An Empirical Study on Assessing Quality of Educational Service Using SERVQUAL Model

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The purpose of this study is to examine the service quality in Institutions providing higher education using the dimensions of SERVQUAL model. During the last decade, quality initiatives have been the subject of an enormous amount of practitioner and academic discourse, and at various levels have found a gateway into higher education. A modified SERVQUAL instrument along with the focus group interviews are used to generalize the results. The objective of the study is to explore the services offered by the institutions of higher education, finding the perception and expectation of the students and thereby to find the gap between the expectation and the perception of the students from the institutions of higher education. In an attempt to improve the quality of services offered by the institutions of higher education, several recommendations and conclusions are extracted and some direction for further research is suggested.

Keywords: *SERVQUAL, Educational Services, Service Quality, Higher Education*

INTRODUCTION

Over the last decade, Indian business and management schools have experienced an increasing number of under graduate and post-graduate students in hope of obtaining high quality education. India seems to have indeed entered a golden age for higher education. Many progressive steps taken in 12th, 13th and 14th Five Year Plans have come to fruition. The country has emerged to be a global magnet for aspiring learners, and a role model for high-quality affordable educational systems.

Today,

- India is the single largest provider of global talent, with one in four graduates in the world being a product of the Indian system

- India is among top 5 countries globally in cited research output, its research capabilities boosted by annual R&D spends totaling over US$140 billion

- India is in the fourth cycle of its research excellence framework with at least a 100 of Indian universities competing with the global best

- 23 Indian universities are among the global top 200 going from none two decades ago.

- In the last 20 years alone, 6 Indian intellectuals have been awarded the Nobel Prize across categories

- India is a regional hub for higher education, attracting global learners from all over the world

- The country has augmented its GER to 50% while also reducing disparity in GER across states to 5 percentage points

- The Indian higher education system is needs-blind, with all eligible students receiving financial aid. Two thirds of all government spending towards higher education is spent on individuals, including faculty and students

- India's massive open online courses, started by several elite research universities, collectively enroll 60% of the world's entire student population

- Indian higher education institutions are governed by the highest standards of ethics and accountability with every single one of them being peer-reviewed and accredited

To sum up, the three tiers of Indian universities produce among the best-in-class knowledge creators, problem solvers and process managers, who also display deep social, cultural and ecological sensitivity, and are collaborative leaders and responsible citizens. In effect, the Indian graduate of today is not only an excellent human resource but also an admirable human being. Even as India deserves to fully revel in its resounding success of the last two decades, it must remember that to maintain its position of leadership in higher education, the next twenty years call for just as much leadership, vision and commitment as did the last twenty, and a golden vision 2050 should be India's next aspiration! ("EY - Higher education in India: Vision 2030 - Ernst & Young." 19 Jun. 2014, http://www.ey.com/ Publication/ vwLUAssets/ Higher-education-in-India-Vision-2030/ $FILE/ EY-Higher-education-in-India-Vision-2030.pdf 19 Jun. 2014).

The search of quality has become an important consumer trend (Parasuraman et al. 1985, 1988) and a whole industry centered on the measurement of a consumer and perceived quality satisfaction has arisen (Berry et al. 1988). The nineties can be described as a "decade of heightened interest in

quality" (Srikanthan 1999). The term "quality" has been defined from different perspectives and orientations (Shaney et al. 2004) and according to Tapiero (1996) depends on the person making the definition, the measures applied and the context within which it is considered. "Quality is excellence", "quality is value", "quality is conformance to specifications"(Pariseau and McDaniel 1997) "quality is fitness for use" (Juran and Gryna 1988), "quality is conformance to requirements" (Crosby 1979), "defect avoidance"(Crosby 1984), and "meeting and/ or exceeding customers expectations", claimed Parasuraman et al. 1985). Many of the well-known definitions of quality emphasize the relationship between quality and a customer's need and satisfaction (Zafiropoulos et al. 2005). Petruzzellis et al. (2006: 351) stated, "the higher the service quality the more satisfied the customers". In that way, satisfaction is based on customer's expectations and perception of service quality (Christou and Sigala 2002; Ekinci 2004; Sigala 2004a, b). Stodnick and Rogers's (2008) study applied the SERVQUAL instrument to measure student perceptions of service quality in a classroom setting, and the results demonstrated that a customer-centric quality scale such as SERVQUAL could be applied in a classroom setting.

Since the mid-1990s, a large variety of assessment methods have been used to appraise service quality in higher education, namely: student evaluations, importance-performance analysis (IPA), Servperf analysis, gap analysis, and SERVQUAL gap analysis. The SERVQUAL instrument (Parasuraman, Berry, & Zeithaml, 1991, 1994; Parasuraman, Zeithaml, & Berry, 1988) widely recognized in the service sector as a multi-item scale developed to assess customer perceptions of service quality has been used to assess service quality in higher education at the undergraduate level (O'Neill, 2003; Pariseau & McDaniel, 1997; Stodnick & Rogers, 2008).

The SERVQUAL approach has been applied in service and retailing organizations (Parasuraman et

al., 1988; Parasuraman et al., 1991). Service quality is a function of prepurchase customers, expectation, perceived process quality, and perceived output quality. Parasuraman et al. (1988) defines service quality as the gap between customer's, expectations of service and their perception of the service experience. Based on Parasuraman et al. (1988) conceptualization of service quality, the original SERVQUAL instrument included 22 items. The data on the 22 attributes was grouped into five dimensions: Tangibles, Reliability, Responsiveness, Assurance, and Empathy. Numerous studies have attempted to apply the SERVQUAL. This is because it has a generic service application and is a practical approach to the related area. This instrument has been formed to measure service quality in a variety of services such as hospitals (Babakus & Glynn 1992), hotels (Saleh & Rylan 1991), travel and tourism (Fick & Ritchie 1991), a telephone company, two insurance companies and two banks (Parasuraman et al. 1991). SERVQUAL is a multi-item scale developed to assess customer perceptions of service quality in service and retail businesses (Parasuraman et. al., 1988). The scale decomposes the notion of service quality into five constructs as follows:

* **Tangibles** - physical facilities, equipment, staff appearance, etc.

* **Reliability** - ability to perform service dependably and accurately

* **Responsiveness** - willingness to help and respond to customer need

* **Assurance** - ability of staff to inspire confidence and trust

* **Empathy** - the extent to which caring individualized service is given

SERVQUAL represents service quality as the discrepancy between a customer's expectations for a service offering and the customer's perceptions of the service received, requiring respondents to answer questions about their expectations and perceptions (Parasuraman et. al., 1988). The use of perceived as opposed to actual service received makes the SERVQUAL measure an attitude measure

that is related to, but not the same as, satisfaction (Parasuraman et. al., 1988). Parasuraman et. al. (1991) presented some revisions to the original SERVQUAL measure to rectify the problems with high means and standard deviations found in some questions and to obtain a direct measure of the importance of each construct to the customer. Later the research analysis reveals that it is possible to integrate the two approaches by integrating Service Quality Gap Analysis and Utility Theory (Robert F Bordley, 2001). The dominant models of Positivistic approach have been created by Christian Gronroos (1984) and A Parsuraman, Valarie A Zeithaml and Leonard L Berry (1985). Both models look at service quality gaps between expected service and perceived service from the point of view of the researcher. They consider service quality as a multidimensional attitude held by consumers where each dimension is made up of a number of attributes. The models assume a rational, rule based review of service quality as an accurate depiction of consumer perception. ("SERVQUAL - IS Theory." 08 Mar. 2014, http:// istheory.byu.edu/ wiki/ SERVQUAL 19 Jun. 2014).

However, the Gap Analysis Model of Service Quality created by Parsuraman, Zeithaml and Berry (1988, 1985) is the most widely accepted instrument to measure service quality. They postulated that a-priori factors like Personal Needs, Word-of-Mouth influences and Past Experiences as well as Communication by the service organization create Expectation of service. ("Gap Analysis in Service Through SERVQUAL: A Study of ...." http:// papers.ssrn.com/ abstract=2334207 19 Jun. 2014). A service quality gap results when service perceptions fall short of expectations. Whereas when the service is delivered, the customer forms a Perception. The extent of difference between the two contributes to the customer evaluating the service highly or otherwise. Other researchers have concluded similarly, in terms of prior expectation of the service if formed by the customer's mind using intrinsic and extrinsic cues, previous experience and other information sources (Gould and Williams, 1999). ("Comparison of Customers Perception with

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Regard to ...." 18 Jan. 2013, http:// www.delhi businessreview.org/ v_13n2/ v13n2f.pdf 19 Jun. 2014).

The first possible gap is the knowledge gap. The second possible gap is that of standard. It is the result of differences in managing knowledge of the client's expectations and the process of service provision (delivery). The fourth possible gap is the communication gap arising when there is a difference between the delivered service and the service that the company promised to the clients via external communications. According to the model 'Service Quality (SQ) =Perception (P) Expectation (E)'. For each respondent, the service quality for each dimension is calculated: where SQ is the service quality of the jth dimension, Eij is the expectations for the ith attribute in the jth dimension, Pij is perception for the ith attribute in the jth dimension and nj is the number of attributes in the jth dimension. An average score for each dimension is

then calculated across all respondents. A global service quality score is also calculated by taking the arithmetic:

The instrument created by the authors of the Gap Analysis Model, called SERVQUAL includes 5 dimensions of service quality Reliability, Responsiveness, Tangibles, Assurance and Empathy. Parsuraman have published studies prior to their paper on the Gaps model wherein they started with 10 dimensions that were tested amongst consumers and judges across various service industries and thus was refined to 5 dimensions before being used in SERVQUAL. Several later models also use the 5 dimensions as bases for evaluating service quality. Research has been conducted across industries and cultural contexts using SERVQUAL (Fornell, C. 1992). Critics of SERVQUAL (Nyeck, S., Morales, M., Ladhari, R., & Pons, F. 2002) argue that depending on the context and the particular service industry, the dimensions

Figure 1. The Service Quality Model

$$SQ_i = \sum_{j=1}^{k} \left(P_{ij} - E_{ij} \right)$$
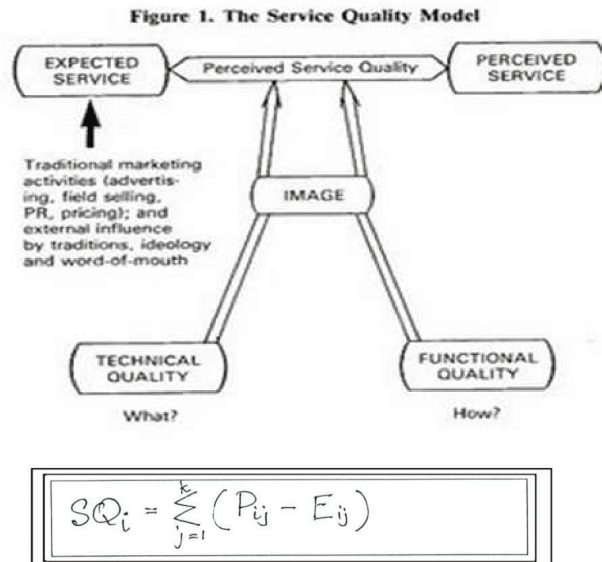
of quality may be prioritized differently and may even be customized. Some service quality researchers even go to the extent of saying that the difference scores between perception and expectation, as computed using SERVQUAL should be avoided (Peter, Churchill and Brown, 1992) and state that there are serious problems in

conceptualizing service quality as a difference score. In their empirical studies, Cronin, Brady and Hult (2000) used a performance-only measure of Service Quality, called SERVPERF, and found that the new scale captured the variation in Service Quality better than SERVQUAL. Where the global service quality score is also calculated by taking the arithmetic:

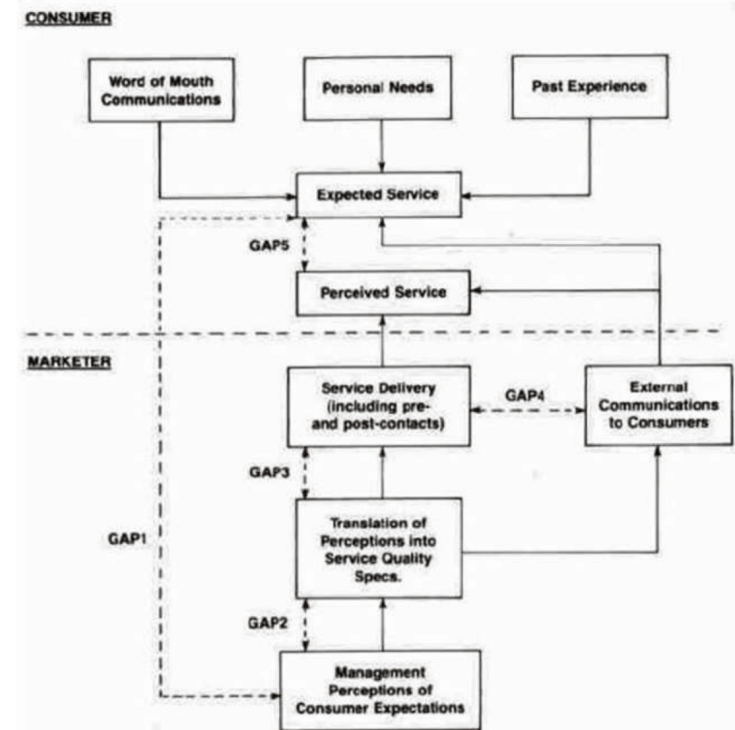$$SQ_i = \sum_{j=1}^{k} P_{ij}$$

Fig. 2 Source: A. Parsuraman, Valarie A Zeithaml and Leonard L Berry, "A Conceptual Model of Service Quality and its Implications for Future Research", Journal of Marketing, fall 1985, p.44.

REVIEW OF LITERATURE

Service Quality In Education

During the last decade, quality initiatives have been the subject of an enormous amount of practitioner and academic discourse, and at various levels have found a gateway into higher education (Avdjieva and Wilson, 2002). In the US many academic institutions have implemented such policies in response to a reduction in student funding, complaints by employers and parents, as well as the pioneering success of such drives in many corporate businesses (Kanji and Tambi, 1999).

However, since the early to mid 1990s a stream of work has explored aspects of service quality relating to the teaching and learning factors, and the environmental attributes influencing higher education (Harrop and Douglas, 1996; Narasimhan, 1997; and Shank et al., 1995), with the majority of such investigations using student evaluations to assess quality (Rowley, 1997; Aldridge and Rowley, 1998).

S.NO.	YEAR	AUTHOR	FINDINGS
	1982	Crosby	Quality is conformance to requirements.
	1982	U. Lehtinen and J. R. Lehtinen	Conceptualized service quality as comprised of three dimensions: physical quality; interactive quality, and corporate quality. Physical quality dimensions refers to the quality of physical elements of service, including tangible products elements that accompany the service offer, supporting equipment and the physical environment where service takes place. Interactive quality dimension refers to the quality of interaction between customer and other elements of service experience, i.e. service personnel, other customers, and machinery and equipment. Corporate quality is the quality dimension which is developed through the years of existence of a service company. It has a symbolic nature and refers to the way potential customers view the corporate entity, its image or profile
	1985	Parasuraman, Zeithaml and Berry	They identified ten dimensions of service quality, which were presented together with a model of service quality. They were accessibility, reliability, responsiveness, competence, courtesy, communication, credibility, security, understanding the customer, and tangibles
	1984	Gronroos	Service quality is comprised of two dimensions: technical quality and functional quality. Technical quality concerns the outcome, or what the customer received from the service and can be measured similarly to the assessment of product quality. Functional quality concerns the process of evaluating the manner of delivering the service. 1988JuranQuality is fitness for use, the extent to which the product successfully serves the purpose of the user during usage.
	1991	Parasuraman et al.	Reported that SERVQUAL scale is a very useful starting point for measuring service quality and that SERVQUAL can be supplemented with additional findings regarding gap scores. They support their scale, arguing that SERVQUAL can be used in various industries, modified when necessary according to industry characteristics.
	1991	Stewart and Felicetti	Reported that a majority of students' in their study were dissatisfied with their business school for what they perceived to be insufficient orientation assistance on their arrival at the school.
	1995	Hill	Suggests there may well be a `mismatch' between students' expectations and their perceived quality. Using a framework that he developed to investigate a small sample of accounting undergraduates in the UK, he discovered that negative results (P-E) emerged in terms of academic service factors, including course content, teaching quality, teaching methods, personal contact with academic staff, feedback, and student involvement with curriculum.
	1996	Owlia & Aspinwall	Conceptually arranged thirty `quality characteristics' into six dimensions named `tangibles', `competence', `attitude', `content', `delivery', and `reliability' as a framework for future tests in a SERVQUAL - type structure

S.NO.	YEAR	AUTHOR	FINDINGS
	1996	Tomovick, Jones and Al-Khatib	Examined the factors that influence the service quality perceptions of international students in US business schools. They adapted the SERVQUAL for an educational setting. It contained 20 of the original 22 SERVQUAL items. They dropped, after pretesting, two items deemed inappropriate for the educational setting. They assessed both discriminant and convergent validity of the modified scale, keeping the five dimensions of the SERVQUAL (tangibles, reliability, responsiveness, assurance, and empathy). They found that international business students considered tangibles (e.g. of appealing facilities) one of the two most important factors in their assessment of educational service quality.
	1997	Adee	Suggests that several `university characteristics' may be useful in explaining the perceived quality among students, these being an emphasis on competent teaching, the availability of staff for student consultation, library services, computer facilities, recreational activities, class sizes, level and difficulty of subject content, and student workload.
	1997	Pariseau and McDaniel	used the SERVQUAL framework to draw comparisons between faculty members and undergraduate students regarding their expectations and perceptions of professors.
	1999	Ford et al.	Suggest that because of the high competitive intensity surrounding business related courses, institutions need to better understand the nature and quality of service offered. They also warn that blanket strategies may not be applicable globally, as different cultures could have different service quality needs.
	1999	Long et al.	used `gap analysis' to develop a number of questions in order to compare what students `look for' (expect) and what they `experience' on a course.
	2000	Oldfield and Baron	Empirical findings from a sample of students studying in the UK revealed three factors that appear to be important in a business and management faculty. These were labelled `requisite' - items which were deemed essential to enable students to fulfil their studies, `acceptable' as those aspects students feel are desirable, and `functional' - representing items of a practical or utilitarian value.
	2000	Sander et al.	Examined undergraduates' expectations and preferences in teaching, learning and assessment.
	2001	Lampley	Formed a number of question statements relating to responsiveness / caring, records / paperwork, university services, accessibility / safety, knowledge / scheduling, facilities / equipment, and public relations to measure expectations and perceptions among doctoral students in six US universities.
	2001	Wisniewski	Suggests that SERVQUAL can be applied across a broad range of service organizations coming from different sectors, since it employs psychometric testing and trials. Indeed, since its introduction, SERVQUAL scale has been tested and used in various contents.
	2002	O'Neill	Using a modified SERVQUAL scale undertook a longitudinal study on a sample of undergraduate students in Western Australia. Although his findings demonstrated that the measurement items failed to load on the five prescribed SERVQUAL dimensions, he discovered that student perceptions of quality had deteriorated - suggesting service quality in higher education may be influenced by time.
	2003	Vidal et al.	The researchers suggest that `guidance services', in `professional', `academic' and `personal' matters play an integral part of the education process in Spain.
	2003	Lau	Many American institutions are experiencing a loss in students not returning to campus to complete under graduate programmes. As a result she provides a conceptual framework consisting of three factors based on learning, teaching and resources (Institutional Administrators, Faculty, and Students) which are considered to influence student involvement /learning, which in-turn leads to student retention, and graduation.
	2003	LaBay and Comm	Developed a number of measures to evaluate student expectations and perceptions, concerning their tutor, on a sample of undergraduate and distance learning students. Using a wide range of scales
	2003	Ham and Hayduk	Delineate that the dimensions of SERVQUAL may be intrinsically linked to the overall quality of service as well as customer satisfaction.

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OBJECTIVES OF STUDY

The main objectives of this study are:

(1) To explore the services offered by Institutions of higher education.

(2) To find the expectation and perception of students about the services offered to students studying in Institutions of higher education

(3) To determine whether there is any gap between the expectations and perception of students about services offered by Institutions of higher education.

(4) To determine whether students getting value to their fee against the services offered by the Institutions of higher education.

(5) To determine whether students are overall satisfied with the services offered by the Institutions of higher education and how much satisfied they are to recommend others also.

RESEARCH METHODOLOGY

An action research approach was adopted for this line of investigation. In depth personal interviews were undertaken with the Head of Departments and Director of Post-Graduate and Under-graduate Programmes. Two focus group discussions were also performed at this stage. The first took place with Head of Departments, who have responsibility for the daily operations and welfare of such students. The second was conducted with four postgraduate and four undergraduate students. Such exploratory research methods can prove beneficial for generating ideas and obtaining further insights in order to build on the literature. After each interview and focus group, various modifications were made to the instrument based upon the recommendations offered. The framework was then later tested with a small sample of post-graduate and under-graduate students. The entire procedure proved invaluable in helping to develop, test and refine an instrument designed to measure service quality among postgraduate and undergraduate students, and thus provided a significant input into the overall research process. The final instrument consisted of three constituent parts. The first section outlined nineteen statements that were modified from the original SERVQUAL instrument, and this part was used to measure students' expectations prior to coming to the college of higher education. Two subsequent dimensions were added, and these were labeled `guidance' (items referring to the guidance and support elements provided), and `institution' (items referring to the facilities that the institute provides). Similar statements were later used in the second section to obtain the students' perceptions. This part also contained a series of questions relating to the performance measures that were earlier highlighted. In an attempt to avoid respondent confusion, seven item likert scales were used throughout, anchored by 1 - Strongly Disagree through to 7 ± Strongly Agree.

For each of the statements, mean values of Perception (P) and Expectation (E) are calculated whereas the third column in the table 1a and 1b represents the gap between the expectation and perception of students towards the higher education institutions. i.e. Gap = P E (Parasuraman et al., 1988). The three columns in the table 1a and 1b given the mean scores of summarized results of the perception, expectation and gap scores. However total mean scores and dimension wise average is also shown so that in order to deep understanding of the dimensions required for improving the quality of services in the higher education. The expectation and perception items were measured using a seven point scale, from 1 = strongly disagree, to 7 = strongly agree, with four serving as a mid point / neutral opinion on the scale. Mean scores greater than four identify a tendency for respondents to agree with a particular statement, whereas means of less than four indicate disagreement.

RESULTS

Table Ia: Mean Scores for the SERVQUAL Expectations and Perceptions			
DIMENSIONS	**PERCEPTION(P)**	**EXPECTATION(E)**	**P – E**
Responsiveness			
1. Prompt services by employees of Institution	4.81	5.77	- 0.96
2. Teaching and Non teaching staff willing to help students	5.24	6.00	- 0.76
3. Prompt response to requests of students by employees	4.65	5.49	- 0.84
TOTAL	**14.7**	**17.26**	**-2.56**
AVERAGE TOTAL	**4.9**	**5.75**	**- 0.85**
Assurance			
4. Instill confidence	4.76	5.57	- 0.81
5. To be courteous	5.01	5.52	- 0.51
6. Have knowledge	5.24	6.08	- 0.84
TOTAL	**15.01**	**17.17**	**- 2.16**
AVERAGE TOTAL	**5.00**	**5.72**	**0.72**
Empathy			
7. Teaching staff provide individual attention to students	4.08	5.28	- 1.2
8. Support staff provide individual attention to students	4.04	5.31	- 1.27
9. Employees of Institution understand needs of students	3.95	5.37	- 1.42
10. Employees of Institution have best interests at heart	4.18	5.23	- 1.05
11. Institutions have convenient hours	4.07	6.16	- 2.09
12. Institutions offfice has convenient hours	4.18	5.78	- 1.6
TOTAL	**24.5**	**33.13**	**- 8.63**
AVERAGE TOTAL	**4.08**	**5.52**	**- 1.44**
Tangibles			
13. Institutions have modern looking equipment	5.29	5.46	- 0.17
14. The employees are neat and clean.	5.34	5.81	- 0.47
15. Materials of the Institution is visually appealing	5.03	5.58	- 0.55
TOTAL	**15.66**	**16.85**	**- 1.19**
AVERAGE TOTAL	**5.22**	**5.61**	**- 0.39**
Reliability			
16. Employees of Institution deliver services on-time	5.19	6.06	- 0.87
17. Employees of Institution are ready to solve problems	4.63	5.84	- 1.21
18. Employees of Institution perform right the first time	4.86	5.77	- 0.91
19. Employees inform of events and services	5.04	5.87	- 0.83
TOTAL	**19.72**	**23.54**	**- 3.82**
AVERAGE TOTAL	**4.93**	**5.88**	**- 0.95**
SERVQUAL TOTALS	**89.59**	**107.95**	**- 18.36**
SERVQUAL AVERAGE	**4.826**	**5.696**	**- 0.87**

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Table Ib: Mean Scores for the Institution and Guidance Dimensions			
DIMENSIONS	PERCEPTION(P)	EXPECTATION(E)	P – E
Institution			
20. Adequate sports and recreation facilities in Instituion	4.22	5.54	- 1.32
21. Location of Campus is suitable	5.45	5.73	- 0.28
22. Layout of campus is suitable	5.15	5.42	- 0.27
23. Library facilities are suitable	5.71	6.52	- 0.81
24. Adequate books are available in library	4.83	6.22	- 1.39
25. Healthcare provisions are adequate in the Institution	4.64	5.50	- 0.86
26. Financial services are adequate in the Institution	3.92	5.21	- 1.29
27. Class sizes are suitable	4.22	5.87	- 1.65
28. Appropriate level / difficulty of study	4.85	5.89	- 1.04
29. Work load is adequate	4.85	5.56	- 0.71
30. Students are treated as a client	4.44	4.87	- 0.43
31. Comfortable lecture theatres available for the students	4.84	6.24	- 1.4
32. Sufficient computing facilities	5.41	6.17	- 0.76
33. Adequate study areas	4.48	5.87	- 1.39
34. Adequate media support	4.49	5.95	- 1.46
35. Refreshment areas are suitable and comfortable	4.07	5.38	- 1.31
36. Reasonably priced refreshments is available for students	3.47	5.84	- 2.37
TOTAL	**79.04**	**97.78**	**- 18.74**
AVERAGE TOTAL	**4.65**	**5.75**	**- 1.10**
Guidance			
37. Suitable career guidance provided by faculty and placement cell	4.66	5.84	- 1.18
38. Suitable academic guidance by the faculty of Institution	5.12	6.08	- 0.96
39. Guidance on personal matters by the Personal contact forum	4.15	5.09	- 0.94
40. Guidance on cultural issues	4.26	5.22	- 0.96
41. Suitable induction facility	4.45	5.48	- 1.03
TOTAL	**22.64**	**27.71**	**- 5.07**
AVERAGE TOTAL	**4.528**	**5.542**	**- 1.014**
SERVQUAL TOTALS	**101.68**	**125.49**	**- 23.81**
SERVQUAL AVERAGE	**4.589**	**5.646**	**- 1.057**

Service Quality gaps (P E) is being shown in the third column of the table 1a and 1b. It is being observed that all the values in this column are negative, which shows that students expect more from the institutions providing higher education. It shows services are falling short of students expectations.

Paired Sample T-Test Statistics about Services offered by Institutions

Table II represent the significant difference between the perception and expectation of services offered by the Institutions to students on all the dimensions and forty one statements. Two of the paired items under

the tangibles dimension modern looking equipment and neat employees were found to be significant at _ <.05. It can be concluded here that there is a significant difference between the students' expectations and perceptions of services offered by Institutions to students at the 95 per cent confidence level. However, for all the other statements, there is a statistical significance of _ <.01, which illustrates a statistically significant gap between the students' perceptions and expectations of services offered to them at the 99 per cent confidence level.

Table II: Paired Sample T-Test Statistics		
DIMENSIONS	t-value	p-value
Responsiveness		
1. Prompt services by employees of Institution	6.87	.000
2. Teaching and Non teaching staff willing to help students	6.45	.000
3. Prompt response to requests of students by employees	5.08	.000
Assurance		
4. Instil confidence	6.37	.000
5. To be courteous	5.05	.000
6. Have knowledge	6.39	.000
Empathy		
7. Teaching staff provide individual attention to students	7.24	.000
8. Support staff provide individual attention to students	6.84	.000
9. Employees of Institution understand needs of students	7.94	.000
10. Employees of Institution have best interests at heart	5.81	.000
11. Institutions have convenient hours	9.55	.000
12. Institutions offfice has convenient hours	8.58	.000
Tangibles		
13. Institutions have modern looking equipment	2.24	.027*
14. The employees are neat and clean.	2.18	.031*
15. Materials of the Institution is visually appealing	4.52	.000
Reliability		
16. Employees of Institution deliver services on-time	6.54	.000
17. Employees of Institution are ready to solve problems	7.95	.000
18. Employees of Institution perform right the first time	7.51	.000
19. Employees inform of events and services	5.49	.000
Institution		
20. Adequate sports and recreation facilities in Instituion	7.55	.000
21. Location of Campus is suitable	2.68	.007
22. Layout of campus is suitable	3.51	.001
23. Library facilities are suitable	5.84	.000
24. Adequate books are available in library	8.24	.000

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DIMENSIONS	t-value	p-value
25. Healthcare provisions are adequate in the Institution	6.54	.000
26. Financial services are adequate in the Institution	8.12	.000
27. Class sizes are suitable	8.44	.000
28. Appropriate level / difficulty of study	5.44	.000
29. Work load is adequate	4.21	.000
30. Students are treated as a client	2.54	.006
31. Comfortable lecture theatres available for the students	8.75	.000
32. Sufficient computing facilities	5.46	.000
33. Adequate study areas	7.48	.000
34. Adequate media support	7.86	.000
35. Refreshment areas are suitable and comfortable	6.33	.000
36. Reasonably priced refreshments is available for students	9.24	.000
Guidance		
37. Suitable career guidance provided by faculty and placement cell	6.48	.000
38. Suitable academic guidance by the faculty of Institution	6.21	.000
39. Guidance on personal matters by the Personal contact forum	5.42	.000
40. Guidance on cultural issues	8.78	.000
41. Suitable induction facility	7.21	.000

Table IIIa: The Correlates of Student Value (in terms of fees paid)			
DIMENSIONS	Beta	t	sig
Responsiveness	0.87	0.766	0.139
Assurance	0.07	0.101	0.912
Empathy	0.370	2.883	0.000
Tangibles	0.034	0.388	0.291
Reliability	0.064	0.562	0.568
R	**0.852**		
R Square	**0.754**		
R Square (Adj)	**0.649**		

ANOVA

Model	Sum of Squares	df	Mean Square	F	sig
Regression	51.11	5	10.222	6.681	.000
Residual	147.02	96	1.53		
Total	198.13	101			

REGRESSION ANALYSIS

In order to analyze and generalize the results regression analysis is being done to find the relationship between certain dimensions and variables. All the five factors i.e. Tangibility, Reliability, Responsiveness, Assurance and Empathy are taken as the independent variables while other factors i.e. value for fees paid, satisfaction with the experience and willingness to recommend are serving as the dependent variables. The data is being represented below. All the dimensions i.e. Tangibility, Reliability, Responsiveness, Assurance and Empathy are regressed against one another to check the problem of multicollinearity. In all cases, no significant multicollinearity exists between the dimensions.

The above table IIIa illustrates that there is a strong correlation of 0.852 between dimensions and value in terms of fees paid. It means there is a strong positive correlation between the service dimensions and the value in terms of fees paid. The value of adjusted R2 is 0.649 this is being taken as it is a case of multiple correlation where dimensions itself can correlate and affect the line of best fit which clearly indicates that 64.9% variances in value in terms of fees paid are explained by the service quality dimensions. From the ANOVA table it is clear that the service quality dimensions are significant to explain the value in terms of fees paid as the significant value is less that 1% level of significance. The beta factor is higher in case of Empathy that is 0.370 it means the institutions has to concentrate more on this service quality dimension as this is the most important dimension for predicting the perception of customers regarding value in terms of fees paid.

The above Table IIIb illustrates that there is a strong correlation of 0.849 between service quality dimensions and overall satisfaction of students in terms of services offered by the institutions of higher education. It means there is a strong positive

Table IIIb: The Correlates of Student Satisfaction with the Experience			
DIMENSIONS	Beta	t	sig
Responsiveness	0.117	0.943	0.348
Assurance	0.062	0.516	0.605
Empathy	0.173	1.270	0.207
Tangibles	- 0.057	-0.559	0.576
Reliability	0.149	1.170	0.245
R	**0.849**		
R Square	**0.703**		
R Square (Adj)	**0.621**		

ANOVA

Model	Sum of Squares	df	Mean Square	F	sig
Regression	19.54	5	3.908	3.591	0.003
Residual	104.50	96	1.088		
Total	124.04	101			

Table IIIc: The Correlates of the Students' Willingness to Recommend

DIMENSIONS	Beta	t	sig
Responsiveness	0.094	0.692	0.491
Assurance	0.069	0.513	0.609
Empathy	0.061	0.409	0.684
Tangibles	- 0.034	-0.324	0.747
Reliability	0.165	1.203	0.234
R	0.817		
R Square	0.792		
R Square (Adj)	0.718		

ANOVA

Model	Sum of Squares	df	Mean Square	F	sig
Regression	13.98	5	2.796	1.967	0.000
Residual	136.47	96	1.421		
Total	150.45	101			

correlation between the service dimensions and overall satisfaction of students in terms of services offered by the institutions of higher education. The value of adjusted R2 is 0.703 this is being taken as it is a case of multiple correlation where dimensions itself can correlate and affect the line of best fit which clearly indicates that 70.3% variances in overall satisfaction of students are explained by the service quality dimensions. From the ANOVA table it is clear that the service quality dimensions are significant to explain the overall satisfaction of students as the significant value is less that 1% level of significance.

The above table IIIc illustrates that there is a strong correlation of 0.817 between service quality dimensions and willingness to recommend. It means there is a strong positive correlation between the service dimensions and willingness to recommend. The value of adjusted R2 is 0.718 this is being taken as it is a case of multiple correlation where dimensions itself can correlate and affect the line of best fit which clearly indicates that 71.8% variances in willingness to recommend are explained by the service quality dimensions. From the ANOVA table it is clear that the service quality dimensions are significant to explain the overall satisfaction of students as the significant value is less that 1% level of significance.

CONCLUSION

It is to suggest that here the Institutions of higher education are performing sufficiently well in terms of the dimensions of the SERVQUAL model. The negative gap score is argued in terms of students' lack of experience and knowledge to judge certain dimensions. Therefore, to some extent the gaps may be inevitable, and the issue of `experience' comes into the equation, which has been previously raised as one of SERVQUAL's limitations (c.f. Buttle, 1996). As each of the dimensions of the SERVQUAL model, containing forty one statements, tested significantly, the institution could adopt a corporate policy drive to improve quality across the board. However, a more focused approach may be to focus on those areas considered to be of most relative importance as perceived among the sample. From the data collected, it was discovered that the Reliability and

Institution dimensions appeared to be the two most relatively important factors. Both had relative percentage scores a few percent higher than the Responsiveness, Tangibles, Empathy, Assurance, and Guidance dimensions. The findings suggest that students were not impressed by certain lecture theatres, the lack of study areas, class sizes, and insufficient media support. Hence, certain lecture theatres need to be re-vamped, and there is a genuine need to create study rooms for post-graduates, reduce class sizes, and provide more technical support facilities.

LIMITATIONS OF STUDY

It is recommended that more research should be undertaken amongst the students studying in institutions of higher education on a global basis. Such kind of research will provide the fruitful data and results can be used in comparing the services being provided by the institution.

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