

Services Quality and Students' Satisfaction: A Study on the Public Higher Education Institutions (HEIs) of Bangladesh

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Abstract: *The higher education sector of Bangladesh has been growing rapidly and with transformation since the last couple of years. The number of both public and private higher education institutions (HEIs) has been increased. As students are becoming more quality conscious and there are many options available in their hand, HEIs should consider the quality of services rendered with greater significance. So, this study has been conducted with an aim to examine the relationship between overall service quality and student satisfaction. It further aims to determine the percentage of variation in student satisfaction explained by service quality. Parasuraman's (1988) SERVQUAL model for measuring service quality provides the theoretical framework for this study. It is based on a questionnaire survey conducted among 150 students of few public HEIs of Bangladesh. Extensive review of literature provided the context for this study and statistical analyses were done on primary data. Moderately strong correlation has been found between overall service quality and student satisfaction. It has also been found that a significant proportion of variation in student satisfaction is explained by overall service quality. So, service quality is an important determinant of student satisfaction in the public HEIs of Bangladesh.*

Keywords: *Service Quality, SERVQUAL Model, Student Satisfaction, Public Higher Education Institutions, Bangladesh*

Introduction

Customers all over the world are now more informed than ever. They have access to a wide variety of alternatives. Consequently their demand for higher quality service has been raised as they have become more quality conscious. Generally, service quality improves customer satisfaction, stimulate intention to repurchase, and creates word of mouth. It is evident from previous studies (which have covered in the literature review part) that customer behavior is positively affected by customer satisfaction and service quality perception. It is likely that consumers will generate positive word of mouth, purchase repeatedly and will offer price premium thus giving the organization a

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competitive advantage over the rivals. Relationship between service quality and certain behavioral intentions was the subject of many studies. Services literature provide evidence that a significant positive relation exists between a customer's service quality perception and their eagerness to suggest the organization to other parties. Therefore, to be successful, service providers need to understand customers' perception of service quality, how they evaluate their service experiences, what features of service quality create most satisfaction and how much satisfied customers are.

Education sector, especially university education is widely acknowledged as a service sector. Students are the customers of higher education institutions. The concept of customer satisfaction and service quality has been emerged in education sector and has gained substantial attention because students have many options to choose from in this superbly competitive academic atmosphere. This study explored the relationship between services quality and student satisfaction and found out the percentage of variation in student satisfaction explained by overall service quality.

Literature Review

Services can be defined as deeds, performances and processes provided or coproduced by one entity or person for and with another entity or person (Zeithaml et al., 2010). Both core service and physical goods are included in service according to this definition. Nuery (2013) included in her study that intangibility, inseparability; heterogeneity and perishability are the characteristics which distinguish services from products. The special characteristics of education sector make it fall under the category of service (Nadri et al. 2009).

There is no universal way to define and measure service quality (Wisniewski, 2001). So, substantial amount of arguments revolve around the concept. Parasuraman et al. (1985) defined service quality as the measure of the service actually received by the customer compared to their expected service. Saghier and Nathan (2013) cited that service quality is how customers perceive service to meet or exceed their expectations and it is the overall assessment of the customers about a service. In service literature, the construct quality is measured based on perceived quality. The perceived quality is defined as the individual customer's assessment of the excellence of a product or service (Zammuto et al., 1996). According to Berry et al. (1990) perceived service quality is the result of comparison between customer's expectation prior receiving service and experience of actual service delivered. Rowley (1996) considered perceived quality as a type of attitude resulting from a comparison of expected service performance with perceptions of actual performance which is related to satisfaction but not satisfaction itself. Therefore, an organization's service is thought of high quality if consistently conforms to expectation or outperforms. On the other hand, if expectations of customers remain unmet, it will be evaluated as poor quality (Zammuto et al., 1996). Quality is also seen as the goodness of

fit of a service to its purpose or use intended by the customer. Thus quality of service depends on how customers define good, bad, acceptable or unacceptable service (Babbar, 1995). Saghier and Nathan (2013) also mentioned in their study that, if service performance consistently meets customer expectation, it is considered as quality service. So, it can be seen that as education falls under the service category, students' satisfaction of public HEIs can be measured in terms of perceived service quality.

Satisfaction is defined as a state of an individual whose experienced performance met expected performance (Kotler and Clarke, 2012). Studies on the satisfaction concept have been extended recently to the context of HEIs focusing on students' community. Student satisfaction is defined as the students' positive evaluation of the results and experiences received related to education through their continuous and frequent experiences in the campus life (Oliver and DeSarbo, 1989). Arambewala and Hall (2009) have found that satisfying students is a very challenging task for universities. In their view, a satisfied student is the major source of competitive advantage that helps to attract new students, retain current students and spread positive word of mouth. Zeithaml (1988) defined satisfaction is the resultant outcome of an institution's consistent performance which includes both administrative as well as educational performance.

As ensuring students' satisfaction is a challenging task, universities should try to find out the variables that influence customers' satisfaction. Hence, the following literatures are reviewed related to perceived service quality and students' satisfaction.

The service quality in the educational sector particularly in the higher educational institutions is the fundamental aspect of educational excellence. Malik et al., (2010) cited that, when students perceive that institutions provide 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 institutions. Sporeen, 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). Elliot and Shin (2002) identified thirteen highly significant variables which have direct impact on overall satisfaction of the students regarding the service received from university namely excellent instruction in major courses, ability to get desired classes, learned advisor and faculty overall quality of instruction, conformity of service with tuition paid, advisor's cooperation and availability, secure campus, computer labs, unbiased faculty and easy access to

information. Keller (1993) found that the more students get high quality reliable service, the more they become attracted and affiliated with the institution.

It is evident from the above studies that students' satisfaction is positively related to get adequate quality of education which can be defined as perceived services quality.

Hasan (2009) cited that, perceived service quality as the product of the customer's subjective assessment of all the service encounters and for a student encounters with office staff, tutors, lecturers, the head of departments etc. could be considered. Malik et al. (2010) mentioned in their study that, an institution's possession of all the necessary educational facilities works as motivator making students loyal and good performers. Edstrom (2008) cited that, the students evaluate their instructors' performance and his teaching method. These work as the major indicators of educational development and successful completion of their studies since the higher the intellectual ability of the instructor the better will be the students' evaluation. Excellence teaching, coordination and reliability greatly influence students' class performance. Teachers teaching with punctuality, accuracy, reasonability and logical approach manner are more popular (Elliot and Shin 2002). Satisfaction level of the students increases while working with those course instructors and lecturers who properly handle the assignments, projects, exams and contribute to students' critical reasoning and aptitude development (Dalton and Denson 2009).

After reviewing the above literatures we have selected twenty eight variables for this study, which covers different aspects of teachers, stuffs, university decoration, and course curriculum etc.

Although there are lots of studies on service quality but, a very few studies measuring service quality have been conducted in Bangladesh specifically focusing on public HEIs. So there is opportunity to explore this area further. Literatures on service quality of HEIs in Bangladesh are discussed in next.

Asaduzzaman et al., (2013) conducted a study on service quality and student satisfaction on private universities of Bangladesh and reported that tangible is the most important determinant of students' satisfaction which includes environment and facilities provided by the universities. Kalam and Mahonta (2017) found in their study that there exists gap between the expectation and perception of service quality in both public and private universities of Bangladesh. Tangibility dimension has the higher gap among other gap whereas empathy dimension has lowest gap. Moreover, Students' perception about service quality of public universities is greater than those of private universities. Another study found completely opposite result showing that, Students of private universities are more satisfied as compared to students of public universities (Mozumdar, 2014). Rahman (2013) found in his study that reliability, responsiveness, competence, tangibility, courtesy, goodwill & image, empathy, security and costs are the dimensions of quality

higher education. Another study reported that quality faculty, educational environment, curricula, benefits to students and teachers (stipend, scholarships, opportunities of higher education home and abroad etc) are part of quality education (Uddin et al., 2011). Quality of the higher education can also be judged by the proper usage of modern teaching aids, library facilities, availability of books and journals in the library, laboratory facilities, research facilities, quality of course curricula, etc (Islam and Salma, 2016).

Most of the authors who measure service quality of HEIs in Bangladesh used SERVQUAL model in their studies. For this reason, this model is used as theoretical framework in this study. Now we will look at the SERVQUAL model.

Parasuraman's SERVQUAL model is the most acknowledged and applied to a wide diversity of industries. The SERVQUAL model developed a five dimensional construct of service quality using tangibles, reliability, responsiveness, assurance and empathy as the instruments for measuring service quality (Parasuraman et al. 1988; Zeithaml et al 1990).

Reliability in service delivery means handling customer service problems; performing service right at the first time, delivering service as promised and maintaining error free record. Reliability was often viewed as the most important factor in traditional service delivery. Responsiveness can be defined as the willingness or readiness of the employees or service providers to respond to the service needs of the customers. Empathy is the individualized care and attention, a firm provides its individual customers. Assurance is the capability, knowledge and courtesy of employees that inspires trust and confidence among the customers. The appearance of physical facilities, equipment, personnel and other materials are included in tangibles (Parasuraman, 1988). In this study, above mentioned elements of the SERVQUAL model are tested from the respondents' viewpoint.

Significance of the Study

The education sector of Bangladesh has gone through rapid transformation in the last couple of years. The number of both public and private HEIs has been increased. Existing literature provides evidence that customer satisfaction and service quality were studied from the context of private HEIs in Bangladesh. So, there does exist a gap in literature. So, this study has been conducted to find out the service quality of public universities and students level of satisfaction.

Objective of the Study

This study has been conducted on the students of a few public universities of Bangladesh with an aim to:

- Examine the relationship between the overall service quality and students' satisfaction

- Determine the percentage of variation in student satisfaction explained by overall service quality.

Research Questions

Based on the rationale presented earlier, the following research questions will be investigated in the present study

1. What is the relationship between the service quality dimensions and satisfaction of the students of the public higher education institutions in Bangladesh?
2. How much variation in student satisfaction is explained by overall service quality?

Hypotheses

H_{01} : There is no relationship between the service quality and student satisfaction

H_{11} : There is relationship between the service quality and student satisfaction

H_{02} : Overall service quality does not explain significant percentage of variation in student satisfaction

H_{12} : Overall service quality explains a significant percentage of variation in student satisfaction.

Research Framework

Parasuraman's SERVQUAL model for measuring service quality provides the theoretical framework for this study, because this model is being used in other relevant studies of Bangladesh covered in literature review part. Service quality of higher education institutions in terms of service performance is the independent variable for this study. The independent variable consists of five dimensions namely reliability, responsiveness, assurance, empathy, and tangibles. Students' level of satisfaction with the HEI is the dependent variable. In equation form $Y = a + bx$ where, Y is the dependent variable, x is the independent variable, b is the unstandardized regression coefficient and a is intercept or constant.

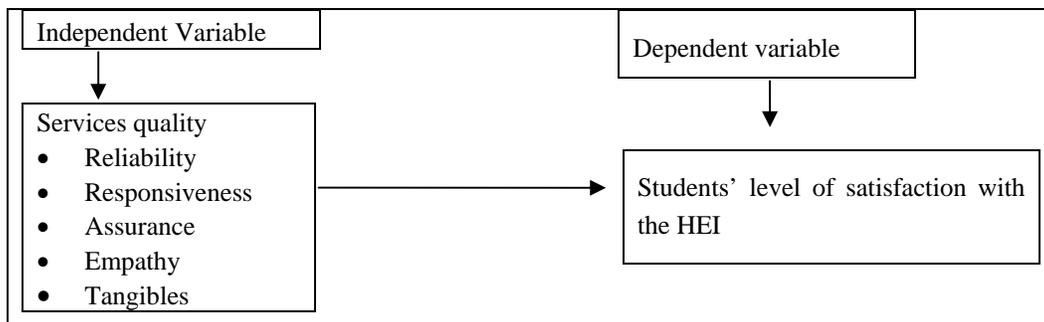


Figure: Research Framework

Methodology

This is a descriptive study by nature. Students of all the public universities of Bangladesh form the population for this study. The directory of public universities from the University Grants Commission, Bangladesh served as the sampling frame. A group of higher education institutions were selected from a list of public HEIs (University Grants Commission of Bangladesh, 2017). Respondents were selected using judgmental sampling from the selected HEIs. Participants include undergraduate and graduate students. A total of 150 respondents have been surveyed. Both primary and secondary data have been used for the study. Primary data were collected using online and offline survey method. Questionnaires were used as instrument for data collection where, a five points Likert scale was used as scaling technique. The questionnaire was divided into three parts and was structured in nature. The first section of the questionnaire dealt with demographic information of the respondents, the second part was about student's perception of the quality of each service provided by the HEIs under the five dimensions of service quality. The third part measured the overall satisfaction level of the students. Researchers themselves collected the data.

Data Analysis and Findings

Data collected for the study were analyzed using SPSS. Correlation analysis was done to examine the relationship between customer satisfaction and service quality dimensions followed by regression analysis to understand the proportion of the variance in dependent variable explained by each independent variable.

Profile of the Respondents

The demographic information of the respondents includes gender, age and year of study. Details of the demographic information based on frequency distribution and percentage is presented in Table 1.1 in appendix. Total number of respondents for this study was 150. Among them, 79 respondents were male (52.7%) and 71 were female (47.3%). The age of the majority of respondents (40.7%) lies in between 23-24 years. Students who were in the 4th year of their bachelor program have made up the largest group of the respondents followed by third year and master degree students.

Descriptive Statistics

Table 1.2 in appendix shows the descriptive statistics of the variables used in this study. Dependent variable (Students' satisfaction) contains four items while the independent variable (Overall Service Quality) is made up of five dimensions. The five dimensions of service quality namely tangibility, assurance, reliability, responsiveness and empathy contains 8, 6, 6, 4 and 4 items respectively. So, overall service quality contains 28 items in total.

The mean of student satisfaction (3.70 on a scale of 5) is followed by service quality with an overall mean of 3.52. Among the dimension of service quality, tangibility scores the highest (3.90) followed by reliability (3.66). Responsiveness scores the lowest (3.10). The minimum score for student satisfaction means that there are students who are dissatisfied with no student being highly dissatisfied and the maximum score shows that there are students who are highly satisfied. The mean score of satisfaction means students are slightly satisfied while the mean score of service quality indicates that services are perceived as neither good nor bad. Mean and standard deviation of the questionnaire items is shown in Table 1.3 of appendix.

Reliability of the study

Reliability coefficients of all the variables included in this study are presented in Table 1.4 in appendix. All alpha coefficients are above the acceptable value 0.70. It indicates that the instruments used for measuring the variables are quite reliable (Pallant, 2001).

Relationship between service quality dimensions and student's satisfaction

Correlation analysis has given positive result. It means increase in service quality results in the increased level of student satisfaction and vice versa. The relationship between overall service quality and student satisfaction is moderately strong. So, the first null hypothesis (H_{01}) is rejected.

Correlations

		Overall_Service e_quality	Student_Satisfaction
Overall_Service_Quality	Pearson Correlation	1	.756
	Sig. (2-tailed)	.000	.000
	N	150	150
Student_Satisfaction	Pearson Correlation	.756	1
	Sig. (2-tailed)	.000	.000
	N	150	150

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

Explained Variation in Student Satisfaction

Regression analysis was conducted to find out the percentage of variation in student satisfaction explained by overall service quality. The value of R Square is .572 means that approximately 57% variation in student satisfaction is explained by overall service quality. So, it can be said that service quality explains a moderate percentage of variation in student satisfaction. So, null hypothesis 2 (H_{02}) is rejected. Model summary is presented below.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.756 ^a	.572	.569	.32030

a. Predictors: (Constant). Overall_Service_Quality

The difference between R square and adjusted R Square is very trivial. It indicates that the sample size for this study is big enough and independent variables are meaningful predictors of the dependent variable.

Unstandardized regression coefficient b is 0.746 means that a 1 unit increase in service quality will result in 0.746 unit increase in satisfaction level. Constant 1.081 means that if service quality is 0, satisfaction is 1.081.

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	1.081		.189	.756	5.733	1.000	1.000
Overall_Service_Quality	.746		.053		14.057		

a. Dependent Variable: Student_Satisfaction

This study attempted to find out the answers of two questions. The first question explored the relationship between service quality and student satisfaction. As, moderately strong relationship has been found, if HEIs increase the quality of services delivered, it is likely that satisfaction level of the students will rise. Higher education institutes of Bangladesh on an average are still lagging behind in providing quality services. So, this finding has practical implications for the HEIs of Bangladesh. The second research question has found out the percentage of variation in student satisfaction explained by service quality. As the variation explained is significant, it indicates that service quality is an important determinant of student satisfaction. So, HEIs attempting to increase the number of satisfied students should give special focus on service quality.

Conclusion and Recommendations

It is evident from the findings of this study that there exist moderately positive relationship between service quality dimensions and student satisfaction. Many other studies in the literature of services quality support the findings of the current study. It can be inferred that improvement in service quality of public higher education institutions has the potential to increase the students' level of satisfaction. Therefore, it is recommended that institutions should be more service oriented to reap more satisfaction of the students.

In addition to that, among the five dimensions of service quality model, tangibility is found as the most important determinant of satisfaction for the students followed by reliability in this study. So, HEIs should focus on the physical evidence of the institutions as well as provide service to the students as promised. The major limitation of the study is the poor sample size. A sample of 150 students does not accurately represent the population defined for the study. Moreover, the satisfaction level of students and services provided vary across institutions. Because of time and resource constraints, the sample actually did not include participants from all the public higher education institutions forming the sampling frame of the study which limits the generalization of result of the study.

Future research can empirically test the findings of this study with a larger and representative sample. Comparative studies can be conducted in the context of public and private institutions to identify differences in the quality of the services and student satisfaction. As all the service quality dimensions are not equal in terms of their contribution to satisfaction, the critical factors which explains the variation in student's satisfaction most can be studied to identify priority dimensions for improvement.

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APPENDIX**Table 1.1 Profile of the respondents**

Variables	Frequency(n)	Percentage (%)
Gender		
Male	79	52.7
Female	71	47.3
Age		
18-20	36	24
21-22	24	16
23-24	61	40.7
25-26	25	16.7
27-above	4	2.7
Year of study		
1 st year	37	24.7
2 nd year	14	9.3
3 rd year	23	15.3
4 th year	55	36.7
Masters	21	14

Table 1.2 Descriptive Statistics of Measures

Variable Type	Variable Name	No. of	Minimum	Maximum	Actual Study
		item	Score	Score	Means
Dependent Y	Student Satisfaction	4	2.30	5.00	3.70
Independent X					
Overall Service Quality					
X1	Tangibility	8	2.33	5.00	3.90
X2	Assurance	6	2.00	4.50	3.54
X3	Reliability	6	2.00	4.70	3.66
X4	Responsiveness	4	1.50	4.25	3.10
X5	Empathy	4	1.50	4.75	3.44
(X1+X2+X3+X4+X5)/5	Overall Service Quality (X)	28	2.10	4.75	3.52

Table 1.3: Mean and Standard deviation of the questionnaire items

	Mean	Std. Deviation
Appearance of teachers	3.57	.781
Appearance of building and grounds	3.67	.910
Degree to which classrooms are comfortable	3.65	.897
Decoration	2.79	.879
Appearance of stuffs	2.90	.792
degree to which curriculum is up to date	3.66	.858
Adequacy of computers in the lab	2.81	.763
Access to the Internet	2.76	.783
. University staffs are friendly	2.70	.775
Teachers are easy to approach	2.85	.730
Teachers are active in research in their relevant field	2.83	.817
Academic credentials of teachers	3.34	3.435
Security measures at your university	3.64	.869
University is fair unbiased in their treatment of individual students	2.82	.786
Registration is timely	3.59	.913
University keeps records accurately	3.37	.790
Teachers are punctual	3.38	.757
Staff are sincere in solving student's problem	2.86	.769
University provides services as promised	3.02	.764
Teachers are sincere in solving student's problem	2.85	.739
Staffs are available for assisting students	2.87	.735
Teachers are available for assisting students	2.73	.835
Channels for expressing student complaints are readily available	2.57	.780
Information is readily available	2.87	.813
Administration holds students' best interest at heart	2.77	.891
Convenient access to the facilities of the university	3.59	.977
Staff are willing to give students individual attention	2.67	.849
Teachers are supportive to the needs of individual students	2.65	.804
I am satisfied with my decision to attend this University	3.51	.683
If have a choice to do it all over again, I still will enroll in this University	3.35	.615
My choice to enroll in this university is a wise one	3.41	.532
I did the right decision when I decided to enroll in this University	3.42	.547

Table 1.4 Reliability Results

Variable Type	Variable Name	No. of item	Cronobach's Alpha
Dependent variable	Student Satisfaction	4	0.701
Y			
Independent variable			
Service Quality			
X1	Tangibility	8	0.709
X2	Assurance	6	0.731
X3	Reliability	6	0.775
X4	Responsiveness	4	0.791
X5	Empathy	4	0.722

Table 1.5 Correlation Results

Correlations							
		Tangibility	Assurance	Reliability	Responsiveness	Empathy	Student_Satisfaction
Tangibility	Pearson Correlation	1	.382**	.225*	.324**	.254**	.012
	Sig. (2-tailed)		.000	.006	.000	.002	.881
	N	150	150	150	150	150	150
Assurance	Pearson Correlation	.382**	1	.391**	.419**	.416**	.136
	Sig. (2-tailed)	.000		.000	.000	.000	.096
	N	150	150	150	150	150	150
Reliability	Pearson Correlation	.225*	.391**	1	.429**	.394**	.147
	Sig. (2-tailed)	.006	.000		.000	.000	.072
	N	150	150	150	150	150	150
Responsiveness	Pearson Correlation	.324**	.419**	.429**	1	.426**	.156
	Sig. (2-tailed)	.000	.000	.000		.000	.056
	N	150	150	150	150	150	150
Empathy	Pearson Correlation	.254**	.416**	.394**	.426**	1	.179
	Sig. (2-tailed)	.002	.000	.000	.000		.029
	N	150	150	150	150	150	150
Student_Satisfaction	Pearson Correlation	.012	.136	.147	.156	.179	1
	Sig. (2-tailed)	.881	.096	.072	.056	.029	
	N	150	150	150	150	150	150

** . Correlation is significant at the 0.01 level (2-tailed).
* . Correlation is significant at the 0.05 level (2-tailed).

Table 1.6 ANOVA result

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.273	1	20.273	197.606	.000 ^b
	Residual	15.184	148	.103		
	Total	35.456	149			

a. Dependent Variable: Student_Satisfaction
b. Predictors: (Constant), Overall_Service_Quality