

SERVICE QUALITY AND STUDENT SATISFACTION: A CASE STUDY OF PRIVATE EXTERNAL HIGHER EDUCATION INSTITUTIONS IN JAFFNA, SRI LANKA.

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Abstract

In today's aggressive competitive education business world, service quality has become one of the most important determinants of student satisfaction. It has also become the key to sustainable competitive advantage for mainly service providing organizations as well as for the education sector. The purpose of this paper is to empirically investigate the relationship between service quality and student satisfaction in private external higher education institutions in Jaffna. Additionally, this study attempts to examine critical factors in service quality dimensions that contribute most to the satisfaction of the students. The Service quality scale, which comprised of 46 service quality statements under five dimensions namely, tangibility, responsiveness, reliability, assurance and empathy has been used as the data collection instrument. In order to collect primary data, 200 external undergraduate/Professional studies students randomly selected from two private external education service providers in Jaffna.

The study will provide results from empirical test of these relationships. The empirical results of this study can provide support for the Parasuraman's SERVQUAL (1985) scale, which related to the factors contributing to students' satisfaction. This empirical study indicated that, there is strong positive association has been found between service quality and student satisfaction. In addition service quality contributes significantly to student satisfaction. ($F= 37.345$; $P < 0.05$) and predicts 49 percent of the variation found. Further, Assurance and Responsiveness contribute significantly to student satisfaction.

Keywords: Service quality, SERVQUAL, Student Satisfaction, Private external higher education institutions.

1. INTRODUCTION

In this dynamic business world, academic environment is changing rapidly and becoming more and more competitive,

where potential students have several opportunities available to them. Thus, private higher educational institutions have to identify the ways, how to attract and keep existing students and how to develop

stronger relationships with them. Perhaps, private higher education institutions, which want to achieve competitive benefits, they have to consider student satisfaction as the key source of competitive advantage (Poturak, 2014). According to Arambewela & Hall (2009), if the institutions succeed to satisfy their students, this satisfaction will lead student sustainability and positive word of mouth about institution will be spread as well. In the mean time, new students have been attracted by this fact. As private organizations, which want to gain competitive advantage, it has to depend on the interaction and mechanism of the market. According to Hasan, Ilias, Rahman, & Razak, (2009), Most institutions do give a great deal of importance to meeting Students' expectations which is similar to business organization, but the common drawback for many education institutions is lack of student awareness among the staff.

This bring us to an understanding that students will have more opportunity to support their continued enrollment into higher educational institutions and on how well the educational programs and services met students' expectations for services. In this competitive market, satisfaction with services may make the difference (Zeithaml, Berry & Parasuraman, 1996). As stated by Velnamby and Sivesan (2013), service quality has become one of the most popular marketing issues in this modern business world. Thus, private higher education institutions should improve their quality of services. Mosadeghard (2006) pointed out, that the improvement of private higher education service quality lies in the organization's ability to provide an overall atmosphere and culture for change through its various decision-making process, operating systems, and human resource practices

However, defining quality in higher education has proved to be a challenging task. Cheng and Tam (1997) proposed that, *education quality is a rather vague and controversial concept* and

Pounder (1999) argues that quality is a *notoriously ambiguous term*. There is no standard definition for quality; therefore, the measurement of quality has also proved to be arguable. There have been a range of attempts to draw on industry models such as the quality dimensions of Gronroos, Garvin and Parasuraman (Owlia and Aspinwall, 1996), SERVQUAL (Oldfield and Baron, 1998; Aldridge and Rowley, 1998), importance of performance analysis (Ford *et al.*, 1999) and the balanced scorecard (Cullen *et al.*, 2003) to develop the model of quality for higher education.

Moreover, higher education service quality has been a topic of interest by many researches in past two decades (Ali & Mohamed, 2014; Alves & Raposo, 2010; Arambewela & Hall, 2009; Athiyaman, 1997; Brochado, 2009; Elliott & Shin, 2002; Hanaysha, Abdullah & Warokka, 2011; Hasan, *et al.*, 2009; Khodayari & Khodayari, 2011; Mulalic, 2012; Oldfield & Baron, 2000; Palli & Mamilla, 2012; Poturak, 2014; Usman, 2010). Even though there are hundreds of publications on consumer satisfaction and service quality, in different areas. But, there are no enough studies that clarify the conceptual basis of higher education service quality and students satisfaction. According to Google scholar articles, in Sri Lankan scenario there are lack of studies that specifically related with higher education service quality and students satisfaction among private higher education institutions. Because of that reason, the researchers decided to examine the service quality of private higher education institutions with students' satisfaction in Jaffna Sri Lanka.

1.1 Research Question

In the absence of sufficient studies on investigating the impact of service quality on student satisfaction, that creates the need for this study in Sri Lankan context.

This study addresses the following research question:

Q1: How is the association between service quality and satisfaction of the students' in two private external higher education institutions in Jaffna?

Q2: What extent, service quality influences the satisfaction of the students' in two private external higher education institutions?

1.2 Objectives of the Study

The aim of the study is to empirically examine the relationship between the service quality and satisfaction of the students' and to identify the significant impact of service quality on student satisfaction in two private external higher education institutions in Jaffna.

From the aim of the study, two main objectives are able to identify.

- To examine the relationship between service quality and student satisfaction in two private external higher education institutions.
- To find out the extent of the service quality affects student satisfaction in two private external higher education institutions.

Sub objectives are,

- To find out the significant association between sub dimensions of the service quality (Tangibility, Assurance, Reliability, Responsiveness & Empathy) and student satisfaction.
- To identify the significant impact of sub dimensions of the service quality (Tangibility, Assurance, Reliability, Responsiveness & Empathy) on student satisfaction
- To suggest two private higher education institutions how to frame the marketing strategies to enhance the service quality and student satisfaction.

1.3 Significance of the Study

This study may bring new evidence in student satisfaction due to the influence of service quality in Jaffna, Sri Lanka. Further, this study provides valuable knowledge and information on service and student satisfaction in Sri Lankan perspective, with reference to Jaffna. In the meantime, it is clear that there have been inadequate studies in Sri Lanka, examining the impact of service quality on student satisfaction. Hence, this study aims to fill the gap by investigating the association and impact of service quality and student satisfaction.

2. LITERATURE REVIEW

2.1. Student Satisfaction

Kotler and Clarke (1987) define satisfaction as a state felt by a person who has experience performance or an outcome that fulfill his or her expectation. Satisfaction is a function of relative level of expectations and perceives performance. There are many definitions about satisfaction in literature that is connected to service quality as well as to student satisfaction (Poturak, 2014). According to Zeithaml (1988) satisfaction is the resultant outcome of an institution's administrative as well as educational system's coherent performance. Because the students will be more satisfied and motivated for completing their studies if the institution provides an environment which facilitates learning i.e. the institution contains proper infrastructure for educational utility accumulated with essential parameters of professional and academic development. Elliott & Shin (2002) defined student satisfaction as; "the favorability of a student's subjective evaluation of the various outcomes and experiences associated with education". While most student satisfaction study focus on the perspective of customer, researchers is facing a problem of creating a standard definition for student satisfaction thus providing a need of customer satisfaction

theory to be selected and modified so that it can explain the meaning of student satisfaction (Hom, 2002). Even though it is risky to view students as customer, but given the current atmosphere of higher education marketplace, there is a new moral prerogative that student have become “customer” and therefore can, as fee payers, reasonably demand that their views be heard and acted upon (William, 2002).

2.2 Service Quality

Service quality is a concept that has produced significant interest and debate in the research literature (Ananth *et al.*, 2010). Lewis and Booms suggested that "service quality is a measure of how well the service level delivered matches customers expectations". Researchers have generally followed two main concepts to explain the nature of service quality evaluation, namely the European (Nordic) perspective coined by Grönroos (1984) "missing service quality concept" and the American perspective coined by Parasuraman, Zeithaml and Berry (1988), “SERVQUAL” scale for measuring service quality (Chanaka, Wijeratne and Achchuthan, 2014). SERVQUAL has earned great popularity and wide application in last decades (Khodayari & Khodayari, 2011). Parasuraman, Zeithaml and Berry into the service quality concept have focused on three issues: what is service quality; what causes service quality problems; and what can service organizations do to improve quality. Parasuraman *et al.*, (1985) developed a service quality model to demonstrate that consumers' perceptions of quality are influenced by separate gaps occurring in organizations.

Parasuraman, Zeithaml and Berry (1985) however listed ten determinants of service quality that can be generalized to any type of service. The ten dimensions include tangibility, reliability, responsiveness, competence, access, courtesy, communication, credibility, security and understanding. In addition, these ten dimensions were then regrouped in the

well-known five dimensions in the SERVQUAL model (Parasuraman *et al.*, 1990) which include assurance, empathy, reliability, responsiveness and tangibility. These five dimensions are defined as follow:

- Reliability: The ability to perform the promised service dependably and accurately
- Responsiveness: Willingness to help customers and to provide prompt services
- Tangibles: Physical facilities, equipment, and appearance personnel
- Assurance: Knowledge and courtesy of employees and their ability to convey trust and confidence
- Empathy: Caring, individualized attention the firm provides its customer.

In this study, the term service quality adopted from Parasuraman *et al.*, (1990), LeBlanc & Nguyen (1997) and Hasan, *et al.*, (2009). With the increasing number of higher educational institutions in Jaffna, private institutions are competing to attract more students. To achieving this goal, the private higher educational institutions in Jaffna should provide effective and efficient service to keep and satisfy students. Therefore, this study aim to investigate the impact of service quality provided by private higher educational institutions (New College of High Studies, Jaffna and Jaffna College Undergraduate Department) in Jaffna on students' satisfaction.

3. CONCEPTUALIZATION

3.1 Conceptual frame

Independent Variable Dependent Variable

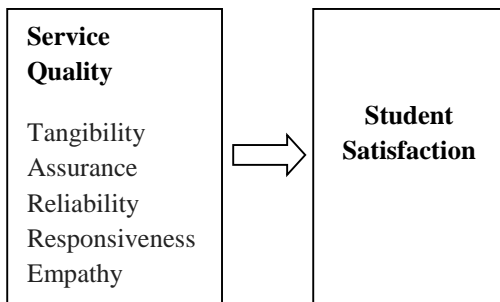


Figure 1: Conceptual frame

3.2 Hypotheses of the Study

The following hypotheses are formulated for this study:

H1: There is a significant relationship between service quality and student satisfaction

H1a: There is a significant relationship between tangibility in the service quality and student satisfaction

H1b: There is a significant relationship between assurance in the service quality and student satisfaction

H1c: There is a significant relationship between reliability in the service quality and student satisfaction

H1d: There is a significant relationship between responsiveness in the service quality and student satisfaction

H1e: There is a significant relationship between empathy in service quality and student satisfaction.

H2: There is a significant impact of service quality on student satisfaction

H2a: There is a significant impact of tangibility in the service quality on student satisfaction

H2b: There is a significant impact of assurance in the service quality on student satisfaction

H2c: There is a significant impact of reliability in the service quality on student satisfaction

H2d: There is a significant impact of responsiveness in the service quality on student satisfaction

H2e: There is a significant impact of empathy in service quality on student satisfaction

4. METHODOLOGY

4.1. Research Model

Quantitative study has been focused to answer the research question as what extent service quality influences on the students satisfaction. In which, service quality is viewed as an independent variable and student satisfaction is considered as the dependent variable.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \epsilon_i$$

According to the above model, we can construct the new research model for the study.

$$SS = \beta_0 + \beta_1 TAN + \beta_2 ASS + \beta_3 REL + \beta_4 RES + \beta_5 EMP + \epsilon_i$$

Where:

SS = **Dependent Variable** (Student Satisfaction)

β_0 = Intercept

β_1 = Population slope

β_2 = Population slope

β_3 = Population slope

β_4 = Population slope

β_5 = Population slope

PA = Independent variable (Tangibility)

RE = Independent variable (Assurance)

PI = Independent variable (Reliability)

PS = Independent variable (Responsiveness)

PO = Independent variable (Empathy)

ϵ_i = Random Error

4.2. Study Design and Methods

4.2.1. Sample

The population of the study is the students of undergraduate/Professional courses in private external higher education institutions. The most leading and long-standing two private external higher education institutions in Jaffna city were selected for the study, which are New College of High Studies, Jaffna and Jaffna College Undergraduate Department in Jaffna city, Sri Lanka. Students of the two institutions were randomly selected to distribute the questionnaire. Random sampling method was used to select the sample of the study. Researchers have distributed 120 questionnaires for every institution. After all, 200 respondents completed (100 from New College of High Studies, Jaffna and 100 from Jaffna College Undergraduate Department) and returned the questionnaires, which represents about 83% response rate.

The data were collected on 28th & 29th of March 2015 from 9.00 a.m. to 3.00 p.m. The structured questionnaire was given to the students of above institutions and they were selected, based on random sampling technique. Each completed questionnaire was checked immediately, and was entered for data analysis. The results of appendix 1 provide data on profile of the students in terms of gender, age group, ethnicity, type of the course and medium of the course.

4.2.2. Study Variables, Questionnaire Design and Data Collection

The service quality questionnaire developed by Parasuraman *et al.*, (1990) with some of the items used extracted from LeBlanc & Nguyen (1997) and Hasan, *et al.*, (2009) was used as the data collection instrument. Furthermore, the questionnaire was examined for the face validity by some academics who are experts in marketing and consultancy.

In addition, before the researchers finalize the research instrument, they conducted the pilot study to reduce the language biasness, in the pilot study ten questionnaires were issued to the final year management students at Faculty of Management Studies and Commerce, University of Jaffna. During the pilot study, some inconvenient words were changed by the researchers with the help of the respondents of the pilot study.

The questionnaire has been slightly modified without changing the original contents as it translated into local language (Tamil) to ensure suitability for the research context and it mainly consisted with three parts. Part A considers the respondent's personal profile, part B consists of 45 statements relating to service quality in higher education and Part C including 04 statements relating to student satisfaction.

All statements were measured by responses on a five-point Likert scale of agreement with statements, ranging from strongly disagree (1) to strongly agree (5).

4.2.3. Data Analysis Procedures

The data analysis for this study conducted through Statistical Package for Social Science (SPSS) version 21.0 was used to analyze the data.

4.2.4. The Reliability Statistics

According to Ndubisi (2006), the internal consistency of the research instrument should be tested by reliability analysis. Thus, to examine reliability of the scale dimensions, the Cronbach's Alpha was calculated, as it considered as the most widely accepted reliability measure. According to Malhotra & Peterson (2006), Cronbach's value of the construct must meet the minimum reliability of 0.6. Table 1 provides the Cronbach's Alpha (α) for the five dimensions under service quality

and students' satisfaction. As all the values of Cronbach's Alpha for each dimension is above 0.8, thus it can be concluded that the measures used here are consistent enough for the study.

Table 4.1: Reliability Test

Dimension	Cronbach's Alpha value
Tangibility	0.920
Assurance	0.900
Reliability	0.896
Responsiveness	0.904
Empathy	0.920
Satisfaction	0.916

[Source: Survey Data, 2015]

4.2.5. The Validity Statistics

Validity test is used to accurately assess the construct for this research study. Based on the Table 4.2, The Kaiser-Mayer-Olkin measure of the sample adequacy was 0.867. This indicates sufficient inter-correlation while the Bartlett's Test of Sphericity was significant (Chi-square = 715.481, $p < 0.01$). Both results indicating that the constructs are valid.

Table 4.2: KMO and Bartlett's Test

Kaiser-Mayer-Olkin measure of the sample adequacy		0.867
Bartlett's Test of Sphericity	Approx. Chi- Square Df	715.481 15
	Sig.	0.000

[Source: Survey Data, 2015]

5. RESULTS AND ANALYSIS

5.1 Profiles of the respondents

As above mentioned, the demographic information includes the following characteristic of respondents: gender, age group, ethnicity, type of the course and medium of the course.

According to the Appendix 1: Profile of the Students, the results revealed that from 200 respondents in this study, 124 (62%) are females and 76 (38%) are males.

Most of respondents fall into the age group of 19 to 21 years old, which is 31.5% (63). It followed by 28% (56) of the respondents were aged 22 to 24 years old, 25% (50) of the respondents were aged 25 to 27 years old, 7.5% (15) of the respondents were aged 28 to 30, 7% (14) of the respondents were aged below 18 and only 1% (2) of the respondents were aged above 30 years old. In Ethnicity, Majority of the respondents are Tamils 192 (99 %) and only 1% (2) of the respondents are Muslims. Furthermore, the analysis shown 122 (61%) respondents are following external bachelor degree programs and 78 (39%) respondents are conducting professional studies. Meantime, medium of the course represents that, 165 (82.5%) respondents are following in the medium of Tamil and 35 (17.5) respondents are following in the medium of English.

5.2 Descriptive analysis

According to Table 3 in below, Assurance has the highest mean of 4.0917 whereas Empathy has the lowest mean of 3.2921. Based on the mean value all the respondents perceived the service quality and students satisfaction favorable. Based on Table 3: Descriptive Analysis, it revealed that mean of student satisfaction was 4.12 and service quality with an overall mean of 3.76. Meanwhile, sub dimensions under service quality, assurance scores the highest mean value, which is 4.09, followed by responsiveness 4.00, reliability 3.91, tangibility 3.51 and empathy 3.29.

Table 3: Descriptive Analysis

Dimension	Range	Mean	Std. Deviation	Variance
Tangibility	3.33	3.5197	0.61204	0.375
Assurance	3.89	4.0917	0.70144	0.492
Reliability	4.00	3.9107	0.76166	0.580
Responsiveness	3.67	4.0025	0.74488	0.555
Empathy	4.00	3.2921	0.80498	0.648
Service quality	3.23	3.7633	0.59334	0.352
Student Satisfaction	4.00	4.1238	0.88858	0.790

[Source: Survey Data, 2015]

5.3 Correlation Analysis

The Pearson correlation coefficient presented to illustrate the relationship as well as the statistical significance between service quality and student satisfaction. In addition, it is utilized to find out the relationship between service quality sub dimensions (tangibility, responsiveness, reliability, assurance & empathy) and student satisfaction.

According to the Table 3: Correlation Analysis, service quality is positively

associated with student satisfaction, further, strong positive association has been found, which is also in the significant level ($P < 0.05$). In the meantime, it is revealed that the entire sub dimensions of service quality, which are also positively correlated with student satisfaction. Reliability has the strongest relationship ($r=0.643$), followed by Assurance ($r=0.638$), Responsiveness ($r=0.617$), Empathy ($r=0.480$) and Tangibility ($r=0.444$).

Table 4: Correlation Analysis

Dimension	1	2	3	4	5	6	7
1-Tangibility	1						
2-Assurance	0.536**	1					
3-Reliability	0.535**	0.792**	1				
4-Responsiveness	0.385**	0.752**	0.780**	1			
5-Empathy	0.543**	0.479**	0.547**	0.482**	1		
6-Service quality	0.714**	0.869**	0.899**	0.839**	0.758**	1	
7-Student Satisfaction	0.444**	0.638**	0.643**	0.617**	0.480**	0.693**	1

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

[Source: Survey Data, 2015]

5.4 Test of Collinearity

High levels of collinearity increase the probability that a good predictor of the outcome will be found insignificant and rejected from the model (Hair *et al.*, 2003).

Two major methods were used in order to determine the presence of multi-collinearity among independent variables in this study. These methodologies involved calculation of a Tolerance test and variance inflation factor

(VIF) (Ahsan et al., 2009). According to Hair et al., (2003), the maximum acceptable VIF value would be 5.0, thus if VIF value higher than 5.0 would indicate a problem with multicollinearity. The results of these analysis are presented in Table 5: Test of Collinearity.

Table 5: Test of Collinearity

Independent Variable	Collinearity Statistics	
	Tolerance	VIF
Tangibility	0.578	1.730
Assurance	0.305	3.275
Reliability	0.268	3.737
Responsiveness	0.329	3.043
Empathy	0.601	1.664

[Source: Survey Data, 2015]

Base on the output of the table 4: Test of Collinearity, None of the tolerance level is < 1 or equal to 1 and also VIF values are perfectly below 5. It can be seen clearly that VIF range between 1.664 and 3.737 values which are well-below five. On the other hand, the tolerance values range between 0.268 and 0.601. Thus, the measures selected for assessing independent variable in this study does not reach levels indicate of MultiCollinearity.

Table 5: Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.247	0.314		0.787	0.432
Tangibility	0.098	0.098	0.068	1.004	0.317
Assurance	0.299	0.117	0.236	2.547	0.012
Reliability	0.225	0.116	0.192	1.943	0.053
Responsiveness	0.241	0.107	0.202	2.260	0.025
Empathy	0.141	0.073	0.127	1.928	0.055
R=0.700					
R ² =0.490					
Adjusted R ² =0.477					
Durbin-Watson=1.811					
F value=37.345					
Sig. F=0.000					

5.5 Regression Analysis

The objective of multiple regression analysis is to predict the single dependent variable by a set of independent variables (Heppner and Heppner, 2004). In this study, regression analysis has been utilized to find out the significant impact of service quality and its sub dimension on student satisfaction. Generally regression analysis is used to answer the question as what extent independent variables influence on the dependent variable. In this context, research question as what extent service quality influences on the student satisfaction in the private higher education institutions is answered.

According to the analysis, 49 percent (Adjusted R²=0.477) of the variation has been found which is in the significant level. It means that, customer satisfaction in student satisfaction in the private higher education institutions in Jaffna is determined or influenced by the service quality. Further, student satisfaction among the private higher education institutions is also influenced by assurance (standardized coefficients B is 0.236 at sign. T = 2.547) and responsiveness (standardized coefficients B is 0.202 at sign. T = 2.260) in the service quality significantly. Meantime, tangibility, reliability & empathy are not contributed significantly in student satisfaction.

In addition to that, the acceptable Durbin Watson range is between 1.5 and 2.5 .In this analysis Durbin-Watson test shows that value 1.811, which is between the acceptable limit

which shows that there were no auto correlation problems in the data used in this research (Table: 5).

5.6 Hypotheses Testing

Table 5: Hypotheses Testing

Hypotheses	Values scored	Result	Tools
H1: There is a significant relationship between service quality and student satisfaction	r = 0.693 p = 0.000 (p < 0.05)	Accepted	Correlation
H _{1a} : There is a significant relationship between tangibility in the service quality and student satisfaction	r = 0.444 p = 0.000 (p < 0.05)	Accepted	Correlation
H _{1b} : There is a significant relationship between assurance in the service quality and student satisfaction	r = 0.638 p = 0.000 (p < 0.05)	Accepted	Correlation
H _{1c} : There is a significant relationship between reliability in the service quality and student satisfaction	r = 0.643 p = 0.000 (p < 0.05)	Accepted	Correlation
H _{1d} : There is a significant relationship between responsiveness in the service quality and student satisfaction	r = 0.617 p = 0.000 (p < 0.05)	Accepted	Correlation
H _{1e} : There is a significant relationship between empathy in service quality and student satisfaction	r = 0.480 p = 0.000 (p < 0.05)	Accepted	Correlation
H2: There is a significant impact of service quality on student satisfaction	r = 0.477 p = 0.000 (p < 0.05)	Accepted	Regression
H _{2a} : There is a significant impact of Tangibility in the service quality on student satisfaction	β = 0.477 p = 0.317 (p > 0.05)	Rejected	Regression
H _{2b} : There is a significant impact of assurance in the service quality on student satisfaction	β = 0.236 p = 0.012 (p < 0.05)	Accepted	Regression
H _{2c} : There is a significant impact of reliability in the service quality on student satisfaction	β = 0.192 p = 0.053 (p > 0.05)	Rejected	Regression

H _{2d} : There is a significant impact of responsiveness in the service quality on student satisfaction	$\beta = 0.202$ $p = 0.025$ ($p < 0.05$)	Accepted	Regression
H _{2e} : There is a significant impact of empathy in service quality on student satisfaction	$\beta = 0.127$ $p = 0.055$ ($p > 0.05$)	Rejected	Regression

[Source: Survey Data, 2015]

6. CONCLUSIONS AND RECOMMENDATIONS

The main purpose of this research study focuses on the relationship & the impact between the determinants of service quality and student satisfaction.

According to the correlation analysis, service quality in the private higher education institutions in Jaffna is positively associated with student satisfaction. Further, it revealed that, the sub dimensions such as assurance, reliability, and responsiveness have a moderate positive correlation with student satisfaction and tangibility & empathy have weak positive correlation with student satisfaction. It was also found that student satisfaction among the private higher education institutions in Jaffna is significantly influenced by the service quality.

The results of the regression analysis show that service quality contributes significantly to student satisfaction with are indicated significant at 0.05 levels According to the analysis, 49 percent (Adjusted R²=0.477) of the total variable in student satisfaction has been significantly explained by the service quality. Meantime, student satisfaction among the private higher education institutions is also influenced by assurance and responsiveness in the service quality significantly. Even though, tangibility, reliability & empathy are not

contributed significantly in student satisfaction.

There were number of studies that proved the service quality of higher educational institutions significantly impact student satisfaction. A study by Hasan, *et al.*, (2009) has proved that, there is a significant positive relationship between service quality and student satisfaction ($r=0.653^{**}$), furthermore according to the regression analysis he found 68.9% of total variance in student satisfaction has been contributed significantly by service quality.

In a supportive way, Usman (2010) approached the study by using structural equation modeling technique (SEM) on The Impact of Service Quality on Students' Satisfaction in Higher Education Institutes of Punjab in Pakistan. The result has revealed that, service quality have a significant impact on the students' satisfactory level. Poturak (2014) identified that, students have slightly positive opinion about the service quality at these private higher education institutions in Bosnia and Herzegovina.

Recently, Ali & Mohamed (2014) has investigated a research to assess relationship between service quality and students' satisfaction. The study found that, positive significant relationship between service quality dimensions (Tangibility, Reliability, Responsiveness, Assurance and Empathy) and students' satisfaction. Furthermore, Hanaysha, Abdullah & Warokka (2011), has also pointed

out that, all the five dimensions of service quality were correlated with student satisfaction. In the meantime, the finding of the present study is consistent with the results of previous studies in terms of the direction of the relationship (Parasuraman *et al.*, 1985, 1988; Sureshchandar *et al.*, 2002; Azman *et al.*, 2009; Ravichandran *et al.*, 2010).

6.1 Key Findings

The findings for tangibility show that the mean of two institutions are equal to 3.5197, this means that most of students in these institutions were satisfy with the tangible service provided. Meanwhile, these two educational institutions should enhance the followings:

- Provide computer and communication facilities to the students.
- Develop institution culture, value & belief.
- Confirm that the classrooms and surrounding are in comfortable.
- Improve building structure & set up.
- Up to date their curriculum. Increase the numbers of courses.
- Provide convenient parking facilities to the students.

The mean for “assurance” for the institutions are equal to 4.0917, this means that most of the Jaffna students are more satisfied with the assurance of service provided by these two institutions. Students are satisfied with productivity of the lectures, friendly & help full mind of the staff and the institutions must focus to develop the communication skills of the students.

The mean for “reliability” for these institutions were 3.9107. This means that most of the students who are studying above institutions, agree with reliability of service provided. That means most students are satisfied and agree that proficiency of lectures and the lectures also show their concern in solving problems of students. Even though they should confirm

- Registration is done on time and error free

- Lecturers are generally reliable. It stressed that keep time and don't cancel class
- Ensure, that staff shows sincere involvement in solving student's problem.

The mean for “responsiveness” for Jaffna students is equal to 4.0025. This means that most of students in Jaffna are satisfied with the responsiveness of service provided. The result have shown

- Staff are available when students need helps.
- Lecturers are available to clear the students' doubts.
- Students can raise their problems at anytime in these institutions.

The mean for “empathy” for these two institutions are in 3.2921. In this study, empathy holds the lowest mean vale. Therefore, these institutions have an eye on Study room accommodation & student convenient and access to computer facility based on student convenience.

6.2 Recommendations

From the study, researchers developed recommendations to the management of the institutions, Lecturers/Teachers of the institutions and the students.

To the Management of the Institutions

- Change the teaching method based on modern trend preferably adopting power point slides to enhance the teaching.
- Establish attractive classroom by providing all the minimum essentials and required progressive learning environment.
- Digital computer lab facility with internet access throughout the day.
- Provide library facility with new/updated texts.
- Make some arrangements for students recreational facilities like extracurricular activities, eg: indoor games (Chess, Carom, etc.)

- Canteen facility during the class conducting days with reasonable/ concession rates to food items.
- Teaching English as a second language to enhance the knowledge of the student, and encourage them to enroll for it.
- Encourage the students to learn the courses in English medium by providing facilities.
- Provide better infrastructure for a conducive learning environment.

To the Lecturers/Teachers of the Institutions

- Use power point slide or any other relevant visual aids, which will enhance the listening power of the students.
- Encourage two-way communication with students; at the same time be competent in clearing their doubts.
- Provide up dated/latest booklist to the library or management and stress them to make available those books for referencing purposes.
- Motivate the student to involve in creative works, like doing research, publishing their findings, etc.
- Try to be punctual to class and avoid cancellations as much as possible.

To the Students of the Institutions

- Attend class with concern and punctual.
- Update the knowledge as much as possible.
- Behave ethically as much as possible.
- Follow co-curricular courses to enhance their knowledge on IT and English language.
- Obey to the rules and regulations put forward by the institutions.

6.3 Limitations of the research

Geographic area is limited, which include only one city. Further researchers just selected two higher education institutions, which are New College of High Studies, Jaffna and Jaffna College Undergraduate Department in Jaffna, Sri Lanka. In the meantime, the size and

amount of the sample used for this research is another potential limitation of this finding.

6.4 Recommendations for Future Research

Researchers can recommend the future researcher to focus on service quality and students satisfaction in all state universities in Sri Lanka. In addition, future can conduct a comparative study to investigate whether there are any differences in service quality and student satisfaction between state higher educational institutions and private higher educational institutions.

Furthermore, we can suggest the researchers, in the statistical point of view to conduct the factor analysis to explore the factors, which are influencing on student satisfaction beyond service quality. Because only we found 49% variance influence on customer satisfaction via service quality. Due to that 51% of the influence should be found through exploratory factor analysis, which might be the better pathway to construct the student satisfaction in better way.

Further study is suggest to make a comparative study to investigate whether there are any differences in service quality and student satisfaction between New College of High Studies, Jaffna and Jaffna College Undergraduate Department in Jaffna.

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Appendix

Appendix 1: Profile of the Students in this study

Category	Frequency (n)	Percentage (%)
Institution		
New College of High Studies, Jaffna	100	50.0
Jaffna College Undergraduate Department in Jaffna	100	50.0
Total	200	100.0
Gender		
Male	76	38.0
Female	124	62.0
Total	200	100.0
Age		
Below 18	14	7.0
19 – 21	63	31.5
22 – 24	56	28.0
25 – 27	50	25.0
28 – 30	15	7.5
Above 30	2	1.0
Total	200	100.0
Ethnicity		
Tamil	198	99.0
Muslim	2	1.0
Total	200	100.0
Type of the course		
Professional	78	39.0
Undergraduate	122	61.0
Total	200	100.0
Medium of the course		
Tamil	165	82.5
English	35	17.5
Total	200	100.0

[Source: Study survey (2015).]

Appendix 2: Summary of the statements

S. No.	Statements	Mean	Std. Deviation
Service Quality: Tangibility			
1	Lecturers always come with smart dress.	4.05	0.979
2	Arrangements in the classrooms are always good.	4.32	0.873
3	Lighting arrangements are enough.	4.32	0.884
4	I like the building structure & set ups.	4.03	0.997
5	Classroom / surroundings are clean always.	4.09	0.901
6	Classroom / surroundings are comfortable / conducive.	4.05	0.878
7	Internal / External environment are very suitable for studying.	4.01	0.997
8	The officials are always helpful.	4.01	1.082
9	Parking facilities adequate.	3.98	1.121
10	The curriculum is up-to-date.	3.67	1.024
11	There are number of courses available.	3.40	1.244
12	Computer lab is available with adequate machines / facilities.	2.22	1.304
1	Computers are 'up-to-date' always.	2.12	1.222
14	Software in use are 'up-to-date' always.	2.14	1.222
15	Internet / Email facilities are available are accessible.	2.42	1.426
16	Organization culture, value & belief of this institution are appreciable.	3.68	1.079
Assurance:			
17	Staff are friendly & courteous.	4.00	1.039
18	Lecturers are friendly & courteous.	4.25	0.923
19	Research efficiency / productivity of the lecturers are good.	4.31	0.791
20	Academic credentials of the lecturers are good.	4.30	0.801
21	Lecturers are innovative & agents of change.	4.12	0.949
22	The institute is involved with society.	4.03	0.969
23	Staff are aware of rules & regulations.	4.02	0.992
24	Security system is satisfactory.	4.00	1.047
25	Communication skills: Courses are well taught in this institution.	3.82	1.108
Reliability:			

26	Registration is done on time & error – free.	3.73	1.207
27	Institution keeps its records accurately.	3.90	1.042
28	Lecturers are generally reliable: Keep time / don't cancel classes.	3.75	1.130
29	Staff shows sincere involvement in solving student problems.	3.82	0.957
30	This institution meets its promises in service providing.	3.90	0.974
31	Dependable teaching capability / proficiency of lecturers.	4.19	0.899
32	Lecturers show their concern in solving student problems.	4.11	0.870
Responsiveness:			
33	Staff are available when you need helps, if any.	3.92	1.006
34	Lecturers are available to clear your doubts.	4.16	0.910
35	Lecturers are knowledgeable in solving student problems.	4.22	0.914
36	Staff show interest to solve student problems.	3.91	1.043
37	Students can raise their problems at anytime.	3.86	1.032
38	Queries are deals efficiently & promptly.	3.95	1.016
Empathy:			
39	Administration has students' best interest as priority.	3.79	1.107
40	Access to computer facilities is accommodated with students' convenience.	2.61	1.449
41	Access to study rooms is accommodated with students' convenience.	3.24	1.368
42	Staff are willing to give students' individual attention.	3.20	1.263
43	Opening hours of computer rooms is convenient to the students.	2.54	1.431
44	Institute is fair and unbiased in the treatment of individual student.	3.72	1.058
45	Lecturers are sympathetic & supportive to the needs of students.	3.97	1.004
Student Satisfaction:			
1	I am satisfied with my decision to attend this institution.	4.14	0.919
2	If have a choice to do it all over again, I still will enroll in this institute.	4.09	1.069
3	My choice to enroll in this institute is a wise one.	4.15	0.904
4	I am happy on my decision to enroll in this institute.	4.13	1.007