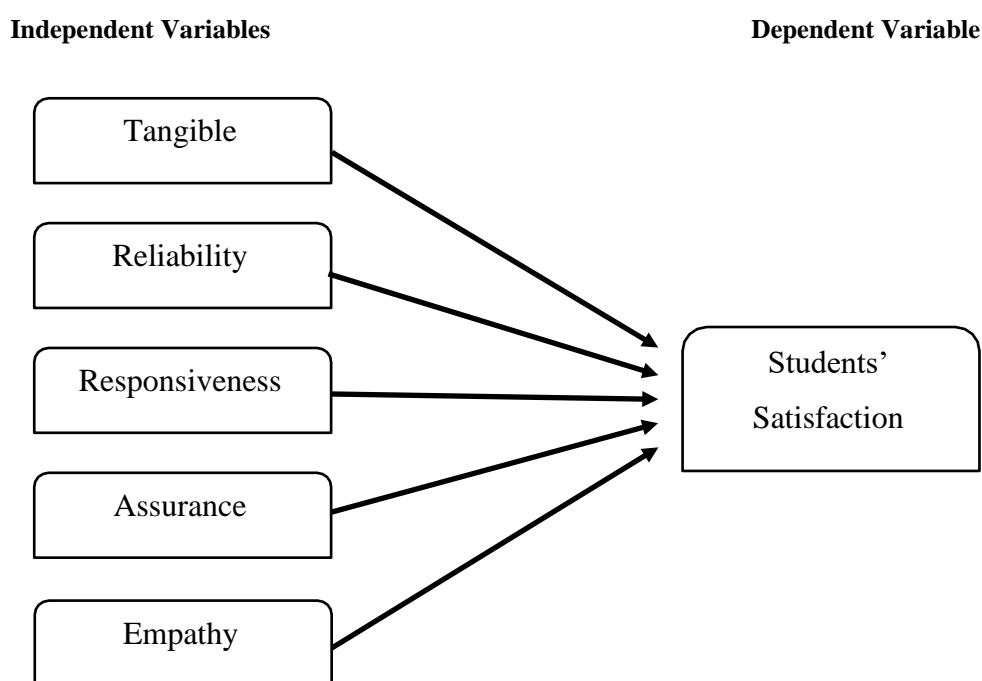
This study was conducted to find the effect of the independent variables: tangible, reliability, responsiveness, assurance, and empathy on the dependent variable: students' satisfaction. Thus, the study may provide researchers with thoughts and knowledge on the variables that would affect students' satisfaction the most.

2. Methodology

2.1 Research Framework

Service quality had five dimensions, namely, Tangible, Reliability, Responsiveness, Assurance, and Empathy, which affected students' satisfaction with University Health Centre at Universiti Utara Malaysia. A framework for this research can be created as follows in the Figure 1:

Figure 1 - Research Framework.

Source: Authors.

The research framework above denoted that service quality had a direct correlation with students' satisfaction.

This study was conducted to find the effect of the independent variables: tangible, reliability, responsiveness, assurance, and empathy on the dependent variable: students' satisfaction. This study attempted to answer the following questions:

1. To what extent tangible factor has a significant effect on students' satisfaction?
2. To what extent reliability factor has a significant effect on students' satisfaction?
3. To what extent responsiveness factor has a significant effect on students' satisfaction?
4. To what extent assurance factor has a significant effect on students' satisfaction?
5. To what extent empathy factor has a significant effect on students' satisfaction?

Based on the research questions above, the objective of this study was as following:

1. To examine the effect of tangible factor towards students' satisfaction;
2. To examine the effect of reliability factor towards students' satisfaction;
3. To examine the effect of responsiveness factor towards students' satisfaction;
4. To examine the effect of assurance factor towards students' satisfaction; and
5. To examine the effect of empathy factor towards students' satisfaction.

This study intends to examine the effect of service quality on students' satisfaction in the University Health Centre (PKU) at Universiti Utara Malaysia. The methodology of this research, design used was a quantitative approach and assessed the five dimensions of service quality (independent variables), which were tangible, reliability, responsiveness, assurance, and empathy. This study employed a cluster sampling technique. The questionnaire was distributed to students of Universiti Utara Malaysia who stayed in Sime Darby Student Residential Hall and 117 students responded to the questionnaire.

2.2 Hypotheses

The Effect of Tangible on Students' Satisfaction

The researcher's first hypothesis discussed the effect of tangibles on students' satisfaction. According to Ramya et al. (2019), the definition of tangible was the physical appearance of facilities, equipment, communication materials, and technology. Moreover, the supply of the physical environment demonstrated the service provider's care and attention to detail (Mulat, 2017). Therefore, this dimension gave sufficient suggestions to clients regarding the service quality of the service place. This study found that there was a direct impact on the tangible dimension of students' satisfaction. The whole argument that has been put forward above leads to the following hypothesis:

H1: Tangible has a significant effect on students' satisfaction.

The Effect of Reliability on Students' Satisfaction

The second hypothesis discussed the effect of reliability on students' satisfaction. According to Sajid & Baig (2007), service reliability denoted that patients were seen when they need service and receive the treatment, they considered to be appropriate for their condition. Therefore, this dimension was important to the customer's satisfaction with the service and their level of satisfaction. This study found that there was a direct impact on the reliability dimension of students' satisfaction. The whole argument that has been put forward above leads to the following hypothesis:

H2: Reliability has a significant effect on students' satisfaction.

The Effect of Responsiveness on Students' Satisfaction

The third hypothesis discussed the effect of responsiveness on students' satisfaction. In line with Parasuraman et al. (1994), responsiveness was the employees' readiness to give customers their undivided attention, promote services, and respond to their needs. Therefore, responsiveness may be enhanced by continually observing the process of the service and

employee attitude towards customer requests. This study found that there was a direct impact on the responsiveness dimension of students' satisfaction. The whole argument that has been put forward above leads to the following hypothesis:

H3: Responsiveness has a significant effect on students' satisfaction.

The Effect of Assurance on Students' Satisfaction

The fourth hypothesis discussed the effect of assurance on students' satisfaction. According to The fourth hypothesis discussed the effect of assurance on students' satisfaction. According to Parasuraman et al. (1985), the assurance dimension of service quality revealed employees' competence, expertise, civility, and capacity to develop trusting relationships with customers. Therefore, this dimension focused on employees' task knowledge and skills, precision, civility, etc., and the firm's commitment to security. This study found that there was a direct impact on the assurance dimension of students' satisfaction. The whole argument that has been put forward above leads to the following hypothesis:

H4: Assurance has a significant effect on students' satisfaction.

The Effect of Empathy on Students' Satisfaction

The fifth hypothesis discussed the effect of empathy on students' satisfaction. According to Ennew et al. (2013), the empathy dimension of service quality includes being attentive in communication circumstances, understanding customer demands, exhibiting nice behaviour, and taking care of a customer's individual needs. Hence, this dimension focused on individualized or personalized services that fulfilled customers' various demands. This study found that there was a direct impact on the empathy dimension of students' satisfaction. The whole argument that has been put forward above leads to the following hypothesis:

H5: Empathy has a significant effect on students' satisfaction.

2.3 Measurements of Variables

The questionnaire variables were divided into groups based on the theoretical framework of this study. In order to test the hypotheses, the variables were assessed in many ways; however, to eliminate scale bias, dependent and independent variables were measured using Likert scales (Uma Sekaran, 2016). A questionnaire with a five-point Likert scale was used to collect data for the research model's constructs. Items from previous research were adapted to the service quality context and students' satisfaction. The measurement employs a five-point Likert scale ranging from "1"(strongly disagree) to "5" (strongly agree). Service quality had five dimensions, adopted from Parasuraman et al. (1994). In the Table 1 it will explained the measurement of Service Quality, Table 2 the Measurement of the Student's Satisfaction as below:

Table 1 - Measurement of Service Quality.

Dimensions	Definition	Attributes
Tangible	The definition of tangible was the physical appearance of facilities, equipment, communication materials, and technology.	1. Modern equipment 2. Visually attractive facilities 3. Neat and professional-appearing personnel and supplies associated with visually appealing services.
Reliability	The definition of reliability was the capacity to consistently and precisely supply the service as promised.	1. Delivering promised services 2. Dependable in dealing with customer service 3. Delivering services accurately from the first time 4. Delivering services within the time frame specified and storing documents without mistakes.
Responsiveness	Responsiveness could be defined as the willingness of a service provider to serve customers and give prompt service. This dimension focused on promptness and courtesy with which customer requests, inquiries, complaints and problems are addressed.	1. Informing consumers of the reliability of the service or waiting time 2. Prompt customer service 3. Willingness to assist customers and prepared to fulfil their needs
Assurance	This assurance dimension was the employee's knowledge, politeness, and the industry's and employees' ability to impress customers with trust and confidence.	1. The capacity of employees to establish customer trust 2. Ensure customers' sense of security throughout financial transactions 3. Employees are constantly courteous and competent in responding to customer inquiries.
Empathy	Empathy was the caring, customized care provided to customers by their service providers. This dimension attempts to indicate, by personalized or individualized services, that customers are distinct and valuable to the organization.	1. Providing individualized care to customers 2. Employees servicing clients with great care. 3. Prioritizing customer interests with high importance. 4. Employees who comprehend customer needs and flexible Operating hours.

Source: Authors.

Table 2 - Measurement of Students' Satisfaction.

Variables	Dimensions
Students' Satisfaction	1. Medical care received 2. Recommendation of services to relatives and friends 3. Cost of services

Source: Authors.

2.4 Data Collection

Data collection was a component of the procedure for acquiring research data. The followings were the instruments and procedures of data collection.

2.5 Sampling

A research design typically included sampling as one of its components. The term "sampling" referred to the process through which researchers investigate a subset, or sample, of a larger group of possible participants and then utilized the findings to conclude the entire population (Salkind, 2010). According to Sugiyono (2018), cluster sampling was a technique used to determine the sample when the object under study or the data source was very broad. Furthermore, to make the sample a data source, the sampling was based on the area/population that has been determined.

2.6 Population and Sample Size

The population of the study was the students of Universiti Utara Malaysia which recorded 33,658 registered students as of October 2022. In Universiti Utara Malaysia, students were compulsory to stay on campus and hence there were 14 students' residential halls (MAS, TNB, Proton, Tradewinds, Petronas, TM, Grantt, Sime Darby, BSN, YAB, Muamalat, Bank Rakyat, SME Bank and Maybank). Due to the large number of students, the researcher randomly picked out Sime Darby Student Residential Hall which has a population of 1,056 students. This study uses the Slovin formula to determine sample size. This study was done using the formula:

$$n = \frac{N}{1+Ne^2}$$

Where:

n= total sample
N= total population
e= tolerate margin of error (1%, 5%,10%)

Based on the formula above, it could be seen that the sample size for this study will be calculated by:

$$n = \frac{N}{1+Ne^2}$$

$$n = \frac{1056}{1+1056 x 0.05^2}$$

$$n = \frac{1056}{1 + 1056 x 0.0025}$$

$$n = \frac{1056}{3.64}$$

$$n = 291$$

2.7 Data Collection Procedures

Respondents to this study were selected from UUM's Student Residential Hall (SRH) Sime Darby. The student population of SRH Sime Darby was 1,056 persons. Based on SRH Sime Darby students, the sample size for the population of 1,056 was 291 respondents. In this study, the questionnaires were distributed across the SRH Sime Darby according to the randomly selected students.

2.8 Technique of Data Analysis

In this study, Statistical Package for the Social Sciences (SPSS) version 29 was utilised to verify the statistical analysis of the data. For this study's data analysis, researchers collected and analysed data using descriptive and inferential methods. The descriptive analysis was used to measure the level of agreeableness (mean) with the supplied statement in the questionnaire in relation to the factors of independence and dependence variables. The inferential analysis involved making predictions or inferences about the population represented by the sample.

3. Results and Discussion

3.1 Response Rates

A Google form-based online survey questionnaire was created to collect all the data in this study. The data was collected in two weeks and shared through social media such as WhatsApp, Facebook, and Telegram. This method reduced data entry mistakes and errors, as the responses will be converted directly into a Microsoft Excel sheet. To increase the response rate of the respondent, the researcher sent the questionnaire daily to the respondents. A total of 129 surveys were answered. The questionnaires that were deemed unacceptable due to incompletion or patterns of responses indicating that the respondent did not comprehend the University Health Centre content or did not read attentively were removed. Finally, a total of 117 questionnaires were then analysed.

3.2 Normality Test

In this study, the normality test was used to determine whether or not the collected data indicates a normal distribution. The test also measured the probability that a random variable's data set was normally distributed as it explained in the Table 3:

Table 3 - Normality Test Results.

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		117
Normal Parameters[a,b]	Mean	0E-7
	Std. Deviation	.96232388
Most Extreme Differences	Absolute	.150
	Positive	.124
	Negative	-.150
Kolmogorov-Smirnov Z		1.622
Asymp.Sig.(2-tailed)		.104

a. Test distribution is Normal. b. Calculated from data. Source: Authors.

Based on Table 3, the normality test results using the one-sample Kolmogorov-Smirnov test obtained a p-value of 0.104 which showed the data was distributed normally because it is greater than 0.05.

3.3 Validity Test

All research variable items have $R_{count} > R_{table}$, namely at a significant level of 5% or (α=0.05) and n=117 (n=117-

2=115) obtained r table = 0.180, it can be seen that R_{count} each variable > 0.180. The results of the data validity test can be seen in the following tables:

Table 4 - Validity Test Results.

Variables	Item		Rtable	Rcount	Results
Reliability (X1)		RB1	0.180	0.808	**Valid**
	RB2		0.180	0.859	**Valid**
		RB3	0.180	0.780	**Valid**
		RB4	0.180	0.887	**Valid**
Responsiveness (X2)		RP5	0.180	0.875	**Valid**
	RP6		0.180	0.855	**Valid**
		RP7	0.180	0.852	**Valid**
		RP8	0.180	0.816	**Valid**
Assurance (X3)		AS9	0.180	0.871	**Valid**
		AS10	0.180	0.803	**Valid**
		AS11	0.180	0.895	**Valid**
		AS12	0.180	0.837	**Valid**
		AS13	0.180	0.866	**Valid**
Empathy (X4)		EP14	0.180	0.886	**Valid**
		EP15	0.180	0.885	**Valid**
		EP16	0.180	0.819	**Valid**
Tangibles (X5)		TG17	0.180	0.874	**Valid**
		TG18	0.180	0.899	**Valid**
		TG19	0.180	0.856	**Valid**
		TG20	0.180	0.854	**Valid**
Students' Satisfaction (Y)		SS21	0.180	0.852	**Valid**
		SS22	0.180	0.827	**Valid**
		SS23	0.180	0.833	**Valid**

Source: Authors.

Based on Table 4 above, it can be concluded that all statement items could be declared valid because all the items have a value of $R_{count} > R_{table}$. Item declared valid then needs to be tested for reliability to see the consistency of the answers to the statement items obtained from the respondents.

3.4 Reliability Analysis

Table 5 shows the score of Cronbach's Alpha of every variable was over 0.800 (Students' Satisfaction = 0.864, Tangibles = 0.952, Reliability = 0.902, Responsiveness = 0.921, Assurance = 0.928, and Empathy = 0.911). According to Sekaran & Bougie (2017), the reliabilities with a Cronbach's Alpha score of less than 0.6 were considered poor, whereas those with a score between 0.6 and 0.7 were regarded as acceptable, and ones with a score above 0.8 were regarded as good. As it shows in the table below:

Table 5 - Reliability Test (*n*=117).

Variables	No. of Item	Cronbach's Alpha
Students' Satisfaction	3	0.864
Service Quality		
Tangibles	4	0.952
Reliability	4	0.902
Responsiveness	4	0.921
Assurance	5	0.928
Empathy	3	0.911

Source: Authors.

3.5 Demographic Information of Respondents

The respondents' demographic information was collected such as gender, age, race, student residential hall, semester of education, and frequency of visits to the University Health Centre. It is shown in Table 6 that the demographic data information of the sample participated in the study (*n*=117).

Table 6 shows that female were the only respondent to this questionnaire since students who live in Sime Darby SRH are female. The respondents were 117 females (100%). Followed by most of the respondents are Malaysian (66.7%) and the rest of the respondents are foreigners (33.3%). The race of respondents was 66.7% Malaysian, 11.1% Chinese, 4.3% Indian, and 17.9% others. The respondents' age in the range between 21 – 23 years old (57.3%) was the highest. Then, 20 years old and below (24.8%) was the second highest, followed by 24 years old and above (17.9%) as the lower stage.

Furthermore, the data shows that all of the respondents were from Sime Darby SRH (100%). Meanwhile, for the respondent's college, COLGIS (45.3%) was the highest, COB (41%), and the lowest CAS (13.7%). It was also followed by the respondent's current semester, the highest respondents' current semester was in semester 6 and above and followed by semester 1 (26.5%), semester 5 (23.1%), and semester 3 (12.8%). In addition, two of the lowest were from semester 2 (9.4%) and semester 4 (1.7%).

As this study was about the University Health Centre, there was a question regarding the frequency of visits to the PKU. From the data, respondents who came to visit the PKU for once in a while (59.7%) are the highest, sometimes visiting (39.5%), and always visiting PKU (0.8%) as the lowest. As it show in the table below:

Table 6 - Respondent's Profile.

Demographic Items	Frequency	Percentage (%)
Gender		
Female	117	100%
Age		
20 and above	29	24.8%
21 – 23	67	57.3%
24 and above	21	17.9%
Race		
Malaysian	78	66.7%
Chinese	13	11.1%
Indian	5	4.3%
Others	21	17.9%
Residential Hall		
Sime Darby	117	100%
Semester		
Sem 1	31	26.5%
Sem 2	11	9.4%
Sem 3	15	12.8%
Sem 4	2	1.7%
Sem 5	27	23.1%
Sem 6 and above	31	26.5%
Frequency of Visit		
Once in awhile	71	60.7%
Sometimes	45	38.5%
Always	1	0.9%

Source: Authors.

3.6 Descriptive Statistics

Descriptive analysis was shown in Table 7, which consisted of the minimum, maximum, mean and standard deviation values for each variable. This study used the Likert Scale as an interval scale in which the minimum score is 1 and the maximum score is 5.

Table 7 - Descriptive Analysis.

Variables	Min	Max	Mean	SD
Students' Satisfaction	1.67	5.00	3.6809	.85365
Reliability	2.00	5.00	3.6709	.79847
Responsiveness	1.25	5.00	3.6624	.88469
Assurance	2.00	5.00	3.7641	.78898
Empathy	2.00	5.00	3.7635	.87981
Tangibles	2.00	5.00	3.8440	.80256

Source: Authors.

3.7 Correlation Analysis

The purpose of correlation analysis was to test the correlation between variables which is Students' Satisfaction (SS) as the Dependent Variable (DV) and the Independent Variable (IV), which consists of Reliability (RB), Responsiveness (RP), Assurance (AS), Empathy (EP), and Tangibles (TG). Table 8 shows Pearson Correlation Analysis as it shows below:

Table 8 - Pearson Correlation Analysis.

	SS	RB	RP	AS	EP	TG
SS	1					
RB	0.869**	1				
RP	0.877**	0.914**	1			
AS	0.904**	0.897**	0.903**	1		
EP	0.872**	0.839**	0.819**	0.890**	1	
TG	0.854**	0.831**	0.816**	0.869**	0.921**	1

a. *n*=117. b. **Correlation is significant at the 0.01 level (2-tailed).* Source: Authors.

According to the results in Table 8, all variables were significantly related to students' satisfaction. Typically, independent variables had a 0.01 positive correlation with the dependent variable. In line with Hair et al. (2009), the Pearson correlation coefficient scale with r above 0.70 indicated a very strong relationship, r value between 0.50 to 0.69 was considered a strong relationship, r value between 0.30 to 0.49 was considered a moderate relationship, r value between 0.10 to 0.29 was considered as low relationship, and r value between 0.01 to 0.09 was considered as a very low relationship. The correlation analysis indicates that students' satisfaction has a very strong relationship to all the variables, where reliability was concerned ($r = 0.869$, $p < 0.01$), responsiveness ($r = 0.877$, $p < 0.01$), assurance ($r = 0.904$, $p < 0.01$), empathy ($r = 0.872$, $p < 0.01$), and tangible ($r = 0.854$, $p < 0.01$).

3.8 Multiple Regression Analysis

Multiple regression analysis was an extension of correlation analysis, and it was used for determining the contribution of the overall model along with testing the hypotheses developed for this study. This analysis was conducted to determine the

relationship between tangibles, reliability, responsiveness, assurance, empathy, and students' satisfaction.

Table 9 shows the multiple regression analysis results, the R^2 value was 0.859 indicating that the model suits the data well. Therefore, the independent variables (tangibles, reliability, responsiveness, assurance, and empathy) explained 85.9% of the variance in the dependent variable, which was the students' satisfaction. Additionally, the result of F value was 135.023, $p<0.00$ was the significant value and it can be concluded that the correlation between independent and dependent values is significant. In the Table 9 as it shows:

Table 9 - Multiple Regression Analysis.

Variable	Beta (β) (Standardized Coefficient)	T	Sig.
(Constant)		-0.329	0.743
Tangibles	0.094	0.975	0.332**
Reliability	0.100	1.018	0.311**
Responsiveness	0.236	2.371	0.19**
Assurance	0.325	2.990	0.003**
Empathy	0.218	2.101	0.038**
R Square (R^2)	0.859		
Adjusted R Square	0.852		
F Value	135.023		
Sig. F Change	0.00**		

*a. Dependent Variable: Students' Satisfaction b. **Correlation is significant at the 0.05 level (2-tailed).* Source: Authors.

Table 9 shows that each variable was significant in influencing students' satisfaction. Responsiveness ($\beta=0.236$, $p<0.05$), assurance ($\beta =0.325$, $p<0.05$), and empathy ($\beta =0.218$, $p<0.05$)) are highly significant results in this study. On the other hand, tangibles ($\beta=0.094$, $p<0.05$) and reliability ($\beta =0.100$, $p<0.05$) were significant results as well. Hence, all the hypotheses as illustrated in Table 10, namely H1, H2, H3, H4, and H5 failed to reject. The hypotheses results shows in the Table 10 below:

Table 10 - Hypotheses Results.

Hypotheses	Description	Results
H1	There is a significant effect between tangible and students' satisfaction.	**Failed to reject**
H2	There is a significant effect between reliability and students' satisfaction.	**Failed to reject**
H3	There is a significant effect between responsiveness and students' satisfaction.	**Failed to reject**
H4	There is a significant effect between assurance and students' satisfaction.	**Failed to reject**
H5	There is a significant effect between empathy and students' satisfaction.	**Failed to reject**

Source: Authors.

Discussion

This study's main objective is to investigate the effects of service quality on students' satisfaction in the University Health Centre at Universiti Utara Malaysia. The theory of SERVQUAL by Parasuraman et al. (1994) about five service quality

dimensions becomes the reference in this study. This theory has been combined into the conceptual framework as a guide for studying students' satisfaction-affecting factors. SPSS version 29 was used to analyse the data obtained by the respondents with several analyses and tests.

The purpose of this study is to investigate the effect between the dependent variable (DV) and the independent variables (IV). The normality test is used to determine whether or not the collected data indicates a normal distribution. Based on Table 3 shows the results of the one-sample Kolmogrov-Smirnov test the p-value is 0.104 which means all the variables are in the normal distribution because it is above 0.05 ($p > 0.05$). Besides that, the validity test is used to determine how accurate an instrument or variables are in measuring what is to be measured. As can be seen in Table 5, all the statement items are valid because all the items have a value of Rcount > Rtable.

According to Sekaran & Bougie (2017), reliabilities with a Cronbach's Alpha score of less than 0.6 are considered poor, while those with a score between 0.6 and 0.7 are deemed acceptable, and those with a Cronbach's Alpha score of above 0.8 are considered good. Table 5 shows that all the variables have Cronbach's Alpha score over 0.800 (Students' Satisfaction = 0.864, Tangibles = 0.952, Reliability = 0.902, Responsiveness = 0.921, Assurance = 0.928, and Empathy = 0.911). Thus, all the tests and analyses those have been done show that the collected data were reliable and can be used as data for the study.

The descriptive analysis consists of the means core of the independent variable (IV), and the results show that the mean score of the independent variable (IV) is between 3.6624 and 3.8440. These results show that the variable indicates a high level of agreement among respondents regarding service quality which is the independent variable because the means score is greater than 3.000.

Based on all the tests and analyses, the independent variable, tangible, reliability, responsiveness, assurance, and empathy, positively affected the dependent variable, students' satisfaction. This was demonstrated by the correlation result, which revealed that the independent variables are significant at the 0.01 level. The correlation analysis indicates that students' satisfaction has a very strong relationship to all the variables, where reliability are concerned ($r = 0.869$, $p < 0.01$), responsiveness ($r = 0.877$, $p < 0.01$), assurance ($r = 0.904$, $p < 0.01$), empathy ($r = 0.872$, $p < 0.01$), and tangible ($r = 0.854$, $p < 0.01$). Besides that, the regression result of this study's data analysis. All variables have t-scores between 3.292 and 9.300 and are statistically significant at the 0.001 level. The data analysis revealed that 82% of the variance consistently indicated that the variables contributed to the overall Counter Service Quality. In addition, 28% of the remaining percentage can be clarified by other variables, as indicated.

As can be seen from the research objectives, it was reasonable to conclude that the effect of the independent variables (tangible, reliability, responsiveness, assurance, and empathy) towards the dependent variable (students' satisfaction) was consistent with the findings of the previous study, which indicated that these independent variables affected the dependent variable, which is students' satisfaction. Furthermore, students' satisfaction has a positive relationship with the independent variables. Hence, the greater the independent variables will improve students' satisfaction, which could ultimately satisfy the student.

4. Conclusion

The result of this study showed the effect of service quality (tangibles, reliability, responsiveness, assurance, and empathy) on students' satisfaction towards services provided by the University Health Centre. The findings indicated that all variables significantly affect students' satisfaction. As a result, the research question in this study was addressed, the research objective was achieved, and the hypotheses failed to be rejected. This study can be used as a benchmark for the service provider management to improve the service quality as well as their policy to enhance students' satisfaction towards services

by the University Health Centre. The limitation of this research is that only one student residential hall has been randomly selected due to time and financial constraints. Hence, the recommendation for future research is to take into consideration of a larger sample size to get better coverage of students' satisfaction towards the services provided by the University Health Centre.

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