MEASURING THE STUDENTS' PERCEPTION OF SERVICE QUALITY

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Abstract

Like in many other countries, higher education institutions in Indonesia are facing intense competition as the higher education market becomes globalized and competitive pressure intensifies. It is essential that higher education institutions continually monitor the quality of their services and commit themselves to continuous quality improvements in order to respond to the needs of their stakeholders. Measuring service quality in higher education is thus essential. In order to provide a comprehensive view of the quality of education, it is valuable to assess not only student perceptions of their educational outcomes but also their perceptions of the manner in which polytechnic education is provided.

This study aims at measuring the students' perception of the service quality of education in a department; identifying differences of the student perception on the service quality based on their academic profiles; identifying which service attributes are more influential in providing service in higher education; and offering recommendation to the management which area(s) still need(s) some improvement.

Using the 5-scale questionnaires, the researchers collected the data for the study from graduates of the 5 departments- Accounting, Marketing Management, Secretary, Foreign Business Language and Taxation. Pearson Chi-Square and Alpha Cronbach techniques were used to test the validity and reliability before analyzing the data from the questionnaire. Descriptive statistics was deployed to find out the mean value of each indicator. This was followed by Dummy Regression analysis.

The findings of the study suggest that faculty plays the most prominent indicator in reflecting the students' perception of service quality of department.

Keywords: perception, service quality, higher education, quality education, continuous quality improvement

Abstrak

Pendidikan tinggi di berbagai negara, termasuk Indonesia menghadapi persaingan yang ketat, seiring dengan pasar pendidikan yang memasuki era global, dan tekanan persaingan yang ketat. Penyedia layanan pendidikan tinggi perlu untuk memantau kualitas layanan yang diberikan, serta memelihara komitmen untuk selalu meningkatkan kualitas layanan sesuai keinginan *stakeholder*. Agar dapat diperoleh gambaran yang komprehensif, maka perlu dilakukan penelitian tentang bagaimana persepsi mahasiswa terhadap outcome dari proses pendidikan, serta persepsi tentang bagaimana pendidikan tersebut disampaikan.

Penelitian ini bertujuan untuk mengukur persepsi mahasiswa tentang kualitas layanan pendidikan tinggi, mengidentifikasi perbedaan persepsi mahasiswa terhadap kualitas layanan berdasarkan profil akademis, mengidentifikasi atribut pelayanan yang lebih berpengaruh dalam layanan pendidikan tinggi, serta menawarkan rekomendasi tentang berbagai aspek yang masih perlu diperbaiki.

Pengukuran menggunakan kuesioner dengan 5 titik skala dan dilakukan pada program studi Akuntansi, Pemasaran, Sekertaris, Bahasa Asing dan Perpajakan. Uji validitas dan reliabilitas menunjukan hasil yang baik, dan dilanjutkan dengan statistik deskriptif dan penggunaan regresi dengan dummy variabel. Hasil penelitian menunjukan bahwa peran fakultas

sangat besar dalam menentukan persepsi mahasiswa terhadap kualitas layanan suatu program studi.

Kata Kunci: persepsi, kualitas layanan, pendidikan tinggi, kualitas pendidikan, pengembangan kualitas pendidikan berkelanjutan.

JEL Classification: M31

1. Introduction

1.1. Background

In Indonesia polytechnic is a higher education institution which focuses on vocational or professional education rather than academic courses. It prepares students for certain careers or professions directly related to a trade, occupation or vocation in which they participate. Many people assume polytechnics only cater for engineering industry. (PP 60 tahun 1999 SK Mendiknas No 232/U/2000) In fact, arts, tourism, journalism, fine arts, and business are all available at polytechnics.

Politeknik offers diploma courses in Accounting, Marketing Management, Secretarial Study, Foreign Business Language and Taxation. The object in this study takes places in one of the politeknik that committed itself to produce skilled workforce to meet the challenges of the twenty-first century. The students are therefore equipped with loads of practical training and ample theoretical knowledge.

Higher education is becoming a major driver of economic competitiveness in an increasingly knowledge-driven global economy. Society's concerns about quality education offered to students at higher education institutions are increasing. In response to students' demand for quality education which will lead them to job insertion, it is imperative that the quality of education be strategically thought of and become the core mission of higher education institutions. The support for quality education usually generates awareness of the responsibility of teachers in the learning process and justifies the institutional need for helping them fulfill their mission.

Some researchers have suggested that educators should evaluate student perceptions of educational service quality (Allen & David, 1991; DiDominico & Bonnici, 1996; Holdford & Reinders, 2001). Educational service quality is defined as a student's overall evaluation of services received as part of their educational experience (Holdford & Reinders, 2001). It describes a variety of educational activities both inside and outside of the classroom including classroom instruction, faculty member/student interactions, educational facilities, and contacts with administration.

Like in many other countries, higher education institutions in Indonesia are facing intense competition as the higher education market becomes globalized and competitive pressure intensifies. It is essential that higher education institutions continually monitor the quality of their services and commit themselves to continuous quality improvements in order to respond to the needs of their stakeholders. Measuring service quality in higher education is thus essential.

In order to provide a comprehensive view of the quality of education, it is valuable to assess not only student perceptions of their educational outcomes but also their perceptions of the manner in which polytechnic education is provided.

There are some practical reasons for evaluating from the students perspective both the process and the outcomes of education. For one thing, education service is facing a dwindling pool of applicants and the institution has to struggle hard for new students. By monitoring student opinions, the information can be used in quality improvement programs to help educators recognize opportunities to improve services and establish positive student perceptions

Another reason is that the institution needs to examine the impact of educational methods over time and thus develop ways to adapt to the ever-changing needs of the society and the rapidly-changing business environment.

Since education is a service rather than a tangible product, the researchers conducted a research using a service marketing framework which examines the quality of services from the consumers' point of view. Thus, service quality in this research refers to student perceptions of the quality of their education. The service quality instrument developed in the research focuses primarily on the process of education but includes measures of perceived educational progress.

1.2. Research Objectives

The objectives of the study are: (1) to measure service quality of education service, (2) to identify differences of the student perception on the service quality based on their academic profiles, and (3) to identify which service attributes are more influential in providing service in higher education and recommend which area(s) need(s) improvement.

1.3. Scope and Significance of the Study

The area of the study is service quality in higher education. It is focused on the dimensions of service quality from student perspectives which are directly related to the teaching- learning process. Therefore, it does not include facilities like parking area, health center and campus canteen or sports and recreation facilities as this will require deeper and broader evaluations involving elements out of the researches' control.

While many similar studies on measuring the service quality in higher education have been conducted, very few have been carried out in the context of Polytechnic. This study particularly seeks to measure the students' perception of the service quality. The population of the study was the alumni of the undergraduate students who completed their study in the year 2010.

The outcome of the study will be useful for the management and staffs of Politeknik Ubaya 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.

2. Literature Review

2.1. Perspectives on Quality

The British Standards Institution (BSI, 1991) defines quality as : The totality of features and characteristics of a product or service that bear upon the ability to satisfy the stated or implied needs. In addition, Harvey & Green (1993) proposed five ways of thinking about quality in education. First, quality is regarded in terms of excellence or high quality that is unattainable by most. Second, quality is perfection or consistency. Third, quality is fitness for purpose. Fourth, quality is value for money and finally, quality is transformation processes that have value-added activities. Others defined quality as fitness for use (Juran & Gryna, 1988), conformance to requirement (Crosby, 1979), conformance to specification (Gilmore. 1974), meeting and/or exceeding customers' expectation (Parasuraman *et al.*, 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).

In the area of education, Cheng (1995) defined education quality as 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. Gordon and Partington (1993) defined education quality as success with which an institution provides educational environments which enable students effectively to achieve worthwhile learning goals including appropriate academic standards.

2.2. Service Quality in Higher Education

A definition of quality revolves around the idea that quality has to be judged on the assessment of the user or consumer of the service. The construct of quality as conceptualized in the services literature is based on the *perceived quality*. Perceived quality is defined as the consumer's judgment about an entity's overall experience or superiority (Zeithaml,1987; Zammuto *et al.,* 1996). Similarly, Zeithaml, *et al.,* (1990) also concluded that consumer perceptions of service quality result from comparing expectations prior to receiving the service, and their actual experience of the service. Perceived quality is also seen as a form of attitude, related to, but not the same as satisfaction, and resulting from a comparison of expectations with perceptions of performance (Rowley, 1996). Therefore, perceived service quality could be the product of the evaluations of a number of service encounters and in this case, of a student, these could range from encounters with office staff, to encounters with tutors, lecturers, the head of departments, etc (Hill, 1995). As a result, if an organization regularly provides service at a level that exceeds customer expectations, the service will be evaluated as high quality. In contrast, if an organization fails to meet customer expectations, the service will be judged as poor quality (Zammuto *et al.,*, 1996).

According to Alridge and Rowley (2001) when students perceive the institution's quality and standardized learning environment facilitated with intellectual faculty, appropriate facilities of learning and infrastructure, their interest in their organization will explicitly be retained. The students are motivated from the academic as well as the administrative efficiency of their institution. Spooreen, *et. al* (2007) posited a view that the organizational harmony, teachers' intellectual ability, professional development, transparency in students' evaluation, feedback and training are the important features that mentally develop the students . The maintenance of other essentials of quality service in education i.e. well managed and updated libraries, security systems, medical facilities, class decoration and facilitation with multimedia and sitting arrangements along with administrative staff's cooperation play a vital role in educational support and development (Dick and Basu 1994).

In order to achieve competitive advantage, many business organizations, particularly those in service industry, are focusing on service quality (Dotchin & Oakland,1994; McColl, Callaghan & Palmer, 1998). Service quality is often defined in the marketing literature as a post-consumption evaluation of services by consumers that compares expectations with perceptions of performance. Service quality evaluations are based on the manner in which the service was delivered *(i.e.*, functional quality) and what outcome resulted from that service (i.e. technical quality).

Earlier researches on service quality in higher education also often emphasized academic more than administration, concentrating on effective course delivery mechanisms and the quality of courses and teaching (Atheeyaman, 1997; Cheng & Tam, 1997; Soutar and McNeil, 1996; Griemel-Fuhrmann and Geyer, 2003). However there is also an attempt to look upon the administrative side of higher institution like the study by Kamal and Ramzi (2002), which attempts to measure student perception of registration and academic advising across different faculties and other administrative services to assure positive quality service that compliments the academic.

2.3. Service Quality Dimensions

Service quality dimensions or attributes are those attributes which contribute to the consumer's evaluation of service quality. Parasuraman *et al.,* (1985) listed ten determinants of service quality that can be applied to any type of service. The ten determinants include tangibility, reliability, responsiveness, competence, access, courtesy, communication, credibility, security and understanding.

Knowledge of these dimension and the ability to measure them is definitely necessary for providing insight into better ways of improving service quality. These ten dimensions were then regrouped in the well-known five dimensions in the SERVQUAL model (Parasuraman *et al.*,, 1988) which include assurance, empathy, reliability, responsiveness and tangibility.

The five dimensions of service quality specified by SERVQUAL include:

1. Tangibles – physical facilities, equipment, appearance of personnel and communication materials;
2. Reliability – ability to perform the promised service, along with dependability and accuracy;
3. Responsiveness - willingness to help customers, and to provide prompt service;
4. Assurance – knowing customers' wants, and being courteous and able to inspire credibility and trust;
5. Empathy – caring individual attention

Earlier, Grönroos (1982, 1984, 1988) had proposed and defined the dimensions of service quality in global terms as comprising technical and functional parts. Service quality was defined according to both the ***what*** and ***how*** a product or service was delivered. Technical quality (sometimes called the 'outcome dimension') is concerned with the outcome of the delivered product or service. Customers use service quality attributes such as reliability, competence, performance, durability, etc. to evaluate technical quality. Functional quality is defined as the manner in which the customer receives the service product (sometimes called the 'process-related dimension'

2.4. Measuring Service Quality

While SERVQUAL has attracted a lot of attention for its conceptualization of quality measurements, it has also attracted a lot of criticism. One criticism to the study is that SERVQUAL primarily focuses on the process of delivery service (Grönroos, 1990; Mangold and Babakus, 1991; Richard and Allaway, 1993). It is interesting to note that the developers of SERVQUAL initially suggested that service quality consists of functional (process) and technical (outcome) dimensions. (Parasuraman *et al.*,, 1985). However, the SERVQUAL instrument does not include any measure of the technical quality dimension. Essentially, technical quality has been neglected in efforts to study and measure service quality.

Grönroos (1984) produced a model that attempts to illustrate how the quality of a given service is perceived by customers. These perceptions are divided into two dimensions. First, technical quality is what the consumer receives or the outcome of the service encounter, for example 'have the dry cleaners got rid of the stain?' (Hill, 1995). This dimension is called outcome quality by Parasuraman *et al.,* (1985). Second, functional quality is how the consumer receives the technical outcome or, in other words, the process of service delivery. This dimension is called process quality by Parasuraman *et al.,* (1985). Grönroos (1984) suggested that, in the context of services, functional quality (process) is more important than technical quality (outcome), assuming the service is provided at a technically satisfactory level.

Richard and Allaway (1993), however, argued that utilizing only functional quality attributes in order to predict consumers' behavior may result in low predictive validity. Further, Grönroos (2001) questioned whether it is practical to question consumers about their expectations of a service immediately before consumption and their perceptions of performance immediately after the service because the expectations with which the consumer will compare their experience may be altered as a result of the service experience. This study also suggested that since consumers may not be clear enough about expectations, perceptions cannot be compared against such expectations, and,

furthermore, expectations may be biased by previous service encounters. In spite of this, Grönroos (2001) believes that a comparison of expectations and experiences still makes sense, at least theoretically, as the consumer's perceptions of the quality of a service is influenced by their expectations.

Unlike many other services, the educational services are highly involving and require high levels of participation. Unless they are mentally involved and participate in the process, they will not. During their participation and involvement in the education experience, they develop opinions about their educational outcomes. Besides, there is evidence in the educational literature that students use educational outcomes to evaluate the schools they attend. Fjortoft and Lee (1994) found student perceptions of their intellectual development (i.e. , an educational outcome which describes self evaluations of knowledge and skill gained and their relevance to student career goals) to be an important variable in student assessments of their school experience. The SERVQUAL instrument however focus on measuring functional quality and only indirectly evaluate technical quality.

For the purpose of this study, educational service quality is defined as an attitude resulting from student perception of school performance regarding both functional and technical quality. Dimensions of educational service quality evaluated consist of 5 service quality dimensions described by Parasuraman *et al.,* (1988). Table 1 lists the dimensions of educational service quality, their definition, and the related questionnaire items..

Table 1. Dimensions of Educational Service Quality

Dimensions	Definition	Questionnaire items
Reliability	The ability to perform the promised service dependably and accurately	10,17,18,19,22,23,24
Assurance	The knowledge and courtesy of employees and their ability to convey trust and confidence	7,11,12,14,16,26,30,31,32
Tangibles	The appearance of physical facilities, equipment personnel and communication materials	1,2,3,4,5,6
Empathy	The provision of caring, individualized attention to customers	8,20,27,28
Responsiveness	The willingness to help customers and to provide prompt service	9,15, 21,25,29

3. Research Method

3.1. Source of Data

The study aims at measuring the students' perception of the service quality of Politeknik in Surabaya. The data used for this research was collected from the results of a questionnaire survey which was carried out last October 2010. Subjects selected for this study were alumni of Politeknik Ubaya who completed their study in 2010 and they were asked to take part in a questionnaire exploring their perception of the service quality of Politeknik Ubaya. There were altogether 127 graduates from 5 study programs/departments but only 94 submitted back their completed questionnaires. Upon examination, some questionnaires were dropped as they contained some unanswered items. Only 80 questionnaires were deemed appropriate and used for the purpose of the study. 20 questionnaires were from male graduates; 60 from female. Accounting Department was represented by 24 alumni (out of 37); Marketing Management 12 (out of 21); Secretarial Study 17 (out of 20); Foreign Business Language 10 (out of 19) and Taxation 17 (out of 30).

Part A of the questionnaire consists of respondents' demographic and academic data (e.g. gender, age, high school they attended (SMU or SMK/vocational school), major and GPA

Part B consists of two sections. The first section contains 32 questions regarding their perception of the learning resources, the faculty and the administration staff. The second consists of 8 questions regarding the students' satisfaction of and commitment to their almamater.

The respondents were asked to state their level of agreement with a 5-point scale ranging from "strongly disagree (1) " to "strongly agree (5)". The 32 items in part B of the questionnaire were designed to measure the five dimensions of service quality as defined by Parasuraman *et al.,* (1985).

3.2. Identification of Variables

For the purpose of this research, two variables – response and predictor variables- are used. The response variable refers to scores given by respondents which indicate their perception of technical quality. The score is rated by the students on a Likert scale ranging from1 (strongly disagree) to 5 (strongly agree).

The predictor variables include :

- X_1 : score indicating the respondents' perception of Learning Resources
- X_2 : score indicating the respondents' perception of Faculty
- X_3 : score indicating the respondents' perception of Administration staff
- X_4 : program study/ department represented by dummy variables D_{14}, D_{24}, D_{34}, and D_{44}

	D_{14}	D_{24}	D_{34}	D_{44}
a. MP	0	0	0	0
b. SC	1	0	0	0
c. AC	0	1	0	0
d. FB	0	0	1	0
e. TX	0	0	0	1

MP (Marketing department) serves as the controlling dummy variable whereas the other dummy variables include SC (Secretary department); AC (Accounting department); FB (Business English department) and TX(Taxation department).

- X_5 : gender represented by dummy variable D_{55}

	D_5
a. male	0
b. female	1

male students act as the controlling dummy variable

- X_6 : age represented by dummy variable D_{66}

	D_{66}
a. <22 yrs	0
b. >22 yrs	1

students aged < 22 years are the controlling dummy variable

- X_7 : GPA represented by dummy variable D_{77}

	D_{77}
a .GPA ≥ 3	0
b. GPA <3	1

students with GPA ≥ 3 become the controlling dummy variable

Y, X_1, X_2, and X_3 variables comprise construct variables. Indicators for the variables are listed in the appendix.The following tables, Table 2 and Table 3, show the results of Validity and Reliability tests using Pearson Chi-Square and Alpha Cronbach values.

Table 2. Results of Validity test

Variable	Code	Indicator	R value	P-value	Remark
Resources	S1		.772	0,00	Valid
	S2		.901	0,00	Valid
	S3		.796	0,00	Valid
	S4		.776	0,00	Valid
	S5		.821	0,00	Valid
	S6		.811	0,00	Valid
Faculty	D7		.757	0,00	Valid
	D8		.763	0,00	Valid
	D9		.445	0,00	Valid
	D10		.749	0,00	Valid
	D11		.747	0,00	Valid
	D12		.700	0,00	Valid
	D13		.800	0,00	Valid
	D14		.740	0,00	Valid
	D15		.710	0,00	Valid
	D16		.760	0,00	Valid
	D17		.701	0,00	Valid
	D18		.798	0,00	Valid
	D19		.802	0,00	Valid
	D20		.791	0,00	Valid
	D21		.775	0,00	Valid
	D22		.835	0,00	Valid
	D23		.842	0,00	Valid
	D24		.783	0,00	Valid
Admin	A25		.788	0,00	Valid
	A26		.835	0,00	Valid
	A27		.889	0,00	Valid
	A28		.833	0,00	Valid
	A29		.870	0,00	Valid
	A30		.745	0,00	Valid
	A31		.811	0,00	Valid
	A32		.826	0,00	Valid
Technical	T33		.785	0,00	Valid
	T34		.593	0,00	Valid
	T35		.714	0,00	Valid
	T36		.706	0,00	Valid
	T37		.88	0,00	Valid
	T38		.779	0,00	Valid
	T39		.723	0,00	Valid
	T40		.737	0,00	Valid

Table 3. Cronbach's Alpha value

Variables	Cronbach's Alpha value	Remark
Resources	0.885	Reliable
Faculty	0.954	Reliable
Admin	0.933	Reliable
Technical	0.89	Reliable

Table 2 and Table 3 prove that all indicators are both valid and reliable; thereby, they are all good variables for the purpose of the study.

3.3. Methods of Data Analysis

The study applied analysis of dummy variable regression to examine the relationship between the predictor variables and the response variables. The following steps were employed for the purpose of the research :

a. Applying Validity and reliability tests of the questionnaire
b. Performing descriptive analysis of the variables
c. Conducting Analysis of dummy variable regression

The results prove that each item in both Functional Quality and Technical Quality dimensions are valid. (sig < α).Reliability was determined by conducting coefficient alpha analysis to assess the internal consistency of the overall scale. The Cronbach´s alpha reliability coefficients on both the Technical Quality and Functional Quality dimensions ranged from 0,885 to 0,954. Table 2 shows the sub-scale reliability for both dimensions. All are above the 0.7 recommended by Nunnally (1978).

Researchers using this instrument have reported reliability estimates ranging from .57 to .72 for the four subscales (Biggs *et al.*,2001 ; Leung & Kember, 2003). The Cronbach's alpha values reported in this study were .885; .954; .933; and .89 for the Learning Resources (LR), Faculty (F), Administration Staff (AF), and Technical Quality respectively. Each of the Cronbach's alpha values exceeds the criteria of 0.6 for an acceptable alpha and thus confirming the reliability.

Multiple regression analysis with dummy variables was used to estimate the association between factors/indicator which influence the students' perception of service quality (Y) with all predictor variables (X_1, X_2, X_3, X_4,X_5, X_6 ,X_7). Educational service quality is defined as an attitude resulting from student perception of school performance regarding both functional and technical quality. Dimensions of educational service quality evaluated consist of 5 service quality dimensions described by Parasuraman *et al.,* (1988)

4. Results and Discussions

The 40 questions of the questionnaire were used to assess two quality dimensions: functional (process) quality – questions 1-32 and technical (outcome) quality – questions 33- 40. Section B of the questionnaire contains 32 questions regarding the students' perception of the learning resources, the faculty and the administration staff. These 32 questions of the questionnaire were classified into five groups to reflect the five quality dimensions- tangibility, responsiveness, empathy, assurance, and reliability- which are believed to contribute to the students' perception of service quality.

The results of Validity and Reliability tests using Pearson Chi-Square and Alpha Cronbach values prove that all variables are valid and reliable. The mean values and standard deviation of the variables are given in table 4. The mean values of the Tangibility, Responsiveness, Empathy, Assurance and Reliability are 3.72; 3.84; 3.89; 3.89 and 3.89 respectively. The three highest

mean values are those of Empathy, Assurance and Reliability, which means that the students satisfactory level is based on the caring and individualized attention they gain from both the faculty and the admin staff and on the faculty's and admin staff's knowledge, courtesy, their ability to convey trust and confidence, and the ability to performed the promised service dependably and accurately.

Having set the minimum standard of 3.75 for the students' perception of service quality, the researcher believes that the students were not happy with the learning resources available to support their learning process. Specifically, the students may not be happy with the computer equipment or with the internet access.

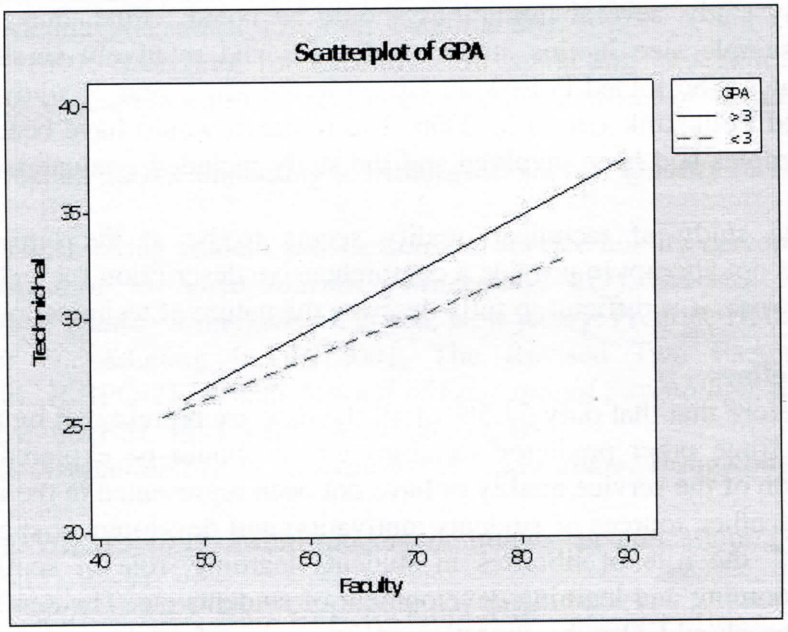
Table 4. Descriptive Statistics : Mean Scores and Standard Deviations

Descriptive Statistics						
Variables	Indicator	N	Minimum	Maximum	Mean	Std. Deviation
Tangible	S1	80	1.00	5.00	3.6625	1.16862
	S2	80	1.00	5.00	3.8500	.94266
	S3	80	1.00	5.00	4.0000	.91403
	S4	80	2.00	5.00	4.1000	.88016
	S5	80	1.00	5.00	3.4125	1.24975
	S6	80	1.00	5.00	3.3000	1.24677
Responsiveness	D9	80	2.00	5.00	3.8500	.71334
	D15	80	1.00	5.00	3.9375	.83201
	D21	80	1.00	5.00	3.7875	.82207
	A25	80	1.00	5.00	3.8625	.85305
	A29	80	1.00	5.00	3.7750	1.05513
Empathy	D8	80	2.00	5.00	4.0875	.67868
	D20	80	1.00	5.00	3.7500	.94802
	A27	80	1.00	5.00	3.9250	.83855
	A28	80	2.00	5.00	3.8000	.83287
Assurance	D7	80	2.00	5.00	3.9125	.79863
	D10	80	1.00	5.00	3.8000	.94668
	D11	80	1.00	5.00	3.9625	.86337
	D12	80	2.00	5.00	3.9250	.85351
	D13	80	1.00	5.00	3.7875	1.13287
	D14	80	2.00	5.00	3.8125	.84335
	D16	80	2.00	5.00	4.0250	.77908
	A26	80	2.00	5.00	3.8000	.94668
	A30	80	1.00	5.00	3.9000	.78917
	A31	80	1.00	5.00	4.0000	.87149
	A32	80	1.00	5.00	3.9375	.91877
Reliability	D17	80	2.00	5.00	**4.1750**	.79197
	D18	80	1.00	5.00	3.9375	.98526
	D19	80	2.00	5.00	4.0000	.81131
	D22	80	2.00	5.00	3.7750	.87113
	D23	80	2.00	5.00	3.8625	.91047
	D24	80	1.00	5.00	**3.5750**	.93829
Valid N (listwise)	80					

Source: Data Processing

Predictor variable Faculty (X_2) with prediction parameter β_2 (0.281) suggests that the perception of service quality increases 0.281 unit as the performance of the Faculty (X_2) goes up one unit. Predictor dummy variable Accounting Department (D_{24}) is represented by parameter value α_2 (2.197). As explained before in the identification of variables, the Marketing Department MP (D_{14}) is the controlling dummy variable for Departments/Study Programs. This explains that the students of the Accounting department expressed their perception of service quality 2,197 as high as that of the students of the Marketing Department. The significance value of the other departments - Secretary, Business English, and Taxation – is > 0.1. It can therefore be concluded that the students of Secretary, Business English, and Taxation departments — expressed relatively similar perception to those of the Marketing department.

Predictor dummy variable GPA (D_{77}) demonstrates parameter value of α_7 (– 1,461). As the controlling variable is GPA of ≥ 3.00, the conclusion is that the perception of the students with GPA of < 3.00 is 1.461 lower than that with GPA of ≥ 3.00. The following figure (Figure 2) confirms that the students who had a GPA of < 3.00 expressed a lower perception of the service quality than those with a GPA of ≥ 3.00.



Source: Data Processing

Figure 2. Scatterplot of GPA and Students Perception of Service Quality

The other variables – Resources (X_1), Admin Staff (X_3), Gender (D_{55}), and Age (D_{66}) have significance values $> a$ (0.1) and thus they not relevant in assessing the perception of service quality at Politeknik Ubaya. This also proves that the male and female students of Politeknik Ubaya have relatively similar perception of the service quality at Politeknik Ubaya. Besides, age difference (the students who are < 22 years and those aged > 22 years) does not contribute to the perception of the students' perception of service quality at Politeknik Ubaya.

Table 6. Determinant Coefficient

Model Summary					
Model		R	R Square	Adjusted R Square	Std. Error of the Estimate
	1	.738	.545	.479	3.22460

Table 6 shows that the R-square value of the model is 54.5%. This explains that only 54.5% of all the data are represented by the model. In other words, there are some other predictor variables which should be used in measuring the students' perception of the service quality or have not been represented in the model.

The results of regression analysis demonstrates that the predictor variable X_2 (Faculty) is significant in measuring the students perception of the service quality. From descriptive analysis it is also known that indicator D17 (Dosen memberikan mahasiswa cukup bekal untuk siap bekerja) has the highest mean value (4.1750) while indicator D24 (Dosen dapat diandalkan) has the lowest (3.5750). There are some interesting things which may account for this perception. The object in this study has fulltime faculty but also relies much on part-time faculty members, some of whom are top executives or professionals. Unfortunately, a few of them are pretty busy with their business activities and therefore cannot regularly meet the appointed schedule. Some come late or some even leave the class early. Even worse, some do not appear without prior notice leaving the class with no teacher.

4.1. Limitations

As with any study, several limitations should be noted. First, due to time and budget constraints, the sample size in this study is limited and relatively small. The respondents comprised graduates who joined Politeknik Ubaya in the same year of study, 2007. Only seven respondents joined Politeknik Ubaya in 2006. The research would have been more reliable if a greater size of samples had been involved and the study included graduates of various intakes/ years of study.

Besides, the study of technical quality seems to be at the introductory level and consequently does not attempt to provide a comprehensive description for technical quality. With very little earlier work, it is difficult to fully describe the nature of technical quality.

4.2. Future Guidelines

As stated before that that only 54.5% of all the data are represented by the model. In other words, there are some other predictor variables which should be explored in measuring the students' perception of the service quality or have not been represented in the model.

In future the other sources of students motivation and development should be specifically investigated e.g. the role of libraries in students learning, role of seminars and research conferences in grooming and learning development of students etc. The demographic impact of student satisfaction should also be investigated i.e. years of study, and social or economic background do impact on the satisfaction from the perceived quality of the services delivered to the students. Further the data collection should be done with longitudinal data collection process in which qualitative data should also be collected in order to gain the wide applicability of the research findings.

4.3 Conclusion and Recommendation

Having analyzed and reported on the findings, here are some conclusion and recommendation which may contribute to students satisfaction and to establishing the students' positive perception towards quality of teaching

This study provides interesting findings. The study shows that provisions of better services by academic institutions can increase satisfaction level of students. The mean values for all quality dimensions range from 3.72 to 3.89; However, some indicators have mean scores below 3.5 – e.g. S4 (3,41); S6 (3.3); D24(5.57). Having set the minimum standard of 3.75 for the students' perception of service quality, the researchers believe that the students were not happy with the learning resources available at Politeknik Ubaya More appropriate or better facilities which support their theoretical skills (e.g. laboratory facilities, computers, internet access)

become the students' serious concerns and consequently these facilities need continuous improvement.

Faculty is the most significant indicator for the students to derive satisfaction. The students felt contended with what they have learnt from the faculty but they also stated that there must be a solution to deal with the availability of the faculty. This way, there should be no classes without teachers or teachers coming quite late for classes. It is also recommended that good communication between the students and the faculty should be enhanced. Good communication will lead to mutual understanding, harmonious relationship and effective cooperation. Good communication of the faculty is essential not only in transferring his knowledge and skills but also in understanding the students' needs. Another critical point is the role of the faculty in transferring his knowledge and skills to the students so that they are well- equipped for a job when they graduate.

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Appendix: Variables Y, X_1, X_2 , and X_3 with their corresponding indicators

Variables	Code	**Indicators**
Y	T33	Politeknik Ubaya memberikan pendidikan berkualitas tinggi
	T34	Saya puas dengan pengembangan kemampuan intelektual saya di Politeknik Ubaya
	T35	Saya bangga dengan prestasi saya di Politeknik Ubaya
	T36	Saya mempunyai prestasi akademik baik seperti yang saya harapkan
	T37	Saya puas dengan keputusan memilih Politeknik Ubaya
	T38	Apa yang saya investasikan seimbangt dengan apa yang saya dapatkan dari Politeknik Ubaya
	T39	Saya merasa ikut memiliki Politeknik Ubaya
	T40	Saya akan merekomendasikan Politeknik Ubaya kepada teman atau kerabat
X_1	S1	Perlengkapan / fasilitas mengajar up-to-date (komputer, LCD, laboratorium)
	S2	Fasilitas fisik (laboratorium, perpustakaan) sesuai / bermanfaat bagi mahasiswa
	S3	Fasilitas fisik menarik dan nyaman (AC, penerangan)
	S4	Fasilitas fisik bersih (ruangan kelas, laboratorium, perpustakaan)
	S5	Laboratorium komputer memadai (kapasitasnya)
	S6	Akses internet memadai (kecepatan akses, wifi zone)
X_2	D7	Ramah dan mudah ditemui
	D8	Bersedia membantu anda
	D9	Bersedia dihubungi di luar kelas
	D10	Menepati janji
	D11	Mampu menanamkan kepercacayaan diri mahasiswa
	D12	Memegang kerahasiaan mahasiswa
	D13	Bersikap adil
	D14	Memperlakukan anda dengan hormat
	D15	Mampu menjawab pertanyaan anda dengan baik
	D16	Mengikuti keahlian di bidang keahliannya
	D17	Memberikan mahasiswa cukup bekal untuk siap bekerja
	D18	Konsisten dalam sistem penilaiannya
	D19	Dapat menjelaskan dengan baik dan mudah dipahami
	D20	Peduli kepada anda
	D21	Bersedia membantu masalah yang dihadapi mahasiswa
	D22	Menerangkan dengan baik apa yang mereka harapkan dari anda
	D23	Memberikan umpan balik / tanggapan terhadap kinerja anda
	D24	Dapat dihandalkan (mis. tidak absen, tidak datang terlambat)
X_3	A25	Membantu menyelesaikan masalah yang dihadapi mahasiswa
	A26	Ramah dan mudah ditemui
	A27	Peduli kepada mahasiswa
	A28	Berusaha memahami kebutuhan anda yang spesifik
	A29	Bertindak cepat dalam memberikan layanan
	A30	Memperlakukan mahasiswa dengan hormat
	A31	Memegang rahasia kemahasiswaan
	A32	Tanggap terhadap keamanan mahasiswa