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**SERVICE QUALITY IN HIGHER EDUCATION:  
MANAGEMENT STUDENTS' PERSPECTIVE**

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UNIVERSITY OF TECHNOLOGY MALAYSIA**

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## **SERVICE QUALITY IN HIGHER EDUCATION: MANAGEMENT STUDENTS' PERSPECTIVE**

### **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 courses and gender. Further, no significant relationship was found between students' academic performance and evaluation of service quality. Implication and limitation of the study are highlighted and further research discussions are suggested.

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## LIST OF ABBREVIATIONS

ANOVA	- Analysis of Variance
CPA	- Cumulative Point Average
EDA	- Exploratory Data Analysis
FAAD	- Faculty of Arts, Architecture and Design
FBAE	- Faculty of Business and Economic
FE	- Faculty of Engineering
FPPSM	- Faculty of Management and Human Resource Development
ISO	- International Organization for Standardization
MBA	- Master of Business Administration
QA	- Quality Assurance
QMS ISO 9001: 2000	- Quality Management System Requirements
SERPERF	- Service Performance
SERVQUAL	- Service Quality
SHD/SHT	- Management (Technology) course
SHF/SHG	- Management (Marketing ) course
SHR/SHP	- Human Resource Development course
SPACE	- School of Professional and Continuous Education
UTM	- University of Technology Malaysia

## **LIST OF APPENDIXES**

- Appendix 1 - Sample size
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# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 Introduction**

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 of the major components highlighted in both standards (ISO & QA) are meeting customer requirements and satisfactions. According to Berry and Parasuraman (1992), they argue that the strategic success of a service organization depends on the ability of service providers to enhance their images by consistently meeting or exceeding customers' service expectation. These components must be measured regularly to response to the changes of the environments where the expectation of the stakeholder is becoming higher. The outcomes of the measurement are very useful for the faculty administrators as well as the academic staffs to provide plans and solutions for the continuous improvement so that the service and the program offered by the faculty are significant 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).

The development of the dimensions in service quality is keep on expanding because the nature of the higher learning institution it self is dynamic and unique. One of the methods to construct the dimension of quality in education is by analytically

and critically reviews the dimensions of product, software and general services. Apart from that the modification for adaptation must be made to tailor it to the education line. Furthermore, the construct or the dimension of quality conceptualized in the service literature focus on perceived quality. Conceptually, perceived quality is defined as the consumer's judgement about an overall entity of excellence or superiority (Zeithaml, 1987). It is a form of overall evaluation. The definition offered by Gordon and Partigon (1993) characterized the general approach to education quality: "The success with which an institution provides educational environments which enable students effectively to achieve worthwhile learning goals including appropriate academic standards".

By looking at the overall perspectives, we have conducted a survey for undergraduate management student of all years, across three courses. The first chapter provides the introduction and background of the research. The second chapter discusses the relevant service quality literature. The third chapter elaborates the methodology used in the study. The results are presented in the chapter four and finally the fifth chapter drawn conclusions and suggestions to be considered by the faculty. The suggestions made were purposely to help the faculty to continuously improve the quality of education as required by the QA and ISO standard.

## **1.2 Problem statement.**

The faculty is seriously committed in fulfilling the requirement of the Quality Assurance Standard regulated by the Ministry of Higher Education of Malaysia. 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. 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. 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? Is it poor, moderate or high level?
- (b) Are there any differences of the student perception on the service quality based on their demographic factors and academic profiles?
- (c) Which area(s) or dimension (s) that potentially can be improved?

### **1.3 Objectives of the study**

The objectives of the study are:

- (a) To measure service quality in education.
- (b) To identify differences of the student perception on the service quality based on their demographic factors and academic profiles.
- (c) To recommend which area(s) that needs for improvement.

### **1.4 Scope of the study**

The area of the study is service quality in higher education. It's focused on the dimensions of service quality from student perspectives, particularly in the faculty context. 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 study was conducted at Faculty of Management and Human Resource Development (FPPSM), University of Technology Malaysia (UTM). The populations of this study were all of the undergraduate (full time) students at FPPSM during 2003/2004 academic session.

### **1.5 Importance of the study.**

The outcome of the study is useful for the management and staffs of the faculty to continuously improve the service quality of education as imposed and required by the ISO and QA standards. The results of the improvement effort finally will benefit the students as well. In the long run, this study is a part of periodically and continuously evaluations and reviews series.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter discussed the literature on the quality management background, definition of quality, the dimensions and the approach in measuring quality and the factors that influence the evaluation of service quality in education. It is vital to review all the relevant literatures in order to understand the whole concept of quality management, its tools and application in various sectors. It founded a strong basis for the development of the research framework and instrument.

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). However, the World War II had an impact on quality management in the USA. In general, the effect was negative for the USA and positive for Japan. At those times U.S. companies focused more on meeting delivery date whereas Japanese Companies get serious on establishing ways to produce quality product (Goetsch and Davis, 2003).

The development of quality management in the public and service sector 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 and sources of quality thought in other disciplines too because it will help us to

conceptualized the issue holistically, to compare the dimension of quality that have been developed in manufacturing and service sector and to do some adaptation accordingly. According to Lagrosen *et.al.* (2004), there are vast field of general research in quality management in the service sector. The applicability of the research in services to higher education sector remains to be analysed. In the area of higher education the concepts of what constitutes quality is still developing and keep on emerging because the education environment is dynamic. A study that can examine what dimensions constitute quality in higher education is important to provide practical basis for quality management system and having the right tool for quality assessment.

## **2.2 Definition of quality**

Quality can be defined in many ways. It is in the eye of the customers. It can be seen and can be measured. 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. Transcendent means something that is intuitively understood but nearly impossible to communicate such as beauty or love. These definitions are subjective and related to concept. Product-based means the quality in the components and attributes of a product. It can be measured and have objective attributes. User-based means the customer satisfaction on the product. Manufacturing-based means the product conformations to design specification or conformance to requirement. Value-based means the good value for the price of the product. 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 to its intended function without harmful effect (Taguchi, 1986).

Although there is no universally accepted definition of quality and seems to be no consensus definition even though most of these definitions are correlated, but there have similarity and common elements on its definition. According to Geotsh 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 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 addition, Harvey and Green (1993) proposed five ways of thinking about quality in education. First, quality is regarded in term of excellence. Second, quality is perfection or consistency. Third, quality is fitness for purpose. Forth, quality is value for money and finally, quality is transformation processes that have value-added activities.

### **2.3 Dimensions of Quality**

Quality dimensions has 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 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 the corporate image dimensions, which concerned to the overall picture of an organization perceived by the customer such as price and reputation of the company. Ghobadian *et al.* (1994) indicated the categorization of quality dimensions is different from those that proposed by recent researchers. According to Ghobadian *et al.* in their study, they proposed “outcome” and “process” as the dimensions of the quality. They have differentiated between those dimensions, which are associated with the quality of the outcome of the service, and those that relate to internal processes within the organization. The importance of the process dimensions from the customer’s viewpoint depends on the extent to which they participate in the process Ghobadian *et al.* (1994).

The dimensions of quality in higher education can be focused on three categories, which are product, software and service.

### **2.3.1 Products' quality dimensions**

According to Garvin (1987), there are eight dimensions, which can define both product and service quality, although they seem to be more product-oriented. The dimensions that proposed by Garvin are as follows :

- 1) Performance
- 2) Features
- 3) Reliability
- 4) Conformance
- 5) Durability
- 6) Serviceability
- 7) Aesthetic
- 8) Perceived quality.

Performance can be define as a primary knowledge or skills that are required for graduate, while features are concerned to those characteristics that supplement the basic performance functions such as offering courses in computer programming for the meaning in higher education.

The other dimension that proposed by Garvin is reliability. It means the probability of the product working fault-free within a specified time period, appears to be more relevant to goods than services. But, in the higher education view, reliability can define as the degree to which the knowledge, information and skills learned are correct, accurate and up to date.

Besides, conformance refers to the extent to which a product meets established standards or specifications (Garvin, 1987). In the higher education, conformance can define as the degree to which the institution can approved their promises to the client based on their educational standards.

Durability means the measurement of product life in the general context. But, in the higher education context, it may mean the degree to which knowledge learned by the students. Besides, serviceability can defined as a service for repairing the products. But, in the area of higher education, it refers to how well the institution can handle the complaints from students, staff or from outsiders.

Another dimensions that stated by the Garvin are aesthetics and perceived quality, which are based on the customer's opinion. Aesthetics can be distinguished from performance, as it is a matter of personal judgement, while perceived quality concerned with the reputation that influenced the image of the corporation.

### **2.3.2 Software quality dimensions**

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 (Watts, 1987) together with the definitions and interpretation for higher education of each factor are as follows:

- (1) Correctness
- (2) Reliability
- (3) Efficiency
- (4) Integrity
- (5) Usability
- (6) Maintainability
- (7) Testability
- (8) Expandability
- (9) Portability
- (10) Reusability
- (11) Interoperability

Correctness can be defined as the extent to which a programme or course complies with the specified requirement. Another factor that proposed by McCall *et al.* is reliability which means the degree to which knowledge or skills learned from the institution are correct, accurate, suitability and also up to date.

According to McCall *et al.* efficiency can defined as the extent of knowledge and skills that applied by the graduates in their future career, while integrity means the extent to which personal information is secure from unauthorized access (Watts, 1987).

Besides, another factor for software quality that proposed by McCall *et al.* is usability. Here, usability is defined as the ease of learning and the degree of communicativeness in the classroom. The interpretation of maintainability commonly

used in higher education is the way an institution handles the complaints from the customer in improving their performance.

Testability is concern to the extent to which the knowledge is examinable. In higher education, quality of software can measure on how well the results shown in the examinations. Besides, expandability that proposed by the researchers means suitability of the knowledge in the different applicable in other fields, while portability and reusability can define as the degree of knowledge or skills learned are related in other application. According to the definition by the researchers, interoperability relates to the effort required to couple one program to another (Owlia and Aspinwall,1996).

### **2.3.3 Service quality dimensions**

Quality in higher learning institutions can be felt under service quality dimensions because of its characteristics. According to Dotchin and Oakland (1994) ; Zimmerman and Enell (1988), by viewing higher education as a service can generalise service quality dimension for this sector.

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 that used in the higher education are as follows and has modified by Ghobadian *et al.* in their research ;

- 1) Reliability
- 2) Responsiveness
- 3) Customisation
- 4) Credibility
- 5) Competence
- 6) Access
- 7) Courtesy
- 8) Security
- 9) Communication
- 10) Tangibles
- 11) Understanding customers

Reliability in the context of services means the degree to which a service is fault-free. Parasuraman *et al.* also stressed that reliability is the ability to provide the pledged service on time, accurately and dependably (Ghobadian *et al.*, 1993). Besides, responsiveness is defined as the ability to deal effectively with complaints and continuous improvement through effective management of services.

Customisation refers to how well the institution can meet the customer satisfaction, while credibility is the extent to which the service is believed and trusted (Ghobadian *et al.*, 1993). It is related with the image and reputation of the institution.

Another service quality dimension that used in the higher education is competence. The institution can sharpen their competitive edges by possess the necessary skills, knowledge and information to perform the service effectively through the staff. Besides, access also suggested in the quality dimension of services. It refers to the ease of approachability and contact to achieve the targets and objectives of the institution.

Courtesy is concern on the attitude of the staff. It includes the politeness, respect, consideration and friendliness shown to the customers by the contact personnel (Ghobadian *et al.*, 1993). Besides, security can be defined as the capabilities of the institution to avoid the danger, risk and doubt, while communication refers to the approach that used by the institution to interact with their customers. A good communication approach enable the institution to give the accurate information and avoid the problems caused by public perception.

According to Parasuraman *et al.*, tangibles refer to facilities that provided by the institution in serving good conditions to their customers. This dimension also appears the personnel and condition of equipment. Besides, understanding the customer is defined as how well the institution can meet the customer's satisfaction include providing individualized attention.

Services quality dimensions also proposed by Gronroos (1978) in the different way. The three dimensions and the interpretation of each dimension for higher education are as follows :

- 1) The technical quality of outcome
- 2) The functional quality of the service encounter
- 3) The corporate image

According to Gronroos, the customer can measure the outcome of service in an objective manner while, the functional quality of the service encounter is concerned with the interaction between the provider and recipient of a service and is often perceived in a subjective manner (Ghobadian *et al.*, 1993). Moreover the corporate image will influence the perception of the customer towards the image of the institution. The image depends on the technical and functional quality, price, external communications, physical locations, appearance of the site and the competence and behaviour of the staff (Ghobadian *et al.*, 1993).

Lehtinen and Lehtinen (1992) also proposed three dimensions of service quality. According to their study, the dimensions are as follows :

- 1) Physical quality
- 2) Corporate quality
- 3) Interactive quality

The physical quality refers to such items as the condition of building and enabling equipment. This interpretation is quite similar with the dimension that proposed by Gronroos. Lehtinen and Lehtinen also stressed their proposal that is related with the organization's image and profile. According to them, corporate quality is other dimension to view service quality for the higher education. Besides, interactive quality can be defined as the interaction between the institution' staff and the customer to avoid miscommunication among them.

#### **2.4 Approach in Measuring Quality**

There are basically two main approaches in measuring quality. The most popular one is SERQUAL model which was developed by Parasuraman. This measurement compares the level of perception against expectation. Another one is simpler and straight forward which just measure on the current level of performance, known as SERPERF.

#### 2.4.1 SERVQUAL

A quality service organization, attempt to determine the requirements of its customers and translate these requirements into product and delivery process specifications to meet the customer's satisfaction (Ghobadian, 1993). Based on this importance, Parasuraman *et al.* (1985,1988) initiated a model in measuring quality of services as a basis for an adapted model for higher education. According to the model that 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. Reliability concerns on performing the promised service dependably and accurately, while responsiveness refers to the provision of a prompt service. The other dimension that include in the scale of measurement is assurance, which means customer courtesy, trust and confidence, while empathy refers to how well the organization caring and give attention to their customers. Tangibles concern on the physical facilities and equipment that provided by the organization.

Based on this scale dimensions, the customers are 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). Measures of service quality can be derived by subtracting the expectation scores from perception scores, which also can be weighted to take account of the relative importance of each quality dimension (O'Neill *et al.*, 2001).

O'Neill *et al.* initiated some benefits derived from this approach in their study. The benefit of using the SERVQUAL approach is it can make a clear indication of how well the company perform to meet the customer's requirement according to the customer's perception. Besides, SERVQUAL also helps the company to prioritise the customer needs, want and expectation based on customer's opinion. SERVQUAL allows the organization to set the standards to meet the quality requirement issued by the customers. Besides the benefits mentioned above, the

SERVQUAL also help the company to determine the existence of any gaps between the provider and the customer. Hence, this approach enables the company to increase their productivity through the serviceability.

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 in not consistent across industries, the practicalities of the instruments and the attitude of the customer in complete the surveys. Therefore, some studies have been conducted to overcome these problems. A study by Brown et al. (1993) found evidence that a number of psychometric problems associated with the use of difference scores can be solved by using of non-difference score measures which display better discriminant and nomological validity.

#### 2.4.2 SERPERF

Another approach in measuring quality is SERPERF. SERPERF is an improvement model from SERVQUAL, which is initiated by Parasuraman *et al.* This technique can be described as an absolute performance measure of consumer perceptions of service quality.

The model, used 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 studies by O'Neill *et al.* (2001), showed that SERVPERF is an absolute rating of customer attitudes towards service quality. A study conducted using the performance-based measure also found that SERVPERF explained more of the variance in an overall measure of service quality than did SERVQUAL (O'Neill *et al.*,2001).

### **2.5 Factors influence the evaluation of service quality.**

#### 2.5.1 Seniority factor.

A study by Oldfield & Baron (2000) on student perceptions towards academic staff in a UK university business and management faculty found that difference between the



seniors and the freshmen concerns whether academic staff have provided enough time for assistance. The final year students tend to agree with the statement that academic staff “are too busy to respond to requests for assistance.” They also tend to agree that the academic staff are less caring and consistently less courteous to them.

In a study by Hill (1995) which assesses the role and expectation of student as primary consumer of higher education services and the implications of this for the management of service quality in higher educational organizations in the United Kingdom, found that there are significant differences at the  $p \leq 0.05$  in perceived importance between the years in relation to factors such as personal contact with academic staff, computing facilities and financial services. In the case of year three and two, significant differences were identified in the areas of feedback on academic performance, work experience, the university’s careers and counseling/welfare services. These factors were considered important at the beginning of year three as compared to their importance at the start of year two. Analyses of the data also revealed significant differences at the  $p \leq 0.05$  concerning expectations at the beginning of year one, to the evaluations beginning in year three in factors relating to course content, teaching quality, teaching methods, personal contact with academic staff, feedback, student involvement in curriculum review/development, work experience, computing facilities, library service, university careers service, the university counseling/welfare service, the university health service, and the university physical education service.

#### 2.5.2 Course factor

A study by Kamal and Ramzi (2002) on assuring quality service in private university has found that student from the faculty of arts, architecture and design (FAAD) give higher total mean rating on the overall satisfaction scale than students from the faculty of business and economic (FBAE). Furthermore the FAAD students were significantly more satisfied than the faculty of engineering (FE) students particularly in the aspect of the registration process. As for advising aspect, the study showed that FAAD students were significantly more satisfied than FBAE students.

The study revealed that there are differences on the satisfaction level of service quality based on field of study. This may indicate that the student experiences and their judgement or the way they evaluate thing may also differ across discipline.

### 2.5.3 Cultural factor.

Tomovick, Jones and Al-Khatib (1986) examined the factors that influence the service quality perceptions of international students in US business schools. They used the SERVQUAL in educational setting, which has been adapted to include only five dimensions of the SERVQUAL, which are tangibles, reliability, responsiveness, assurance, and empathy. The findings of the study found that the international business students considered tangibles (which appealing facilities) to be one of the most important elements in the service quality of educational institution. Other results of the study also point to the direction that students not only expect knowledgeable and qualified faculty but also frequently need teachers or mentors who will help them with different problems.

Culture is inherent in all human. Many studies have been carried out to assess the relationship of culture to service quality. In a study by Malhotra et al (1994), a comparison of the determinants of service quality between developed and developing countries was made. One of the findings of the study is that environmental differences between the two groups of countries can have changeable influences on service quality determinants. Several suggestions were offered to link service quality dimensions to economic and socio cultural factors.

Another study by Winsted (1997) on how customers in the US and Japan evaluate service encounters, found that studies examining service encounters need to be sensitive to differences in culture. Winsted proposed a framework and measurement scales for examining and measuring service encounter components in the two countries.

Yet another study by Dinthu and Yoo (1998) on the effect of consumers' cultural orientation on their service quality expectations, found that the cultural orientations have a big influence on the overall service quality expectations, and the expectations on each of the dimensions of service quality.

### 2.5.4 Gender factor.

A study by Napaporn Khantanapha (2000) found that there are no differences between men and women MBA students in expectations of service quality. The analysis of variance results for expectations and gender shows there are no differences between men and women. The mean of 4.01 obtained from men's expectation is not much different from the mean of 4.02 for women. However, there are significant

differences in perceptions of actual service quality between men and women in five different universities in Thailand. Another study by Joseph and Joseph (1998) found that there is no significant difference between male and female students except the perception for two matters: Good social life on campus” and “academic value of degree offered.”

However, the study done by Soutar and McNeil (1996) and Kamal and Ramzi (2002) , indicates that gender factor place an effect on the satisfaction scale of service quality which male student were found to be more satisfied than female students for the former and female student were significantly more satisfied than males for the later.

In a study of student satisfaction with selected student support services, Ruby (1996) found that students evaluate service quality differently depending on the department of the service being considered. Differences in perception of service quality according to gender were also found with female students both expecting and perceiving higher levels of service quality than male student (Ruby, 1996). Moderate relationships were found between students’ satisfaction with support services and their commitment to the college or university attended.

## **2.6 Theoretical Framework**

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<sup>1</sup> 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<sup>2</sup> 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<sup>3</sup> concerned with the communication, caring, individual attention and understanding students’ needs. Content<sup>4</sup> in the context of education is referring to the curriculum design and how its can develop and prepare the students for their potential job market. Delivery<sup>5</sup> means the capability in giving

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<sup>1</sup> See questions no. 1 to no. 6 in the questionnaire (6 items).

<sup>2</sup> See questions no. 7 to no. 12 in the questionnaire (6 items).

<sup>3</sup> See questions no. 13 to no. 18 in the questionnaire (6 items).

<sup>4</sup> See questions no. 19 to no. 26 in the questionnaire (12 items).

<sup>5</sup> See questions no. 27 to no. 33 in the questionnaire (7 items).

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<sup>6</sup>. 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.

We have developed a model in Figure 2.1 to conceptualize the theoretical framework of the study. The model shows the dimensions of the service quality in higher education (SQHE) from students' perspective and the factors that would influence the evaluation of service quality.

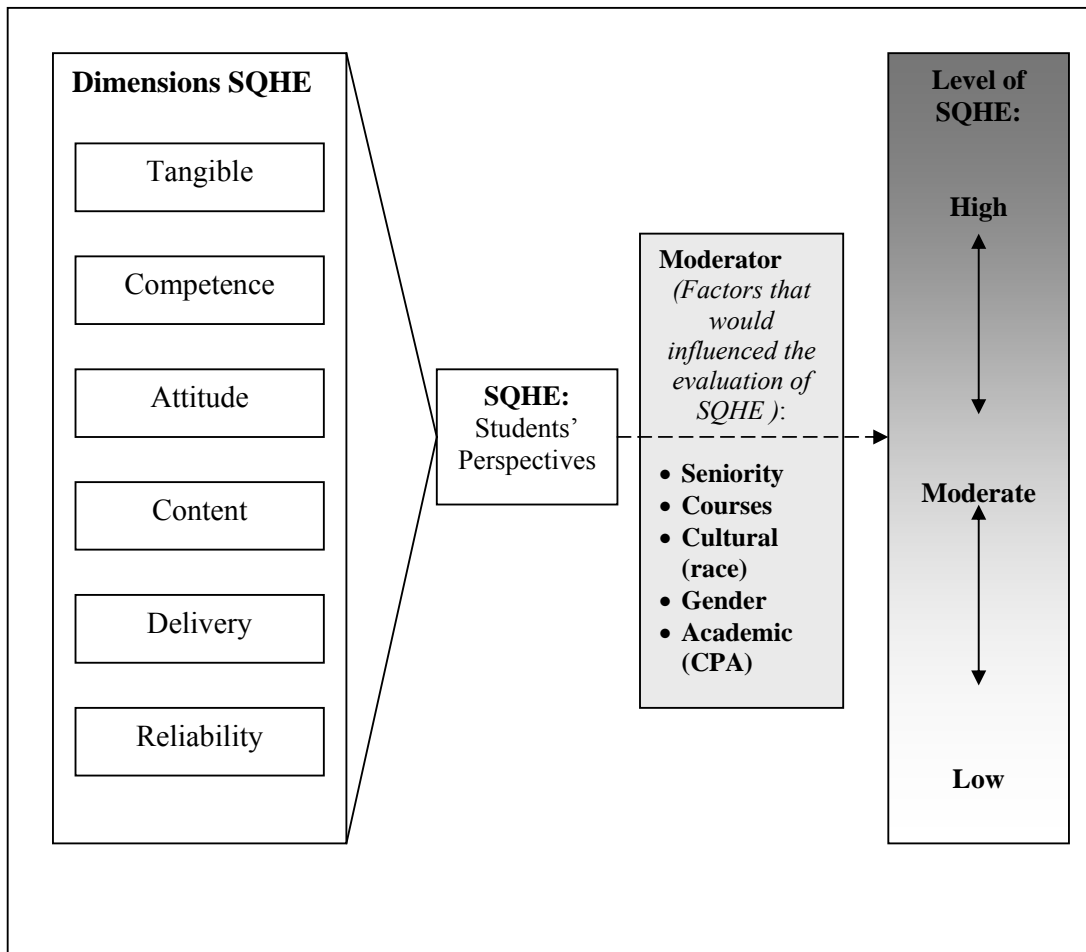


Figure 2.1: Model for Service Quality in Higher Education (SQHE)

<sup>6</sup> See questions no. 34 to no. 37 in the questionnaire (6 items).

## **CHAPTER 3**

### **METHODOLOGY**

#### **3.1 Introduction**

This chapter explains in detail the methodology used in gathering the information necessary in this study. It highlights the sources of data used and the survey design, which includes the sampling plan and data analysis method employed. The steps involved were elaborated in details and have been carried out systematically in order to achieve a high degree of reliability and validity.

#### **3.2 Sources of data**

Data sources are classified as being either primary sources or secondary sources. A source is primary if the data collector is the one using the data for analysis. A source is secondary if one organization or individual has compiled the data to be used by another organization or individual. In our study, we used primary sources to analyze the data gathered. The instrument used is a structured questionnaire that was developed by the research team based on the literature review on the relevant topics.

#### **3.3 Survey design**

The idea of a research design is to specify methods and procedures for collecting and analyzing required information. It is thus design in the following ways to increase the validity of the questionnaire and gain more responses:

- (i) Choosing an appropriate mode of response.

Questionnaires were administered personally to the respondents at the end of a class session. This is to enable the researchers to 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 were permitted to ask the researchers for further clarification if they encountered difficulties in understanding the questions. Since the numbers of the respondents in each class were about 40 to 70 students, we manage to get a 100% response rate.

- (ii) Identifying the constructs

We have listed and searched literatures mainly from international journal that reflect the topic of the study. Among the referred journal are as follows : Quality Assurance in Education, Managerial Auditing Journal, International Journal of Quality and

Reliability Management, Total Quality Management Magazine and Managing Service Quality.

A comprehensive review of the above literature was the basis for the development of instrument used in this study. Six dimensions related to service quality in education were developed and itemized into 43 sets of questions.

Other variables deemed important were background of the respondents to identify differences, if any, between respondents according to year of study, course, race, gender and CPA score.

(iii) Formulating accurate statements

We have formulated the series of precise, short, clear and easy understandable statements. Essentially, if the statements were ambiguous, the resulting analysis will be flawed. To be accurate, data must be freed from ambiguities arising from misinterpretations of the statements given in a survey. Due to this we have designed these statements in two languages i.e. Bahasa Malaysia and English.

There were two steps taken to assure the accuracy of translating these statements. First involves brainstorming and discussion among group of researchers in formulating, evaluating, filtering and finalizing the statements. The second involves pilot testing.

(iv) Pilot study

Pilot survey was carried out through 60 students to assess the questionnaire clarity and length. The students were asked to give comments and opinion on statements used in the questionnaire in term of clarity and completeness. After carrying out the pilot survey, revisions were made to various questions that were not clear to remove all ambiguities. This was necessary to increase the validities of the questionnaires before embarking on the full-scale survey. In this context, only 3 statements needed corrections. The three statements were:

- (a) Statement no. 3: *The physical facilities of the faculty are visually appealing.*
- (b) Statement no. 6: *The faculty organizes and provides social events for student.*
- (c) Statement no. 23: *The curriculum is flexible and cross-disciplinary.*

To make these statements clearer and understandable, we included some examples. Comments from respondents also showed that the instrument was comprehensive in coverage. Finally, the final questionnaire consisted of 43 items that address the necessary service quality dimensions in education and 5 questions on demography and academic backgrounds.

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 indicated that no values of coefficient  $\alpha$  were less than 0.6 as reported in Table 3.1 below :

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 3.1: Reliability result (pilot test)**

### 3.4 Sampling

Due to time constraints, a sampling procedure was used. The sampling process begins by defining the frame. Thus the sampling frame used in our study included all full time undergraduate students registered in the Faculty of Management and Human Resource Development for the 2003/3004 academic year with a population size of 428.

#### 3.4.1 Sample size

Based on Krejcie and Morgan (1970) it was appropriate to select a sample size of 203 (refer to appendix 1). Roscoe (1975) proposes that the appropriate sample sizes for most research to be greater than 30 and less than 500. Taking into considerations these guidelines, we decided to choose 229 undergraduate students as our sample.

#### 3.4.2 Sampling method

We employ a stratified random sampling technique that consisted of two types of strata. The first strata is according to the year of study; 1<sup>st</sup> year student, 2<sup>nd</sup> year student, 3<sup>rd</sup> year student and 4<sup>th</sup> year student. The second strata is according to the

courses; Bachelor of Management (Technology), Bachelor of Management (Marketing) and Bachelor of Human Resource Development. The details of the strata are presented in Table 3.2.

		Course			Total
		SHD/SHT	SHF/SHG	SHR/SHP	
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 3.2: Stratified sample allocation**

Based on coursework, there were altogether 91 students of management (technology)(SHD/SHT), 48 students of management (marketing) (SHF/SHG) and 90 students of Human Resource Development (SHR/SHP). The table also shows that 60, 35, 61 and 73 respondents of first, second, third, and fourth year students taken as samples respectively.

### **3.5 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), this type of scale is considered to be an interval scale. Therefore, measurement of central tendency and its dispersion can be made.

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

### **3.6 Data analysis method.**

The data was analyzed using mean, median and standard deviation for descriptive statistics. For inferential statistics, several parametric tests were employed such as T-test and ANOVA since data used were interval in nature and did not violate normality



assumption. Non-parametric test was also used for some data, which was transformed into categorical data.

This data will either confirm or reject the following hypotheses that were based on the model of Service Quality in Higher Education (SQHE) that was developed in section 2.5 of chapter 2:

H<sub>A1</sub>: There is a difference in the mean score of service quality based on seniority.

H<sub>A2</sub>: There is a difference in the mean score of service quality based on courses.

H<sub>A3</sub>: There is a difference in the mean score of service quality based on cultural (race).

H<sub>A4</sub>: There is a difference in the mean score of service quality based on gender.

H<sub>A5</sub>: There is a relationship between CPA and the evaluation on service quality.

## **CHAPTER 4**

### **RESULTS**

#### **4.1 Introduction**

This chapter examines results of the study. The analyses were obtained using both descriptive and inferential statistics. In descriptive statistics, we explore the data to understand the nature and characteristics of the data. It helps the researchers in selecting and using the appropriate analyses or procedures in hypothesis testing. On the other hand, the inferential statistics was used to infer relevant information with regard to the population.

#### **4.2 Demographic and profile of the respondents**

Table 4.1 shows the number of respondents according to the year of study and according to the courses for each of degree program. 39.7 percent of the respondents represented the undergraduate student of Bachelor of Management (Technology), 21 percent (Bachelor of Management (Marketing) and 39.3 percent (Bachelor of Human Resource Development). It also shows that the majority of the respondents are Malays (65.1%), followed by Chinese (26.2), and the rest are the Indian and other races (<10%). Therefore, the percentage of races involved in the study is considered sufficient to represent the portion of the students based on races. With regard to gender, the male respondents were 29.3 percent whereas the female were 70.7 percent. The gender proportion was also considered sufficient since the majority of the undergraduate students were female.

It can also be seen that majority of the respondents (76%) obtained CPA of between 2.99 and 3.49; only 21.4% obtained CPA of > 3.49 and 2.6 % obtained CPA of < 2.3.

Demographic Variables	Category	Frequency	Valid Percentage (%)
Year of study	1 <sup>st</sup> year	60	26.2
	2 <sup>nd</sup> year	35	15.3
	3 <sup>rd</sup> year	61	26.6
	4 <sup>th</sup> year	73	31.9
Courses	Bach. of Management (Technology)	91	39.7
	Bach. of Management (Marketing)	48	21.0
	Bach. of Human Resource Development	90	39.3
Races	Malay	149	65.1
	Chinese	60	26.2
	Indian	12	5.2
	Other	8	3.5
Gender	Male	67	29.3
	Female	162	70.7
Academic (CPA)	3.7 to 4.0	14	6.1
	3.5 to 3.69	35	15.3
	3.0 to 3.49	89	38.9
	2.3 to 2.99	85	37.1
	< 2.3	6	2.6

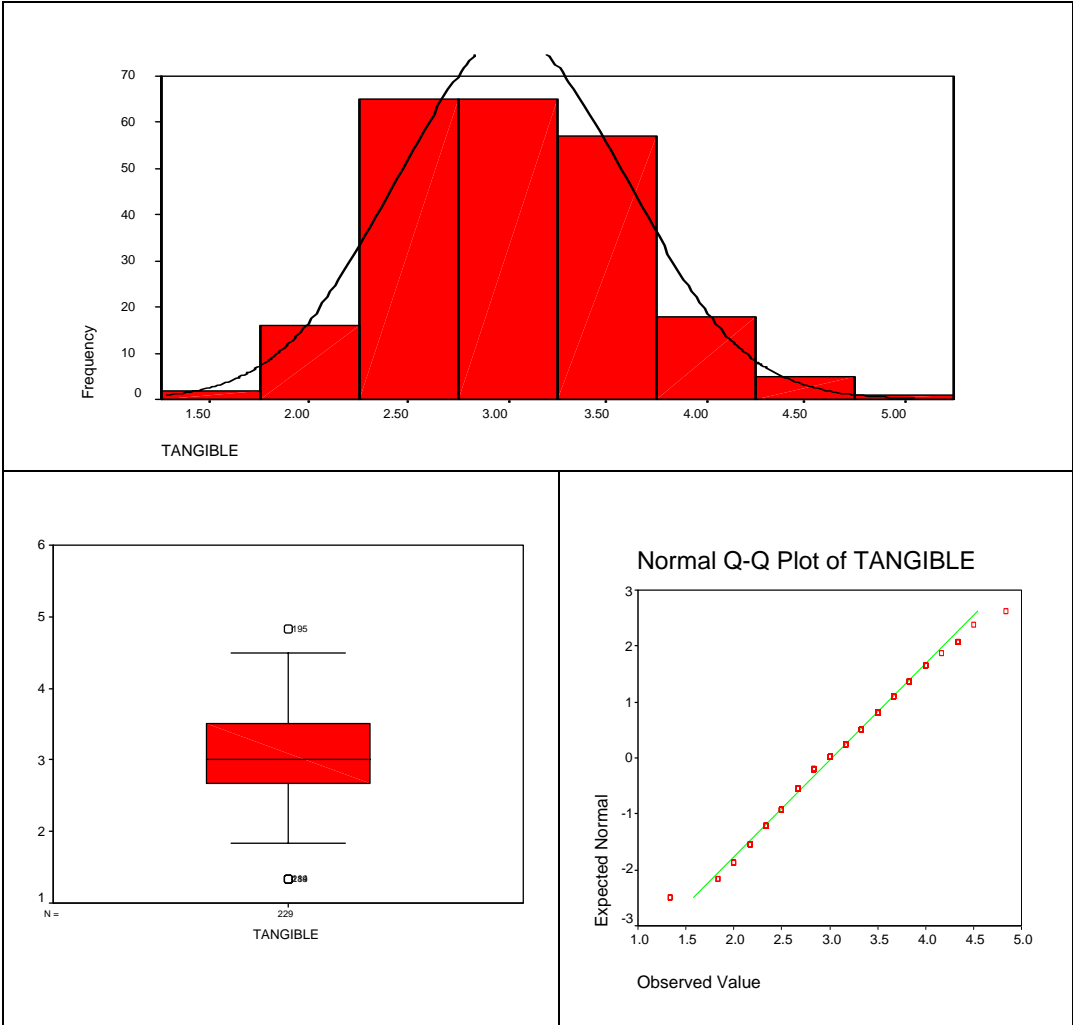
**Table 4.1: Sample profile**

### 4.3 Normality

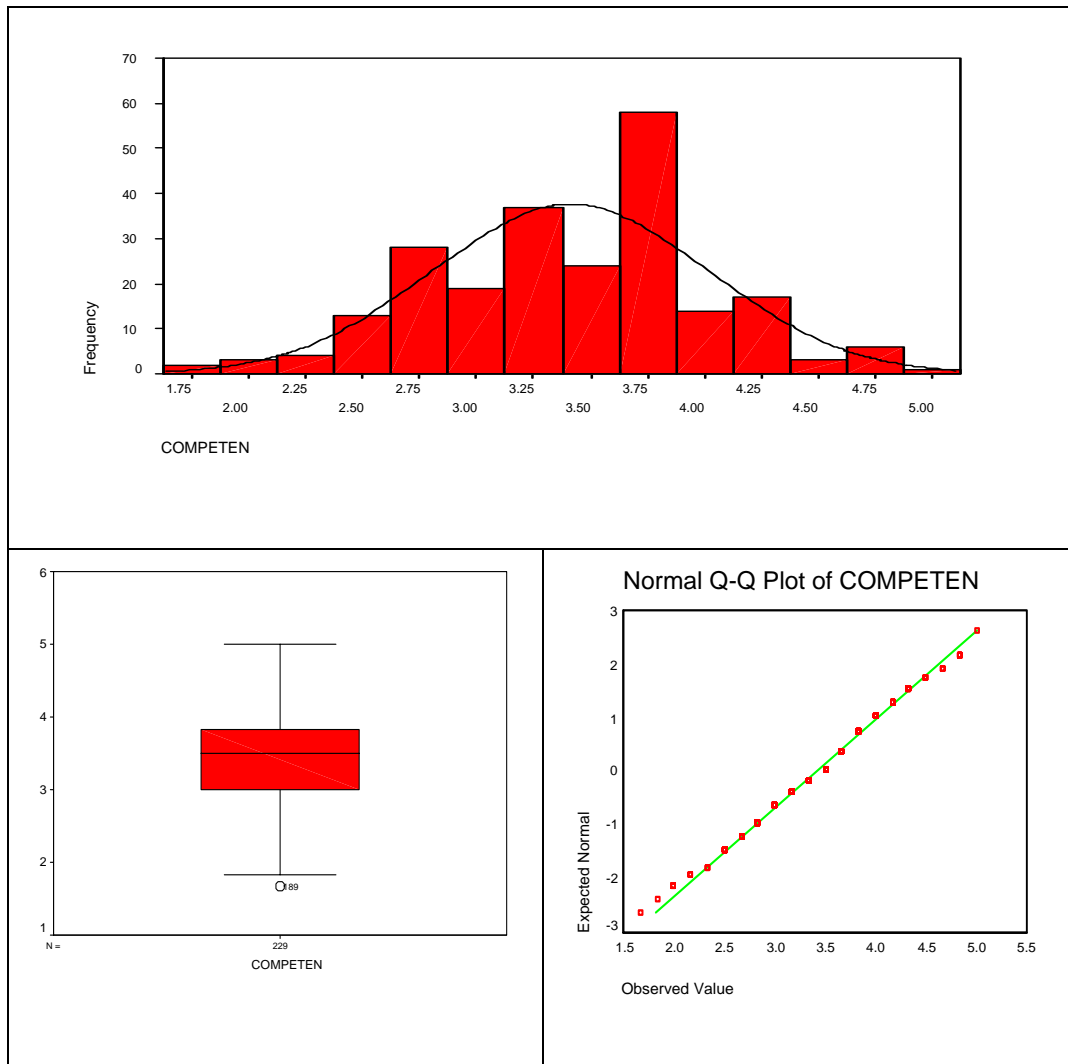
Table 4.2 shows that the mean, median and mode for all the six dimensions of service quality are almost likely the same. This means that the data were approximation to a normal distribution. Furthermore, the analyses of Histogram, Box-and-whisker plot, and Probability Plot also demonstrated that the data of all these dimensions are normally distributed (refer to Figure 4.1, 4.2, 4.3, 4.4, 4.5, 4.6)

	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

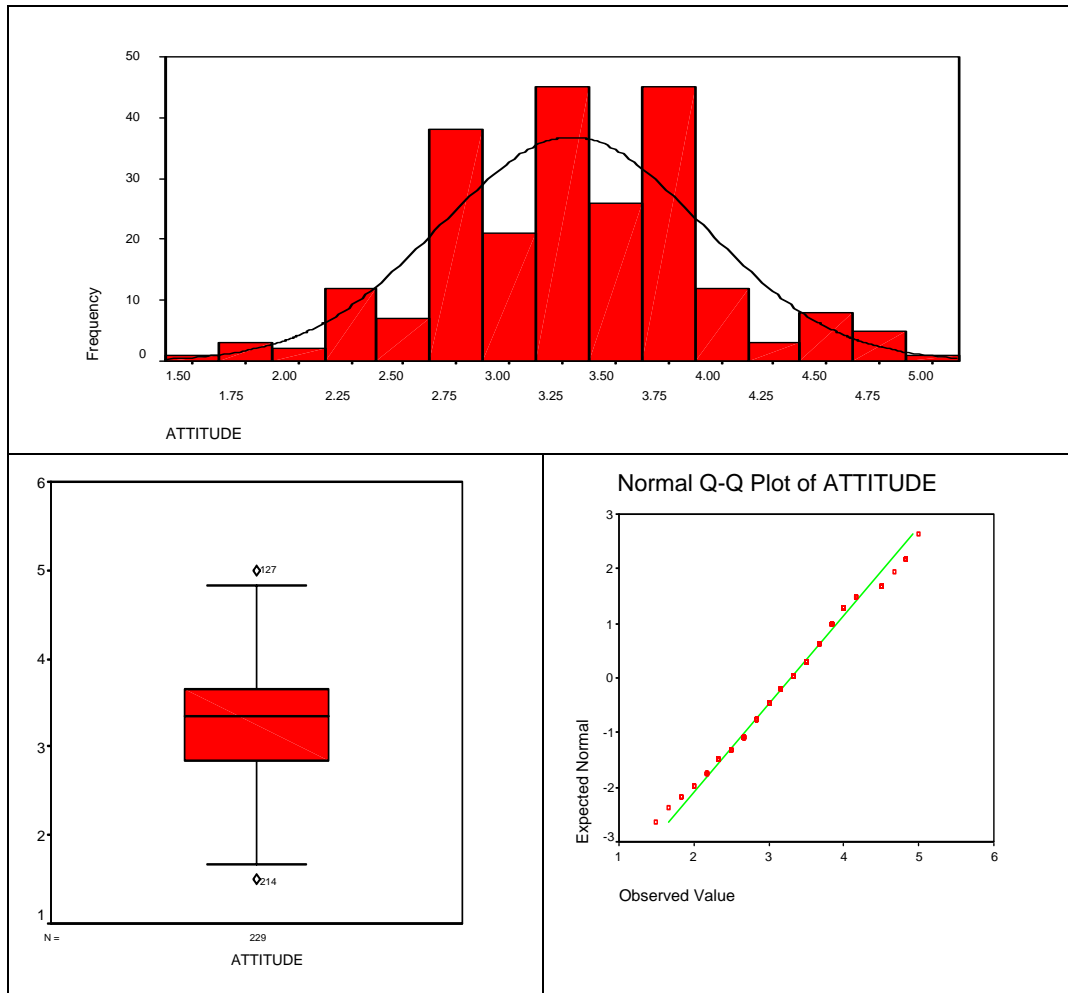
**Table 4.2: Measures of central tendency and dispersion**



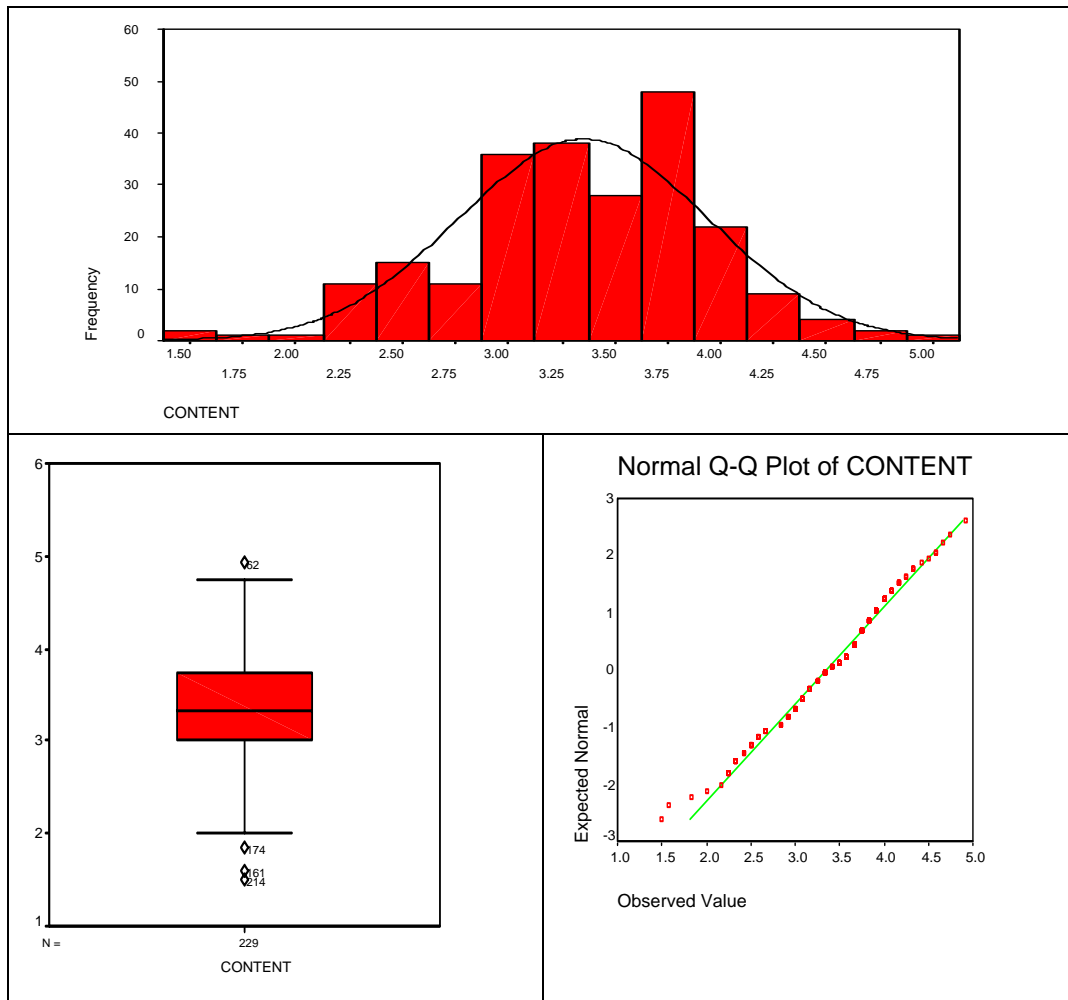
**Figure 4.1: Sampling distribution for Tangible dimension**



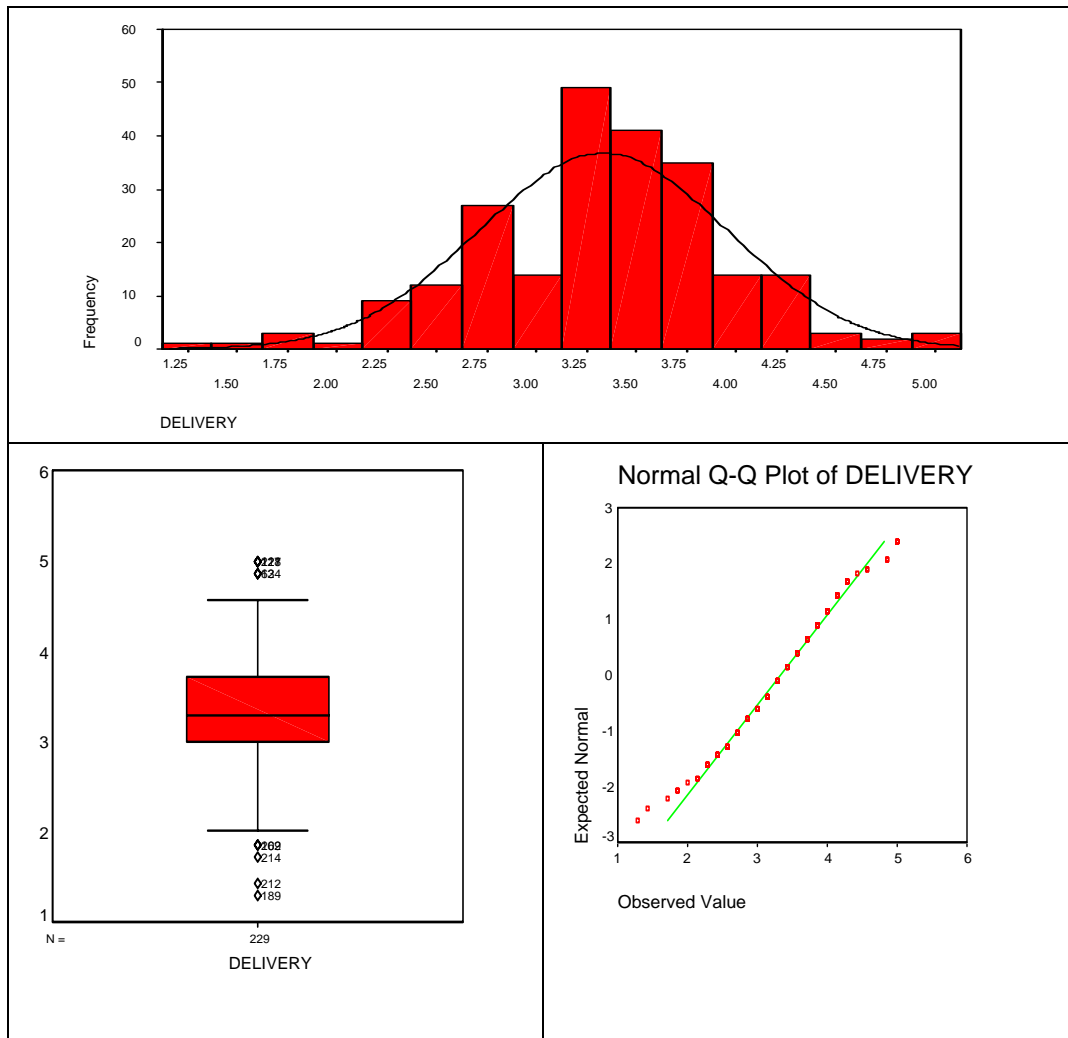
**Figure 4.2: Sampling distribution for Competence dimension**



**Figure 4.3: Sampling distribution for Attitude dimension**

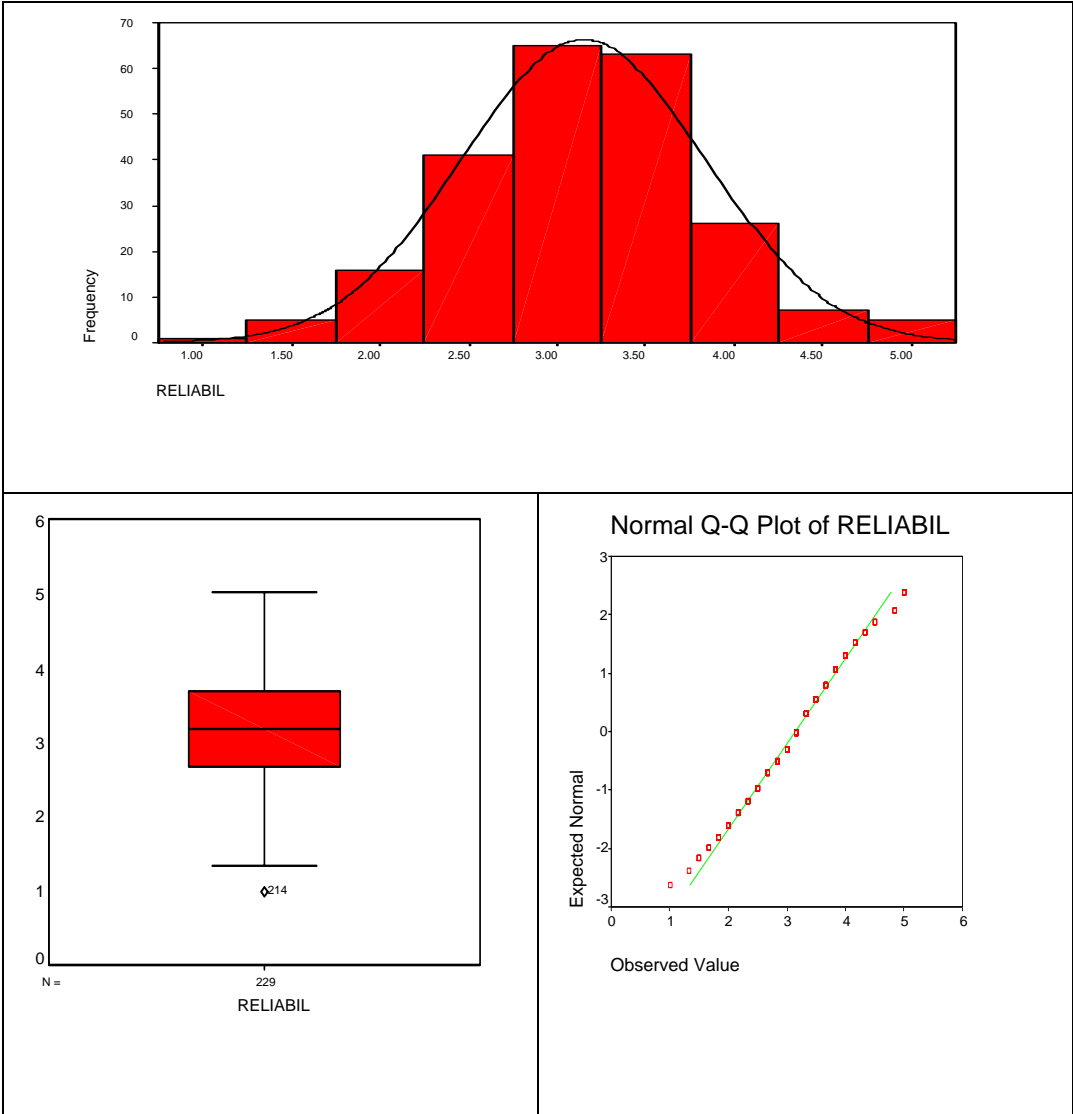


**Figure 4.4: Sampling distribution for Content dimension**



**Figure 4.5: Sampling distribution for Delivery dimension**





**Figure 4.6: Sampling distribution for Reliability dimension**

#### 4.4 Finding on overall 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 4.3: The mean scores and reliability**

Table 4.3 shows that the mean scores service quality in Education dimensions namely tangible, 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.

#### 4.5 Finding on the hypotheses testing

##### 4.5.1 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.

The results of analyses are shown in Table 4.4, includes the mean and standard deviation, the one-way ANOVA  $F$  test and the homogeneity test.

##### Descriptive Statistics

Dependent Variable: SERQUAED

Student status	Mean	Std. Deviation	N
1st year student	3.3878	.4311	60
2nd year student	3.4026	.4496	35
3rd year student	3.3095	.4938	61
4th year student	3.0447	.5343	73
Total	3.2598	.5054	229

### Levene's Test of Equality of Error Variances<sup>a</sup>

Dependent Variable: SERQUAED

F	df1	df2	Sig.
1.373	3	225	.252

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept+B1

### 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 <sup>a</sup>	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 4.4: The results of a one-way analysis of variance for hypothesis 1.**

The result shows that the ANOVA test is significant ( $p < 0.05$ ). Therefore we reject the null hypothesis that there are no differences in the mean score of service quality based on year of study. Because the overall  $F$  test was significant, a follow-up test was necessary to evaluate pair-wise differences among the means. In order to decide whether to use a post hoc procedure that assumes equal variances (Tukey) or one that does not assume equal variances (Dunnett's  $C$ ), we used Levene's Test of Equality of Error Variances which shows that the  $p$  value = 0.252 ( $p > 0.05$ ). It implies that there was no evidence of a significance differences in the variances between the groups. This result therefore justified the reason of using the post hoc procedure that assumes equal variances.

In the following post hoc procedure, we thus performed Tukey analysis to determine which groups are different. The result of the analysis is shown in table 4.5.

### Multiple Comparisons

Dependent Variable: SERQUAED

	(I) Student status	(J) Student status	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	1st year student	2nd year student	-1.48E-02	.1032	.999	-.2800	.2505
		3rd year student	7.827E-02	8.8E-02	.812	-.1485	.3050
		4th year student	.3431*	8.5E-02	.000	.1258	.5604
	2nd year student	1st year student	1.475E-02	.1032	.999	-.2505	.2800
		3rd year student	9.303E-02	.1029	.803	-.1714	.3575
		4th year student	.3579*	1.0E-01	.002	.1015	.6143
	3rd year student	1st year student	-7.83E-02	8.8E-02	.812	-.3050	.1485
		2nd year student	-9.30E-02	.1029	.803	-.3575	.1714
		4th year student	.2648*	8.4E-02	.009	4.851E-02	.4812
	4th year student	1st year student	-.3431*	8.5E-02	.000	-.5604	-.1258
		2nd year student	-.3579*	1.0E-01	.002	-.6143	-.1015
		3rd year student	-.2648*	8.4E-02	.009	-.4812	-.5.E-02
Dunnnett C	1st year student	2nd year student	-1.48E-02	.1032		-.2673	.2378
		3rd year student	7.827E-02	8.8E-02		-.1443	.3009
		4th year student	.3431*	8.5E-02		.1224	.5638
	2nd year student	1st year student	1.475E-02	.1032		-.2378	.2673
		3rd year student	9.303E-02	.1029		-.1716	.3577
		4th year student	.3579*	1.0E-01		9.488E-02	.6209
	3rd year student	1st year student	-7.83E-02	8.8E-02		-.3009	.1443
		2nd year student	-9.30E-02	.1029		-.3577	.1716
		4th year student	.2648*	8.4E-02		3.040E-02	.4993
	4th year student	1st year student	-.3431*	8.5E-02		-.5638	-.1224
		2nd year student	-.3579*	1.0E-01		-.6209	-.9.E-02
		3rd year student	-.2648*	8.4E-02		-.4993	-.3.E-02

Based on observed means.

\*. The mean difference is significant at the .05 level.

**Table 4.5: The Post Hoc Comparisons for hypothesis 1.**

Using the Tukey test, it can be concluded that :

- (a) There is a significant difference mean score of service quality between first and fourth year undergraduate students
- (b) There is a significant difference mean score of service quality between second and fourth year undergraduate students
- (c) There is a significant difference mean score of service quality between third and fourth year undergraduate students

- (d) There is no significant difference mean score of service quality between:
- (i) first and second year undergraduate students
  - (ii) first and third year undergraduate students
  - (iii) second and third year undergraduate students

## Hypothesis 2

H<sub>0</sub>: There is no difference in the mean score of service quality based on courses.

H<sub>A</sub>: There is a difference in the mean score of service quality based on courses.

The result of ANOVA *F* test in table 4.6, shows that the *p*-value = 0.243 which greater than 0.05. Therefore we fail to reject the null hypothesis. It can be concluded that there are no significant differences in the mean score of service quality based on courses.

### Descriptive Statistics

Dependent Variable: SERQUAED

Course	Mean	Std. Deviation	N
SHD/SHT	3.3291	.5552	91
SHF/SHG	3.2138	.3862	48
SHR/SHP	3.2144	.5057	90
Total	3.2598	.5054	229

### Tests of Between-Subjects Effects

Dependent Variable: SERQUAED

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	.724 <sup>a</sup>	2	.362	1.422	.243	.012
Intercept	2217.464	1	2217.464	8712.852	.000	.975
B2	.724	2	.362	1.422	.243	.012
Error	57.518	226	.255			
Total	2491.702	229				
Corrected Total	58.242	228				

a. R Squared = .012 (Adjusted R Squared = .004)

**Table 4.6: The result of a one-way analysis of variance for hypothesis 2.**

### 4.5.3 Hypothesis 3

H<sub>0</sub>: There no difference in the mean score of service quality based on races.

H<sub>A</sub>: There is a difference in the mean score of service quality based on races.

The results of analyses are shown in Table 4.7, which include the mean and standard deviation, the one-way ANOVA *F* test and the homogeneity test.

#### Descriptive Statistics

Dependent Variable: SERQUAED

Race	Mean	Std. Deviation	N
Malay	3.3565	.4711	149
Chinese	3.0236	.4802	60
Indian	3.2143	.7431	12
Other	3.2991	.3667	8
Total	3.2598	.5054	229

#### Levene's Test of Equality of Error Variances<sup>a</sup>

Dependent Variable: SERQUAED

F	df1	df2	Sig.
2.066	3	225	.106

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept+B3

#### 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 <sup>a</sup>	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 4.7: The results of a one-way analysis of variance for hypothesis 3.**

As shown in the table labeled Test of Between-Subject Effect, the ANOVA test is significant with  $p$ -value less than  $\alpha$ , 0.05. Therefore we reject the null hypothesis and conclude that there are no significant differences in the mean score of service quality based on races.

Because the overall  $F$  test was significant, follow-up test were essential to evaluate pair-wise differences among the means. Again, to decide whether to use a post hoc procedure that assumes equal variances (Tukey) or one that does not assume equal variances (Dunnett's  $C$ ), we used the Levene's Test of homogeneity of variances. The test was not significant since the  $p$  value = 0.106. It implies that there are no evidence of a significant difference in the variances between the groups. The result of the test had thus justified the reason of using the post hoc procedure that assumes equal variances.

In the following post hoc procedure, we performed Tukey analysis to determine which groups are different. The result of the analysis is shown in table 4.8

#### Multiple Comparisons

Dependent Variable: SERQUAED

	(I) Race	(J) Race	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	Malay	Chinese	.3329*	7.453E-02	.000	.1415	.5244
		Indian	.1422	.1463	.765	-.2335	.5180
		Other	5.741E-02	.1769	.988	-.3971	.5119
	Chinese	Malay	-.3329*	7.453E-02	.000	-.5244	-.1415
		Indian	-.1907	.1541	.603	-.5867	.2053
		Other	-.2755	.1835	.436	-.7469	.1958
	Indian	Malay	-.1422	.1463	.765	-.5180	.2335
		Chinese	.1907	.1541	.603	-.2053	.5867
		Other	-8.4821E-02	.2225	.981	-.6564	.4868
	Other	Malay	-5.7410E-02	.1769	.988	-.5119	.3971
		Chinese	.2755	.1835	.436	-.1958	.7469
		Indian	8.482E-02	.2225	.981	-.4868	.6564
Dunnett C	Malay	Chinese	.3329*	7.453E-02		.1414	.5245
		Indian	.1422	.1463		-.5108	.7952
		Other	5.741E-02	.1769		-.3822	.4970
	Chinese	Malay	-.3329*	7.453E-02		-.5245	-.1414
		Indian	-.1907	.1541		-.8565	.4750
		Other	-.2755	.1835		-.7334	.1824
	Indian	Malay	-.1422	.1463		-.7952	.5108
		Chinese	.1907	.1541		-.4750	.8565
		Other	-8.4821E-02	.2225		-.8594	.6897
	Other	Malay	-5.7410E-02	.1769		-.4970	.3822
		Chinese	.2755	.1835		-.1824	.7334
		Indian	8.482E-02	.2225		-.6897	.8594

Based on observed means.

\*. The mean difference is significant at the .05 level.

**Table 4.8: The Post Hoc Comparison**

Based on the Tukey test, it can be concluded that :

(a) There is a significance difference mean score of service quality between Malay and Chinese. The Malay undergraduate students gave higher score compared to Chinese undergraduate students

(b) There is no significance difference mean score of service quality between Malay and Indian, and Chinese and Indian.

**4.5.4 Hypothesis 4**

H<sub>0</sub>: There no difference in the mean score of service quality based on gender.

H<sub>A</sub>: There is a difference in the mean score of service quality based on gender.

The results of analyses are shown in Table 4.9.

**Group Statistics**

	Gender	N	Mean	Std. Deviation	Std. Error Mean
SERQUAED	Male	67	3.3086	.4969	6.071E-02
	Female	162	3.2397	.5090	3.999E-02

**Independent Samples Test**

		SERQUAED	
		Equal variances assumed	Equal variances not assumed
Levene's Test for Equality of Variances	F	1.111	
	Sig.	.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 4.9: The results of *t*- test for hypothesis 4.**

The result of *t*-test in table 4.9, 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. It can be concluded that there are no significant differences between the mean score of service quality of male and female undergraduate students.

**4.5.5 Hypothesis 5**

H<sub>0</sub>: There is no relationship between CPA and the evaluation on service quality evaluation.

H<sub>A</sub>: There is a relationship between CPA and the evaluation on service quality.

Table 4.10 show the result of the chi-square analysis between CPA and Service Quality in Education. The *p*-value (Pearson chi-square  $\chi$ ) is 0.394 which greater than 0.05. Therefore we fail to reject the null hypothesis and conclude that there is relationship between CPA and the evaluation on service quality.

**CPA recoded into two groups \* SQE recoded into three groups Crosstabulation**

			SQE recoded into three groups			Total
			low	moderate	high	
CPA recoded into two groups	Below 3.0	Count	2	77	12	91
		Expected Count	3.6	73.5	13.9	91.0
	3.0 and above	Count	7	108	23	138
		Expected Count	5.4	111.5	21.1	138.0
Total	Count	9	185	35	229	
	Expected Count	9.0	185.0	35.0	229.0	

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.862 <sup>a</sup>	2	.394
Likelihood Ratio	1.962	2	.375
Linear-by-Linear Association	.011	1	.916
N of Valid Cases	229		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 3.58.

**Table 4.10: Pearson Chi-Square for crosstabulation of CPA and Service Quality in Education**

## **CHAPTER 5**

### **DISCUSSION**

#### **5.1 Introduction**

This chapter discussed on the findings of the study, its limitations and suggestion for future research. The research findings were compared with previous study to see whether it is consistent or otherwise and perhaps considered as a new finding. This will contribute to the enrichment and extensions of knowledge in the field of quality management.

5.2 Discussion 1: Does the student's evaluation of service quality differ by the year of study?

This study showed that there are significant differences on the student's perceptions of service quality based on year of study. The finding is consistent with the study done by Oldfield & Baron (2000), and Hill (1995). New students therefore tend to give positive response compared to old students due to their experiences. Their perception or evaluation changes with their familiarity and degree of expectation with the service.

#### **5.3 Discussion 2: Does the student's evaluation of service quality differ by the field of study?**

This study showed that there are no significant differences on the student's evaluation of service quality based on their field of study or course. However, previous study done by Kamal and Ramzi (2002) on assuring quality service in private university found that students from different field of study have different mean score of satisfaction scale on quality service. The differences in their study were due to groups in the samples, which were drawn from totally different academic areas or disciplines. For example first group in the sample consisted of students from various disciplines and faculties such as art, architecture and design; second group consisted of business and economics discipline; third group comprises of students from engineering discipline. Theoretically, this sampling design will have large variations among groups and small variation within groups. Due to this fact, their finding shows differences in the mean score of satisfaction scale on service quality.

In our study, even though the student's discipline differs, such as technology, marketing, and human resource development, but in the context of the Malaysian

academic discipline, they are categorised within the management discipline under the same faculty. Hence, receiving the same service that is from one faculty, FPPSM. Theoretically, this sampling design will have small variations among groups. We believe, because of that nature, the finding shows no significant differences on the student's perception of service quality by field of disciplines or courses.

#### **5.4 Discussion 3: Does the student's evaluation of service quality differ by race or cultural?**

This study showed significant differences on the student's perception of service quality by 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 perception of service quality. This is particularly true because individuals spend the earlier part of their life in a family that have different sets of cultures, values or belief. And these are unique and differ across groups of community. It will have significant effect on their way of thinking, doing thing, or perceptions.

#### **5.5 Discussion 4: Does the student's evaluation of service quality differ by gender?**

This study showed that there are no significant differences on the student's evaluation of service quality by gender. This finding is in line with a study done by Joseph and Joseph (1998) on certain aspects and Napaporn Khantanapha (2000). Similarly, the study done by Kamal and Ramzi (2002), indicated that female student were significantly more satisfied than males. However, other study carried out by Soutar and McNeil (1996), demonstrated 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 varies and was mixed.

5.6 Discussion 5: Is there any relationship between CPA and the evaluation on service quality evaluation.

Finally, this study revealed that there was no significant relationship between student academic performance and evaluation of service quality. Since there is no literature found regarding this particular relationship, we considered this area of research as exploratory in nature and the finding was only true for this particular research and more study needs to be done in this particular context. This finding thus had given more insight particularly in the areas of quality management.

## **5.7 Conclusions and implications**

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

We also noticed that seniority have a significant influence on the perception of service quality. This probably because student's expectations increase as they become more familiar with the system, more educated and more matured. Another element that also has influence on the perception of service quality is race or culture. In relation to this, the academic or non-academic staffs that deals and provide service directly with student should be able to identify and understand various levels of student's expectations across years of study (from first year to final year) and races.

## **5.8 Limitations and suggestions for future research**

Cultural background and its implication are very complicated issues, which have not been adequately tackled in this paper. Further study and investigation in other literature is needed to analyse in-depth the impact of cultural background and service education.

Due to time and budget constraints, our samples used in this study 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, will require more resources. Furthermore, the lecture method and classes conducted of these students are totally different from full-time students. Therefore, the generalization of our findings is limited to full time management students only.

Further research are needed 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, rules, regulation, as well as and policies, in some instances it is almost impossible for public universities to provide everything that student want.

This study has concentrated on the student's perception of service quality. Future research should focus on the perception of service quality from other stakeholders (such as internal customer, government, industries, etc.). A comprehensive study would help the faculty to review and 'beef-up' its overall service quality in the education sector.

## APPENDIX 1: SAMPLE SIZE

**Table for determining sample size from a given population**

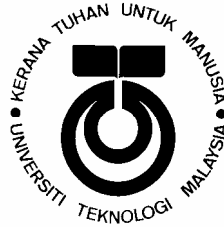
<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

***N* is population size**

**S is sample size**

**Source: Krejcie and Morgan (1970)**

**APPENDIX 2: QUESTIONNAIRE**



Fundamental Research-RMC

Vot 71982

TOPIC:

A Survey of the Service Quality Dimensions in  
Education: Management's student perspective.

*Dear students,*

*This study attempts to measure service quality in education, particularly in our faculty. Information given is confidential and will only be used for academic purposes. Your cooperation in providing true information and honest views is very much appreciated.*

*Thank You*

**Researcher:**

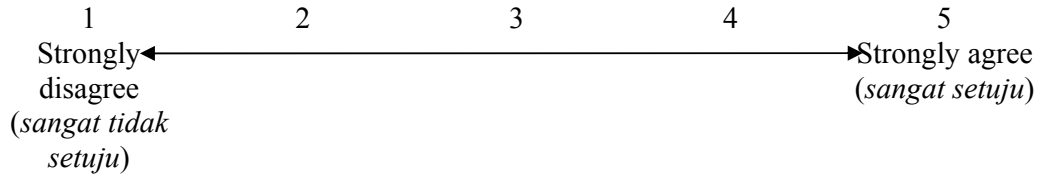
En. Ahmad Jusoh  
En. Ahmad Sharifudin Shamsudin  
Pn. Siti Zaleha Omain  
Prof. Madya Dr. Hishamudin Md Som  
Dr. Norazman Abd Majid

Faculty of Management and Human Resource Development  
Universiti Teknologi Malaysia  
Skudai, Johor.

**Part A:**

**Instruction:** Please tick (/) at the appropriate box to show your level of agreement (on the scale: 1 to 5) for every statements given.

**Arahan:** Sila tanda (/) pada ruangan yang sesuai untuk menunjukkan aras persetujuan pada setiap keterangan yang diberi (skala: 1 hingga 5).



Part A: Factor Criteria on the PERFORMANCE Attributes.		Scale of agreement				
		1	2	3	4	5
1.	The faculty has sufficient equipment/facilities <i>Fakulti mempunyai peralatan/kemudahan yang mencukupi.</i>					
2.	The faculty has modern and up-to-date equipment/facilities <i>Fakulti mempunyai peralatan/kemudahan yang moden dan terkini.</i>					
3.	The academic staff (lecturers) are available for guidance and advice <i>Staf akademik (pensyarah) bersedia memberikan tunjuk ajar dan nasihat.</i>					
4.	The physical facilities of the faculty are visually appealing <i>Kemudahan fizikal fakulti nampak menarik. (cth: lanskap, wakaf rehat, TV, surau, hentian menunggu bas)</i>					
5.	The faculty give a strong support in the student activities and society. <i>Fakulti memberikan sokongan yang kuat kepada aktiviti dan persatuan pelajar.</i>					
6.	The faculty organize and provide social events for students. <i>Fakulti mengadakan kegiatan sosial untuk pelajar. (cth: sukan, riadah dan majlis ramah mesra)</i>					
7.	The faculty has sufficient academic staff <i>Fakulti mempunyai staf akademik yang mencukupi.</i>					
8.	The faculty has a knowledgeable and highly qualified academic staff (lecturer). <b>Fakulti mempunyai staf akademik (pensyarah) yang berpengetahuan dan berkelayakan tinggi.</b>					

9.	The current program (Bachelor Degree) structure enables me to be an employable graduate. <i>Struktur program (Ijazah Sarjana Muda) semasa membolehkan saya menjadi graduan yang mampu mendapatkan pekerjaan.</i>					
<b>Part A: Factor Criteria on the PERFORMANCE Attributes.</b>		<b>Scale of agreement</b>				
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
10.	Academic staffs (lecturers) are smart. <b>Staf akademik (pensyarah) adalah bijak/cerdik/cerdas.</b>					
11.	Academic staffs (lecturers) are energetic. <b>Staf akademik adalah bertenaga/cergas/bersemangat.</b>					
12.	Academic staffs (lecturers) are capable to attract the student's attention in the lecture. <b>Staf akademik (pensyarah) mampu untuk menarik perhatian pelajar dalam kuliah.</b>					
13.	Academic staffs (lecturer) are willing to give students individual attention. <b>Staf akademik (pensyarah) sanggup memberikan perhatian secara individu kepada pelajar.</b>					
14.	The lecturers and students communicate well in the classroom <b>Pensyarah dan pelajar berkomunikasi dengan baik dalam bilik kuliah.</b>					
15.	The administrative staffs are never too busy to responds to a request for assistance <b>Staf pentadbiran tidak pernah terlalu sibuk untuk melayan permintaan pelajar bagi mendapatkan pertolongan.</b>					
16.	The academic staffs (lecturers) are willing to help in responds to a request for assistance. <b>Staf akademik (pensyarah) sanggup untuk membantu pelajar apabila diperlukan.</b>					
17.	The academic staffs (lecturers) understand the students' needs. <i>Staf akademik (pensyarah) memahami keperluan pelajar</i>					
18.	Academic staffs (lecturers) deal with me in a caring, and courteous manner. <b>Staf akademik (pensyarah) berurusan dengan saya secara mesra dan beradab sopan.</b>					
19.	The curriculum is relevant to the industrial needs. <b>Kurikulum adalah relevan dengan keperluan industri.</b>					
20.	The curriculum is useful for my future job <b>Kurikulum berguna untuk pekerjaan saya kelak.</b>					
21.	The curriculum can fulfil my personal needs. <b>Kurikulum mampu memenuhi keperluan peribadi saya.</b>					



22.	The faculty provides the chance to develop students' abilities and preparing them for their career. (i.e students activities & students society- Co-curriculum) <i>Fakulti memberi peluang kepada pelajar untuk mengembangkan kebolehan diri dan mempersiapkan mereka untuk kerjaya. (cth. Aktiviti pelajar, persatuan pelajar, ko-kurikulum)</i>					
<b>Part A: Factor Criteria on the PERFORMANCE Attributes.</b>		<b>Scale of agreement</b>				
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
23.	The curriculum provides primary knowledge (in management) required by the students. <b>Kurikulum menyediakan pengetahuan utama (dalam pengurusan) seperti yang dikehendaki pelajar.</b>					
24.	The curriculum develops primary : <i>Kurikulum membina kemahiran utama berikut:</i>  a) Communication skills ( <i>komunikasi</i> ) _____→ b) Analytical skills ( <i>menganalisis/analitikal</i> ) _____→ c) Computer skills ( <i>komputer</i> ) _____→ d) Managerial & teamwork skill ( <i>pengurusan &amp; kerja berpasukan</i> ) _____→ e) Technical skills ( <i>teknikal</i> ) _____→					
25.	The curriculum is flexible and cross-disciplinary. <b>Kurikulum adalah fleksibel dan silang bidang. (cth: pelajar pengurusan mengambil subjek kejuruteraan)</b>					
26.	The faculty provides the information on the career opportunities. <i>Fakulti memberikan informasi tentang peluang kerjaya.</i>					
27.	The lecturers are capable to give lecture & presentation effectively. <b>Pensyarah mampu menyampaikan syarahan dan pembentangan dengan efektif.</b>					
28.	The lectures & course works given are in compliance with the module requirement. <b>Kuliah dan kerja kursus yang diberikan mematuhi keperluan modul.</b>					
29.	The lecturers are consistently focused on the learning outcome (subjects' objective) for the subjects throughout the semester. <b>Pensyarah secara konsisten fokus kepada hasil pembelajaran subjek (objektif matapelajaran) sepanjang semester.</b>					
30.	The faculty provides a proper channel for students to give feedback and ideas. <b>Fakulti menyediakan saluran yang sewajarnya bagi pelajar memberikan idea dan maklumbalas.</b>					

31.	The faculty management is willing to take the opinions of students. <b>Pengurusan fakulti sedia mengambil pendapat pelajar.</b>					
32.	The faculty provides useful information related to the students needs. (i.e: Scholarship, job opportunities, Financial support, counselling etc) <b>Fakulti menyediakan informasi yang berguna berkaitan keperluan pelajar. (cth. Biasiswa, peluang pekerjaan, bantuan kewangan, kaunseling, dll)</b>					
<b>Part A: Factor Criteria on the PERFORMANCE Attributes.</b>		<b>Scale of agreement</b>				
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
33.	The lecturers encourage students to participate and give feedback during class. <b>Pensyarah menggalakkan pelajar untuk mengambil bahagian dan memberikan maklumbalas sewaktu kuliah.</b>					
34.	The faculty and its staff still keep their promises to give the best services and advise related to the academic matters (i.e. subject registration, drop/insert subject, course minor/major) <b>Fakulti dan stafnya menepati janji untuk memberikan perkhidmatan terbaik dan nasihat berkenaan hal-ehwal akademik. (cth. Pendaftaran subjek, insert/delete, dll)</b>					
35.	The teaching & learning process is correct and accurate as what was promised and up to date. <b>Proses pengajaran dan pembelajaran adalah betul, dan tepat seperti yang dijanjikan.</b>					
36.	The teaching & learning process is up to date as what was promised. <b>Proses pengajaran dan pembelajaran adalah terkini seperti yang dijanjikan.</b>					
37.	The faculty is capable of: <i>Fakulti mampu:</i> a) handling customer complaints ( <i>menangani aduan pelajar</i> ) b) giving resolution(s) ( <i>memberikan jalan penyelesaian</i> ) c) solving problems. ( <i>menyelesaikan masalah</i> )					

**PART B: PROFAIL**

**Instruction:** Please tick (/) at the appropriate box

**Arahan:** Sila tandakan (/) pada ruang yang bersesuaian

1. Student status  
*Status Pelajar*

1 <sup>st</sup> year student	
2 <sup>nd</sup> year student	
3 <sup>rd</sup> year student	
4 <sup>th</sup> year student	

2. Course / *Kursus*

SHD/SHT	
SHF/SHG	
SHR/SHP	

3. Race  
*Bangsa*

Malay	
Chinese	
Indian	
Other, please state: _____	

4. Gender  
*Jantina*

Male	
Female	

5. CPA

3.7-4	
3.5-3.699	
3.0-3.499	
2.3-2.999	
<2.3	

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