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MANAGING SERVICE QUALITY IN HIGHER EDUCATION OF PAKISTAN: A PRAGMATIC MODEL FOR STUDENTS SATISFACTION
(Empirical evidence to inform Public Policy)

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Abstract

In higher education, the key resource for the achievement of institutional objectives is the enhancement of high-quality education and the highest level of student satisfaction. Quality assurance cultivates the successful education system in the country. Thus, this study observed the impact of "service quality dimensions on university student's satisfaction through the framework of "HedPERF (higher education performance)". The sample was purposively drawn from 300 university students of Karachi, and the data were analyzed by using "structural equation modeling (SEM)". Additionally, significant associations were found between service quality dimensions and satisfaction of students. The discussed findings embrace the implications for HEIs and practitioners of quality management.

Keywords: Higher Education, Institutions, Service Quality, Student Satisfaction, Quality Management

Introduction

An important role is played by service industries in the development of a nation. In view of the global competition, the key source of success is the delivery of high-quality services. It is witnessed that quality provided by the organizations is considered an essential concern for management and gained a substantial amount of consideration from researchers, (Abdullah, 2006). In general, "service quality is defined as a customers' evaluation of an entity's overall excellence or superiority" (Zeithaml, 1988). Both the practitioners and academicians are concerned about the forces that contributed towards best services for attaining competitive advantage. Practitioners believe that the performance of a firm is increased through service quality (Cheruiyot & Maru, 2013). Moreover, in the prior studies the notion of customer satisfaction and service quality are associated with each other (Amin & Isa, 2008; Awan, Bukhari & Iqbal, 2011). Likewise, a plethora of prior studies had been conducted in diverse service industries for investigating and gaining an in-depth understanding of service quality dimensions and satisfaction of customers (Pantouvakis & Mpogiatzidis, 2013; Chumpitaz & Paparoidamis, 2004).

Education is considered as the primary service industry for a country and plays a dominant role in its development (Stankovska et al. 2017). Higher education institutions

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ISSN (P): 2788-4821 & ISSN (O): 2788-483X
Volume 1, Issue 1, Page 25-41, June 30, 2020

(HEIs) are recognized as a source that creates and cultivate knowledge and regarded as awareness production institutes for various fields and domains of life. The primary objective of these institutions is to ensure the best quality of education to students (Khalid et al., 2012). HEIs regardless of their educational field, focuses on the quality of service provided due to the fact of their fundamental position in attaining a competitive edge, attracting new and maintaining the current students ensuring their satisfaction with the institutes. Similarly, rendering the best educational services is the most vital preference of higher education institutes. The HE sectors are working progressively on crucial functions in creating the wealth of a lot of countries, and Pakistan isn't an exception.

For the determination of "service quality and satisfaction of students" within the sector of HE, the scale "**HedPERF (higher education performance)"** is developed (Abdullah, 2005; Abdullah, 2006). As per the conceptualization of the scale, "service quality is referred to as an assessment of the total higher education service environment based on the students' experience". This scale focused primarily on higher education delivery activities comprises of non-academic and academic facets for measuring the quality of services with 41 indicators from the viewpoint of students. These indicators are divided into "five dimensions namely non-academic aspect, academic aspect, reputation, programs issue, and access".

The rationale of the study

All over the world, extensive research studies have examined the service quality of the educational institutions and satisfaction of students with their educational institutes. But the scarcity of findings was observed in the local environment specifically in the HE context and university students. Currently, according to the Higher Education Commission of Pakistan statistics (2019), there are 197 universities in Pakistan, in which 117 are public universities and the remaining 80 are private universities. A number of HEIs are operated in Karachi, Sindh. Presently, there are 31 private universities, and 15 public universities are imparting higher education in the fields of medicine, engineering, agriculture, veterinary sciences and general disciplines in Karachi, Pakistan[1].

In HEIs, ensuring high service quality becomes crucial for guaranteeing satisfaction among students. Moreover, it is also concerned with the economic development of the country. During the last few years, the active role played by HEC in Pakistan increased monitoring on HEIs for quality management Thus, in the present scenario, maintain the quality standards and high student satisfaction becomes more essential with the increased number of competitions among the institutes specifically in the private sector imparting higher education within the country.

However, the limited findings within the perspective of HEIs and level of satisfaction among students of universities in Pakistan emerge the need for further

[1] https://www.hec.gov.pk/english/universities/Pages/AJK/UniversitiesStatistics.aspx

exploration that what are the factors that determine the highest quality of services of the universities and how it contributed towards student satisfaction.

Study Objective

This aim of this study is to examine the impact of service quality on the satisfaction of students through the insights of "HedPERF (higher education performance)" framework. The higher education institutes of Karachi, the largest city of Pakistan was selected for the analysis.

Contribution of the study

The earlier studies have investigated service quality and student satisfaction through different statistical approaches as per the study objectives. However, in the present research, the "determinants of service quality and student satisfaction" are analyzed by using structural equation modeling (SEM) approach in order to present the insights about the drivers of service quality according to the experience of students and how it drives satisfaction among them. The study also makes an empirical contribution with the fulfillment of the literature gap that exists in HEIs context pertaining to service quality and student satisfaction.

Study Significance

The current research holds significance for the academicians and practitioners, and authorities of HEIs. The results of the study assist for an in-depth understanding of the factors that account of service quality and the implementation of these practices that led towards satisfaction among students.

Moreover, universities can evaluate the in-depth knowledge of student-orientation when providing services based on varying multiple student perceptions and can be useful to retaining more and more students and enrolling them in programs and enlightening higher education intuitions.

Conceptual Model and Hypotheses Development

Conceptual Background

The present research uses a theoretical concept of the five-dimensional scale on the basis of "HedPERF (higher education performance)" framework proposed by Abdullah (2005), in the HEIs context. As per the conceptualization of the scale, "service quality is referred to as an assessment of the total higher education service environment based on the students' experience". This scale focused primarily on higher education delivery activities comprises of "non-academic and academic facets for measuring the quality of services with 41 indicators" from the viewpoint of students. These indicators are divided into "five dimensions namely non-academic aspect, academic aspect, reputation, programs issue, and access". A student sample of 893 members was utilized to examine this research scale. It was examined by coequality range of students to evaluate

ISSN (P): 2788-4821 & ISSN (O): 2788-483X
Volume 1, Issue 1, Page 25-41, June 30, 2020

college student's perceived quality services. But research have been compatible in an environment wherein higher education student's overall performance became in comparison with provider overall performance for the assessment of their relative abilities. Results of previous studies suggested that determination of service quality through the HE performance technique yielded extra dependable estimations, more benchmarks, and collective validity, higher- equality difference, and therefore, better education overall performance became located to be a higher fitness than the distinctive two contraptions (Abdullah, 2006). The study incorporates the following research model presented in figure 1.

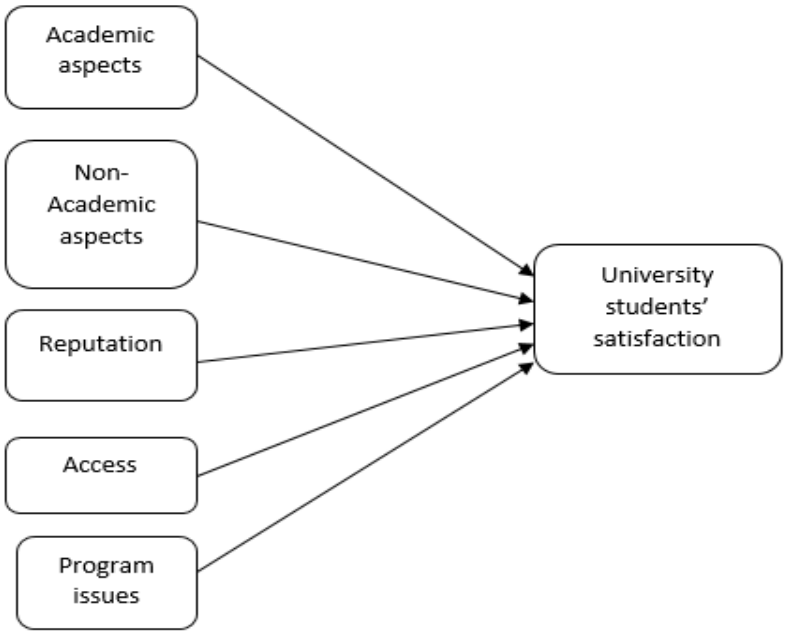


Figure 1: Conceptual Framework
Source: Adapted from literature (Abdullah, 2005)

Hypotheses Development

HEIs and service quality

As per the conceptualization of by Juran (1988), "service quality is meeting consumer's expectations" while Crosby (1979) suggested that "conforming to desires and necessities is the highest form of service quality". Several dimension items have been developed to seize and explain determining the quality of services.

In the educational field, the quality of services is particularly important and essential. But the debate still exists to outline the drivers of best services within the HE context. Sultan and Wong (2010) performed an observation to find out and take a look at

the belief of students with regards to antecedents and dimensions of quality in education, the authors supported higher education performance as an effective scale as it consists of a big variety of service attributes within the context of universities.

Satisfaction of students

The literature on the satisfaction of customers is primarily based on numerous definitions revolving around standards which encompass experience, perceived rate and consequent assessment of services. As an example, satisfaction is a kingdom felt with the useful resource of someone who has professional performance or a final result that fulfill his or her expectation. In addition, Hunt (1991, p. 459) defines customer satisfaction as "a purchaser's assessment of the general Service revel in (system and outcome). It is an emotional response in which the person's, dreams and expectations in the course of the direction of the Service experiences have been met or exceeded". Moreover, satisfaction may be measured as an overall feeling or as pride with the factors of a transaction.

within the context of higher education, numerous researchers have concluded that students are primary Students and partners within the better education zone as they consciously pick and purchase offerings. Furthermore, Elliott and Healy (2001) argued that "student criteria is a short-term mindset and the result of their expectations is the education services obtained and satisfaction plays a crucial role in determining the success of the institute".

Quality of services and satisfaction of students

A lot of researchers have examined the impact of diverse dimensions of higher education service quality on student satisfaction. In a look at research performed by Abdullah (2005), it IS examined that within the HE context, primary determinants of student satisfaction include "academic and non-academic aspects, issues associated with offered programs, access, and reputation of the institutions". Some other examination conducted by Afzal et al., (2010) explained that there are 8 dimensions of higher education service high-quality. Those aspects include layout, distribution and evaluation, academic facilities, non-instructional centers, popularity, steering, scholar representation, study opportunities, and group size. The teaching capabilities of the education faculty and their interplay with students can also lead to the satisfaction of students. A research conducted by Hu et al., (2009) discovered that student satisfaction is derived by the highest service quality offered by the institution.

Further, Kara and De Shields (2004) said that the determinants of service quality and customer satisfaction include Service best dimensions which include faculty overall performance, advisory staff overall performance, and lessons. Additionally, Brochado (2009) by comparing higher education performance with different options ascertained that higher education performance's five dimensions have a better correlation with student satisfaction.

Therefore, in view of the discussed literature, the following hypotheses are formulated on the basis of "HedPERF (higher education performance)" framework:

ISSN (P): 2788-4821 & ISSN (O): 2788-483X
Volume 1, Issue 1, Page 25-41, June 30, 2020

H_1: Academic aspects have a significant impact on the satisfaction of university students.
H_2: Non-academic aspects have a significant impact on the satisfaction of university students.
H_3: Reputation has a significant impact on the satisfaction of university students.
H_4: Access has a significant impact on the satisfaction of university students.
H_5: Program issues have a significant impact on the satisfaction of university students.

Methodology of Research

To investigate the impact of service quality dimensions on the satisfaction of university students, the following methodology is employed by the present study.

Target Population and Research Design

The target population selected for this study were the students of public and private universities of Karachi. The sample was drawn in line with the study objective through a purposive sampling approach in order to select the respondents from university students. The reason behind the selection of this approach is its concentration on respondents with the specific characteristics who are able to assist in achieving the purpose of research (Etikan et al. 2016).

Moreover, the research design of the present study is based on correlation. As the study aims to investigate the impact of service quality dimensions on the satisfaction of university students as per their experiences and perceptions. The hypothesized relationships were analyzed on a correlation basis in order to find out their significance or insignificance along with the explanatory power of the selected variables.

Research Approach

Research approach or research philosophy embraces the overall paradigm of the research. The philosophical approach of the present study is positivism. The motive behind the selection of this approach is to analyze that how diverse "dimensions of service quality" i.e. "academic aspects, non-academic aspects, access, reputation and issues associated with offered programs" inculcates satisfaction among university students. This approach enables a profound understanding of the research problem and the potential consequences (Newman and Benz, 1998).

Sample Size and Data Collection

The data collection tool selected for the purpose of data collection is questionnaire. A survey was conducted for obtaining the responses by sending the questionnaires to students belonging to universities.

The sample size for the present study is 300 respondents from whom the participation is taken through a survey based on a questionnaire. The sample size is proposed on the basis of guidelines provided by "Comrey and Lee (1992), according to

the book, the sample of 50 is considered as poor, 300 as good, 500 as very good and 1000 was considered as an excellent sample with respect to factor analysis".

Source of the measurement instrument

All the measurement indicators were taken from Abdullah, (2005), who have developed a five-dimensional scale of "HedPERF (higher education performance)" in the HEIs context. The details of the adapted scales are given as follows: it comprises of 35 indicators of the five dimensions of service quality and student satisfaction. There are 9 indicators of academic aspects, 10 indicators of non-academic aspects, Access is measured with 4 indicators, and reputation is measured with 3 indicators while program issues are measured with 4 indicators. Whereas, for measuring student satisfaction, 5 indicators are used.

Statistical Techniques

The research model is analyzed with, "PLS-SEM partial least squares method to structural equation modeling". Data is analyzed through two sub-models i.e. "measurement model and the structural model" by using the smart PLS 3.1.6 (Hair et al., 2011)

Moreover, the "convergent and discriminant validity" of the scales have been assessed. For the evaluation of convergent validity, "individual factor loadings, Cronbach's α, composite reliability (CR) and average variance extracted (AVE) scores" were analyzed. Also, the analysis of the hypothesis is conducted through a structural model in order to determine the predictive relationships between the proposed variables.

Ethical Consideration

Voluntary participation was ensured throughout the process of data collection. Moreover, the personal information of the participants remained anonymous and utilized solely for the purpose of research.

Data Analysis and Results

Data were analyzed by using the smart PLS 3.1.6. PLS-SEM holds popularity in a wide range of fields which includes organization management, accounting, hospitality management, operations management, tourism, marketing, and management information systems (Hair et al. 2011).

The "PLS-SEM" includes two submodels which are the "measurement model and the structural model". The structural paths between the constructs are represented with the structural model which was used in order "to determine the predictive power of the research model and for examining the relationships which are hypothesized". Whereas, the relationship between each construct and its associated indicators are represented with the measurement model, which was used to determine the reliability along with the convergent and discriminant validity of the research model.

ISSN (P): 2788-4821 & ISSN (O): 2788-483X
Volume 1, Issue 1, Page 25-41, June 30, 2020

The reasons behind the PLS selection is that it allows the estimation of complex cause-effect relationships with many constructs and indicator models without any restrictions on distribution of variables, especially when the objective is to predict the relationships Moreover it is applicable on both small as well as large sample models, besides it enables flexibility with respect to the requirements of data and relationship specification between indicator variables and constructs (Hair et al., 2011).

Analysis of the respondent's profile

Table 1: Profile of respondents (N=300)

Demographic items	Frequency	Percentile
Gender		
Male	185	61.6%
Female	115	38.33%
Education level		
Bachelors	196	65.33%
Masters	11	3.66%
M. Phil	39	13%
PHD	28	9.33%
Other	26	8.66%
Age		
20-25 years	36	12%
26-30 years	124	41 %
31-35 years	56	18%
36-40 years	40	13%
Above 40 years	44	14%

Source: Author estimations

According to the statistics shown in table 1, with respect to gender, 61 % are male students, while 38% of them are female students. The educational profile of respondents shows that majority of the respondents that is 65% are enrolled in a Bachelor's program, 13% of the respondent are enrolled in M.Phil. , 9 % of the respondents are doing Ph.D. while only a few i.e. 3 % have enrolled in Master's program,

In terms of age, a higher percentage of students which is 41% lies in the category of 26-30 years of age, whereas 12% of students were in the category of 20 to 25 years, 18% of the teachers were in the age category of 31-35 years and students aged above 40 years are 14%, while only 13% of teachers belong to the age bracket of 36 to 40 years.

Examining the reliability and validity of the construct

Construct Reliability

In the present study, construct reliability or internal consistency is measured in terms of Cronbach's alpha, composite reliability and individual factor loadings on their respective constructs. The results of the construct reliability are represented in table 2.

It is shown from the table that all of the individual factor loadings are significant as they are above the proposed criteria of 0.55 (Tabachnik & Fidell, 2007), (Raza & Hanif, 2013) and 0.7 (Hair et al., 2011).

The composite reliability scores of each of the construct's construct satisfy the recommended criteria for it as it should be greater than 0.7 (Hair et al., 2011). It is indicated from the table 2 that all Composite Reliability scores which offer a better estimate of variance shared by the respective indicators, and Cronbach's α values are greater than the proposed level of greater than 0.55 (Tabachnik & Fidell, 2007), which provides the support for scale reliability.

Convergent Validity

The Convergent validity of the construct is the degree of confidence to which a trait is well measured by its indicators (Campbell and Fiske, 1959). For the evaluation of convergent validity, the average variance extracted (AVE) scores were analyzed. Table 2 represents the results of convergent validity**.**

Furthermore, the criterion of Fornell & larcker (1981) was used for analyzing the convergent validity of the proposed constructs. For the adequate convergent validity "the average AVE values should be greater than 0.5". As indicated from the table all the scores of AVE are above 0.5. So it can be stated that the research model fulfills the requirement of convergent validity.

ISSN (P): 2788-4821 & ISSN (O): 2788-483X
Volume 1, Issue 1, Page 25-41, June 30, 2020

Table 2: Measurement model results

Construct	*loadings*	*cronbach alpha*	*composite relaibility*	*Average variance extracted*
A	0.78	0.82	0.862	0.556
	0.808			
	0.798			
	0.835			
AA	0.686	0.838	0.753	0.659
	0.748			
	0.74			
	0.732			
	0.68			
	0.737			
	0.655			
NAA	0.747	0.883	0.892	0.586
	0.807			
	0.78			
	0.735			
	0.829			
	0.729			
	0.732			
PI	0.817	0.828	0.793	0.657
	0.753			
	0.847			
	0.832			
R	0.826	0.755	0.742	0.554
	0.784			
	0.844			
SS	0.784	0.675	0.638	0.636
	0.742			
	0.802			

Notes: A = Access, AA = Academic aspects, NNA = Nonacademic aspects, PI = Program issues, R = Reputation, SS = Student satisfaction

Cross loading analysis

Cross loading analysis which is represented in table 3 shows that all the item loadings on their respective constructs were higher than all of its cross-loadings, along with this the cross-loadings differences were also greater than the proposed criteria of 0.1 (Gefen & Straub, 2005)

Table 3: Cross loadings Analysis

Construct	A	AA	NAA	PI	RE	SS
A	0.78					
	0.808					
	0.798					
	0.835					
AA		0.686				
		0.748				
		0.74				
		0.732				
		0.68				
		0.737				
		0.655				
NAA			0.747			
			0.807			
			0.78			
			0.735			
			0.829			
			0.729			
			0.732			
PI				0.817		
				0.753		
				0.847		
				0.832		
R					0.826	
					0.784	
					0.844	
SS						0.784
						0.742
						0.802

Notes: A = Access, AA = Academic aspects, NNA = Nonacademic aspects, PI = Program issues, R = Reputation, SS = Student satisfaction

Structural Model Assessment and Hypotheses Testing

The assessment of the structural model is conducted in order to determine the predictive power and analyze the hypothesized relationships between the proposed constructs through path analysis. The results of the structural model run for the analysis of student's satisfaction are presented in table 4.

ISSN (P): 2788-4821 & ISSN (O): 2788-483X
Volume 1, Issue 1, Page 25-41, June 30, 2020

Table 4: Regression Analysis

Hypothesis	Regression Path	Effect type	B-Coefficients	P Values	Remarks
H1	AA -> SS	Direct effect	0.157	0.013	Supported
H2	NAA -> SS	Direct effect	0.149	0.005	Supported
H3	R -> SS	Direct effect	0.126	0.033	Supported
H4	A -> SS	Direct effect	0.345	0.000	Supported
H5	PI -> SS	Direct effect	0.362	0.000	Supported

Notes: A = Access, AA = Academic aspects, NNA = Nonacademic aspects, PI = Program issues, R = Reputation, SS = Student satisfaction

It is shown from table 4, that the regression path of ***Academic Aspects-> Student satisfaction*** is significant and implies that Hypothesis 1 is accepted and lying in the significance level **(β=0.157, p<0.1)** it examines the impact academic aspects on the satisfaction of students. Likewise, the regression path ***Non-academic aspects -> student satisfaction*** is also significant and implies that Hypothesis 2 is accepted and lying in the significance level **(β=0.149, p<0.1).**

Furthermore, the statistical results derived from the data analysis of the responses gathered from university students have reflected from the table that reputation of an institution creates a significant impact on student satisfaction in higher education sector shown with the regression path ***Reputation-> student satisfaction*** **(β=0.126, p<0.1).** It implies that the student becomes more satisfied with the good image of the institution in which they are studying. In the same way, Access is found to be a significant determinant of student satisfaction shown with the regression path ***Access-> student satisfaction*** **(β=0.345, p<0.1).** The discussed results provide support for the acceptance of the developed hypotheses.

Further, the results demonstrated that there is a strong association between program related concerns of the students and their level of satisfaction as shown from the regression path **Program Issues-> student satisfaction (β=0.362, p<0.1).**

Conclusion

In view of the importance of student satisfaction and enhancement of high-quality education in higher education institutions, the study examined the impact of service quality dimensions on university student's satisfaction. For achieving this objective this study first explores the dimensions of service quality which leads to the highest quality of services, and it is examined how it impacts student satisfaction levels.

The results imply that service quality dimensions are the significant drivers of student satisfaction among students irrespective of the university sector, the differences were found with regards to the perception of specific dimensions based on the experience of students. It is demonstrated from the results of the study that academic aspects, program issues, reputation are found to be the strongest predictors of student's satisfaction among universities.

Moreover, the findings suggest that the perspective of "HedPERF (higher education performance) framework developed by Abdullah (2005), which includes academic aspects, non-academic aspects, access, program issues, and reputation" is verified as the relevant scale for the determination of service quality and student satisfaction. As in the analysis, the study confirms that these dimensions are indeed the strongest predictor of student satisfaction.

Policy Recommendations

In view of the competition among universities, and the overall education sector, the expectations, and demands of students had been increased. A comparison in order to analyze the service value had been done before taking admission or studying any program at the university. It is shown from the results that most significant indicators that determine the quality of services are the quality of the academic staff and the curriculum including the structure and delivery of international programs.

The authorities of higher education institutions responsible for quality management should focus on the satisfaction driven practices in order to retain its valuable students who are the pivotal source for the success of the institutions. The universities specifically, the one operating in the public sector should design the quality assurance policies in view of the expectations of the students and should be student-oriented as compared to traditional management. Moreover, effective quality management systems should be employed in order to gauge the performance of the institutions and the satisfaction level of students.

Moreover, in view of the sample limitation to the universities of Karachi, it is recommended for the future researchers to take into account the countrywide responses for increasing the generalizability of the research. Also, future studies should explore the factors that are responsible for the satisfaction of students for the effective implementation of those factors in universities to boost the level of service quality among HEIs.

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Volume 1, Issue 1, Page 25-41, June 30, 2020

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ISSN (P): 2788-4821 & ISSN (O): 2788-483X
Volume 1, Issue 1, Page 25-41, June 30, 2020

Appendix

Variable no. #1: Academic Aspects:

1. Instructors have the knowledge to answer my questions related to the course content.
2. Instructors deal in a courteous manner.
3. When I have a problem, instructors show a sincere interest in solving it.
4. Instructors show a positive attitude towards students.
5. Instructors communicate well in the classroom.
6. Instructors provide feedback about my progress.
7. Instructors are highly educated in their respective field.
8. Instructors adequately provide the handouts.
9. Documentations are done properly by the instructors.

Variable no. # 2: Non-Academic Aspects:

1. When I have a problem, administrative staffs show a sincere interest in solving it.
2. Administrative staffs provide caring attention.
3. Inquiries are dealt with efficiently.
4. Administration offices keep accurate and retrievable records.
5. Administrative staffs show positive work attitude with students.
6. When the staffs promise to do something by a certain time, they do so.
7. Administrative staffs communicate well with students.
8. Administrative staffs have good knowledge of the systems.
9. Students are treated equally by the staffs.
10. Staffs respect the terms of confidentiality when I disclose information to them.

Variable no. #3: Access

1. Academic staffs respond to my request with willingness.
2. Academic staffs allocate sufficient time for consultation.
3. Staffs ensure that they are easily contacted.
4. Academic staff is knowledgeable to respond to my request.

Variable no. #4: Program Issues

1. University runs excellent quality programs.
2. University offers a wide range of program with various specializations.
3. University operates an excellent counseling service.
4. University offers programs with a flexible structure.

Variable no. #5: Reputation

1. An academic program run by the university is reputable.
2. University's graduates are easily employable.
3. University has a professional image.

Variable no. #6: Student Satisfaction

1. I am satisfied with my decision to register at this university.
2. My choice to choose this university was a wise choice.
3. I think I did the right thing when I choose to study at this university.
4. I feel that my experience with this university has been enjoyable.
5. Overall, I am satisfied with this university.