

Service quality that improves customer satisfaction in a university: a case study in Institut Teknologi Indonesia

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Abstract. Universities should provide better service quality to get more customers. The purpose of this study was to find service quality which has impact on the increasing of customer satisfaction in a university. This study is a case study in Institut Teknologi Indonesia (ITI). The result of the study will help ITI to improve its service quality to increase customer satisfaction. This study employs path analysis technique. The data were collected through questionnaires developed from the literature. Questionnaires have two parts namely 1) service quality and 2) customer satisfaction. Service quality is measured through 22 questions with five service quality dimensions: 1) Tangibles, 2) Reliability, 3) Responsiveness, 4) Assurance and 5) Empathy. Customer Satisfaction is measured through 4 questions. The data then are processed by SPSS. The results showed that the students preferred to tangible quality improvement than intangible aspect.

Keywords: University, Service Quality, Customer Satisfaction

1. Introduction

The concept of quality is much easier to define in a manufacturing setting than in service sector. In the service sector, generally referred to as Service-Quality [1], the concept is much more difficult and complex to define. The quality in the service sector has become progressively more important. Service quality is referred to as the gap between the expectation of the customers on the service and real delivery of a service [19]. Measurement of a quality of service is a concept that is not uniform in various industries and there are differences in every type of service sector [8]. The service quality is also the strategy of the organization and it is called that there is integrity in service when the organization is doing what it is supposed to do. The service integrity helps the organization to measure the strategy of the organization and its implementation when it interacts with the customers [17]. In order to achieve its goals, the company must be able to give satisfaction to its customers. Measurement of service quality is important to find out the achievement of customer satisfaction. If there is a difference between the real quality of the service and the expected, then it indicates that customer satisfaction is not yet achieved. In this case, continuous service improvement is required to be successful in business development, particularly in today's highly competitive, dynamic and complex environments [14]. In order to survive the company must continuously improve its ability to serve its customers and have the advantage of competing better than existing competitors. Therefore, it is important to find the dimension of the service quality which has significant impact on the increasing of customer satisfaction.

ITI is a university located in Serpong and established in 1984. In operating its organization, ITI faces various problems, especially in the aspect of customer satisfaction. As a result, the number of enrolled



students decreased continuously. It decreased more than 30% in the period from 1984 to 2004. Therefore, it is urgent for ITI to identify factors which would be able to increase organization's performance. Measurement of service quality is important to find out the achievement of its performance.

2. Theoretical Background

Customer satisfaction is a principal element in achieving the goals in an organization and is a basic standard of excellence performance by the service organization [17]. Customer satisfaction is a person's feeling of pleasure or disappointment resulting from comparing a product's perceived performance in relation to his or her expectations [14]. The satisfaction of customers is a collective response about the delivery of the service by the organization [29]. Customers will be more satisfied with the high service quality. So the satisfaction of customers depends on the expectation of the customer about the service quality and perception of the customers about the service quality [3], [26].

The concept of service quality has been extended to a higher education context. Higher education plays an important role in the development of a country, as it promotes social, cultural and economic development and promotes active citizenship while instilling ethical values for citizens. The quality of services will affect student satisfaction. Student satisfaction as the favorability of the students' subjective evaluation on the various outcomes they experience associated with education. Student satisfaction is being shaped continually by repeated experiences in campus life [9].

The quality of services in the education sector has been the subject of numerous studies, because this matter is important for the sustainability of the education sector. A number of studies have been conducted, which indicate the importance of measuring the quality of services in higher education [21], [24]. However, there is no consensus on the dimensions and antecedents of the quality measurement of services perceived by students [27]. Consequently, there is no consensus on the best way to determine and measure the quality of service [5]. Parasuraman et al. has developed a SERVQUAL approach to find out the satisfaction of the services. The SERVQUAL model is based on analysis of gap between the expectations of the customers and perceived service quality. There were five dimensions of service quality as mentioned in Table 1 by various researchers.

Table 1. Dimension of Service Quality [20], [25]

Dimension	Definition
Tangibles	Physical facilities, equipment and appearance of personal
Reliability	Ability to perform the promised service dependably and accurately
Responsiveness	Willingness to help customers and provide prompt service
Assurance	Knowledge and courtesy of employees and their ability to inspire trust and confidence
Empathy	Caring, individualized attention, the firm provides it customers

The SERVQUAL approach has been criticized by many researchers, include Brown, Churchill, and Peter [2], [22]. They argue that different score approach causes the issues related to the variance restriction related with the score of the components will produce poor reliability. Another critique was put forward by Teas [28]. He argued that SERVQUAL scale uses various types of expectations and the other researchers may not be able to distinguish between various expectations types while doing their evaluation. The alternative method to the SERVQUAL is the SERVPERF and was developed by Cronin and Taylor [6],[7]. They argued that this model is better. Although SERVQUAL model reaps lot of criticism, the experts, who used that instrument, concluded that the SERVQUAL provides better diagnostic result for quality of service [19]. The five dimensions of SERVQUAL are suitable for mass service and also banking industry as well [29]. The perception of customers about the service quality is based on various factors, for example social referrals, communications between sales persons,

credibility of the consumers about the organization offering service and the different type of data collection [11].

3. Research Method

Based on the purpose of research, the type of research used is explanatory research. This research is a quantitative research and use path analysis technique. The data were analysed using SPSS version 16 program. The research model as shown in Figure 1 consists of two parts namely: Service Quality and Customer Satisfaction. Service Quality consists of five dimensions: (1) tangible, (2) reliability, (3) responsiveness, (4) assurance and (5) empathy. While Customer Satisfaction includes the performance of an organization's product and services compared to expectation of a customer.

To measure the level of student satisfaction, the authors used a questionnaire developed by Zeithaml [30]. In addition, the questionnaire in the constructs of the literature refers to the study conducted by Leonga et al. [16] and Ilyas et al. [13]. The questionnaire consists of two parts: service quality and customer satisfaction. The questionnaire for service quality contains 22 questions for the five dimensions of service quality; while for customer satisfaction consists of 4 questions. The questionnaire uses a Likert five scale that is 1 = Strongly Disagree to 5 = Strongly Agree.

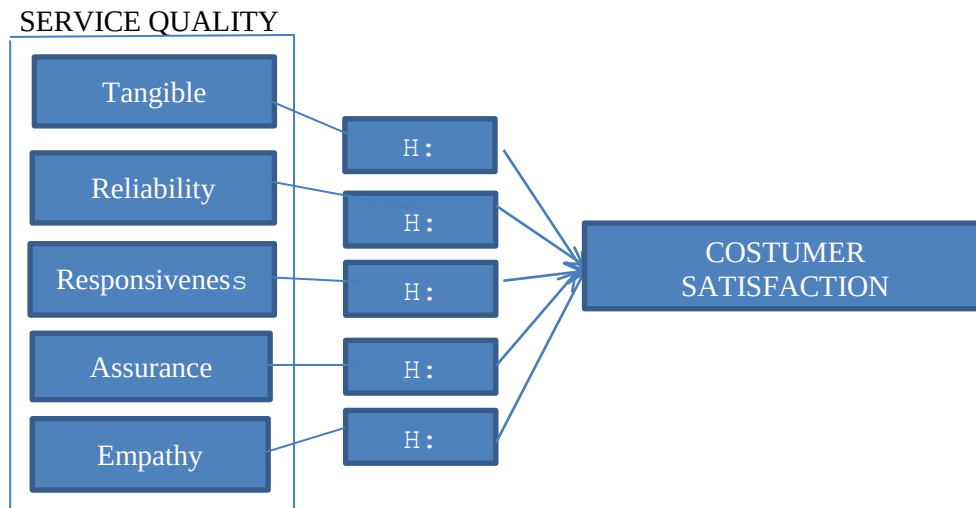


Figure 1. Conceptual Framework [13]

Based on research objectives and theoretical reviews, the research hypothesis is:

- There is influence of tangible aspect to customer satisfaction
- There is influence of reliability aspect to customer satisfaction
- There is influence of responsiveness aspect to customer satisfaction
- There is influence of assurance aspect to customer satisfaction
- There is influence of empathy aspect to customer satisfaction

The population in this study is all regular students in ITI. Questionnaires were distributed to 1300 regular ITI students. The number of valid questionnaires is 1006. Table 2 shows the question in the constructs of the literature which was also mentioned in [8] and [11].

Table 2. Sources of Construct

Variable	No	Indicator
I. Tangibility	1	ITI Location
	2	Availability of parking space
	3	Appearance of ITI office
	4	Comfort and cleanliness of the office

Table 2. Sources of Construct (cont.)

Variable	No	Indicator
II. Reliability	5	Services such as canteens, mosques, sporting events, student activities, religious activities, security promised by ITI
	6	Physical infrastructure such as lecture hall, library room, student room, sports facility, worship room
	7	Internet facility
	8	Library
III. Responsiveness	9	Request letter service recommendation (practical work letter, final project, lab work)
	10	Handling lecture room problems, laboratory space, library
	11	Service provision during lectures, exams, seminars, task presentations, discussions
	12	Handling issues of security, cleanliness and order in the campus environment
	13	Handling the administrative problems of tuition fees, KRS and exam cards
IV. Assurance	14	Expertise and knowledge of faculty / staff
	15	Hospitality of employees in providing services
	16	Speed of employees in providing services
	17	Capability and knowledge of employees in providing services
	18	Timeliness of lecturers in teaching
	19	Hospitality of lecturers at teaching time
V. Empathy	20	Ability and knowledge of lecturers in teaching
	21	Ease in contacting lecturers/employees
VI. Customer Satisfaction	22	Ease in contacting lecturers/employees
	1	I am satisfied with the service provided ITI employees
	2	The decision to study at ITI is good
	3	I feel the study experience at ITI is fun
	4	I am easy to obtain services in ITI

4. Result and Discussion

Reliability is calculated by the value of Cronbach Alpha (α). In this study the value of (α) is 0.839 for all items that fit the criteria set by Nunnally [18]. Thus in this study the data collected reliable, which is also confirmed by the correlation relationship between variables. The resulting correlation matrix is shown in Table 3. From the correlation matrix shows that all variables of tangibles, reliability, responsiveness, assurance, empathy correlate with the dependent variable, customer satisfaction and no multicollinearity between variables, because there is no coefficient correlation greater than 0.8 [12]. The relationship of tangibles, responsiveness, assurance and reliability with customer satisfaction is very strong, while the empathy relationship with customer satisfaction is weak according to the criteria set by Field [10].

Table 3. Correlation Matrix

Correlation		Tangibility	Respon- siveness	Assur- ance	Reli- ability	Empathy	Customer Satisfaction
Tangibility	Pearson Correlation	1					
Respon- siveness	Pearson Correlation	.557**	1				
Assurance	Pearson Correlation	.583**	0.699**	1			
Reliability	Pearson Correlation	.606**	0.527**	0.512**	1		
Empathy	Pearson Correlation	.166**	.056*	.164*	.247**	1	
Customer Satisfaction	Pearson Correlation	.548**	.517**	.617**	.570**	.227**	1

****.** Correlation is significant at the 0.01 level (2 tailed).

***.** Correlation is significant at the 0.05 level (2 tailed).

Table 4 shows the variation in dependent variable due to independent variable. As the value of adjusted R square was 0.713 which showed that 71.3% of variation in customer satisfaction was being explained by all independent variables. While the rest of 28.7% influenced by other variables that are not included in this model.

Table 4. Regression Analysis

Model Summary				
Model	R	R Square	Adjusted R Square	Std Error of Estimate
1	.816*	0.764	0.713	0.2951

* Predictors: (Constant), Tangible, Reliability, Responsiveness, Assurance, Empathy

Anova calculation is then performed in the regression analysis, to see the significance of variation. From result of regression analysis, p value is 0.000. If p less than 0.05 which further predicted that overall the model was statistically significant. With a p-value probability level of 0.000, H0 is therefore rejected and H1 accepted. It can be concluded that the null (H0) hypothesis and the alternative hypothesis (H1) this proves service quality, consist of tangibility, reliability, responsiveness, assurance, empathy together significantly influence customer satisfaction.

Table 5. Regression Analysis – Coefficient

Coefficient ^a Model	Unstandardized Coefficients B	Standardized Coefficients Beta	T	Sig
1 (Constant)	0.342	0.144	2.050	0.032
Tangibles	0.333	0.044	0.647	0.011
Responsiveness	0.001	0.033	0.444	0.201
Assurance	0.199	0.031	0.599	0.120
Empathy	0.045	0.041	0.076	0.114
Reliability	0.321	0.039	0.099	0.004

a. Dependent Variable: Customer Satisfaction

The next step is to see the influence of the independent variable to the dependent variable. From Table 4, it can be seen the effect of independent variables on the dependent variable. Only tangibles

and reliability variables have statistically significant effects because they have a p value less than 0.05. While responsive, assurance and empathy are not statistically significant. The value of the regression coefficient for tangibles is 0.333 indicating that each increase of one unit in tangibles will result in an increase in customer satisfaction of 0.333 by keeping all other variables constant. Similarly, an increase of one unit in reliability will result in a 0.321 increase in customer satisfaction.

5. Conclusion

The results of the research show that the tangibles and reliability variables have a positive effect on customer satisfaction. This shows that students are concerned with tangible and reliability aspects. Therefore, ITI needs to improve the aspects related to buildings, such as office building, comfort and cleanliness of the building. Services, physical infrastructure, internet and libraries are also should be improved.

The aspects of responsive, assurance and empathy have no impact on student satisfaction because students are concerned with tangible aspect instead of physical factors. Similarly, the aspect of empathy, where students generally feel the nature of empathy is a personality that should be owned by an educator.

6. References

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