THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT

Determining the Factors of Quality of Higher Education in Private and Public Universities in Bangladesh

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Abstract:
Ensuring quality education is a prerequisite for sustainable development. For finding the determinants of quality tertiary education, studies suggest the inclusion of relevant variables, as the customers are well diversified with students, their parents and guardians, and academic and administrative staff- each having different needs and objectives. Thus, this paper tries to incorporate forty-eight "Quality Characteristics" which previously found significant by various studies with a few uniquely appropriate local characteristics. The characteristics have been grouped into six different dimensions namely, tangibility, competence, attitude, content, delivery, and reliability. The results show that the quality of private university education mainly depends upon the competence of their academic and administrative staff, the content of their curriculum, the reliability of the institution, and the attitude of their staff. As far as the public universities are concerned, competence, content, and reliability are the variables significantly affecting the quality of their education. The findings also revealed that the provision of tangible facilities such as hostels, library, and visually appealing environment together with the delivery such as teaching presentation techniques, feedback from the students are insignificant in determining the satisfaction of the students of the private universities. The policymakers of the public universities should ensure that the content, reliability, and competency remain the prime concern to ensure students satisfaction. Thus, the public university authority should be highly concerned with its up-to-date curriculum that instils team working capabilities, provide interdisciplinary knowledge, and help to build effective communication skills. As the study was done with the objective of finding out the quality of university education from the customer's perspective, students were taken as its only sample for the study. However, a comprehensive study may be done using the other customers namely the guardians, and the administrative staffs.

Keywords: *SERVQUAL Model, quality dimensions, customers, public universities, private universities*

1. Introduction

For a great part of the most recent decade of the twentieth century, government strategies have concentrated on opening the entryways of advanced education in the tertiary level of Bangladesh. The outcome has been a qualified achievement that more students from all upbringings are going to higher education than at any other time; however, substantial gaps still exist during the time spent receiving advanced education for the peoples who will continue. With regards to the financial and social change, that put more current demands on the educational framework with more prominent duty and responsibility and expanded desires of stakeholders. The education framework has been pressurized to move its concentration from one of the quantitative development to one with accentuation on quality. Bangladesh has two categories of universities on the premise of possession – private universities and public universities. Foundation of private universities in Bangladesh started after the establishment of the Private University Act 1992 and later enhanced by the Private University Act 2010. All private universities should be endorsed by the University Grants Commission (UGC) before they are given to work. Private universities assume an imperative part towards the HR advancement of this nation as the tertiary level is the culmination phase of advanced education. These universities have been built up with a view to giving advanced education and guaranteeing quality instruction to a substantial number of understudies inside the nation. As we realize that quantity of seats in public universities is constrained in correlation with the number of potential students in Bangladesh and consequently public universities cannot give advanced education to all prospective students. To make individuals as capital, quality instruction is required. In this way, to adjust the circumstance, private universities have been built up. Despite the fact that the quantity of the private universities was not many before 2000, however, at present, it is closed around 83 up to June 2015.

These universities are found in Dhaka as well as in Chittagong, Rajshahi, Sylhet, Comilla etc. The fame of these private universities is expanding quickly because of its quality education, worldwide standard services, propelled research and better condition inside the university premises. There has been astounding development in privatization amid the last a few decades. The number of private universities has expanded, and enlistments expanded at a substantially speedier rate than out in the public universities.

The conceptual framework proposed for quality in tertiary education gives a premise to the measurement and, subsequently, enhancement of quality of its overall environment. It depends on an investigation of conceivable interpretations of quality measurements in non-educational setting, in addition to reviewing published quality components proposed for advanced education. An initial phase in fulfilling client needs is the assurance of how quality measurements/variables are seen by various customers' groups. These findings, together with the organized goals of a specific organization will frame the platform from which a quality program can be created. Thus, this study has several objectives as listed:

- To discover the major quality dimensions of public and private universities.
- To measure the viability of each quality dimension of higher education in the context of Bangladesh.

2. Literature Review

2.1. Quality Dimensions

The expression "quality" is gotten from the Latin word "quality," which implies the level of the magnificence of a thing (Oxford Dictionary, 2003). Coombs (1985: 105) characterizes the word quality as Qualitative measurements mean more than the nature of instruction as usually characterized and judged by understudy learning accomplishments, regarding conventional educational programs and models. Quality likewise relates to the importance of what is instructed and realized—to how well it fits the Quality Education. The corporate image dimension relates to the overall picture of an organization perceived by the customers; it is the result of a combination of technical and functional quality dimensions as well as factors like the price of the products (or service) and the reputation of the company.

Quality measurements, as indicated by Gönroos (1990), can be characterized into three groups: functional quality, technical quality, and corporate image. This is like those proposed by Lehtinen (1991) - i.e. interactive quality, physical quality and corporate quality. The measurements are related with technical quality that can be objectively measured paying little heed to consumers' judgment, while those concerned with functional quality are identified with the collaboration between the supplier and beneficiary of the service and are regularly seen in a subjective way. Often, the collaboration between customers themselves become noticeably vital; this is valid for advanced education while considering the influence of students on each other. The corporate quality measurement identifies with the general picture of an association seen by the consumers; it is the outcome of a mix of functional and technical quality measurements and elements like the cost of the service and the image of the organization.

2.2. Quality Dimensions in Higher Education

On account of tertiary education, lecturers and students take part an arrangement all the while, however different groups, like the businesses bargain for the most part with the final product of the education system, i.e. graduates. For the lecturers and students, themselves, the level of involvement may change in various procedures. This appears to underpin the hypothesis that measurements of quality in tertiary education differ in level of importance for various consumer groups (Owlia and Aspinwall, 2002).

Regardless of current research on overall quality measurements of education service, a large portion of the works has been concentrated on public services and specifically tertiary education. They studied models proposed for various situations for a consistency with tertiary education; even though few references inscribed directly the quality measurement aspect. Some valuable components were found in a few studies. From the "alumni satisfaction scales" identified by Hartman and Schmidt (1995), "quantity features" established by Ashworth and Harvey (1994), "curricula design factors" by Izquierdo (1993), "quality criteria" by Harvey et al. (1992), "quality criteria" by Jacobson (1992), "quality dimensions" by Madu and Kuei (1993), "a quality questionnaire" by Yorke (1993), and "a quality function deployment experiment" (Ermer, 1995), factors detailing curriculum, examinations, staff capabilities and equipment were identified. The findings of Harvey et al. depended on an experimental review on the suppositions of all the stakeholders in tertiary education.

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Adding the new items to the past discoveries, 48 traits called "quality attributes" were created for the present study. Based on similarities, they were gathered into six measurements named tangibility, competence, attitude, content, delivery and reliability.

2.3. The Definition of Customer in Higher Education

Quality measurements and customer groups in tertiary education, the meaning of customer are different from that in general servicing or manufacturing since groups, for example, academic staff, students, families, employers, and government are all customers of the station framework with the diversity of requirements. This is additionally exacerbated with regards to the decision of value and quality measurements. Researching framework for these uncovers that all properties do not render a similar level of interest and feeling among various groups of customers. For instance, call six measurements are pertinent to students; nevertheless, their appropriateness to employers and academic staff might be more dubious in light of the fact that they do not have a similar level of contact with the relating forms. Employers as the "external customers" of tertiary education are more careful with "output" of the framework, i.e. graduates, thus the abilities of graduates and also the unwavering quality of the organization to convey them (Dimension 6) are of interest. Take note of that these attributes are vital to two different groups of customers, i.e. society (government) and family, suggesting that employers can be viewed as representative of every external customer. Then again, academic staff utilized university facilities (Dimension 1) that connect with their partners, profiting from their "competence" (Dimension 2) and they think about the "contents" (Dimension 4), of the courses that teach and lastly, "credibility" (Dimension 6) of the organization.

3. Research Methodology

3.1. Types and Sources of Information

The study is mainly based on primary and secondary data. Primary data have been collected by interviewing first-year undergraduate students. Review of literature, journal and other relevant books is also done for secondary information.

3.2. Sampling Plan

The first set of sampling design is to define the study population. Because of the time constraints, we have restricted our study within the universities situated in and around Dhaka city. Then, the study population is the first-year students of both public and private universities in Dhaka city. Ithas not defined the potential entrants to universities, namely students of class 12, as the study population. This is because we should capture the differences in quality of education in public and private universities and their effect on students' preference and satisfaction level. The students of class 12 will not be aware of a number of different facilities provided in public and private universities. On the other hand, as the first-year students have just enrolled in a university, they can give us the information about all the facilities provided by the university that affects their level of satisfaction. The senior students of the universities have also been excluded from the population, as it is observed that the longer period they spend in the particular university, the more biased they will be in providing the exact information.

As the first step of devising the sampling frame for the study, we prepare a list of private and public universities in Dhaka city. Savar has also been included in a peripheral region listing the universities. Our next stage of the sampling frame is to prepare the list of students of the public and private universities selected as samples. Because of the limited number of public universities in the area under consideration, the criterion for selecting public universities is non-probabilistic. First, we select the sampling public universities based on their size and nature. Then the students are selected using a simple random sampling method. In the case of selecting private universities, we clustered them in terms of cost of the education. The private universities in the city are divided into three clusters, namely high cost, medium cost and low cost. After clustering the universities, we select two universities from each cluster randomly. In the final stage of selecting the samples, the students from these six universities are chosen using stratified random sampling criteria. The stratification is done in terms of a number of students in the clusters. Face to face interview with the respondents are made and the interviewer filled in the questionnaire based on the respondent's verbal response to the questions.

3.3. Questionnaire Design and Pretest

The respondents responded to questions under each attribute on five points Likert scale with "strongly agree" reflecting the highest level of satisfaction" "strongly disagree" indicating the highest level of dissatisfaction. Some demographic questions are also in the questionnaire for more in-depth interpretation of responses. The originally developed questionnaire has been pre-tested with a few respondents to ensure the quality of the questions in terms of preciseness, conciseness, objectivity and understandability of the questions.

3.4. Model

In principle, to estimate the factors affecting the qualityof higher education of different universities, the key approach is to create a quality of higher education as our qualitative variable. We have used the quality of higher education as the dependent variable and the six dimensions of tangibility, competency, attitude, content, delivery and reliability as the determinants independent variables. We have run an OLS regression model to determine the significance level of the variables for tertiary education in general and for the public and the private universities in particular. The basic model for the study is therefore as follows:

Overall quality of higher education = f (tangibles, competence, attitude, content, delivery and reliability)Specifically,

$QHE = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + e$

Where, QHE = Quality of Higher Education
X_1 = tangibility
X_2 = competence
X_3 = attitude
X_4 = content
X_5 = delivery
X_6 = reliability
Where, α is constant and β_1, β_2,β_3,β_4, β_5, β_6 are coefficients to estimate, and e is the error term, which we assume as zero for this research. We will also run a separate regression using the same model for both the private and the public universities.

4. Analysis and Findings

4.1. Demographic Statistics

This study has been done to determine factors of quality education in public and private universities. It is mentioned already that survey questionnaire technique is used to conduct present study. The questionnaire was distributed to students of both public and private universities. Demographic information regarding respondents is explained below.

4.2. Gender

Questionnaires were distributed among male as well as female university students. Out of 400 respondents, 270 (67.5 percent) were male and 130 (32.5 percent) were female students.

4.3. Age

Respondents have been found from different age groups. Results indicate that 103 (25.8 percent) out of 400 respondents belong to age 20. It means maximum numbers of respondents were twenty years old followed by 21 years old (22.8 percent).

4.4. Family Income

Family income of respondents has also been asked. Results indicate that highest number of respondents i.e. 99 (24.8 percent) out of 400 falls in the category of those families whose annual incomes are between 10,000-20,000 Takas.

4.5. Type of University

Both public and private universities have been part of the study. Half of the respondents i.e. 200 (50 percent) belong to public universities and remaining 200 (50 percent) belong to private universities.

A total of 550 students responded to the questionnaire. After scrutinizing and quality controlling, a total of 400 samples were accepted as valid which was about 73% of the total respondents. Of the 400 respondents, 200 were taken from the private universities and the remaining 200 were from the public universities. The male respondents constitute 67% and the female 33% reflecting approximately the overall proportion of the male-female ratio for tertiary education in the country.

The descriptive study also shows the relationship between the family income and the type of university enrolled. It is not surprising to find that most of the private university students enrolled are from high-income family. For example, the highest frequency of students belongs to the monthly income range of Tk. 30,000-40,000 (23.5%) in the case of the private university; whereas the highest frequency in the case of the public university belongs to the monthly income range of Tk. 10,000-20,000 (36%). If income level of below Tk. 30,000 is taken as the middle-income group of people, about 60% of the private university students come from above middle-income family. In the case of the public university, 68% of the students hail from either middle or lower income family.

Types of University	SQ determinants	Mean	Std. Deviation
Private University	Tangibility	2.869	.55389
	Competence	3.959	.53459
	Attitude	3.849	.69649
	Content	3.716	.70643
	Delivery	3.923	.67644
	Reliability	3.458	.55805
	Overall Service Quality of Higher Education	3.747	.76390
Public University	Tangibility	3.587	.63769
	Competence	4.105	.51543
	Attitude	3.115	.78462
	Content	3.797	.71043
	Delivery	3.375	.69887
	Reliability	3.234	.53195
	Overall Service Quality of Higher Education	3.773	.75754

Table 1: Descriptive Statistics of the Universities

Table one show the mean values depicting the overall satisfaction among the students of tertiary education. As far as our descriptive statistics are concerned, the overall quality of higher education from student's perspective, in Bangladesh is above satisfactory level (with a mean value of 3.76 on a 5-point Likert scale). Comparing between the private and the public universities, the level of satisfaction among students stood at near similar level (which was 3.75 to 3.77 for private and public respectively).

The table also suggests the main factors on which the students of private and public universities are generally satisfied. As far as the mean values are concerned, the private university students are fairly satisfied with the competence level of their faculties, the delivery method of the teaching materials, the attitude of the teachers and management, the contents, and reliability on the university, and less satisfied with their tangible facilities such as libraries, hostels etc. On the other hand, the public university students are quite satisfied with the competence of their faculties, and fairly satisfied with the content of their lessons, their tangible facilities, the delivery of the lessons, and reliability on the university and teachers and management attitude towards them.

5. Assumptions Underlying Factor Analysis

Before calculating factor analysis, few assumptions were taken into account. These assumptions related to normality confirm whether factor analysis can be applied to the collection with respect to the sample size.

5.1. Kolmogorov-Smirnov Test

For the purpose of testing normality, Kolmogorov-Smirnov test was applied to the data. According to Kolmogorov-Smirnov test, the null hypothesis states that the variables are normal whereas alternate hypothesis states that variable is not normal. Results for this test indicate that all the 52 items in this study have significance level below 0.05, i.e. P<.05. For details, please refer to appendix 1.1.as per rule if the significance level for any item is below 0.05, then null hypothesis will be rejected. Therefore, the null hypothesis for all the items included in this study has been rejected. It means variables are not normal. However, as the sample size of present study i.e. 400 which is enough to ignore the normality issue which is why researcher has proceeded to the other tests.

5.2. Homoscedasticity (Homogeneity of Variance)

This test is applied to see if there is any difference in variance or not. For this test, ANOVA was run. The null hypothesis for this test states that there is no difference of variance whereas alternate hypothesis states that there exists a difference in variance. As per rule, if for any item the significance value is less than 0.05 then null hypothesis will be rejected and that item may be dropped.

Results indicate that out of 52 items, 18 items have significance value below 0.05. Considering the rule for this test, these 18 items have been dropped.

5.3. Exploratory Factor Analysis

After data screening, exploratory factor analysis was applied to 34 items. Results of the tests under exploratory factor analysis are elaborated below.

5.4. Correlation Matrix

A correlation matrix was generated to see if there are items that do not belong to any other item or belong to many items simultaneously. Few of the items had significance level above 0.05 but considering the sample size of the study, all were retained. However, the determinant value was found as 5.82E-007 which is less than 0.00001. It means that there exist multicollinearity issues.

5.5. KMO and Bartlett's Test

Sampling adequacy was tested by using KMO and Bartlett's test of sphericity. Results show that KMO measure of sampling adequacy is 0.851 which is great and it justifies the applicability of factor analysis on the sample. A large value of Bartlett's test of sphericity i.e. 5413.004 with significance below 0.05 suggests the applicability of factor analysis.

5.6. Factor Extraction

For the purpose of determining the factors, principal component analysis was applied. Estimates of initial factors were obtained. Results from initial component matrix indicate that eight principal components were achieved. However, they were not clear regarding interpretation.

5.7. Total Variance Explained

Kaiser argues that the items with Eigenvalue 1 or more than 1 should be retained. The nine components that were achieved incorporate Eigenvalue more than 1. First principal component attained 22.31 percent of variance followed by the second component with 11.88 percent of variance achieved. The total cumulative percentage for all 8 principal components was 61.183 which are acceptable.

5.8. Scree Plot

Scree plot can also help determining varied factors explained in the diagram shown in Appendix 1.6. Steep slope shows the large factors whereas rest of the factors that levelling into straight path are having Eigenvalues less than 1.

5.9. Factor Rotation

Factors were rotated using varimax rotation method with Kaiser Normalization. It helped to make these factors meaningful and easy to understand. The cut-off point used to choose among factor loadings was 0.50. Factor loading below 0.50 was ignored. However, two principal components 7 and 9 were eliminated. Component 7 had two items with factor loading above 0.50 but they were not in logical relation whereas component 8 had only one item which is against the rule i.e. there should be at least two items under each factor provided the sample size is big otherwise if sample size is not big enough then at least three items under each factor are recommended. Items were grouped according to factor loadings that fall under eight components. Finalized factors (seven) grouped with underlying elements are named in Table 2 below.

Factor	Name of the Factor	Items	Factor Loading
1.	Faculty Attitude	Teachers in my university understand my specific needs.	.621
		Teachers in my university are always willing to help.	.792
		Teachers in my university are always available for guidance and advice.	.810
		I can easily approach the teachers at my university.	.783
		Teachers in my university instill confidence in me.	.513
		My Teachers are available when needed.	.724
		My teachers are caring and friendly.	.640
		Teachers show sincere interest in solving my problems.	.605
2.	Education Curriculum	My university curriculum is relevant to my future jobs	.709
		My university curriculum is very effective	.801
		My university education helps to develop good communication skills	.701
3.	Faculty Competence	Teachers in my university are knowledgeable	.796
		Teachers are highly experienced at my university	.747
		If I had to start fresh, I would select the same university	.520
4.	Hostel Availability	There are enough hostel seats available in my university	.867
		Hostel seats are easy to obtain at my university	.881
5.	Political Involvement	Students are politically involved in my university	.769
		Teachers are politically involved in my university	.800
6.	University Support for Students	My university provides various opportunities for co and extracurricular activity	.639
		Job placements facilities are available at my university	.686
		My university giving award to meritorious student (e.g. scholarship, financial aid/stipend etc.)	.508
7.	Class Facilities	Classroom in my university is Well furnished	.686
		My University has well-equipped labs	.699

Table 2: Exploratory Factor Analysis

6. Measurement Model (Confirmatory Factor Analysis)

Previously according to exploratory factor analysis, seven constructs were explored namely: Faculty Attitude with students (FacAtt), University Support for students (UniSupp), Faculty Competence (FacCom), Education Curriculum (EduCurr), Hostel Availability (HosAv), Class Facilities (CF) and Political involvement (Polinv). While constructing measurement model, two constructs namely hostel availability and class facilities with low factor loadings were omitted. One construct i.e. political involvement with only two items was retained due to very high factor loadings and 400 sample size. Therefore, five out of seven constructs have been retained.

6.1. Unidimensionality

Unidimensionality for three out of five constructs was achieved as all these three constructs had a factor loading more than 0.5 on their respective items. Only two constructs i.e. university support for students and faculty competence had two items with factor loading less than 0.5 and one item less than 0.5 respectively. However, they were retained due to 400 sample size.

6.2. Convergent Validity

Convergent validity is achieved when Average Variance Extracted (AVE) is more than 0.5. The table below shows that AVE for two (Political Involvement and Education Curriculum) out of five constructs fulfilled unidimensionality assumption whereas three constructs (Faculty Attitude, Faculty Competence, Education Curriculum, and University Support) did not fulfil this assumption. For details refer to AVE Table 3 below.

Constructs	Factor Loadings								AVE	Convergent Validity
Faculty Attitude	0.66	0.82	0.85	0.73	0.55	0.67	0.62	0.65	0.49	Not Achieved
Political Environment	0.94	0.78							0.75	Achieved
Faculty Competence	0.72	0.76	0.48						0.44	Not Achieved
Education Curriculum	0.76	0.82	0.59						0.53	Achieved
University Support	0.35	0.4	0.59						0.21	Not Achieved

Table 3: Convergent Validity

6.3. Factor Loadings

As far as factor loadings are concerned, they have already been explained above under unidimensionality.

6.4. Reliability

Internal consistency is an indicator of how well the different items measure the same concept (Saraph et al 1989). The internal consistency can be estimated using a reliability coefficient known as Cronbach's alpha (Cronbach, 1951). Nunnally (1978) states that allowable alpha values can be somewhat lower for new scales and - suggests the use of a minimum alpha value of 0.60. Otherwise, an alpha value of 0.70 is often considered the criterion for internally consistent established scale. For our study, we have taken cut off point for Cronbach's alpha i.e. 0.5, which is minimum.

Reliability of items which is calculated with the help of Cronbach's alpha is explained while using SPSS 19 software. Results indicate that internal consistency for items underlying every construct was achieved except one. It means four items namely faculty attitude, political involvement, faculty competence and education curriculum have Cronbach's alpha value more than 0.5. Only one construct i.e. University support for student had Cronbach's alpha value equaled to 0.433 which is less than o.5. For details please refer to Table below.

Construct	Cronbach Alpha	No. of Items
Faculty Attitude	0.88	8
Political Environment	0.85	2
Faculty Competence	0.65	3
Education Curriculum	0.76	3
University Support	0.43	3

Table 4: Reliability of Items

6.5. Construct Validity

Construct validity was achieved with CFI = 0.925 which is greater than 0.9, RMSEA = 0.059 which is less than 0.08 and Normed Chi-Square = 2.410 which less than 3. Tables for CFI, RMSEA and Normed chi-square are shown below.

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.879	.855	.926	.909	**.925**
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Table 5: Baseline Comparisons

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.059	.051	.068	.027
Independence model	.198	.191	.204	.000

Table 6: RMSEA

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	48	342.177	142	.000	2.410
Saturated model	190	.000	0		
Independence model	19	2834.548	171	.000	16.576

Table 7: CMIN

6.6. Discriminant Validity

There are three exogenous latent constructs namely political involvement, faculty competence, and education curriculum. Squared correlation between political involvement and faculty competence is 0.0144 which is less than average variances extracted. Squared correlation between faculty competence and education curriculum is 0.3364 which is also less than average variances extracted. Similarly squared correlation between education curriculum and political involvement is 0.0004 which is less than average variances extracted. Thus, all these results indicate that discriminant validity has been achieved.

Another rule for checking discriminant validity is that correlations between each pair of latent exogenous constructs should be less than 0.85. Results in this study exhibit that correlation between political involvement and faculty competence i.e. 0.12, the correlation between faculty competence and education curriculum i.e. 0.58 and correlation between education curriculum and political involvement i.e. -0.02 are less than 0.85 thus proving discriminant validity.

6.7. Face Validity

All the constructs were analyzed according to underlying items under each of them, and the items to make sense according to their respective constructs. Hence face validity has been achieved.

6.8. Nomological Validity

Nomological validity exhibits whether the correlation between each pair of constructs make sense or not. Correlation results among all the pairs of constructs make sense which supports nomological validity in the model.

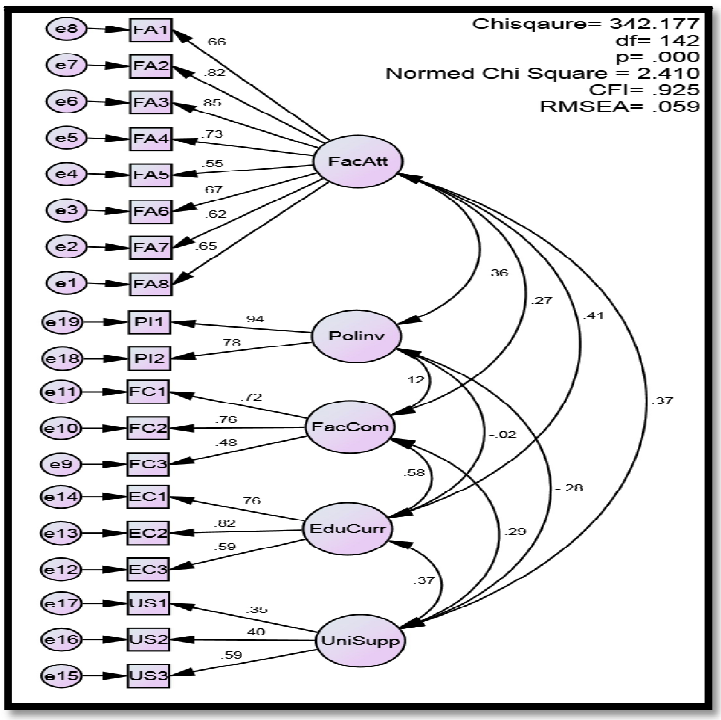

Figure 1: Measurement Model Diagram

7. Structural Model

Issues of validity, unidimensionality, and reliability have been addressed in the measurement model. In this section, structural equation model has been explained. There is three latent exogenous constructs namely political involvement, faculty

competence, and education curriculum and two endogenous constructs i.e. faculty attitude with students and university support for students. Between two endogenous constructs, faculty attitude plays a role of mediator between political involvement and university support. The result of mediation will be explained later in this section. Several hypotheseshave been generated which are written as well as explained in path diagram below.

- H1: Increase in political involvement decreases faculty attitude with students.
- H2: Increase in faculty attitude with students increases university support for students.
- H3: Increase in political involvement decreases university support for students.
- H4: Increase in faculty competence increases university support.
- H5: Increase in education curriculum increases university support for students.

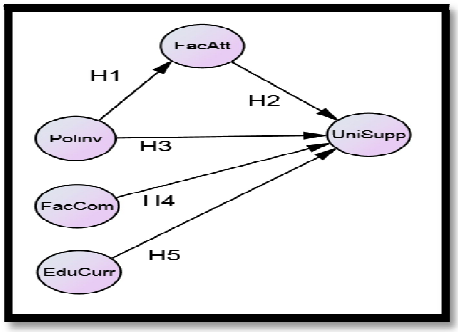

Figure 2: Path Diagram

7.1. Structural Model Fit Index

Basically, one construct i.e. faculty attitude has been a mediator between political involvement and university support for students. Both baseline and constrained models have been developed. Results from both baseline and constrained models indicate that models are fit as for both the models, CFIs are more than 0.9, RMSEAs is less than 0.08 and normedchi-square is less than 3. For further details please refer to Tables below.

Model	NPAR	CMIN	DF	P	CMIN/DF
Baseline Model	69	352.403	140	.000	2.517
Constrained Model	67	399.586	142	.000	2.814
Saturated model	209	.000	0		
Independence model	38	2834.548	171	.000	16.576

Table 8: CMIN

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Baseline Model	.876	.848	.921	.903	.920
Constrained Model	.859	.830	.904	.884	.903
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Table 9: Baseline Comparisons

Model	RMSEA	LO 90	HI 90	PCLOSE
Baseline Model	.062	.054	.070	.009
Constrained Model	.067	.060	.075	.000
Independence model	.198	.191	.204	.000

Table 10: RMSEA

7.2. Mediator Effect

In order to see whether faculty attitude is a full or partial mediator, results of both baseline and constrained model were analyzed. Firstly, the significance of three hypotheses i.e. H1, H2, H3 (under standardized regression weights) was checked. They were all significant. Chi-square for baseline model was 352.403. The degree of freedom was 140. Then significance in constrained model output was checked for H3 only (as H1 and H2 were constrained). It was found significant. Chi-square value for the constrained model was 399.586 and degree of freedom was 142. Hence it was proved that faculty attitude does play a role of mediator. However which model is better and whether faculty attitude is a full mediator or partial mediator still needs to be found.

As far as choice of better model is concerned, chi-square difference for baseline model and the constrained model was

found 47.183 whereas the difference in degrees of freedom was 2. Chi-square table shows that they are significant which mean these models are not same. As par rule, if they are significant then a model with paths is better (in this case baseline model). Baseline model also has a lower chi-square value which proves it is a better model.

Whether faculty attitude with students is a full mediator or partial, path coefficient between two constructs namely political involvement and university support was analyzed both in baseline and constrained the model. The value of path coefficient i.e. -0.24 is significant in the baseline model. Similarly, in constrained model path coefficient i.e. -0.27 is still significant but decreased a little. Results exhibit that faculty attitude with students is a partial mediator as in both model's path value between political involvement and university support for students remains significant. For details, please refer to baseline and constrained model shown in figures below.

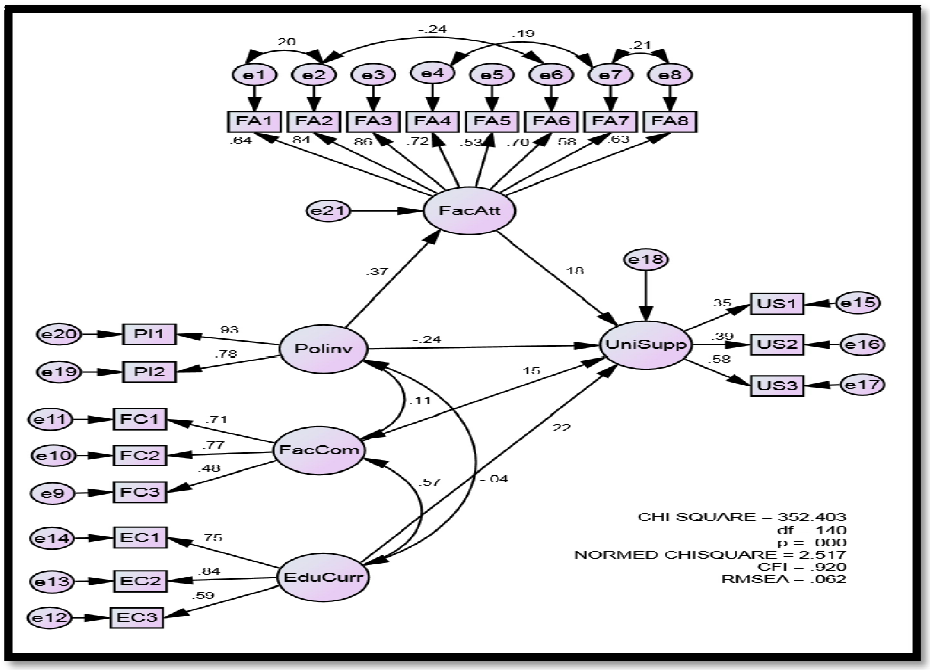

Figure 3: Structural Model (Baseline)

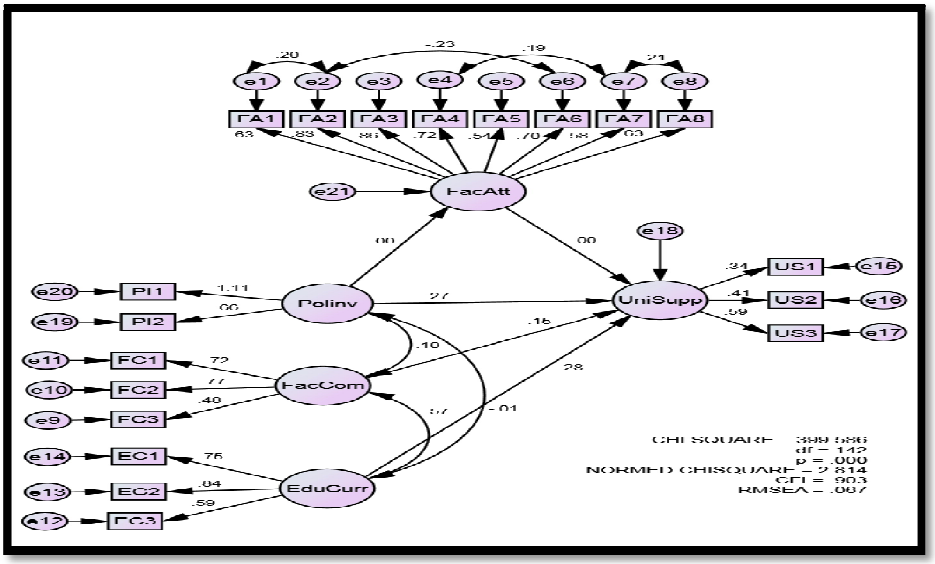

Figure 4: Structural Model (Constrained)

7.3. Path Analysis

Results indicate that all hypothesis except H4 (Faculty Competence <->University support for students) were found significant. For further details please refer to the Table below.

			Estimate	S.E.	C.R.	P	Label
FacAtt	<---	Polinv	-.167	.027	-6.131	***	a
UniSupp	<---	FacCom	.097	.074	1.301	.193	
UniSupp	<---	Polinv	-.056	.023	-2.444	.015	
UniSupp	<---	EduCurr	.130	.070	1.867	.062	
UniSupp	<---	FacAtt	.094	.047	1.991	.047	b

Table 11: Regression Weights: (Group Number 1 - Baseline Model)

Results from standardized regression weight (standardized beta estimates) are stated below according to each hypothesis which was found significant.

- H1: FacAtt<->Polinv→ When political involvement goes up by 1 standard deviation, faculty attitude with students goes down by 3.65 standard deviations.
- H3: UniSupp<->Polinv→ When political involvement goes up by 1 standard deviation, university support for students goes down by 0.236 standard deviations.
- H4: UniSupp<->FacAtt→ When faculty attitude with students increases by 1 standard deviation, university support for students increases by 0.179 standard deviations.
- H5: UniSupp<->EduCurr→ When education curriculum increases by 1 standard deviation, university support for students goes up by 0.221 standard deviations.

Estimate			
FacAtt	<---	Polinv	-.365
UniSupp	<---	FacCom	.154
UniSupp	<---	Polinv	-.236
UniSupp	<---	EduCurr	.221
UniSupp	<---	FacAtt	.179

Table 12: Standardized Regression Weights: (Group number 1 - Baseline Model)

8. Conclusion and Policy Recommendation

The government's concern about the quality of higher education in both the private and public universities has prompted people to come up with hypothesis favoring either of the types of universities. Even though it was beyond the scope of this paper to find out which type of universities perform better, it has, nevertheless, tried to identify the factors responsible for ensuring quality education in both the types of institutions of tertiary education. Our findings basically used SERVQUAL model as developed by Parasuraman et al. (1988, 1991) with some modification adjusted in accordance with the local needs. However, in our case, some of the variables used to explain the quality of a service are found to be insignificant in explaining quality in higher education. Our findings also suggest that there is a minor difference in the variables responsible for explaining quality in higher education between private and public universities. The students of private universities perceive competent teaching staffs, their educational background, experiences, as well as the background of their friends and peers as the most crucial factors determining their satisfaction. Thus, the private university authority should be concerned with these aspects to ensure students' satisfaction and quality education. The second most key factor that also should be made available to the students of a private university is their reliability which constitutes ensuring proper internship and job placement services, timely publication of their results and classes, and ensuring that the university stays free from politics, drugs, and remain safe for them. The third most important aspect is the effectiveness and up-to-date curriculum of the university and its provision of cross-disciplinary knowledge. The fourth crucial factor is again related to the teachers of the private university-their attitudes, which include their willingness to help and provide guidance and consultancy.

This study also suggests that the provision of tangible facilities such as hostels, library, and visually appealing environment together with the delivery such as teaching presentation techniques, feedback from the students are insignificant in determining the satisfaction of the students of the private universities.

The study also suggests the policymakers of the public universities should ensure that the content, reliability, and competency remain the prime concern to ensure students satisfaction. Thus, the public university authority should be highly concerned with its up-to-date curriculum that instils team working capabilities, provide interdisciplinary knowledge, and help to build effective communication skills. They also should give importance to its overall reputation to the corporate world, publication of its results, and politics and drug-free safe environment as well as to the quality aspects of its teaching staffs.

As the study was done with the objective of finding out the quality of university education from the customer's perspective, students were taken as its only sample for the study. However, a comprehensive study may be done using the other customers namely the guardians, and the administrative staffs. The study has another limitation that for the public university, only the universities situated in and around Dhaka were undertaken. Thus, a vast population of the public

universities was not considered for the study. Future research should take these aspects into consideration.

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