

Identification of Service Quality Dimensions among International Postgraduate Students

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Abstract

This article represents the differences between expectations and perceptions of service quality among international postgraduate students in UTM by calculating the gap scores in SERVQUAL scale. In addition, this article indicates the service quality dimensions which are evident among these students by using all calculated gap scores in factor analysis. Also, one sample t-test was conducted to find the level of service quality from the perspective of the participants. This study used a modified service quality (SERVQUAL) instrument which was validated by a pilot study and distributed to 353 of international postgraduate students in UTM who were selected by stratified sampling to reach to its results. The results demonstrate the negative gap scores among all 22 items of SERVQUAL scale and it shows that the students' expectations of service quality are more than their perceived service quality in this university. Additionally, four dimensions, namely tangible, consistency, assurance and compassion, were identified in the SERVQUAL scale. Finally, the low level of service quality is demonstrated from the perspective of international postgraduate students in UTM.

Keywords: International students; service quality; SERVQUAL

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1.0 INTRODUCTION

The interest of studying and educating abroad has been increasing in last two decades and becoming more common every day, especially at the postgraduate levels. According to Naidoo (2009) and UNESCO (2009), the numbers of international students in overseas have been growing from 150,000 to 2.8 million since 1955 to 2007. International students wish to study in higher education level in the top ranking universities with the high service quality and facilities. One of the countries which provides and offers such facilities for international students is Malaysia. The most important goal of Malaysian government in the education system is having the high academic standards and quality. Babakus *et al.* (2003) described quality as a buzzword which specifies the strengths and weaknesses of a product or service distribution by an organization. Also, Parasuraman *et al.* (1990) noted that costumers will only be satisfied when quality fits or exceed their expectations.

So, for finding the standard quality in higher education systems, as the first step, it is so important to know and perceive the expectation of international students before their entrance to Malaysia and then their perception after their arrival. Bodycott (2009) indicated that the viewpoints of international students are extremely affected with suggestions and recommendations they

receive from the others who have the experience of educating abroad. So keeping students satisfied can have a great role to attract new students to Malaysia.

One of the Malaysian universities which has a big role in attracting international students is Universiti Teknologi Malaysia (UTM) with over 5000 students from different nationalities and different parts of the world. The focus of this study is on the identification of service quality dimensions and their level among international postgraduate students in UTM to help this university to improve its service quality to attract more international students and raise its ranking among the other universities in the world.

2.0 LITERATURE REVIEW

Wang *et al.* (2007) explained the terms "foreign student" and "international student" to a student who lives for studying in a foreign country for a short period of time. Based on the definitions above, international students are studying the long term or the short term programs in foreign educational institutions. According to Voss *et al.* (2007) service quality and facilities that a university provides for its students can be a good reason for attracting international students because the strength

and ranking of a university is so important for international students.

Service quality is the range of inconsistency between customers' perception and expectation (Parasuraman *et al.*, 1985). According to Asari (2001), understanding customers' expectation is essential to manage service quality and it is also important to take perceived performance and customers' expectation in one line. Consequently, keeping the customers satisfy will always be the goal of a successful organization. However management perception and customers' perception is continuously blocked through a particular gap.

Parasuraman *et al.* (1990) discovered five distinctive gaps accruing in an organization:

1. Gap between customers' expectation and management's perception.
2. Gap between management's perception of customers' expectation and service quality specification.
3. Gap between service quality specification and service delivery.
4. Gap between service delivery and external communication to customers.
5. Gap between customers' expectation of service and perceived service delivery.

The first four gaps lead to the existence of the fifth gap, the gap that happens between perceived service and expected service. It proceeds as the main function in the four gaps before. Parasuraman *et al.* (1990) formulated the gap happening in an organization as the reasons failures in delivering high service quality. Figure 1 demonstrates the model of service quality gaps.

Parasuraman *et al.* (1985) is used the fifth gap which is among customers' service expectation and delivery of perceived service to explain the framework for SERVQUAL, the instrument that they made to estimate the service quality of an organization and was applied for this research. It is used to examine the gap happens between expectation and perception of customers. In higher education institution, SERVQUAL is an important instrument to discover existing faults and weaknesses (Sahney *et al.*, 2004).

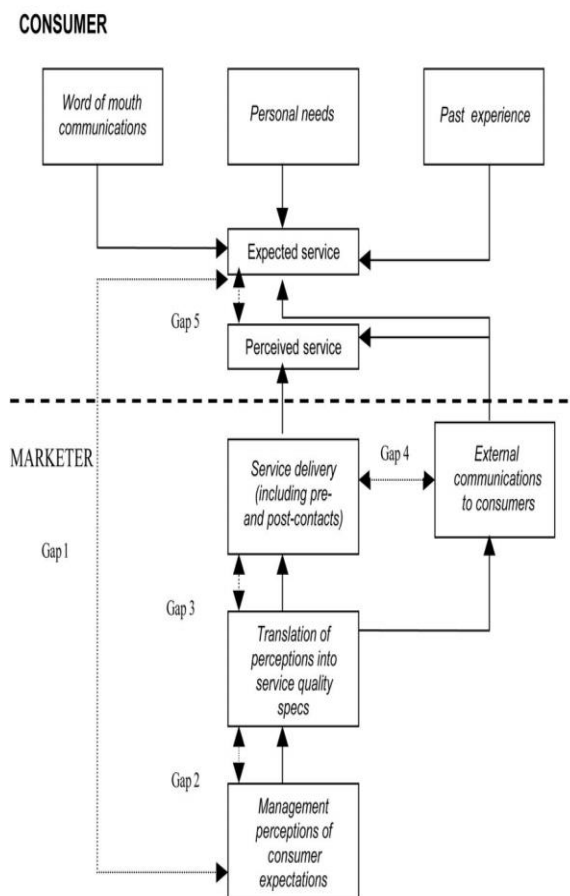


Figure 1 Model of service quality gaps [Source: Parasuraman *et al.* (1985)]

3.0 METHODOLOGY

One of the service quality measurement models is the SERVQUAL framework which is improved by Parasuraman *et al.* (1985) and Zeithaml *et al.* (1990). The SERVQUAL is the model which is frequently used to measure service quality with comparing the expectations of customers before perceiving a service and after service delivery (Lewis and Booms, 1983).

The quantitative instrument of this study is a modification of SERVQUAL from Parasuraman *et al.* (1985, 1988). This SERVQUAL questionnaire consists of two parts. The first one is an introduction and the second one is 22 items which are investigated the service quality of UTM University in the perspective of the students in related to their expectation before coming to study in UTM and their perception after coming to study in UTM.

The participants of this study were selected by stratified sampling from a total of 3133 international postgraduate students in UTM (first semester of 2011/2012). The stratified sampling technique is a type of probability sampling which may be used with quantitative method of research. The number of participants was taken from the below formula by Israel (1992).

$$n = \frac{N}{1 + N(e)^2}$$

In the above formula:

n: The number of sample size

N: The total number of international postgraduate students in UTM

e: Precision level

This study piloted the SERVQUAL questionnaire by distributing the questionnaire to a group of participants to validate the questionnaires. After validating the questionnaire, it distributed to 353 of international postgraduate students in UTM to collect the data of this study.

4.0 FINDINGS

A factor analysis was done on all calculated gap scores to verify the dimensionality of the education service quality construct in the SERVQUAL by using the principal components extraction technique. The analysis made using of Varimax factor rotation procedure in keeping with the original Parasuram's SERVQUAL study (Parasuram *et al.*, 1988). The result of the factor analysis in terms of factor name, rotated factor loading matrices, the variance explained by each factor and the result of reliability test coefficient alpha can be seen in Table 1.

Table 1 Illustration of the identified factors

No	Statement	Factors			
		1	2	3	4
1	Uses modern equipment and technology	.739			
2	Physical facilities visually are appealing.	.829			
3	Materials are visually appealing.	.630			
4	Promised to do something.		.795		
9	Staff provided services at time promised.		.702		
11	Staff make no mistake.		.552		
12	The staff tell exactly when services will be done.		.675		
16	Staff behaviors instill confidence in students		.597		
6	Feeling safe in learning environment.			.878	
17	Staff consistently courteous to students			.847	
18	Having knowledge to answer questions			.712	
10	Staff performed service right first time.				.591
13	Staff give prompt service to students				.617
15	Staff are always respond to students				.798
19	Staff give students individual attention.				.626
20	Staff have the best interest at heart				.592
21	Staff understand the specific needs of students				.645
22	Staff give students personal attention.				.725
	% of variance	36.64	20.017	9.331	16.552
	Cronbach's alpha	.751	.883	.797	.915
	KMO	.806			

The result of the factor analysis in terms of factor name, rotated factor loading matrices, the variance explained by each factor and the result of reliability test coefficient alpha can be seen in Table 4.2. Four items in rotated component matrix table which had negative or less than 0.5 amounts was deleted in grouping the items in factor analysis result. These are items 4, 7, 8, 14 in part A of SAS questionnaire. The Kaiser-Meysen-Olkin (KMO) measurement of sampling adequacy was computed to quantify the degree of inter-correlations among the variables, and the results indicated an index of 0.806. According to Rasli (2006), if a high KMO value (close to 1) is achieved, so the dataset of this study is suitable for factor analysis. When the

four factors added together, the amount of 82.54% is calculated for the variation in the data generated. The four factors are defined as:

- 1) Tangible = items 1, 2, 3
- 2) Consistency = items 4, 9, 11, 12, 16
- 3) Assurance = items 6, 17, 18
- 4) Compassion = items 10, 13, 15, 19, 20, 21, 22

Based on Table 2, the gap scores of all items are negative. It shows that the students' exceptions of service quality are more than their perception. "Reliability" with a score of -1.44 has the greater gap score among the other dimensions. It demonstrates that the students' exceptions of "Reliability" are more than their perception.

As shown in Table 2, the biggest gap between the items is in "The staff performed service right first time" with a score of -2.66, closely following by item "The staff give students individual attention" with a score of -2.64. It means that the biggest gap is between the exception and perceptions of students from "The staff performed service right first time" item. Finally, the one sample t-tests display the significant validity of the negative means because the p-value for all items is zero ($p < 0.05$).

Table 2 Mean score of students' expectations, perceptions and gap scores (N=353)

Statement	Sig	Gap Score	Expected Service	Perceived Service
Tangible	.000	-.65	4.07	3.40
• Uses modern equipment and technology.	.000	-1.05	4.36	3.30
• Physical facilities visually are appealing.	.000	-.68	4.02	3.34
• Materials are visually appealing	.000	-.24	3.83	3.58
Consistency	.000	-1.04	4.09	3.00
• Promised to do something.	.000	-.39	4.95	4.35
• Staff provided services at time promised.	.000	-2.17	4.02	1.84
• Staff make no mistake.	.000	-.28	3.72	3.43
• Staff tell exactly when services will be done.	.000	-2.22	3.94	1.72
• The staff behaviors instill confidence in students.	.006	-.14	3.83	3.69
Assurance	.000	-.40	4.04	3.62
• Feeling safe in learning environment.	.000	-.03	3.99	3.95
• The staff consistently courteous to students.	.000	-.40	4.06	3.66
• Having knowledge to answer students' questions.	.000	-.79	4.07	3.27
Compassion	.000	-1.56	3.94	2.37
• Staff performed service right first time.	.000	-2.66	3.94	1.28
• Staff give prompt service to students.	.000	-.76	3.93	3.16
• Staff are always respond to students.	.000	-1.84	3.93	2.08
• Staff give students individual attention.	.000	-2.64	3.96	1.32
• Staff have the best interest in heart.	.000	-.74	3.90	3.15
• Staff understand the specific needs of students.	.000	-1.57	3.93	2.36
• Staff give students personal attention	.000	-.73	4.03	3.29

For measuring the level of service quality dimensions, one sample t-test was conducted to analyze the data. The achieved means were compared with the test value (test value=0). Table 3 shows that all the means are negative and less than zero. The biggest mean is belonged to Compassion with -1.5678 amounts. Obviously, it shows that the level of all dimensions of service quality is low from the perspective of respondents.

Table 3 Results of one sample t-test for service quality items

Service Quality	N	Mean	Std. Deviation	Std. Error Mean	Sig. (2-tailed)
Tangible	353	-.6629	.44734	.02381	.000
Consistency	353	-.8438	.38659	.02058	.000
Assurance	353	-.4127	.54007	.02874	.000
Compassion	353	-1.5678	.39218	.02087	.000

5.0 CONCLUSION AND RECOMMENDATIONS

This study was able to illustrate four dimensions of service quality among international postgraduate students in UTM. These four dimensions, namely tangible, consistency, assurance and compassion, were identified in the SERVQUAL scale. However, according to Buttle (1995), a number of dimensions were identified for measuring service quality was from nine to single factor. When all the variance values added together, the amount of 82.54% is calculated for the variation in the data generated. It is significant that this result is more than the 62.19% reported by Shekarchizadeh *et al.*, (2011) and 65% reported by Tan and Kek (2004).

According to the findings, all the gap scores of service quality items are negative, it means that the international postgraduate students in UTM have negative perceptions of educational service quality and students' exceptions were not met in the performance of educational service. In the other hand, the level of all four dimensions of service quality is low. These results indicate dissatisfaction among international postgraduate students in UTM. This finding is consistent with a study by shekarchizadeh *et al.*, (2011), who maintained that the international students' exceptions of service quality are more than their perceptions in some Malaysian universities and the level of all factors of service quality are low in these universities.

One of the causes of this dissatisfaction feeling among international students may be their comparison of UTM with the education in academic universities of US, UK, Australia and Europe as a standard higher education. This cause was clarified in the gap theory of Parasuraman *et al.*, (1985). The gap theory explained the perception of service quality as the differences between the customers' expectations about the performance of a general class of service suppliers and their evaluations of real performance of a particular supplier.

The other possible cause can be the expectations of the international postgraduate students from the comparing of the fees of university with the given level of service quality in UTM. It means that the international students expect the level of service quality is in line with the fees which they paid for studying in UTM.

For future studies, initially, since this study just involved the international postgraduate students in UTM, it is recommended that future studies should be approved by more

international students from different universities in Malaysia to find more accurate data and information. In addition, it is recommended to spend more budgets on future studies to solve the finance limitation and be able to go to the other universities of Malaysia to solve the geography limitations. Also, it is recommended that future studies should be conducted during a longer period of time to have enough time in collecting the data.

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