A Study of Relationship between Service Quality and Students' Satisfaction: Case of a Selected Private Higher Education Institute in Sri Lanka

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A Study of Relationship between Service Quality and Students' Satisfaction: Case of a Selected Private Higher Education Institute in Sri Lanka

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Abstract: *Sri Lankan tertiary education system is limited as only 15% to 21%of students get enrolled to the state university system each year. Consequently, there is a growing demand for private degree awarding institutes in Sri Lanka. With this increasing demand, the quality of the education service provided by these private degree awarding institutes are always questionable. However, the concept of 'Service Quality' in education from students' perspective in the local context has not yet been researched. Therefore, this study explores the quality gaps in the education service provided by a leading private higher education institute in Sri Lanka. The examination of this issue is significant to improve the service delivery of the institute to meet the quality requirements of the undergraduates. The purpose of this study is to investigate service quality gaps in the institute while identifying the relationship between the 'Service Quality' and 'Student Satisfaction'. To achieve these objectives, a comparison of students' expected service with their perceived service was employed in relation to five generic quality dimensions. The deductive reasoning has been applied for this research with the application ParsuParasuraman'sSERVQUAL Model. The primary data was gathered through structured questionnaires from a sample of 450 students. The findings indicated that, there is a discrepancy between students' expectations and their perceptions of the service delivered with regard to four quality dimensions such as 'Responsiveness', 'Assurance', 'Empathy' and 'Tangibles' under the level of significance 0.05.The highest gap was resulted with respect to the dimension of 'Empathy'. Furthermore, findings resulted that there is a significant relationship between the 'Service Quality' and 'Student Satisfaction' with respect to four dimensions such as 'Reliability', 'Responsiveness', 'Assurance', 'Tangibles' under the significant level of 0.01. However, it resulted that there is no significant relationship between 'Empathy' and 'Student Satisfaction'. The researcher recommends the institute to obtain students' feedback to identify the areas of improvement, conduct peer reviews and to improve physical facilities to meet the quality of the service delivery.*

Keywords: Private Higher Education Institutions, Service Quality, SERVQUAL Model, Gap Analysis

1. Introduction

1.1. Background of the Study

The private sector involvement in education at all levels had become a realism and the rapid mushrooming of private institutions have led to strengthen the competition for educational opportunities on the basis of social class. The establishment and rapid growth of private and international educational institutions in the country over the last two decades is an indicator of the extent of the demand for expensive private education. Furthermore, the development of state university education in Sri Lanka over the last decades has not been equal with the rapid expansion of school education over the same period [13].As a result of that, a few number of students (15% to 21%)get qualified for university admission [28].Along with this situation, there had been a high demand for private education. Currently, there are plenty of private degree awarding institutes in Sri Lanka which are affiliates of foreign institutes and there are sixteen University Grant Commission (UGC) recognized institutes in Sri Lanka [27]. When looking at the global context, in India private higher education institutes and colleges are over 10 times as many as government universities (the ratio between the government universities and private institutes is 337:3616), in Pakistan it is almost twice (547:957) and in Bangladesh, it is 21:199 which is nearly 10 times. China is also moving towards the race in international higher education with increasing the numbers of overseas universities[29].This reflects that there is a rapid growth in private tertiary education system in other countries as well.

With high demand for the private education, the quality of the education service provided by the respective institutes are always questionable. According to literature, researchers have emphasized that university education has to be evaluated. It has been found that in European countries, the attention is paid for setting standards on university activities such as teaching, research, and various additional services offered to students and to the other stakeholders [23]. In private education service, the primary consumer is the 'student' [12] and the student is supposed to make a payment for the service that receive from the institute. Therefore, it is crucial to deliver a quality education for the students and thus, the academic staff of the institute has a huge responsibility towards maintaining the quality of the academic work. Hill (1995), also highlights the need for higher education organizations to gather information on students' expectations, not only during their time at university, but at the point of arrival and before[12]. Berry et al.(1985) also have viewed consumers as being the sole judge of service quality and thus, in education service, the student is the one who judges the service quality [2].This study further conclude that consumer perceptions of service quality result from comparing expectations prior to receiving the service, and their actual experience of the service. A related approach is considered by Gronroos (1982) where the perceptions minus expectations (P–E) is the true measure of service quality which is referred to as 'gap theory' [10].

According to Parasuramanet al. (1985), 'Reliability', 'Responsiveness', 'Empathy', 'Assurance' and 'Tangibles' are the key dimensions of the service quality which can be applied to the context of education service as well [19].The

concept of 'Quality' can be defined as '*the extent to which a product or service meets the requirements of the customer*' and that customer's perception of quality will change with time [18]. Kitchroen, defines the 'service quality' as '*ability of meeting or exceeding customer expectations*' [16]. Services are increasingly becoming a larger portion of many organizations' regionally, nationally, and globally and are considered as a tool for revenue streams [12]. At present, knowledge intensive services businesses require reliable methods of measurement, assessment, and improvement [25].Numerous researches have been analyzed the relationship between service quality and satisfaction. Cronin and Taylor (1992), for example, take the view that perceived service quality leads to consumer satisfaction [6]. However, Bitner (1990) suggested that the consumer's satisfaction assessments relate to specific service transactions, while service quality is a general attitude relating to the service provider's overall excellence or superiority [3]. Especially, in the case of a student, these could range from encounter with office staff, tutors, lecturers, the heads of department, etc. Hishamuddin et al. (2008), found that there is a positive relationship between service quality and student satisfaction [14].According to the literature survey, it was revealed that none of the researchers have studied about the 'Service Quality' in higher education from students' perspective in Sri Lankan context. This gap exposed an opportunity to carry out an investigation on 'Service Quality' in a private higher education institute in Sri Lanka from student's perspective while adding new knowledge to the prevailing theories. Therefore, this study investigates the quality of the education service from the students' perspective (identifying perceived service quality) with special reference to the quality of the service provided by the academic staff and the quality of the physical facilities (buildings, places, equipment, IT services, and other facilities) provided by a selected private higher education institute in Sri Lanka. This research further investigates the relationship between the 'Service Quality' and the 'Student Satisfaction'. The selected institute consists of three faculties, 'Faculty of Computing', 'Faculty of Business' and 'Faculty of Engineering'.

1.2. Significance of the Study

The investigation of service quality gaps lead for identification of root causes behind the quality related problems and it will direct to establish clear standards in education service. Edvardsen et al. (1994) has stated that, in their experience, the starting point in developing quality in services is measurement and analysis [8].Therefore, identifying quality gaps and improving quality in the field of education is significant. The research findings further significant for the private educational institutes to gain students' satisfaction through a quality service where it lead to boost the reputation and profits of the institute. In turn the students, as the primary customer will also receive the expected knowledge and students will get the required skills where they can find good career opportunities after their graduation.

1.3. Problem Statement

In today's competitive business environment, customer driven service is important to ensure the quality and it is crucial to apply that concept to private education service as well. As education service is an intangible component, it has been proved to have more importance than the usual intangibility of services, because in the long run it affects the future life of students and the evolution of society as a whole[23]. As mentioned in the introduction there is an increasing demand for the private degree awarding institutes in Sri Lanka and there are lots of investments on private education system. In generally, the people are having a doubt on the level of quality in the private education service in Sri Lanka. According to different literature it was revealed that there are many service quality gaps in the service of education, which in turn has led to dissatisfy the students [5],[26].

With reference to the selected institute, even though there are increasing numbers of students' enrollment in each year, there are some evidences that some of the students are not satisfied about certain aspects of the service. The symptoms of quality issues of the service included considerable amount of student dropouts and increasing number of complaints from students and parents about the academic related issues and about the issues relating to physical facilities.

When referring to the past statistics on overall dropout rate of students in the entire institution there was a substantial number of students dropout from 2nd year to 3rd year (2010-28%, 2011-30%, 2012-32% and 2013-26%) comparing to the dropout rate of 1st year to 2nd year. The same trend can be identified in the 'Faculty of Computing' and 'Faculty of Business'. Especially, in 'Faculty of Computing' there was a high percentage (38%) of dropout rate from 2nd year to 3rd year with respect to students who got registered in year 2013. In 'Faculty of Business' there was a considerable dropout rate (23%) from 1st year to 2nd year in year 2011. Moreover, there was a significant dropout rate (27%) from 2nd year to 3rd year in year 2010 and 2012.However, in 'Faculty of Engineering' there is a dropout rate of 6% and 8% in 1st year to 2nd year in year 2013 and 2014 respectively. Moreover, there are lot of student complaints with regard to the physical resources and the infrastructure facilities which provide by the institute including laboratory facilities, cafeteria, washrooms, lecture halls and etc.

Therefore, all these situations provide an opportunity to investigate whether there are any quality gaps in the service delivered by the institute and the way in which the 'Service Quality' relate with the 'Student Satisfaction'. Therefore, the question arises '*are there any quality gaps with reference to academic staff and the physical facilities provided by the institute and how it relates to the student satisfaction?*'

1.4. Objectives of the Study

To identify differences between the perception of students on service provided by the institute and the service quality they expected.

To identify the relationship between the 'Service Quality' and 'Student Satisfaction'.

2. Literature Review

The concept of 'Quality' originally was applied to tangible products especially in early days of manufacturing and eventually, it has been understood that concept of 'Quality' is not limited only to tangible products where its' applied to all elements of the production chain, creating products or services. Thus, the concept of 'Quality' addressed the quality of the entire production or consumption process such as, in assessing the quality of a product, the production, sale, and customer service procedures[4].Therefore, the definition of quality was stretched out and one of the quality gurus, Feigenbaum defined quality as *'the total composite product and service characteristics of marketing, engineering, manufacture, and maintenance through which the product and service in use will meet the expectations of the customer'* [9].

When looking at the dimensions of service quality, the Gronroos (2000) has investigated on three dimensions of service quality such as *technical quality*, *service performance quality*, and *organization's mental picture* [11]. Lehtinen and Lehtinen (cited in Mosahab et al 2010) identified *physical quality, interactive quality*, and *organizational quality* as the three dimensions of service quality [17]. Sasser, Olsen and Wyckoff (1978), stated that there are seven service attributes which important in the concept of service quality [24]. These dimensions are *Security*; confidence as well as physical safety, *Consistency*; receiving the same treatment for each transaction, *Attitude*; politeness, *Completeness*; the availability of ancillary services, *Condition of facilities*, *Availability*; spatial and temporal customer access to services, *Training of service providers*.

The SERVQUAL model introduced in the study of Parasuramanet al. (1985), is an instrument which measures the service quality by finding out the extent of difference between customers' expectations and their perceptions of the actual quality of performed service [19]. There are seven major gaps in the service quality concept and the 'gap five' identifies the discrepancy between customer expectations and their perceptions of the service delivered, which is the true measure of service quality. According to this research there are ten determinants of service quality that can be generalized to any type of service. The ten dimensions consist of, *Tangibles*; the physical evidence of the service, physical facilities, appearance of personnel, tools or equipment used to provide the service, other customers in the service facility, *Reliability*; consistency of performance and dependability, *Responsiveness*; willingness or readiness of staff to provide service, *Competence*; possession of the required skills and knowledge to perform the service by the contact personnel as well as operational support personnel, *Access*; approachability and ease of contact, *Courtesy*; politeness, respect, consideration, and friendliness of contact personnel, *Communication*; keeping customers informed in language they can understand; *Credibility*; trustworthiness, believability, and honesty, *Security*; the freedom from danger, risk, or doubt. (E.g. physical safety and confidentiality), *Understanding;* making the effort to understand the customer's needs. However, as a result of further refinement of the particular research [20], the above

ten dimensions had been regrouped in to main five dimensions including, *Tangible*; appearance of physical facilities, equipment, personnel, and communication materials; *Reliability*; ability to perform the promised service dependably and accurately, *Responsiveness* ; willingness to help customers and provide prompt service, *Assurance*; knowledge and courtesy of staff and their ability to convey trust and confidence, *Empathy*; caring and individualized attention to the customer. The above five dimensions have been identified as the key components in the SERVQUAL model [20]. Avkiran (1994) also has introduced a model consisting of four service quality dimensions such as *personnel's contact, reliability, communication,* and *access* to services [1].

Kotler and Clarke (1987) have defined 'satisfaction' as a *'state felt by a person who has experience performance or an outcome that fulfill his or her expectation'*[15].Furthermore, according to this study the expectation may go as far as before the students even enter the higher education and the study has suggested that, it is important to determine first what the students' expect before entering the university [22]. On the other hand, Carey et al. (2002), believe that satisfaction actually covers issues of student's perception and experiences during the academic years [7].

According to Hishamuddin et al. (2008), there is a positive relationship between service quality and student satisfaction. In their study, the dimension of *Empathy* has the strongest relationship followed by *Assurance*, *Tangibility*, *Responsiveness* and *Reliability* [14]. According to the findings of that research it is clear that improving service quality may potentially improve the students' satisfaction and that should be the priority of the private higher education institutions due to the fact that they have to compete to earn interest from the students to study in the particular institute. Further, it has been revealed that two main dimensions in service quality *Empathy* and *Assurance* are the most critical factors in explaining students' satisfaction. Study by Perisau and McDaniel (1996) is best described, that the *Assurance* and *Reliability* as the most important dimensions, suggesting that students are more concern with the knowledge, courtesy and ability to inspire trust and confidence [21]. On the other hand, there are studies that have different opinions about the importance of *Tangibility* in service quality.

3. Conceptual Framework
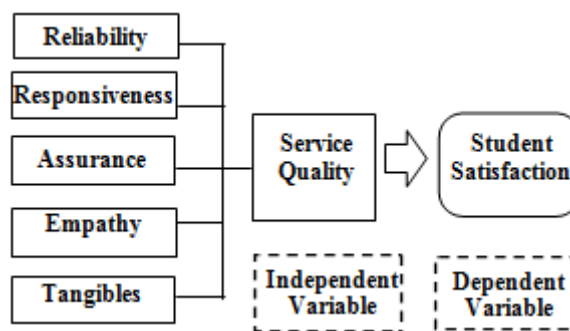
Source: Author Developed

Figure 1: Conceptual Model

As mentioned in the Figure 1 the 'Service Quality' is measuring by service quality dimensions of *Reliability, Responsiveness, Assurance, Empathy* and *Tangibles.* Therefore, those five dimensions can be used to investigate the service quality gaps from students' perspective as the students are building up their expectations and evaluate the actual performance based on the above five dimensions. Accordingly, the difference of students' perceptions on service delivery and their expectations with respect to above five dimensions (P – E) represents the measure of 'Service Quality' (Q). The service quality gap exists where Q is negative.

According to the literature, it revealed that the 'Student Satisfaction' is depending on the 'Service Quality'. Therefore, 'Service Quality' can be labeled as the 'Independent Variable' and 'Student Satisfaction' can be also labeled as the 'Dependent Variable'.The five dimensions of service quality in the SERVQUAL Model were operationalized by referring to 22 items in the original SERVQUAL instrument and the items were modified based on the higher educational literature [16], [5]. Accordingly, 16 items were developed as the measures and also researcher conducted focus group interview with students and academic staff members of the institute in order to acquire their views for the operationalization process.

4. Research Methodology

4.1. Research Approach

The deductive reasoning has been applied for this study as it starts with a general theory and applied to the specific case. The general theory is that customer satisfaction is based on the service quality dimensions of 'Responsiveness', 'Reliability', 'Assurance, 'Tangibles', and 'Empathy'. Therefore, Parasuraman's SERVQUAL Model has been tested in this study.

4.2. Research Strategy

Both primary and secondary data sources were used. Primary data includes quantitative data. The quantitative research design was adopted in this study to investigate the service quality gaps and to determine the relationship between the 'Service Quality' (independent variable) and 'Student Satisfaction' (dependent variable) with the support of statistical techniques. The survey method was selected as the research strategy in this study. Thus, structured questionnaires were developed. The reason to select this method is that to collect large amount of data from a sizable population. The questionnaire was designed based on the five generic dimensions in the SERVQUAL Model including Reliability, Responsiveness, Assurance, Empathy and Tangibles. The '*Five Point Likert Scale'* was used to sum the values of each selected option and to create a score for each respondent.

The secondary data for this research were mainly gathered through the past researches, other related publications and newspaper articles on 'Service Quality' in higher education.

The secondary data were used to hold up the problem statement and to build up a rationale for the research.

4.3. Population, Sample and Sampling method

The population of this research includes all the students (4000 students) who are studying at the institute. The sample group consists of 150 students from each faculty where 50 students were selected from each year. Therefore, the total sample size is 450.Stratified sampling method has been used in this study in order to select the sample. The students were stratified mainly based on the 'Faculties'. It ensures the homogeneity within each strata and heterogeneity between strata. The random sampling method was used to select students from the 1st year, 2nd year and 3rd year. The 4th year students were excluded since the students in the 'Faculty of Engineering' have not yet being reached to the 4th year as the faculty was started in year 2013 and also most of the 4th year students in 'Faculty of Business' and 'Faculty of Computing' were under industrial training period.

4.4. Time Horizons

This research is a cross sectional study as the study was conducted in year 2015 and the findings were developed based on the data that was collected in the specified duration.

4.5. Analytical Techniques

SPSS 17 software was selected for the data analysis in order to come up with meaningful interpretations and effective decisions.The two main statistical tools that have been used in this research are 'One-Sample test' and 'Correlation Analysis'. The 'One-Sample Test' was used to identify the service quality gaps with respect to the five generic dimensions in SERVQUAL Model and the 'Correlation Analysis' was used to identify whether there is a significant relationship between the 'Service Quality' and 'Student Satisfaction' with respect to the five generic dimensions in SERVQUAL Model.

5. Analysis and Discussions

5.1. Reliability Testing

For testing the internal consistency of the SERVQUAL instrument the Cronbach's coefficient alpha was used. The results of Cronbach's alpha test are shown in the Table 1. All the alpha values are well above the rule of thumb of 0.7 for a reliable scale, which suggests that the internal reliability of each construct is satisfactory.

Table 1: Cronbach's Alpha Coefficients

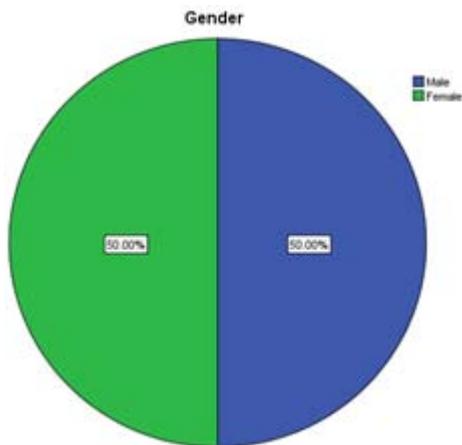| Construct	No of items	Cronbach's Alpha
Reliability	3	.754
Responsiveness	3	.909
Assurance	3	.906
Empathy	3	.843
Tangibles	4	.914

5.2. Description of the Sample

Figure 2: Distribution of total sample by 'Gender'

The Figure 2 shows the distribution of students sample by 'Gender'. According to the above chart there are 50% of Male students and 50% of Female students. It represents that both Male and Female student percentages are equal in the sample.
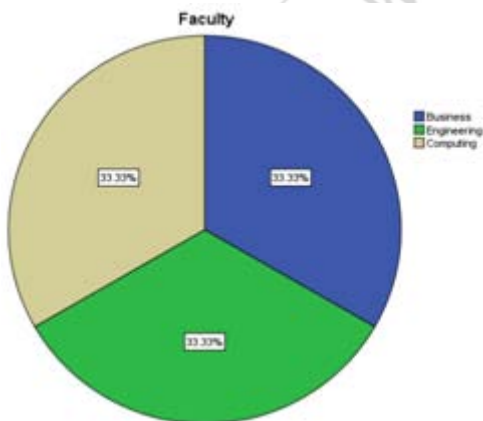

Figure 3: Distribution of total sample by 'Faculty'

The sample represents equal percentages from each 'Faculty' of the institute. That is 33.3% of student representation from Business Faculty, 33.3% of student representation from Engineering Faculty and 33.3 % of student representation from Computing Faculty.
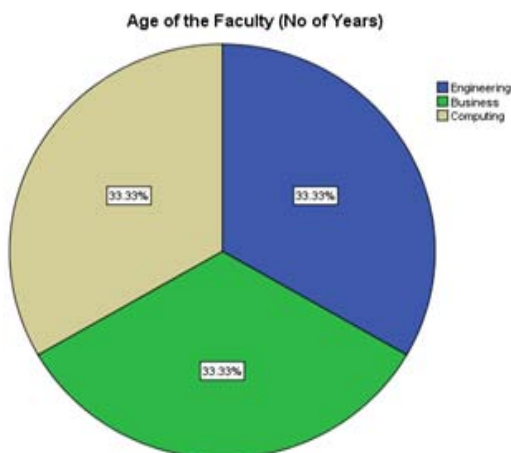

Figure 4: Distribution of total sample by 'Age of the Faculty (No of Years)'

According to the above Figure 4, the student distribution in the sample is equal in each faculty based on the 'Age of the Faculty'. 33.3% of the student are representing from the faculty which was started 2 years ago (Faculty of Engineering), 33.3% of students are representing from the faculty which was started 8 years ago (Faculty of Business) and 33.3% of students are representing from the faculty which was started of 15 years ago (Faculty of Computing).
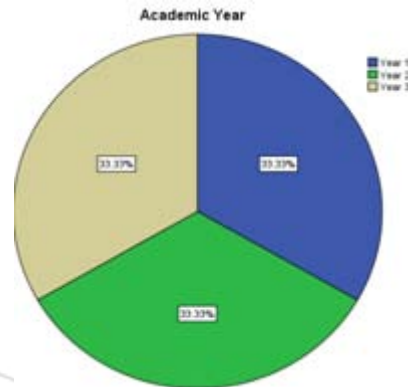

Figure 5: Distribution of total sample by 'Academic Year'

The above Figure 5 represents the student distribution with reference to the 'Academic Year'. It shows that there is an equal student representation from 1st year, 2nd year and 3rd year as there is a 33.3% of student representation of each year.
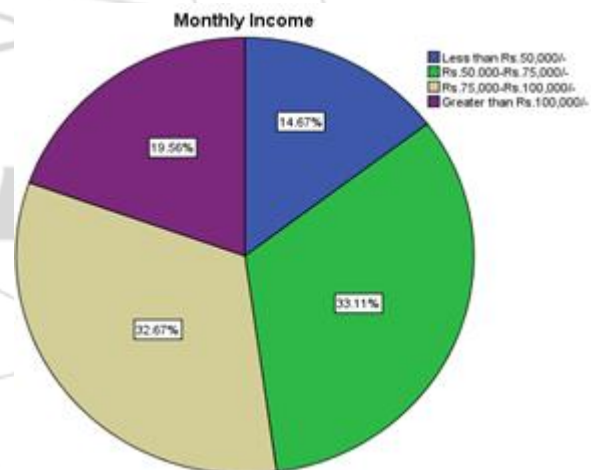

Figure 6: Distribution of total sample by 'Family Income Level'

When considering the student distribution according to the 'Family Income Level', most of the students in the sample (33.1%) are falling to the income category of 'Rs.50.000/-Rs.75, 000'/- and the income category of Rs.75,000/-100,000/- (32.67%). The student percentage is low for the income categories of 'less than Rs.50, 000'/- (14.7%) and 'greater than Rs.100, 000'/- (19.6%).

5.3. Service Quality Gap Analysis

One of the objectives in this research is that to investigate the differences between the expectations and perceptions of students about their education service with respect to five generic dimensions of SERVQUAL Model. Therefore, the 'One-Sample Test' was used to diagnose whether there is a significant gap (discrepancy) between the students'

expectations and perceptions about the service provided by the institute. Theoretically, there is a service quality gap when the mean score of the (P-E) is less than zero (negative) (Parasuraman et al., 1985) or in other words if the students' expectations are greater than the perceived performances there is a service quality gap. The significant levels for the mean differences were considered accordingly to test the hypothesis.

Table 2: One-Sample Test for the Five SERVQUAL Dimensions

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference of (P-E)	Lower	Upper
Reliability	-0.402	449	0.688	-0.02148	-0.1264	0.0834
Responsiveness	-6.699	449	.000*	-0.35333	-0.457	-0.2497
Assurance	-7.53	449	.000*	-0.3	-0.3783	-0.2217
Empathy	-11.531	449	.000*	-0.58519	-0.6849	-0.4855
Tangible	-3.522	449	.000*	-0.15056	-0.2346	-0.0665

(*P<0.05)
(P-E): Student's perception of service received - Student's Expectations

The above table illustrates the quality gaps existing in the service with reference to the main five dimensions by considering the significant values of the mean differences. The hypothesis for each dimension were tested and analyzed under the significant level 0.05.

Null Hypothesis (H$_{o1}$): There is no quality gap with respect to the dimension of 'Reliability'.

Alternative Hypothesis (H$_{a1}$): There is a quality gap with respect to the dimension of 'Reliability'.

According to the above Table 2 the Sig. value of the mean difference for the 'Reliability' is greater than 0.05 and therefore, accepting H$_{o1}$ and rejecting H$_{a1}$. This demonstrates that there is no significant quality gap regarding the dimension of 'Reliability' even through there is a negative mean difference. This represents that, staff has provided the promised services in an exact and reliable manner.

The hypothesis for testing the quality gap with relevant to the dimension of 'Responsiveness' can be elaborated as follows under the significant level 0.05.

Null Hypothesis (H$_{o2}$): There is no quality gap with respect to the dimension of 'Responsiveness'.

Alternative Hypothesis (H$_{a2}$): There is a quality gap with respect to the dimension of 'Responsiveness'.

According to the Table 2, there is a statistically significant mean difference for the dimension of 'Responsiveness' and therefore, rejecting H$_{o2}$. This represents that there is a service quality gap with reference to the dimension of 'Responsiveness'. This further depicts that students' expectations regarding the responsiveness of the service have not been met by the academic staff of the institute. This

indicates that the staff is not willing to help students promptly in a way that meet the students expectations, staff is not allocating adequate time to contacting with students, and staff is not providing prompt response to student requests. These service quality gaps were revealed from the students' perspective as their expectations on 'Responsiveness' had not met.

The hypothesis for testing the service quality gaps with respect to the dimension of 'Assurance' can be stated as follows under the significant level of 0.05.

Null Hypothesis (H$_{o3}$): There is no quality gap with respect to the dimension of 'Assurance'.
Alternative Hypothesis (H$_{a3}$): There is a quality gap with respect to the dimension of 'Assurance'.

When considering the dimension of 'Assurance' there is a significant mean difference where the students' expectations are higher than their perception about the actual service received from the staff members. Therefore, H$_{o3}$ can be rejected under 0.05 levels of significance and accept the H$_{a3}$. This shows that there are service quality gaps with respect to the dimension of 'Assurance' as the students' expectations are high with reference to 'competence of the staff members', 'believability and honesty of the staff members' and 'knowledge of the information that students need from the staff members'. Thus, perceived service for the dimension of 'Assurance' is less than the expected service.

The hypothesis to test the service quality gap with respect to the dimension of 'Empathy' can be stated as bellow under the significant level of 0.05.

Null Hypothesis (H$_{o4}$): There is no quality gap with respect to the dimension of 'Empathy'

Alternative Hypothesis (H$_{a4}$): There is a quality gap with respect to the dimension of 'Empathy'

Accordingly, for the dimension of Empathy the Sig. value of the mean difference is less than 0.05, and therefore, rejecting H$_{o4}$ and accepting H$_{a4}$. This represents the students expectations about the dimension of 'Empathy' have not been met during the service delivery and there is a service quality gap. This shows that service quality (P-E) in terms of 'approachability (friendliness and warmth) of staff members', 'sincere interest in servicing the students', 'attention to individual needs of students' are negative. Thus, in order to meet the students' expectations academic staff must give more attention to the needs of the student.

The hypothesis to test the service quality gap with respect to the dimension of 'Tangibles' under the significant level 0.05 can be specified as follows.

Null Hypothesis (H$_{o5}$): There is no quality gap with respect to the dimension of 'Tangibles'.

Alternative Hypothesis (H$_{a5}$): There is a quality gap with respect to the dimension of 'Tangibles'.

The mean difference of (P-E) of 'Tangibles' is representing a negative value and that value is significant. Therefore, H_{o5} can be rejected under significance level of 0.05 and accept H_{a5}. This indicates that students' expectations are high with reference to the 'visually appealing external appearance of the staff', 'suitable buildings, places and facilities for effective services', 'cleanliness & safety of buildings, places and facilities' and 'up to date equipment provided by the institute 'and however, the institute has not met them. Therefore, this situation results in creating a service quality gap for the dimension of 'Tangibles'.

When considering the mean differences of each dimension, it represents that there are significant quality gaps with reference to Responsiveness, Assurance, Empathy and Tangibles as the students' expected service is higher than the perceived service with regard to each dimension. The mean differences between the (P-E) in 'Empathy' is grater comparing to other dimensions. Therefore, the service quality gap is also high with respect to the 'Empathy'. Accordingly, the next largest service quality gaps were revealed with respect to the dimensions of 'Responsiveness', 'Assurance' and 'Tangibles' respectively. Therefore, when meeting the students' expectations institute must give priority on improving according to the level of service quality gaps.

5.4. Correlation Analysis

The second objective of this study is to investigate the relationship between the 'Service Quality' and the 'Student Satisfaction'. Therefore, the 'Correlation Analysis' has been carried out in this study to examine whether there is a significant relationship between the 'Service Quality' and 'Student Satisfaction' with respect to five generic dimensions of SERVQUAL Model. The hypothesis for the 'Correlation Analysis' have defined bellow under the significant level of 0.01.

Table 3: Correlation between 'Reliability' and 'Student Satisfaction'

		Reliability Servqual	Overall Satisfaction
Reliability	Pearson Correlation	1	-.363[**]
	Sig. (2-tailed)		0
	N	450	450
Overall Satisfaction	Pearson Correlation	-.363[**]	1
	Sig. (2-tailed)	0	
	N	450	450
**. Correlation is significant at the 0.01 level (2-tailed).			

The hypothesis developed to test the correlation between the 'Reliability' and 'Student Satisfaction' can be stated as follows;

Null Hypothesis (H_{o1}): There is no relationship between 'Reliability' and 'Student Satisfaction'.

Alternative Hypothesis (H_{a1}): There is a relationship between 'Reliability' and 'Student Satisfaction'.

The Table 3 above shows that the relationship between the 'Reliability' and 'Student Satisfaction' under the significant

level 0.01 and thus accepting H_{a1} and rejecting H_{o1}. When considering the value of correlation there is a weak negative relationship. Thus, there is a negative relationship between the quality gap related to 'Reliability' and 'Students' Satisfaction'. This represents, when the quality gap of 'Reliability' increases the 'Students' Satisfaction' get decreased and once the quality gap of 'Reliability' decreases the 'Students' Satisfaction' get increased.

Table 4: Correlation between 'Responsiveness' and 'Student Satisfaction'

		Responsiveness	Overall Satisfaction
Responsiveness	Pearson Correlation	1	-.284[**]
	Sig. (2-tailed)		0
	N	450	450
Overall Satisfaction	Pearson Correlation	-.284[**]	1
	Sig. (2-tailed)	0	
	N	450	450
**. Correlation is significant at the 0.01 level (2-tailed).			

The hypothesis developed to test the correlation between the 'Responsiveness' and 'Student Satisfaction' can be specified as follows;

Null Hypothesis (H_{o2}): There is no relationship between 'Responsiveness' and 'Student Satisfaction'.

Alternative Hypothesis (H_{a2}): There is a relationship between 'Responsiveness' and 'Student Satisfaction'.

According to the above Table 4there is a significant relationship between the 'Responsiveness' and 'Student Satisfaction' under the significant level 0.01 and therefore, accepting H_{a2} and rejecting H_{o2}. When considering the strength and the direction of the relationship there is a weak negative relationship. This depicts when the quality gap of 'Responsiveness' increases the 'Students' Satisfaction' get decreased. On the other hand, once the quality gap of 'Responsiveness' deceases the 'Students' Satisfaction' get increased.

Table 5: Correlation between 'Assurance' and 'Student Satisfaction'

		Assurance _Servqual	Overall Satisfaction
Assurance	Pearson Correlation	1	-.310[**]
	Sig. (2-tailed)		0
	N	450	450
Overall Satisfaction	Pearson Correlation	-.310[**]	1
	Sig. (2-tailed)	0	
	N	450	450
**. Correlation is significant at the 0.01 level (2-tailed).			

The hypothesis developed to test the correlation between the 'Assurance' and 'Student Satisfaction' can be stated as follows;

Null Hypothesis (H_{o3}): There is no relationship between 'Assurance' and 'Student Satisfaction'.

Alternative Hypothesis (H_{a3}): There is a relationship between 'Assurance' and 'Student Satisfaction'.

The Table 5 above shows the relationship between the 'Assurance' and 'Student Satisfaction' under the significant level 0.01.Since, the Sig. value is less than 0.01, accept H_{a3} and reject H_{o3}.This represents that there is a significant relationship between the quality gap of 'Assurance' and 'Student Satisfaction'. When looking at the value of the correlation, the strength and direction hold a weak negative relationship respectively. Therefore, this shows when the quality gap of 'Assurance' increases the 'Students' Satisfaction' get decreased and once the quality gap of 'Assurance' decreases the 'Students' Satisfaction' get increased.

Table 6: Correlation between 'Empathy' and 'Student Satisfaction'

		Empathy_ Servequal	Overall Satisfaction
Empathy	Pearson Correlation	1	-0.054
	Sig. (2-tailed)		0.251
	N	450	450
Overall Satisfaction	Pearson Correlation	-0.054	1
	Sig. (2-tailed)	0.251	
	N	450	450

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

The hypothesis developed to test the correlation between the 'Empathy' and 'Student Satisfaction' can be identified as follows;

Null Hypothesis (H_{o4}): There is no relationship between 'Empathy' and 'Student Satisfaction'.
Alternative Hypothesis (H_{a4}): There is a relationship between 'Empathy' and 'Student Satisfaction'.

The Table 6 above shows that the relationship between the 'Empathy' and 'Student Satisfaction' under the significant level 0.01.The Sig. value of the above relationship is greater than 0.01 therefore, accept H_{o4} and reject H_{a4}. This represents that there is no significant relationship between the 'Empathy' and 'Student satisfaction'.

Table 7: Correlation between 'Tangibles' and 'Student Satisfaction'

		Tangibles_ Servequal	*Overall Satisfaction*
Tangibles	Pearson Correlation	1	-.490[**]
	Sig. (2-tailed)		0
	N	450	450
Overall Satisfaction	Pearson Correlation	-.490[**]	1
	Sig. (2-tailed)	0	
	N	450	450
**. Correlation is significant at the 0.01 level (2-tailed).			

The hypothesis developed to test the correlation between the 'Tangibles' and 'Student Satisfaction' can be stated as follows;

Null Hypothesis (H_{o5}**):** There is no relationship between 'Tangibles' and 'Student Satisfaction'.

Alternative Hypothesis (H_{a5}**):** There is a relationship between 'Tangibles' and 'Student Satisfaction'.

The Table 7 above shows that the relationship between the 'Tangibles' and 'Student Satisfaction' under the significant level 0.01.As the Sig. vale is less than 0.01, accept H_{a5} and reject H_{o5}.When considering the value of correlation there is a moderate negative relationship which means when the quality gap of 'Tangibles' increases the 'Students' Satisfaction' get decreased and once the quality gap of 'Tangibles' decreases the 'Students' Satisfaction' get increased.

6. Conclusions, Limitations and Suggestions for Future Research.

6.1 Key Findings

According to the 'One- Sample Test' it was clearly revealed that most of the students in the institute are having high expectations about the service provide by the academic staff and the physical facilities of the institute and however, the service has not delivered in a way that meet their expectations. When comparing the students' expectations with the perceived service there are significant quality gaps with reference to quality dimensions under the level of significance 0.05.The service quality gaps were mainly existed with reference to the quality dimensions of 'Responsiveness', 'Assurance', 'Empathy' and 'Tangibles'.
The 'Responsiveness' of the service were measured through 'staff willingness to help students promptly', 'ease of contact or accessible to the staff at any time and prompt service' and 'prompt response to student requests'. Through the analysis it was revealed that, the student expectations are high with regard to each aspect and students have not met them. On the other hand it manifests, the attempt that is placing by the academic staff is not par with the expected level of the students. When considering about the dimension of 'Assurance' students expectations about the 'competence (knowledge and skill) of the staff members', 'believability and honesty of the staff members', 'knowledge of the information that students need from the staff members' are high and their perceived service with reference to each aspect is low and therefore, it resulted a service quality gap with respect to 'Assurance'. Moreover, there is a significant quality gap for the dimension of 'Empathy' and it holds the highest gap as students are having high expectations on 'approachability (friendliness and warmth) of staff members', 'staff interest in servicing the students', 'attention to individual needs of students'. This also shows that the academic staff does not perform in a way that meet the students' expectations on 'Empathy'.

Further, considering about the 'Tangibles', there are significant quality gaps in terms of 'visually appealing external appearance of the staff (clean & neat dress code)', 'suitable buildings, places and facilities for effective services', 'cleanliness & safety of buildings', ' up to date equipment'. This reveals that the institute has not given priority to provide physical facilities related to the academic environment in a way that it meets the students' expectations. Nevertheless, with respect to the dimension of 'Reliability' there is no significant gap. This depicts the students are receiving a reliable service from the academic staff of the institute. This assures that 'staff is performing the right service the first time' and 'students are obtaining a

service which is consistent' and further this shows that 'students are getting their service on time'.

According to the 'Correlation Analysis', there is a weak negative correlation between the 'Reliability' and 'Student Satisfaction' under the significant level of 0.01.This manifest that, when service quality gap with respect to the dimension of 'Reliability' increases the 'Student Satisfaction' get decreased. When considering the strength and the direction of the relationship between the 'Responsiveness' and 'Student Satisfaction' there is a weak negative linear relationship and this exhibited when the quality gap of 'Responsiveness' increases the 'Student Satisfaction' get decreased. When looking at the value of the correlation between quality gap (P-E) of 'Assurance' and 'Student Satisfaction', the strength and direction hold a weak negative linear relationship. Therefore, when the quality gap of 'Assurance' increases the 'Student Satisfaction' get decreased. However, it revealed that there is no significant relationship between the quality gap of 'Empathy' and 'Student Satisfaction' under the significant level of 0.01. When considering the value of correlation between the quality gaps of 'Tangibles' and 'Student Satisfaction' there is a moderate negative relationship. This depicted that once the quality gap of 'Tangibles' increases the 'Student Satisfaction' get decreased.

All in allit revealed that there are quality gaps in the service provided by the institute and it has been affected to the students' satisfaction as well. Therefore, as for the policy implications the institute can give more priority in getting student's feedback, allocating suitable staff at different academiclevels of the program, obtaining peer reviews and improving physical facilities.

6.2 Limitations of the Study

One of the limitations in this study is that, the sample was not included the fourth year students. The reasons were that the 'Engineering Faculty' was started recently, and the students have not yet reached to the fourth year of degree course. Even in other two faculties, most of the fourth year students were not frequently attending to the institute as they were under industrial training and some had been joined for internship programs. Therefore, the sample included only the first three year undergraduates. Another limitation was that the institute did not provide some of the confidential data relating to students' complaints with the assumption that it will damage the image and the dignity of the institute.

6.3 Suggestions for Future Research

This study has been focused only on the service quality in private higher education institutes in Sri Lanka. Therefore, there is researchable area where the future researchers can conduct the same study for the public sector higher education institutes. Moreover, researchers can conduct a study on service quality with respect to the service provide by non-academic staff in both public and private higher education institutes.

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