An Examination of Influence of Higher Education Service Quality on Students' Satisfaction: An Indian Perspective

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Abstract: The objective of the research is to understand the dimensions of higher education service quality. The scope of this study is confined only to the Tamil Nadu students' perception on higher education service quality. The researchers used questionnaire method for collecting data from the students and snowball sampling method has been administered. This study identified five important dimensions of higher education service quality. These are: curriculum aspects, infrastructure aspects, competency of faculty, academic activities and teaching methods. Furthermore, this study proved that student satisfaction is impacted by teaching methods, curriculum and competency of staff. The findings of the study would enable the policy makers to benchmark their services with other universities.

Keywords: Curriculum, Infrastructure, Competency, Academic Activities, Teaching Methods

Introduction

Sustaining and enhancing service quality is now an essential requirement for higher educational institutions. The prevailing higher education is a dynamic and increasingly competitive one (Cheung *et al.*, 2011; Dehghan *et al.*, 2014), where universities need to maximize their efforts so as to improve their services (Clemes *et al*., 2013), numerous factors forcing the higher education institution to adopt quality education. These are: internationalization of higher education (Harrey and Williams, 2010; Sultan and Wong, 2010), the decrease in state finding for public universities (Quinn *et al.*, 2009), and the increase in the number of private universities, (Halai, 2013). Although generic instruments exist for assessing service quality, such as the SERVQUAL instrument (Parasuraman *et al.*, 1988, 1994), relatively few studies have attempted to measure service quality in the specific context of higher education, (Cuthbert, 1996; Soutar and Mcneil, 1996; Pariseau and Mc Daniel,1997; Arambewela and Hall, 2006; Wong *et al.*, 2012). Around the world, higher educational institutions are facing declining enrollment and increasing retention problems (Rowley, 2003). Furthermore, many education institutions have adopted aggressive marketing activities and movement towards market orientation by focusing on student needs (Ivy, 2001). Service quality is defined as fitness for use and those service features which meet customer needs and thereby provide customer satisfaction (Parasuraman *et al.*, 1988). SERQUAL model developed by Parasuraman *et al.*, (1988) is the most widely known scale of service quality. The higher education industry relies essentially on quality management to stay competitive (Yeo,

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2009). O'Niel and Palmer (2004) define service quality in higher education as the discrepancy between students expectation versus perception of delivery.

Review of Literature

Trivellas and Dargenidou (2009) investigated the influence of leadership roles on the quantity of services provided in higher education. Quality in higher education is a relative concept, given the number of various stakeholders involved (Tam, 2001) which ranges from the single student as the primary customer (Hill, 1995) to the whole of society (Rowley, 1997). Since higher education meets all the classical features of the service (Cherubini, 1996; Pellicelli, 1997); the concept of service quality and customer satisfaction are directly applicable, moving the universities closer to their market needs. A number of studies have been conducted to measure service quality in the context of higher education (Cuthbert, 1996; Soutar and McNeil, 1996; Pariseau and Mc Daniel, 1997; Wong *et al.*., 2012), elected to adapt the dimensions of the SERVQUAL model, which proposes five dimensions as originally proposed by Parasuraman *et al.*, (1988). Leblanc and Nguyen (1977) identified seven service quality dimensions. These are: contact personnel, reputation, physical evidence, administration, curriculum, responsiveness and access to facilities. Harvey and Green (1993) contended that education is not presenting a service to a customer, but rather a continuous process of transformation of the student. This view has been strongly supported by Lomas (2007), Watty (2005) and Zachariah (2007).

Proposed Research Model
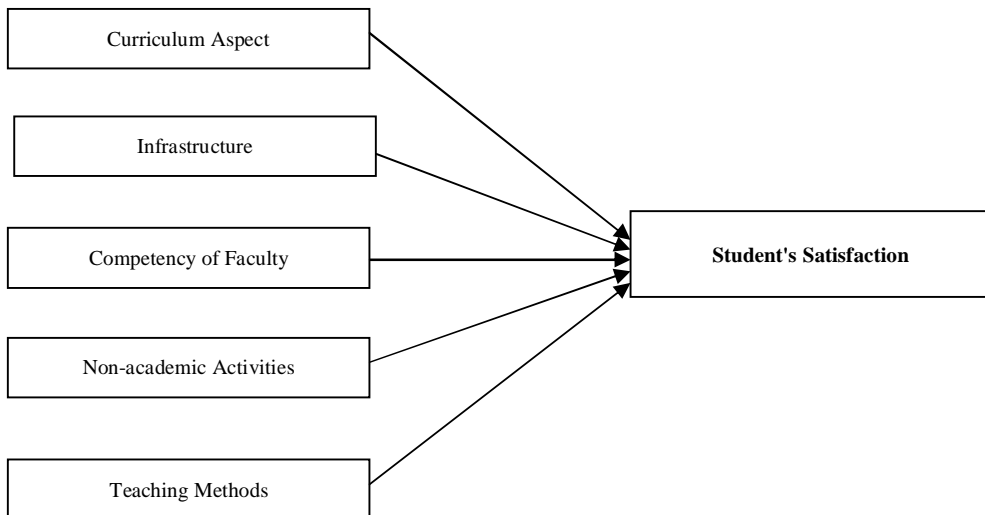
This study is approached with the following model.

Fig. 1

Objectives of the Study

1. To examine the various antecedents of higher education service quality among the students.

2. To analyze the influence of higher education service quality dimensions on students' satisfaction.

3. To measure the level of higher education service quality among the students.

Research Methodology

The scope of the study is confined only to the students' perception on higher education service quality. The researchers employed snow ball sampling method to select the students for this research. The sampling units consist of students with different demographic profiles aged 23 and above, residing in the Tamil Nadu state. The researchers administrated questionnaire method for collecting data from the students. The questionnaire consists of three parts. Part I consists of the demographic profile of the study, the second part of the questionnaire consists of variables relating to higher education service quality and third part of the questionnaire, content of variables relating to student satisfaction. The completed questionnaire was pre-tested by 20 students chosen from universities situated in Tamil Nadu. Before administering the questionnaire, content validity of the questionnaire was verified by constituting a panel. Even though the researchers administered 450 questionnaires to the different university students, the researcher could obtain only 243 filled questionnaires. Therefore, the response rate of the study is 54 per cent.

Demographic Profile of the Respondents

The student profile is made up of 54.89 per cent male students and 45.11 per cent female students. Over 53 per cent of the respondents were aged between 23–25 and 26 per cent of the respondents were aged between 21–23 and 21 per cent of the respondents were above 25 years. Out of the selected respondents, 43 per cent of the students belong to aided institutions, and 22 per cent of the students belong to state universities and 45 per cent of the students belong to self-financing colleges. Regarding educational qualifications, 43 per cent of the students had engineering as their qualifications; 32 per cent of the students had Arts related qualification as their qualification, and the remaining 25 per cent of the students had other qualifications.

Proposed Hypothesis

This study is approached with the following hypothesis:

H_{01}: The curriculum will have no significant impact on students' satisfaction.

H_{02}: The infrastructure will have no significant impact on students' satisfaction.

H_{03}: Competency of staff will have no significant impact on students' satisfaction.

H₀₄: Non-academic activities will have no significant impact on students' satisfaction.

H₀₅: Teaching methods will have no significant impact on students' satisfaction.

Table 1: Reliability of the Instruments

Sr. No.	Factors	No. of Original Variables	No. of Variables Retained	Cronbach Alpha
1	Curriculum Aspects	4	4	0.784
2	Infrastructure Aspects	5	5	0.716
3	Competency of faculty	5	5	0.792
4	Non-academic activities	5	4	0.810
5	Teaching methods	4	4	0.821

The higher education service quality dimensions.

Internal consistency was examined by evaluating the Cronbach's alpha (1951). The Cronbach value in Table 1 reveals the survey instrument is reliable as all Cronbach's alpha are much higher than 0.70 (Nunnally, 1978).

Antecedents of Higher Education Service Quality

Initially, the higher education service quality variables were factor analyzed to identify the various dimensions of higher education service quality. Exploratory factoring was based on principal components analysis with varimax rotation of 23 variables. Before conducting the exploratory factor analysis, a test was conducted to establish whether variables correlated to each other with the objective of finding out whether it was possible to carry out a factor analysis. According to Barlett's test of sphericity (sig=0.000, higher education service quality variables correlated with each other respectively. Furthermore, the Kaiser-Meyer-Olkin (KMO) measures of sampling adequacy (0.733) revealed a practical level of common variance and therefore factoring was suitable. The higher education service quality factor whose Eigen values were greater than 1 was selected according to the criteria developed by Kaiser (1958).

Furthermore, only factor loading greater than 0.5 were included in the further analysis (Hair *et al.*, 1999). The higher education service quality principal component factor analysis revealed five important dimensions. The first underlying dimension of the factor is 'curriculum'. Four variables loaded on the "curriculum" dimensions with a variance of 31.874 per cent. The second dimension is made up of variables that relate to "Infrastructure facilities" which consists of five variables. The third dimension included items relating to the "competence of faculty" which consists of five variables with an eigen value of 1.312. The second dimension with five items contributed a variance of 6.908 percent and the third one to five items contributed 6.770 per cent. The fourth dimension consists of items that relate to non-academic activities. The final and fifth dimension consists of variables related to "Teaching Methods".

Table 2: Antecedents of Higher Education Service Quality Dimension (HESQD)

Sr. No.	Hesqd	No. of Variables Included	Eigen Value	Percentage of Variance Explained	Cummulative Percentage of Variance Explained
1	Curriculum	4	4.607	31.874	31.874
2	Infrastructure facilities	5	1.449	6.908	38.781
3	Competence of faculty	5	1.312	6.770	45.551
4	Non-academic Activities	4	1.286	6.096	51.646
5	Teaching Methods	4	1.602	5.592	57.238
KMO measures sampling adequacy = 0.733			Bartlett's test of sphericity = 431.229		

Regression analysis among higher education service quality dimensions.

Multiple regression analysis was administered to explore the linkage between student-perceived higher education service quality and student satisfaction.

Table 3: Influence of their Education Service Quality on Student Satisfaction

Sr. No.	HESQ	Standarized Coefficient	t	Sig	Collinearity Statistic	
					Tolerance	VIF
1	Constant	--	3.329	0.001	-	-
2	Curriculum	0.231	2.791	0.006	0.662	1.511
3	Infrastructure facility	0.069	0.829	0.409	0.655	1.527
4	Competency of faculty	0.201	2.512	0.014	0.704	1.421
5	Non-academic activities	0.117	1.491	0.139	0.731	1.368
6	Teaching Methods	0.447	6.926	0.000	0.954	1.049
F Statistics		23.445				
R^2		0.530				
Adjusted R^2		0.507				
Significance		0.000				

The factor scores of the service quality factors obtained in factor analysis represented the dependent variable. The results revealed that there is a significant influence on teaching methods (β=0.447, t=6.926, ρ=0.000), curriculum (β=0.231, t=2.76, $\rho \leq 0.005$), competency of faculty (β=0.201, t=2.791, $\rho<0.005$). The study also proved that there is no significant influence on non-academic activities and infrastructure on student satisfaction. It is thus evident from the adjusted R^2, that model explains 50.7 per cent of the variance in students' satisfaction.

Table 4: Students' Perception of Higher Education Service Quality Dimension

Sr. No.	Higher Education Service Quality Dimensions	Mean Score Among		't' statistics
		Male Student,	Female Student	
1	Curriculum Aspects	2.6143	3.0141	-1.3142
2	Infrastructure Aspects	2.6847	3.6143	-3.6273
3	Competency of Faculty	2.6411	3.5316	-2.1776
4	Non-academic Activities	2.1141	3.0012	-0.6161
5	Teaching Methods	2.1471	3.7143	-2.6143

Significant at Five Percent Level

The highly perceived higher education service quality variables among the male students are "Infrastructure facility" and "competency of faculty" since their respective mean scores is 2.6847 and 2.6411. Among the female students, these two are higher education service quality variables are "Teaching methods" and "infrastructure aspects". Regarding the students' perception of higher education service quality dimensions, the significant difference between two groups of students have been identified in case of infrastructure, competency of faculty and teaching methods, since their respective 't' statistics are significant at the 5 per cent level.

Table 5: Testing of Hypothesis

Sr. No.	Hypothesis	Beta	Results
1	H_{01}: The curriculum will have no significant impact on students' satisfaction		Rejected
2	H_{02}: The infrastructure will have no significant impact on student's satisfaction	0.069	Accepted
3	H_{03}: Competency of staff will have no significant impact on student's satisfaction	0.201	Rejected
4	H_{04}: Non-academic activities significant impact on student's satisfaction	0.117	Accepted
5	H_{05}: Teaching methods significant impact on student's satisfaction	0.441	Rejected

In case of higher education service quality among the students, the regression co-efficient indicated in Table 5 provide strong supports for the fact that the independent variables, teaching methods is the most important factor for influencing student's satisfaction followed by curriculum aspects, competency of faculty. Furthermore, the two independent variables like infrastructure, non-academic activities are non-significant in influencing *students'* satisfaction.

Conclusion

The present study has identified five dimensions of higher education service quality. These are: curriculum aspects, Infrastructure activities, Competency of staff, non-academic activities and teaching methods. It has also analyzed the influence of higher education service quality on the *students'* satisfaction from students' perspectives. A multiple regression has been administered to find the impact of higher education service quality on the students' satisfaction.

The study found that among other higher education service quality student satisfaction is impacted by teaching methods, curriculum aspects and competency of staff. Furthermore, regarding the students' perception on higher education service quality dimensions, the significant difference has been identified among the male and female students in case of Infrastructure aspects, competency of staff and teaching methods.

Limitations and Scope for Further Study

This study did not consider the influence of the students' intention to restudy the course in the universities. This study considers snow ball sampling for selecting respondents. In future, a

random sampling method can be employed for collecting data from the respondents. The findings of this study would enable the policy makers to benchmark their services with other universities. Future research could also attempt to investigate the influence of a particular course on students' satisfaction.

The present study has considered only the students' perception on higher education service quality. Further studies could gather data on teaching staff perception on higher education service quality.

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