



## **Faculty of Manufacturing Engineering**

# **EVALUATING THE SERVICE QUALITY IN FACULTY OF ENGINEERING UTEM**

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**EVALUATING THE SERVICE QUALITY IN FACULTY OF ENGINEERING  
UTEM**

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## DECLARATION

I declare that this thesis entitled “Evaluating the Service Quality in Faculty of Engineering UTEM” is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.


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## APPROVAL

I hereby declare that I have read this thesis and in my opinion this thesis is sufficient in terms of scope and quality for the award of Master of Manufacturing Engineering (Quality Systems Engineering)

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## ABSTRACT

The issue of efficient in higher education service delivery has been the main focus for society. This includes all higher education management system with include the education quality, facility management and human development capital. The functions of higher education become more challenging as the environment rapidly changes. This has resulted the need for height education to provide high and good quality service to the society. Service quality is an abstract and elusive notion due to its characteristics; intangibility, heterogeneity and inseparability between process and output hence, the difficulty to measure and evaluate the standard of Service Quality. Currently, several models have been developed to evaluate Service Quality. The models, however, merely heavily based on current performance of services and lack consideration of customer satisfaction which is the fundamental criteria in evaluating Service Quality. This study, therefore, seeks to address this problem by using an instrument called SERVQUAL. Accordingly, in this study the Universiti Teknikal Malaysia Melaka (UTeM) was undertaken as the case study. The primary phase was divide by two, data collection and data analysis. Phase one, adopted quantitative approach to analysis data collection for all height education service that UTeM provide with nine element of SERVQUAL. The findings illustrated that all nine element from the SERVQUAL was in moderate satisfaction and moderate quality level. In phase two, the measurement of Service Quality was carried out based on quantitative approach. It involved analysis data collection in every each of nine higher education service that UTeM provide with nine dimension of SERVQUAL. The findings illustrated that most of the service was in moderate satisfaction and moderate quality level. SERVQUAL instrument which was developed by way of empirical basis, is able to evaluate Service Quality in complex height education service environment. It also serves as an essential instrument for policy formulation and future planning of an organization.



## ABSTRAK

*Isu pengukuran kualiti perkhidmatan pendidikan tinggi tempatan menjadi perhatian utama masyarakat. Ia meliputi seluruh pengurusan pendidikan tinggi seperti kualiti pendidikan, pengurusan fasiliti pendidikan dan modal insan. Fungsi universiti tempatan semakin mencabar selari dengan perubahan persekitaran yang begitu pantas. Ini menimbulkan keperluan kepada pihak universiti tempatan menyediakan perkhidmatan pendidikan tinggi lebih berkualiti. Kualiti perkhidmatan adalah suatu konsep yang abstrak dan elusif dengan cirinya tidak ketara, (heterogeneous) dan tidak boleh dipisahkan antara proses dan output. Ciri-ciri ini menjadikan Kualiti Perkhidmatan sukar diukur dan sukar dinilai. Beberapa model dikenal pasti telah dibangunkan bagi menilai Kualiti Perkhidmatan. Bagaimanapun model-model berkenaan hanya berasaskan prestasi perkhidmatan semata-mata dan tidak mengambil kira ekspektasi (kepuasan) pelanggan yang merupakan kriteria penting dalam penilaian Kualiti Perkhidmatan. Dengan demikian penyelidikan ini berusaha meneliti perkara ini dengan menggunakan alat pengukuran kualiti perkhidmatan SERVQUAL. Instrumen ini berupaya mengenal pasti simptom ketidakpuasan pelanggan dalam sistem perkhidmatan pendidikan tinggi di UTeM. Sehubungan Universiti Teknikal Malaysia Melaka (UTeM) telah dipilih sebagai kajian kes. Ia melibatkan dua bentuk analisis dan kutipan data primer. Fasa pertama dilaksanakan berasaskan analisis pendekatan kuantitatif menunjukkan keseluruhan perkhidmatan pendidikan tinggi dengan mengguna sembilan dimensi kualiti perkhidmatan SERVQUAL. Hasil kajian yang dibuat menunjukkan aras kepuasan dan aras kualiti perkhidmatan sederhana puas hati dan sederhana kualiti. Berikutnya, dalam Fasa kedua, pengukuran ke atas Kualiti Perkhidmatan dilaksanakan kepada setiap sembilan jenis perkhidmatan pendidikan tinggi berasaskan pendekatan kuantitatif juga mendapati sebahagian besar dari perkhidmatan pendidikan tinggi yang diberikan oleh UTeM berada pada aras sederhana puas hati dan sederhana berkualiti. Instrumen pengukuran kualiti perkhidmatan SERVQUAL yang dibina secara empirikal berupaya menilai Kualiti Perkhidmatan dalam persekitaran perkhidmatan pendidikan yang begitu kompleks. Ia juga berfungsi sebagai alat penting dalam perancangan polisi organisasi pada masa hadapan.*

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## TABLE OF CONTENTS

	<b>PAGE</b>
<b>DECLARATION</b>	<b>i</b>
<b>ABSTRACT</b>	<b>ii</b>
<b>ABSTRAK</b>	<b>iii</b>
<b>ACKNOWLEDEMENTS</b>	<b>iv</b>
<b>TABLE OF CONTENTS</b>	<b>v</b>
<b>LIST OF TABLES</b>	<b>vi</b>
<b>LIST OF FIGURES</b>	<b>vii</b>
<b>LIST OF APPENDICES</b>	<b>ix</b>
<b>CHAPTER</b>	
<b>1. INTRODUCTION</b>	<b>1</b>
1.1 Background of Study	1
1.2 Objective of study	2
1.3 Problem Statement	3
1.4 Purpose of Study	4
1.5 Scope Of Study	4
<b>CHAPTER</b>	
<b>2. LITERATURE REVIEW</b>	<b>6</b>
2.1 Introduction	6
2.2 Service Quality	6
2.3 Quality	9
2.4 Service Quality (SERVQUAL)	12
2.5 Questionnaire Development base on SERVQUAL Approach	18
2.6 Student and Customer Satisfaction	19
<b>CHAPTER</b>	
<b>3. METHODOLOGY</b>	<b>22</b>
3.1 Introduction	22
3.2 Frame Work of Study	22
3.3 Flow Chart	23
3.4 Respondent of Study	25
3.5 Location of Study	25
3.6 Population and Sample	26



3.7 Study Instrument	27
3.8 Questionnaire	27
3.8 Pilot Test	31
3.9 Procedure to Analysis	34
<b>CHAPTER 4</b>	
<b>4. ANALYSIS OF RESULT</b>	<b>35</b>
4.1 Introduction	35
4.2 Development Questionnaire	36
4.3 Data Analysis	37
<b>CHAPTER 5</b>	
<b>5. DISCUSSION</b>	<b>71</b>
5.1 Introduction	71
5.2 Discussion	71
5.3 Discussion Quality Service for Postgraduate Students	73
<b>CHAPTER 6</b>	
<b>6. CONCLUSION AND RECOMMENDATION</b>	<b>76</b>
6.1 Introduction	76
6.2 Conclusion	76
<b>REFERENCES</b>	<b>79</b>
<b>APPENDICES</b>	<b>87</b>

## LIST OF TABLES

<b>TABLE</b>	<b>TITLE</b>	<b>PAGE</b>
2.1	The Dimension of Quality	10
2.2	Gap analysis SERVQUAL	13
2.3	Summary of SERVQUAL Analysis	16
2.4	SERVQUAL Element to Evaluate Quality Higher Education	18
3.1	Summary Fulltime Local Students Population at Engineering Faculty in UTeM on 2 July 2014	26
3.2	Sampling Number of Student	27
3.3	Division of the Questionnaire	28
3.4	Nine Higher Education Service That UTeM Provided	29
3.5	Nine SERVQUAL Element	30
3.6	Division of the question in Part B on the Nine Dimensions of SERVQUAL to Nine Types of service that Provided at Faculty of Engineering UTeM	30
3.7	Liker Scale	31
3.8	Cronbach Alpha	32
3.9	Reliability Statistic from SPSS	33

<b>TABLE</b>	<b>TITLE</b>	<b>PAGE</b>
3.10	Reliability of Nine Element of Quality Measurement tool	33
3.11	Summary of Validity	32
4.1	Number of Respondent at four Engineering Faculty in UTeM	35
4.2	SERVQUAL Element and Number of Question	36
4.3	Mean Score	37
4.4	Analysis of the Section A (background respondent)	37
4.5	Analysis dimension SERVQUAL Tangibility 1	41
4.6	Analysis dimension SERVQUAL Reliability	42
4.7	Analysis dimension SERVQUAL Responsiveness	44
4.8	Analysis dimension SERVQUAL Empathy	46
4.9	Analysis dimension SERVQUAL Assurance	48
4.10	Analysis dimension SERVQUAL Accessibility	50
4.11	Analysis dimension SERVQUAL Technology	52
4.12	Analysis dimension SERVQUAL Flexibility	55
4.13	Analysis dimension SERVQUAL Tangibility 2	57
4.14	Library service Vs 9 SERVQUAL Element	60
4.15	Lecturers service Vs 9 SERVQUAL Element	61

<b>TABLE</b>	<b>TITLE</b>	<b>PAGE</b>
4.16	Management service Vs 9 SERVQUAL Element	62
4.17	Cafeteria service Vs 9 SERVQUAL Element	63
4.18	Transportation (Buses System) service Vs 9 SERVQUAL Element	64
4.19	Building Structure service Vs 9 SERVQUAL Element	65
4.20	Technology service Vs 9 SERVQUAL Element	66
4.21	Advisor/Supervisor Vs 9 SERVQUAL Element	67
4.22	Text/Reference Book service Vs 9 SERVQUAL Element	68
4.23	Analysis on the 9 type's Service	69

## LIST OF FIGURE

<b>TABLE</b>	<b>TITLE</b>	<b>PAGE</b>
2.1	Gap Model	14
2.2	Gap analysis SERVQUAL	13
3.1	Framework of Study	23
3.2	Flow Chart of Study	24
4.1	Chart of Tangibility Element	41
4.2	Chart of Tangibility Reliability Element	43
4.3	Chart of Tangibility 1 Responsivenevess Element	45
4.4	Chart of Empathy Element	47
4.5	Chart of Assurence Element	49
4.6	Chart of Accessibility Element	51
4.7	Chart of Technology Element	54
4.8	Chart of Flexibility Element	56
4.9	Chart of Tangibility 2 Element	58
4.10	Chart of SERVQUAL 9 Element	59

## LIST OF APPENDICES

APPENDIX	TITLE	PAGE
A	UTEM Post Graduate Studies approval latter for student Enrolment number	88
B	UTEM Student enrolment number year 2012 and 2013	89
C	Official latter from UTEM Post Graduate Studies for data collection in four UTEM engineering faculty	90
D	Number of full time local postgraduate's students enrolled in UTEM four Engineering faculty	91
E	Krecie and Morgan Sampling Table	92
F	Questionnaire part A (Student Background)	93
G	Questionnaire part B (Nine SERVQUAL element)	94
H	Validity for questionnaire from the experts	95



# CHAPTER 1

## INTRODUCTION

### 1.1 BACKGROUND OF STUDY

Malaysia is a country that has a good improvement in knowledge development and the community awareness on interest to get the knowledge itself has been increased. Currently to find or gain the knowledge should be prioritized to develop self, race and nation. Hence there is a high demand from society on the knowledge requirement. Thus this improvement promotes the development of universities and institutions of the higher learning. This is because universities and higher learning institutions become the places where knowledge development is carried out and delivered to the society. So from this development the service at universities and higher learning institutions is to be improved.

Engineering is application of scientific, economic, social and practical knowledge in order to design, build and maintain structures, machines, device, system, materials and processes. The environment in which engineering professionals work has been more dynamic. So, from that Engineering program become a popular choice to students that enter to universities and higher learning institutions. Engineering course has led to a vast number of career opportunities as engineering graduate from universities are in demand in almost all sectors.

According to Ministry of Education Malaysia in 2013 Malaysia has 20 Public Higher Education Institutions, 28 polytechnic and 86 College Community that all managed by the Ministry of

Education Malaysia. Apart from that there are 23 universities or higher education institutions managed by Majlis Amanah Rakyat (MARA), where some of them are also managed by Ministry of Education Malaysia such as Universiti Teknologi Mara (UiTM). The large number of universities and institutions of higher education has resulted in high competition among themselves in attracting students. This high competition stimulated these institutions to increase their service quality, as this criteria is one of the major factors in contributing to the number of student's enrolment.

Service sector at Malaysia universities are still having wide opportunities to be improved. According to (Plan Strategic Higher Education Malaysia, 2004), Higher Learning Institutions (IPT) has an important role to provide the track towards increase competitiveness in global level through delivering education and training in high quality and effective, and The Ministry of Education has a vision of making Malaysia as one of center of education excellence (Mustapa, 2006).

According to Howcraft, (1993), when service quality at higher education increases it can enhance the quality of education at universities.

## **1.2 OBJECTIVE OF STUDY**

The objectives of this research are:

- i. To measure nine element of service quality measurement SERVQUAL at faculty of engineering in UTeM for postgraduate students.
- ii. To measure nine higher education service that UTeM provided at faculty of engineering in UTeM for postgraduate students.

- iii. To rank nine type of service offered by UTeM faculty of engineering for postgraduate students base on quality level.
- iv. To make suggestion of improvement on the high education service that UTeM provide to postgraduate students.

### **1.3 Problem Statement**

Engineering is one of the areas which have high employment in Malaysia. One of universities that need to compete to attract the community's interest to further study in engineering field is Universiti Teknikal Malaysia Melaka (UTeM). UTeM needs to compete with other local public universities, local private universities and international private universities to attract student community.

According to Administrative Assistant Research and Post Graduate Studies Division, UTeM, Mr Mohd Adznan Bin Mohd Nayan the total number of application for PhD student for 2012 First and Second Semester is 46 student and 2013 First and Second Semester is 72 respectively meanwhile, application for Master student in the year 2012 is 462 and 2013 is 516. The data of the student enrolment for 2012 and 2013 in Appendix A and B.

Hence, UTeM should maintain the trend of the application to make sure the university will become the first choice among the student in engineering. UTeM need to take an action such as improving the higher education service while to increase the quality of education. According to Cheng, (2004), Tan and Kek, (2009) higher educational quality can be assessed through students' satisfaction by determining the extent to students that need to be satisfied. This is because if quality of education in UTeM is not increased and maintained at the same level so

students tend to choose others university that provided engineering education. UTeM will not be the top choice among students.

#### **1.4 PURPOSE OF STUDY**

The findings of this study are expected to:

- i. Provide useful information to management of UTeM in improving the service quality in faculty of engineering for Postgraduate students.
- ii. Re-evaluate the way of UTeM provided services whether delivering customer satisfaction or not satisfaction.
- iii. Identify the dimension of service quality SERVQUAL which give higher or lower level to make an improvement.

#### **1.5 SCOPE OF STUDY**

For this study the researcher only select local full time postgraduate student as respondent to evaluate higher education service for postgraduates study in UTeM. This study only evaluate the higher education service for postgraduates study in engineering field. This study also involve with four engineering faculty. Four engineering faculty are Faculty of Electronics and Computer Engineering, Faculty of Electrical Engineering, Faculty of Mechanical Engineering and Faculty of Manufacturing Engineering. Beside that this study only involve with nine types of higher education services for postgraduates study. The selected service are Library, Academic Lecturer, Management, Cafeteria, Transportation (university buses), Building Structure, Technology services and Laboratory, advisor/supervisor and the publication of books reference. All nine types of service that engineering faculty in UTeM provided will be evaluate with nine element

of SERVQUAL. The element SERVQUAL involve in this study are Tangibility 1, Reliability, Responsiveness, Empathy Assurance, Accessibility, Technology, Flexibility and Tangibility 2. With is this study only focus on Gap no five in SERVQUAL study consumers evaluated service quality by comparing expectations and perceptions of student in service quality.



## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

This literature review was used to obtain reference materials from other researchers to support the studies. The study material was found from journals, thesis, case studies and technical documents.

#### **2.2 SERVICE QUALITY**

Service Industry is one encompasses major industry grouping such as finance, trade, communication, transportation, public utilities, manufacturing and personal service. According to George, (2006), in service industry the classification was given by general type of input would be uninformative, as legal practice and domestic service. The type of good produced is one of an uninformative basic classification. Service is work performed for someone else and the recipient of the service between an individual user (Joffer, 2005). (Surprenant and Solomon, 2005) stated that service encounters from human interactions. They suggested that customers and service provides have roles to play during and possibly after service encounters and that these roles are



based on interpersonal interaction between organization and customers. Service quality in all services is affected by the perspectives of both the service provider and the service receiver. So from these three expert opinions it can be summed up that service is a given business based on the demand of instructional offer, help and requests to do work fairly and ownership an absolute storage. Service requires payment of work done given.

### **2.2.1 Service in Higher Education**

Higher education institutions, to gain competitive edge in the future, may need to begin searching for effective and creative ways to attract, retain and stronger relationship with student. According to Curbert, (2005) service higher education is divided by two major elements such as direct service and indirect service. Direct service is one type of service performed towards teaching and learning in institution. While indirect services are services that continue support. Besides that direct service and support are interact with each other and can change the direction and support service can be a direct service. For example when counselors teach their student in classroom it will continue expect direct services and can also be spite that the normal teacher can teach in the classroom to become counselor. According to Brooks, (2005) the measurement of quality should encompass more university activities. The author recommends the following criteria to assess a quality of university, which are:

- i. Reputation
- ii. Faculty Research Productivity
- iii. Student Educational Experiences and Outcomes

- iv. Program Characteristics: Counts of degree issued, financial support, fellowship grant support, teaching assistantship
- v. Program Effectiveness: Timeline of their programmed, proportion of students, completing their intended degree programmed
- vi. Student Satisfaction: Classroom, co-curricular activities, interaction with faculty and peers, instructions, campus life
- vii. Student Outcome: Assessment of learning and career outcomes of educational Programs

Meanwhile, (Athiyaman ,1997) examined university education service such as teaching students well, availability of staff for student consultation, library services computing facilities, recreational facility, class size, level and difficulty of subject content and student workload. (Carney ,1994) proposed the comprehensive nineteen variables in studying college image such as academic, student qualities (personal), faculty-student interaction, quality instruction (faculty), variety of courses, academic reputation, class size, career preparation, athletic programs, student activities community service, facilities and equipment, location, physical appearance (campus), on campus residence, friendly, caring atmosphere, religious atmosphere, safe campus and cost. Although the variables were developed under the context of college image, most of the variables noted are highly relevant to the measurement of service quality.

### **2.2.2 Higher Education Service in Malaysia**

According to Bahar, (1993) there are three types of category service education in Malaysia. It is Primary Education Service, Secondary Education Services and Higher Education Service. While

Education of Malaysia Act 1996 said, that institution of higher education provides brings to the award of Diploma, Degrees or its equivalent. According to Kanji, Abdul Malek and Wallace, (1999) there are some opinions about Higher Education Institution in Malaysia that mostly all the institutions give a great deal to meet customer expectation which is similar to business organization but it lack customer awareness among the staff and become a common drawback for many institutions.

## 2.3 Quality

(Shewhart, 2008) described that quality as *qualities* (multiple characteristics) that are quantifiable; from this perspective, but that there is an objective and a subjective side to quality. According to (Crosby, 1979), *quality is conformance to requirements or specifications*. Meanwhile, quality is *fitness for use* is attributed by (Juran, 1994). Moreover, Deming stress that *quality should be aimed at the needs of the consumer, present and future*. Other additional definition from ISO9000-2000 (American Society for Quality, 2000), a good quality from product or service are from the input in product realization.



### 2.3.1 Dimension of Quality

(Garvin, 1987) mentioned that there are eight dimension of quality or quality characteristic which the customer looks for in a product. Table 2.1 is some of dimensions of quality are always mutually reinforcing and some not.

Table 2.1: The Dimension of Quality (David A. Garvin, 1987)

<b>Dimension</b>	<b>Meaning and Example</b>
Performance	Primary product characteristic. It involves measurable attributes that can be objectively on individual aspect performance.
Features	Secondary characteristic feature of product and service characteristic that supplement their basic function.
Conformance	Meeting specification or industry standard, workmanship
Reliability	Consistency of performance average time for the unit to fail
Durability	A measure of product life in both economic and technical dimension.
Serviceability	Resolution of problems and complaints. It concerned not only the product breaking down but also about time before service.
Aesthetics	How a product looks, feels, taste or smells.
Reputation	Past performance and other intangibles, such as being ranked first

### 2.3.2 Quality in Service Industry

Quality and customer service has been identified as critical strategic issue for the organization (Wisniewski, 1996). According to Wang, Lo and Hui, (2003) delivering quality service is gaining competitive advantages. Through quality service the organization can differentiate in the market and satisfy the customer need.

#### 2.3.21 Type of Quality in Service Industry

According to Paliska et al, (2007), at one industry the capability and effectiveness of its quality management are one types of to increase process improvement. To achieve a good result it uses application of seven basic quality tools. Seven quality tools are flow chart, cause and effect