

SERVICE QUALITY IN EDUCATION: MANAGEMENT STUDENTS' PERSPECTIVE

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Abstract

According to some scholars, the strategic success of a service organization depends on its ability to consistently meet or exceed customer service expectations. This study thus set out measure the service quality performance of a faculty in a public university. Based on stratified random sampling on 229 students employing a survey instruments that measure six dimensions of quality attributes, the result of the study revealed that the level of service quality in this particular faculty is moderate. Analysis showed that there are significant differences based on the students' perception of this faculty service quality by year of study and race. However, there are no significant differences based on gender. Implication and limitation of the study are highlighted and further research discussions are suggested.

1.0 Introduction

The historic development of total quality or quality management was originally developed in the manufacturing sector. In the early part of the last century, this development was led by the USA (Lagrosen, Roxana and Leitner, 2004). The development of quality management in the public and service sector is still considered new compared with manufacturing sector. It just started in 1990s (Vinzant and Vinzant, 1996). In recent years, numerous studies have shown several examples of the successful use of systematic quality management in several public services (Lagrosen, 1999, 2000). However in the area of higher education, the adoption of quality control concept and practice can not be implemented directly because of the nature of the business in education and educational process it self. The culture of the universities which hold the exercise of academic freedom and individual autonomy are difficult to combine with the teamwork culture which is pertinent in quality management approach (Boaden and Dale, 1992; Colling and Harvey, 1995; Srikanthan and Dalrymple, 2003).

In order to define quality in the right perspective, it is vital to study the meaning of quality in the situation that is under study (Lagrosen *et.al.*, 2004). In complement to that, we must have strong basis and understanding on the development of quality thought in other disciplines too because it will help us to conceptualize the issue holistically, to compare the dimensions of quality that have been developed in manufacturing and service sector and to do some adaptation accordingly.

The quality's gurus, experts and researchers have given various definitions on quality in particular areas i.e manufacturing of products and services. Garvin (1984) has classified the definition of quality into five major groups. Those were transcendent, product-based, user-based, manufacturing-based, or value-based. Others defined quality as fitness for use (Juran and Gryna, 1988), conformance to requirement (Crosby, 1979), conformance to specification (Gilmore. 1974), meeting and/or exceeding customers' expectation (Parasuraman , Zeithaml and Berry, 1985), performance over expectation (Besterfield, 1999), zero defect (Crosby, 1979),

products' or services' ability to perform its intended function without harmful effect (Taguchi, 1986).

Although there is no universally accepted definition of quality and seems to be no consensus definition and most of these definitions are correlated, there are similarities and common elements on its definition. According to Geotchs and Davis (2003), with these common elements extracted, quality can be defined as:

“a dynamic state associated with products, services, people, processes, and environments that meets or exceeds customer expectation”.

In the area of education, Cheng (1995) defined quality in education as follows: *“Education quality is the character of the set of elements in the input, process, and output of the education system that provides services that completely satisfy both internal and external strategic constituencies by meeting their explicit and implicit expectations”.*

In general, quality dimensions have been classified into few groups by previous researchers such as Gronroos (1990) ; Lehtinen and Lehtinen (1991) ; Ghobadian *et al.* (1994). According to Gronroos (1990), there are three groups of quality dimensions, which are technical quality, functional quality and corporate image. This classification is also supported by Lehtinen and Lehtinen (1990) that proposed the similar quality dimensions which are physical quality, interactive quality and corporate quality. From these classifications, technical quality is those that can objectively be measured regardless of customer's opinion. Functional quality is related to the interaction between the provider and the recipient of the service. The combination of technical and functional quality dimensions has resulted in the corporate image dimensions, which is concerned with the overall picture of an organization perceived by the customer such as price and reputation of the company.

According to Garvin (1984), there are eight dimensions of quality product, which can applied to both product and service quality, although they seem to be more product-oriented. The dimensions proposed by Garvin are as performance, features, reliability, conformance, durability, serviceability, aesthetic and perceived quality.

According to Owlia and Aspinwall (1996), the characteristics of software are felt to be more consistent with higher education because it is an intangible product. The factors for software quality that widely used in software engineering are correctness, reliability, efficiency, integrity, usability, maintainability, testability, expandability, portability, reusability and interoperability(Watts, 1987)

According to Dotchin and Oakland (1994) ; Zimmerman and Enell (1988), quality in higher learning institutions can be categorized under service quality dimensions because of its characteristics. Service quality has been classified into multi-dimensional view such as Gronroos (1978) ; Lehtinen and Lehtinen (1992) ; Parasuraman *et al.* (1985). According to Parasuraman *et al.*, service quality dimensions used in higher education are reliability, responsiveness, customisation, credibility, competence, access, courtesy, security, communication, tangibles, and understanding customers

Based on the review of the quality literatures and the context of this study, we have developed six dimensions of service quality in education. There are tangibles, competence, attitude, content, delivery and reliability. Tangibles refer to facilities provided by the institution in serving good conditions to their customers. This dimension is applicable to personnel and condition of equipments. Competences refer to sufficiency and highly qualified of the academic staff, the program structure and the capabilities to render good image and strong attraction in teaching. Attitude is concerned with the communication, caring, individual attention and understanding

students' needs. Content in the context of education is referring to the curriculum design and how it can develop and prepare the students for their potential job market. Delivery means the capability in giving lecture and presentation effectively, the compliance of course works with the module, focusing on the learning outcome, providing useful information and proper channel for feedback and ideas. The final dimension is reliability. In the higher education context, reliability can be defined as the degree to which the knowledge, information and skills learned are correct, accurate and up to date. It's also concern on keeping promises, handling complaints, giving resolutions and solving problems.

There are basically two main approaches in measuring quality. The most popular one is SERVQUAL model which was developed by Parasuraman. This measurement compares the level of perception against expectation. According to the model proposed by Parasuraman *et al.*, a 22 item scale has been developed for conceptualising service quality and seeks to estimate customers' pre-consumption expectations of service as well as post-consumption perceptions of actual service receive (Pearson, 1997 ; O'Neill *et al.*, 2001). The scale measures five dimensions, which includes reliability, responsiveness, assurance, empathy and tangibles.

Based on this scale dimensions, the customers need to complete the form of the survey on the basis of a seven-point Likert scale, which extends from 1 (strongly disagree) to 7 (strongly agree). SERVQUAL helps the company to determine the existence of any gaps between the provider and the customer.

Some researchers argued with the SERVQUAL technique that may need attention for its conceptualisation of quality measurement issues such as the dimensions for the scale is not consistent across industries, the practicalities of the instruments and the attitude of the customer in completing the surveys. Therefore, some studies have been conducted to overcome these problems.

Another approach in measuring quality is SERPERF. This technique can be described as an absolute performance measure of consumer perceptions of service quality. The model uses the Likert scale and requires the customer to rate the provider's performance extending from (1) strongly disagree, to (7) strongly agree. Based on the recent study by O'Neill *et al.* (2001), showed that SERPERF is an absolute rating of customer attitudes towards service quality.

In this study we used the SERPERF approach because it is more straight forward evaluation compared to SERVQUAL approach.

2.0 Background

The university and the faculty are committed towards becoming a world class university by the year 2010. The major concerns and attribute that cannot be compromised is the issue of quality. Based on the faculty philosophy, vision and mission, it is clear that the faculty is consistently positive towards the quality education and appeared to be very dynamic in the quality approach and its technique. It can be seen in the QMS ISO 9001:2000 certification and the effort put by all the staffs in fulfilling and committing to the requirements of the QA imposed by the Ministry of Education. One important aspect that must be seen and proven is the effort and commitment of the faculty to review regularly the quality of education and services given to the students

It is vital to consistently measure the performance of service quality from student perspective because they were directly involved in the education process. They can be seen and act as a consumer or customer and also as a product of the education institution. Students' views on all aspects of their higher education

experiences are essential to monitor the quality of education. The data and information gained will help the service provider and the stakeholder to make judgements about level of quality in particular universities (Hill, Lomas and MacGregor, 2003).

At the faculty level, for a quite long time there is no special study focusing on the quality of education taking into overall evaluations particularly from students' perspective. It is high time to know the current status and level of service quality in education particularly at the Faculty of Management and Human Resource Development, University of Technology Malaysia. It does not focus on the university context as a whole as this will require broader evaluations which some of the elements is out of the faculty control i.e. facilities like bus stop, sports and recreation, etceteras. The populations of this study were all of the undergraduate (full time) students at FPPSM during 2003/2004 academic session.

The questions about the performance of service quality must be answered. Therefore this study is attempted in answering the following questions:

- (a) What is the level of service quality in education?
- (b) Are there any differences of the student perception on the service quality based on their demographic factors?

3.0 Methodology

3.1 Procedure

The instrument used is a structured questionnaire that was developed by the research team based on the literature review on the relevant topics. Six dimensions related to service quality in education were developed and itemized into 43 sets of questions. Other variables that were decided to be included in the study are background of the respondents.

Second stage is pilot testing. The pilot questionnaires were administered personally to the respondents at the end of the class session. The testing was done on 60 students to assess for clarity and length. The students were asked to give comments and opinion on the questions in term of clarity, completeness and seek for their feedback for the purpose of improving the content reliability. A total of 60 questionnaires were distributed and 59 of them was returned and completed. The reliability of findings obtained using the survey instrument was assessed. According to Nunnally (1978), the Cronbach alpha procedure is an estimate of reliability based on the average correlation between items within each factor where 0.6 is sufficient. In addition, the score of over 0.8 is considered to be good (Sekaran , 1992).

The results of this analysis indicate that no values of coefficient alpha were lower than 0.6 as reported in Table 1

Dimensions	Cronbach alpha
1. Tangibles (6 items)	0.7280
2. Competence (6 items)	0.8333
3. Attitude (6 items)	0.7934
4. Content (12 items)	0.8375
5. Delivery (7 items)	0.7991
6. Reliability (6 items)	0.8931

Table 1: Reliability result (pilot test)

The third stage is distributing the questionnaires that have been finalised based on the input from pilot testing. Again, the questionnaires were administered personally to the respondents at the end of the class session. The main advantage to do this is that the researchers can collect all the completed responses within a short period of time. Any doubts that the respondents might have regarding any questions can be clarified on the spot. The respondents are permitted to ask the researchers for further clarification if they facing difficulties in understanding the questions. Since the numbers of the respondents in each class were about 40 to 70 student, we manage to get 100% response rate.

The final stage is analyzing the data. These will be discussed in the next topic (result and discussion).

3.2 Sampling

The sampling process begins by defining the frame. The frame in our study is referring to the population of all full time undergraduate students list registered in the Faculty of Management and Human Resource Development for the 2003/3004 academic year. Therefore the population size is 428.

The estimation in statistics must be good enough. It is depending on the sufficiency of the sample size. Referring to Krejcie and Morgan (1970) as a guideline, the sample size required for this study is about 203. Roscoe (1975) proposes that the appropriate sample sizes for most research are larger than 30 and less than 500. Taking into those guidelines we took 229 undergraduate students as a sample.

We employ stratified sampling method in this study. Basically, there are two types of strata. The first one is according to the year of study; 1st year student, 2nd year student, 3rd year student and 4th year student. The second one is according to the courses; Bachelor of Management (Technology)(BoMT), Bachelor of Management (Marketing) (BoMM) and Bachelor of Human Resource Development (BoHRD). The details of the strata are presented in Table 2.

		Course			Total
		BoMT	BoMM	BoHRD	
Student status	1st year student	22	13	25	60
	2nd year student	14	10	11	35
	3rd year student	22	12	27	61
	4th year student	33	13	27	73
Total		91	48	90	229

Table 2: Stratified sample allocation

3.3 Scale and measurement

The survey instrument consisted of two parts. In part A of the questionnaire, survey respondents were asked to state their level of agreement of each statement for six dimensions of service quality in education on a five-point scale (1 represent “strongly disagree” to 5 represent “strongly agree”; 3 denotes average). According to Cooper (2000) five-point scale is an interval scale. Therefore the measurement of central tendency and its dispersion can be made.

Demographic factors of the respondents were asked in part B of the questionnaire. The subjects were assigned to certain categories and it is mutually exclusive and collectively exhaustive. Thus it possessed a property of a nominal scale.

4.0 Result and Discussion

4.1 Normality evaluation

Statistics

	Mean	Median	Mode	Std. Deviation
Tangibles	3.0182	3.0000	2.67	.5810
Competency	3.4127	3.5000	3.67	.6057
Attitude	3.2940	3.3333	3.67	.6194
Content	3.3530	3.3333	3.67	.5869
Delivery	3.3319	3.2857	3.14	.6201
Reliability	3.1492	3.1667	3.17	.6873
SerQuaEd	3.2598	3.2837	3.62	.5054

Table 3: Measure of central tendency and dispersion

Table 3 shows that the mean, median and mode for all the six dimensions of service quality are almost likely the same. This means that the data were approximation to a normal distribution. Furthermore, the Box-and-whisker plot in Figure 1 also demonstrated that the data of all these dimensions are normally distributed

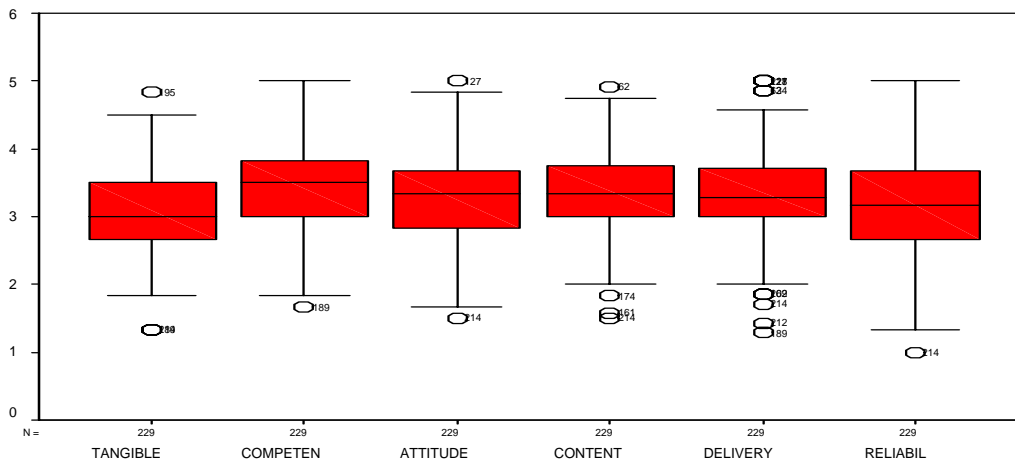


Figure 1: Box-and-whisker plot for service quality dimensions

4.2 Finding on the mean scores of service quality in education and its reliability

Dimensions	Mean scores	Reliability alpha (cronbach)
1. Tangible	3.0182	0.7310
2. Competence	3.4127	0.8372
3. Attitude	3.2940	0.8242
4. Content	3.3530	0.8821
5. Delivery	3.3319	0.8470
6. Reliability	3.1492	0.8758
Service Quality in Education	3.2598	

Table 4: The mean scores and reliability

Table 4 shows that the mean scores service quality in Education dimensions i.e. tangibles, competence, attitude, content, delivery, and reliability are between 3.0 and 4.0 and the mean score of service quality in education (which is the overall score of the six dimensions) was 3.26. The reliability of the dimensions was high (> 0.7). Thus, it is reliable to conclude that the level of service quality in education for the Faculty (specifically FPPSM) to be moderate. So it is important for the top management and the staffs of the faculty to use this finding as a basis for improvement in delivering quality service. To be competitive (from students' perspective) all the six dimensions have to be improved further and the approach, strategy and method of improvement should be formulated.

4.3 Finding on the hypotheses testing

Hypothesis 1

Ho: There is no difference in the mean score of service quality based on year of study.

HA: There is a difference in the mean score of service quality based on year of study.

Tests of Between-Subjects Effects

Dependent Variable: SERQUAED

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	5.225 ^a	3	1.742	7.392	.000	.090
Intercept	2293.628	1	2293.628	9734.003	.000	.977
B1	5.225	3	1.742	7.392	.000	.090
Error	53.017	225	.236			
Total	2491.702	229				
Corrected Total	58.242	228				

a. R Squared = .090 (Adjusted R Squared = .078)

Table 5: The results of a one-way analysis of variance

As shown in the table 5, the ANOVA test is significant since the p -value is less than α , 0.05. Therefore we reject the null hypothesis that there are no differences in the mean score of service quality based on year of study.

This study shows that there are significant differences on the student's perceptions of service quality based on year of study. And in the Tukey test that was conducted, there is a significant difference mean score of service quality between junior and senior students.

The finding is consistent with the study done by Oldfield & Baron (2000), and Hill (1995). These indicate that new students tend to give positive response than old students due to their experiences. Because education is a long term service, perception or evaluation changes with familiarity and expectation with the service.

Hypothesis 2

H₀: There no difference in the mean score of service quality based on races.

H_A: There is a difference in the mean score of service quality based on races.

Tests of Between-Subjects Effects

Dependent Variable: SERQUAED

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	4.779 ^a	3	1.593	6.704	.000	.082
Intercept	717.453	1	717.453	3019.417	.000	.931
B3	4.779	3	1.593	6.704	.000	.082
Error	53.463	225	.238			
Total	2491.702	229				
Corrected Total	58.242	228				

a. R Squared = .082 (Adjusted R Squared = .070)

Table 6: The results of a one-way analysis of variance

As shown in the table 6, the ANOVA test is significant since the p -value is less than α , 0.05. Therefore we reject the null hypothesis that there are no differences in the mean score of service quality based on races.

This study shows that there are significant differences on the student's evaluation of service quality based on race. This finding is consistent with the study done by Tomovick, Jones and Al-Khatib (1986), Malhotra et al (1994), Winsted (1997) and Dinthu and Yoo (1998) where they also found that cultural factor have big influence on the overall reaction towards of service quality of educational institution.

This is particularly true because individuals spend the earlier part of their life in a family that have different sets of culture, values or belief. And these are unique and differ across groups of community. It will have significant effects on the way of thinking, doing thing, or perceptions

Hypothesis 3

H₀: There no difference in the mean score of service quality based on gender.

H_A: There is a difference in the mean score of service quality based on gender

Independent Samples Test

		SERQUAED	
		Equal variances assumed	Equal variances not assumed
Levene's Test for Equality of Variances	F Sig.	1.111 .293	
t-test for Equality of Means	t	.939	.949
	df	227	125.992
	Sig. (2-tailed)	.349	.345
	Mean Difference	6.896E-02	6.896E-02
	Std. Error Difference	7.343E-02	7.270E-02
95% Confidence Interval of the Difference	Lower	-7.5741E-02	-7.4913E-02
	Upper	.2137	.2128

Table 7: The results of *t*-test

The result of *t*-test in table 7, shows that the *p*-value, 0.349 which greater than 0.05. Therefore we fail to reject the null hypothesis that there is no difference in the mean score of service quality based on gender. Our conclusion is that there was insufficient evidence that the mean score of service quality of the male undergraduate students was different from female undergraduate students.

This finding is consistent with a study done by Joseph and Joseph (1998) in certain aspects and Napaporn Khantanapha (2000). However, the study done by Kamal and Ramzi (2002) , indicates that gender factor places an effect on the satisfaction scale of service quality which female student were significantly more satisfied than males. Whereas in another study carried out by Soutar and McNeil (1996), shows that male students were found to be more satisfied overall than female students.

Based on this finding and previous study, we conclude that the finding on this hypothesis is mixed and varies among cases.

5.0 Conclusions and implications

Overall, this study has shown that the service quality at FPPSM was moderate from students' perspective. This means that there is a room for continuous improvement in teaching and learning aspects. Therefore the management and staff of the faculty, academic and administration staff must put more effort and solid commitment in the process of teaching and learning ranging from academic-related activities to non academic-related activities such as sports or social events. The 'learning' element must not be limited to academic-related activities. It must cover everything that can develop and stimulate good human value, attitudes, character and strong personality. It also takes into account the learning environment including good infrastructure and support services. All these must be offered in a package in order to produce good graduates.

We also noticed that seniority factor have significant influence on the evaluation of service quality. This probably because the expectations increase as the student become more familiar with the system, more educated and more matured. And one more factor that also has great influence on the evaluation of service quality is

race or cultural factor. In relation to this phenomenon, the academic or non academic staffs who deal and give service directly with and to the student should be able to know and understand varies level of expectations across years of study and races.

6.0 Limitations and suggestions for future research

Cultural background and its implication are very complicated subject matters which have not been adequately tackled by this paper. Further study and investigation in other literature is needed to analyse the deeper content and impacts of cultural background and service education.

Due to time, budget and nature-of-class-being-conducted limitations, our samples are limited to full time student only. Part time students which register under School of Professional and Continuous Education (SPACE) also study at UTM Kuala Lumpur instead of UTM Skudai . To include them in the study, it would require more resources. Furthermore the way the class or lecture being delivered is totally different. Therefore, the generalization of our findings is limited to full time management students only.

Further research has to be carried out to determine the parameters of the students' zone of tolerance. This is important for service provider to gradually improve the quality and allocate resource accordingly. Owing to resource restrictions, rule and regulation, and act and policies, in some instances it is not possible for public universities to provide everything that students want.

This study has concentrated on the student only. Another area for future research is the perception of service quality from other stakeholders (such as internal customer, government, industries, etc.) that must also be measured. A comprehensive evaluation would help the faculty to review its overall service quality in the education sector.

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