Assessing Quality of Educational Service by the SERVQUAL Model: Viewpoints of Hotel Management Undergraduate Students at Manipal University in India

Parvadhavardhini Gopalakrishnan*

Abstract

Considerations and thoughts on how students perceive or expect quality of educational services, contributes to a great deal in improving the quality of educational and academic services in Universities and Institutions across the world. Defining the probable gaps between the expectations and perceptions of students will enable educational service providers to embark on necessary actions to augment the quality of educational services provided by a university particularly offering a hospitality management degree.

The aim of this study is to use the SERVQUAL instrument to measure and identify any actual or perceived gaps between student's expectations and perceptions of the educational services of their University. Particularly aimed at determining the quality gap in educational services provided to the Undergraduate Hotel Management students of the Manipal University – India in December 2013.The students participating in the study are pursuing a 4 year Bachelor Degree in Hotel Management. The study will also provide insights to the University on the improvements needed for future student satisfaction on educational services and quality improvements. The SERVQUAL metric was adapted for the measurement of service quality in the higher education of hotel management course at Manipal University and conducted on an entire population of students. The proposed instrument is tested only in one University in India with an entire population (170 students) of two years of study. This research paper presents an approach to using SERVQUAL for measuring student's expectations and perceptions. The adapted factors concerning student services at a University from the standard SERVQUAL instrument are questioned using the SERVQUAL methodology. The detailed statistical analysis reduced to meaningful statements are usable by the management of university's as an effective easy to apply quality measurement tool.

The outcomes of the study resulted in a negative quality gap in all five dimensions of quality educational services: Tangible (physical environments) Reliability (trustworthiness) Responsiveness (Sensitivity) Assurance (guarantee) Empathy (Understanding). The maximum and minimum mean of quality gap observed was –0.48 in the dimension of Tangibles and –0.11 in the dimension of assurance respectively. It is significant to note that the perceptive gap of the female students were higher than the perceptive gap of the male students in all 5 dimensions. Female rated reliability with high mean and the male students rated tangibles with a high mean. It was also observed that the P value of female scores on the dimension off reliability 0.033 and responsive 0.031 and is statistically relevant as it is less than 0.05.

Keywords: Academic services, Educational services, Expectation, Perception, Quality Gap, SERVQUAL model, Stakeholders, Students 'perception, Students' Service Quality.

Introduction

Gone are the days when a University or Institute offering degrees could be differentiated on the basis of their product (curriculum) offerings alone. Universities may no longer determine their own levels of service and quality. It was always perceived that the provision of customer service was seen as something that only the "service industry" did. All organizations in the competitive environment are now turning to service quality as the only remaining means of differentiating their business offering, this may apply to educational institutions too. Universities need to approach quality improvements that concentrate on continual measurement of service quality as perceived by the student. In short, only when something gets measured it can

*Principal, Welcomegroup Graduate School of Hotel Administration, Manipal University

be improved. There are many studies existing that have systematically studied students perception of the academic courses (models) and their learning outcomes as a product but not much work has been evidenced in studying quality of educational services at a hotel Management higher education University.

Xu[29] in a study that compares student's perceptions of University education- USA vs. China has quoted,

"Educational systems are the foundation upon which progress depends and the quality of educational systems heavily impacts the long term political and economic success of countries".

According to Tan[27] higher education institutions continue to tussle for competitive advantage and high service quality, they also state that evaluation of service quality is also essential to provide motivation for and to give feedback on the effectiveness of educational plans and implementation.

Research studies conducted in Iran, US, Australia, Canada and China have repeatedly identified gaps in all five dimensions of service quality according to various studies by Kebriael[13], Ruby (1998), Slade[25], Chua[5] and Barnes[2] .

On the other hand, education and consulting can be classified as very intangible products according to Shostack[24] who also states that an intangible service such as education includes many tangible elements such as books. He went on to comment that all marketing products are mixtures of tangible and intangible services. Although in 1985 Shostack explained the concept of customer interaction as an encounter at a period of time or 'moment of truth', the student as a customer has a longer length of personal interaction over multiple services and sometimes multiple times during a day for a period sometimes extending to four or more years of study. This intense interaction maybe similar to the third type of interaction which is most complex Mills (1986). Mills also suggests that this type of service is labor intensive and is characterized by the greatest risk in transaction.

Zainuddin[30] indicated that "the worst scenario is that the institution may not be able to attract new students or retain the existing students, since nowadays the student choose the best quality institutions that can meet or exceed their expectations".

Literature review

SERVQUAL

In early 1950 Deming's worked in Japan on the concepts of service quality and ideas about total quality management (TQM) and quality Assurance (QA) which have developed over the last thirty years Kandampully[12]. Many model have evolved over the past few decades to measure service quality gaps of expectations and perceptions. Parasuraman[22] state that SERVQUAL measures the difference between what is expected from a service encounter and the perception of the actual service encounter.

Service Quality (Q) = Perception (P) – Expectation (E) which was also referred to as the disconfirmation paradigm and may be represented as above.

The notion of service quality was earlier identified by Nightingale[18] as two qualities; that of the service quality as perceived by the provider, and that of the received service, as perceived by the customer. Later on this was refined into the "GAP" model of Parasuraman[20] identifying 5 gaps (Positioning, Specification, Delivery, Communication and Perception) of which GAP 5 the perception gap is the most important in terms of assessment of 'actual' service quality.

Parasuraman[21] have proposed that the Gap between perceived and expected service quality be taken as the definition of service quality itself; Olsen[19].

Johns[11] summarizes the work of Parasuraman[21] by stating that quality is always measured against expectation, the service process involves the customer as a key player and that service excellence only exists insofar as it is perceived as excellence by customers.

Parasuraman[21] have developed a questionnaire instrument called the SERVQUAL Scale. This instrument has been successfully used to elicit customers' expectations and actual perceptions of a series of quality attributes which have been grouped into 5 categories after the attributes were subject to

factor analysis. The 5 dimension are Tangibles, Responsiveness, Reliability, Empathy and Assurance which is now popularly known through an acronym RATER[28]. Zeithaml[31] have theorized that the various statistical analysis conducted in constructing SERVQUAL reveled considerable correlation among items representing several of the original dimensions for evaluating service quality. They also believe that the five dimensions are a concise representation of the "Core Criteria" that customers employ in evaluating service quality.

According to Cook[6], the use of the SERVQUAL instrument is prevalent in many service settings but in education, it has been significantly adapted from LibQUAL which was used to measure academic library service quality. But this study does not include academics.

Although Gronroos[9] developed a model of his own in 1983 he finally stresses the significance of the Gap between perceived and expected quality. Later in 1988 Gronroos identified six criteria for good service quality namely professionalism and skill: Attitudes and behavior; Access and Flexibility; reliability and trustworthiness; recovery; reputation and credibility.

Subsequently Cronin[7] have critiqued and identified difficulties in using SERVQUAL and instead recommended a performance- based measure that they called SERVPERF advocating that expectations should not be included when measuring service quality. Babakus[1] also said that the expectations portion of the SERVQUAL scale adds no additional information. In response to which Parasuraman et al.(1994) stated that scores which identified service gaps have superior diagnostic value, and provide more information compared to just P (or perception) only values. Hence it was found worthy to use the SERVQUAL instrument rather than SERVPERF.

Method

The electronic questionnaire was adopted from the standard SERVQUAL instrument and administered on the internet to the entire population of hotel management graduates who were in their third year and in the fourth year of the four year degree program (Bachelor of Hotel Management) at the Welcome group Graduate School of hotel Administration – Manipal University in India during December 2013. Mass emails were sent to all 170 students of the senior bath (third and fourth year students). The recipients were required to follow a link on Google docs' survey website. This approach allowed for the transmission of returns directly to a data base without user intervention. The data did not require any exclusion as there was no incomplete or missing data, which permitted the researcher to attain a fair level of efficiency in formatting for analysis. Since the standard accepted 22 SERVQUAL questions were used a factor analysis was not required.

The gender representation was as per the enlisted students on rolls and all students were of Indian origin and hence a demographic profiling was not required.

All measurement items were rated using a five point Likert scale consisting of "strongly disagree" 1 to "strongly agree" 5. The questionnaire contained 22 adapted questions for five dimensions of expectation and perception. A total of 150 responses were collected from a population of 170 which is above the 112 as arrived from the formula.

Sample Size

Anticipating a standard deviation of 4 for the various dimensions of service quality and a difference of 1.5 as a significant gap between perception and expectation based on similar studies conducted earlier, for a power of 80% at 95% confidence level, a sample size of 112 (minimum) will be required. However, in this study the sample taken is 150 which is above the minimum required level.

$$n = \left[\frac{Z_{\alpha/2}\sigma}{E} \right]^2$$

σ = Population standard deviation

n = Sample size

$Z\frac{\alpha}{2}$ = Critical value = 1.96

E = Margin of error = 1

Self-administered questionnaire through an electronic questionnaire (google docs) and analyzed

through SPSS version 16. The results facilitated an understanding and identification of the specific quality gaps in education services as perceived by hotel management under graduate students of the Manipal University educational services. All measurement items were rated using a five point Likert scale consisting of "strongly disagree" to "strongly agree". The questionnaire contained 22 questions each for five dimensions of expectation and perception.

The entire batch of students studying in their third year and fourth year at the University hospitality management degree were identified to participate in the study. This method is non – probability population sampling. 84 third year students and 86 fourth year students were listed for participation which was accessed from the roll list of the college.

The primary reason established for following population sampling is that the group of students have a set of characteristics, attributes, skills, traits, experiences, knowledge and uniform exposure and experience of the University's educational services. In this study the sampling unit is the undergraduate hospitality student. It is also assumed that the students may have some characteristics that are not very common which the study is interested in capturing mainly perceptions, hence all students were included. Since the size of the population was small it was not essential to define a sample size or to use a sampling formula. 150 responses were received electronically with an 88.2 % response rate.

Students were asked to respond to the ideal situation according to their opinion under the expectation section; whereas in the perception section they were asked to express their evaluation of the current situation or perception.

Cronbach's alpha using SPSS was computed to measure the internal consistency and close relation among the set of determinants in each of the dimensions as a group. A relatively high value of more than .70 was observed as a reliability coefficient and is considered as acceptable in this study. The reliability of the questionnaire was measured by the Cronbach's alpha coefficient for both sections of the questionnaire (Table 1 and Table 2). The reliability estimate of 0.616 at the least and to 0.782 at the most for expectations and of 0.770 to 0.880 for perceptions indicates acceptable reliability of data for exploratory purposes. In exploratory studies a value of .60 and above is also acceptable for internal consistency. However it may be observed that responsiveness, assurance and tangibles are lower than .70 in student expectations indicating lower internal consistency.

The conclusion maybe that the internal consistency of dimension and determinants of perceptions is higher and more acceptable than the international consistency of the dimensions of expectations.

Empathy has a high value of .782 for student's expectations, indicating that expectations of empathy by the students is a concern. The attributes being

Table 1: Selected Demographic Data of Survey Respondents.

Variables	Frequency (N = 150)	Percentages
Gender		
Male	122	81.3
Female	28	18.7
Year of study		
Third year undergraduates	78	52
Fourth year undergraduates	72	48
Age		
18–22 years	134	89.3
22 years and above	16	10.7

Table 2: Alpha Reliability.

Expectations		
Dimensions	**No of items**	**Cronbach's Alpha**
Tangibles	4	0.684
Reliability	5	0.717
Responsiveness	4	0.616
Assurance	4	0.662
Empathy	5	0.782

Perceptions		
Dimensions	**No of items**	**Cronbach's Alpha**
Tangibles	4	0.770
Reliability	5	0.830
Responsiveness	4	0.768
Assurance	4	0.804
Empathy	5	0.840

creating peaceful environments, personal attention to students, respect for learners feedback, listening to students with interest to hear comments and responding to the student patiently.

Cronbach's alpha is a coefficient or reliability. In this study none of the values were above .90.

Result Analysis

Demographic details: The sample consisted of 150 students from 3rd and 4th year of the Bachelor of Hotel Management program. Among the participants 122 (81.3%) were male and 28 (18.7%) were female students. 71 students (47.3%) students were from fourth year BHM and 79 (52.7%) students were from 3rd year BHM.

Primarily the results of the SERVQUAL survey exhibited a negative service quality gaps in almost all dimensions and determinants.

Results showed that the expectations of students in all dimensions were higher than the perception. The highest mean score in expectations was for the tangibles *dimension (4.31)* and the lowest mean score was related to *assurance dimension (3.93)*. The highest mean score in perceptions was for the *assurance dimension (4.06)* and the lowest mean scores were related to the reliability *and empathy (3.67)*. The difference between the mean scores of expectations (ideal) and perceptions (actual), a gap in all dimensions was noticed. The highest negative score gap was in the *Tangible dimension (–0.48)* and the lowest gap was in the *assurance dimension (—0.13).*

In a similar study conducted among nursing students in Urmia Medical University – Iran the dimension of Tangibles had a high mean score, Beheshtirad[3] commented that this aspect of services is in the students' views and objective judgment and probably the negative effect has been caused from dissatisfied customers will be sensitive to this dimension, then it is essential that officials care further about this aspect.

The individual determinants (sub divisions) of the five dimensions also showed a negative quality gap, of which the determinant of "time line promise" from the reliability dimension had the highest quality gap most negative (–0.65) and the determinant of "faculty consistently courteous with students" from the assurance dimension had the least quality gap (–0.10). Table 3 displays the mean scores of student expectations and perceptions, as well as the quality gap in each sub-dimension and dimen-

Table 3: Mean Scores of Expectations and Perceptions and Service Quality Gap in Each Dimension.

Quality Dimensions	Determinants	Expectation	Perception	Quality gap
Tangibles	Modern looking equipment	4.35	3.75	–0.60
	Physical facilities	4.14	3.69	–0.45
	Faculty appearance	4.58	4.17	–0.41
	Appearance of service materials	4.17	3.76	–0.41
	Total	**4.31**	**3.83**	**–0.481**
Reliability	Time line promise	4.10	3.45	–0.65
	Interest in solving student problems	4.24	3.73	–0.51
	Right service at the first time	4.08	3.74	–0.34
	Service as per the promised time line	4.21	3.75	–0.46
	Error free service	4.04	3.70	–0.34
	Total	**4.13**	**3.67**	**–0.462**
Responsive-ness	Providing information about service performance	4.15	3.97	–0.18
	Prompt service to students	4.29	3.99	–0.30
	Always willing to help students	4.50	4.09	–0.41
	Faculty never too busy to respond to students	3.91	3.62	–0.29
	Total	**4.21**	**3.91**	**–0.304**
Assurance	Faculty behaviour instilling confidence in students	4.23	3.62	–0.61
	Feeling of safety in transactions	4.13	3.72	–0.41
	Faculty consistently courteous with students	3.97	3.87	–0.10
	Faculty knowledge to answer student questions	4.29	4.06	–0.23
	Total	**3.93**	**3.82**	**–0.115**
Empathy	Individualized attention to students	3.89	3.63	–0.26
	Convenience of opening hours to students	3.73	3.56	–0.17
	Faculty giving personal attention to students	3.95	3.77	–0.18
	School having best interests of students at heart	4.01	3.71	–0.30
	Faculty understanding the specific needs to students		3.69	–0.36
	Total	4.05		
		4.05	**3.67**	**–0.383**

Adapted SERVQUAL instrument from Pg 186,187 and 188 Service Quality Management in Hospitality and Tourism, Kandampully[12]

sion. It is also important to observe that (–0.60) was scored for modern looking equipment in the tangible dimension.

In the dimension of assurance – 0.10 was observed for the attribute feeling of safety in transactions. Although assurance had a least mean with –0.11 it is important to note that the attribute faculty behavior in instilling confidence in student observed a high score of 0.61.

Bahadori et al., (2011) observed in their studies conducted in a University in Iran the highest negative quality gap in empathy. According to Chua[5], this gap arises when students do not find appropriate mechanisms to express their comments and

Table 4: Difference in gap between third and fourth year students.

Group Statistics

	Year of study	N	Mean	Std. Deviation	Std. Error Mean
Tangibles_gap	3rd year	75	–.4033	.65746	.07592
	4th year	71	–.5634	.90309	.10718
Reliability_gap	3rd year	75	–.3253	.68716	.07935
	4th year	72	–.6111	.89938	.10599
Responsiveness_gap	3rd year	75	–.1633	.59487	.06869
	4th year	72	–.4236	.83036	.09786
Assurance_gap	3rd year	75	–.3100	.72228	.08340
	4th year	72	–.3889	.72783	.08578
Empathy_gap	3rd year	75	–.2187	.71295	.08232
	4th year	72	–.2972	.86235	.10163

Note: only students in the faulty of hotel management were surveyed.

Table 5: Gap between male and female students Group Statistics.

	Gender	N	Mean	Std. Deviation	Std.Error Mean
Tangibles gap	Male	121	–.4649	.76192	.06927
	Female	28	–.5000	.89235	.16864
Reliability gap	Male	122	–.4164	.76476	.06924
	Female	28	–.6500	.93591	.17687
Responsiveness gap	Male	122	–.2561	.69492	.06292
	Female	28	–.4554	.84177	.15908
Assurance gap	Male	122	–.3053	.72693	.06581
	Female	28	–.4911	.68205	.12890
Empathy gap	Male	122	–.1869	.74556	.06750
	Female	28	–.5500	.90370	.17078

their views are not being considered in curriculum planning.

The order of mean may be summarized as: 1 Tangibles 2 Reliability 3 Empathy 4 Responsiveness and at 5 Assurance.

Service quality gap scores were computed by subtraction the expectation score from the perception scores. Positive gap scores are being considered as positive perceptions of the product or service and negative gap scores are considered as negative perceptions of the services.

The above table (Table 4) shows the separated mean scored of 3rd and 4th year students. The gap between perception and expectation for the dimension of responsiveness is very low for 3rd year students and the gap is very high for the dimension of tangibles for 4th year BHM students. There appears to be a homogenous gap perception for both years for the dimension of assurance the attributes of which are primarily guarantee, equality and speed.

The above Table (5) observed the difference in mean scores of male and female students regarding the

five dimensions. The scores of quality gap perception is higher among the female students as compared to male students in overall. It may indicate that the female students have higher expectations of all 5 dimensions. However it may be noted that Malik[15] in a similar research conducted in Pakistan observed significant mean scores between male and female students. Also in t tests results, a significant mean scores difference between the satisfaction levels of male and female students compared between the students of public and private business schools in Pakistan. It may be interpreted that the perceptions of female respondents and male respondents will always be dissimilar and hence gender is a great influencing factor in all perceptive studies.

The independent sample t-test was computed to find out the difference of the gap mean in the five dimensions of educational services for male and female students and also difference of gap mean between 3rd and 4th year. There is no strong evidence that the interventions of tangibles 0.221, assurance 0.511 and empathy 0.549 have an effect.

P value observed of less than .05 indicates that the variances are heterogeneous. This was observed in the values of reliability 0.033 and responsive 0.031 and is statistically significant. This could also be attributed to the fact that the number of female participants were small, hence if the sample size is increased in later studies it may be possible to arrive at more precise effects. Both the tests did not show any significant difference between expectation and perception gap as the p-values were above 0.05 ($p < 0.05$) for all dimensions.

Discussion

The differing values between the perceptions and expectation exhibit a negative quality gap in all 5 service dimensions and these values may be analyzed by the university in prioritizing their efforts and budgeting of all resources as opined by Campbell[4].

Three groups may be created for prioritization for speedy reduction of gaps

Priority One - Tangibles

1. Modern-looking equipment, e.g., dining facility, bar facility, crockery, cutlery, etc.
2. The physical facilities, e.g., buildings, signs, dining room décor, lighting, carpet, etc..
3. Faculty and staff will appear neat, e.g., uniform, grooming, etc.

Table 6: Independent Sample t-test.

Dimensions	t values	Sig. (2-tailed)
Tangibles gap	1.229	0.221
Reliability gap	2.158	0.033
Responsiveness gap	2.177	0.031
Assurance gap	0.659	0.511
Empathy gap	0.601	0.549

Table 7: Independent Sample t- test.

Dimensions	t values	Sig. (2-tailed)
Tangibles gap	0.193	0.848
Reliability	1.230	0.227
Responsiveness	1.164	0.252
Assurance	1.283	0.206
Empathy	1.977	0.056

4. Materials associated with the service, e.g., pamphlets, statements, table wine, serviettes will be visually appealing.

Priority Two – Reliability and Empathy

1. Time line promise (highest mean – 0.65) Negative Perception
2. Interest in solving student problems
3. Right service at the first time
4. Service as per the promised time line.
5. Error free service. Individualized attention to students
6. Convenience of opening hours to students
7. Faculty giving personal attention to students
8. School having best interests of students at heart
9. Faculty understanding the specific needs to students

Priority Three - Responsiveness and Assurance

1. Providing information about service performance
2. Prompt service to students
3. Always willing to help students
4. Faculty never too busy to respond to students
5. Faculty behavior instilling confidence in students
6. Feeling of safety in transactions
7. Faculty consistently courteous with students
8. Faculty knowledge to answer student questions (Had the lowest mean score of (–0.10) Positive Perception.

Once action is initiated to reduce these gaps as prioritized with improvements in infrastructure, training of staff and development of faculty it is most likely that the gaps would reduce and the improved quality will benefit all dimensions as well. It is a continuous process and needs to be measured all the time perhaps every semester of study.

Many studies and research papers are available wherein the students have been surveyed as a customer receiving the academic services of a University. It is interesting to note that Svensson[26] concluded that students should not be viewed as customers of the university, but as citizens of the university community.

Rodrigues[23] found that empathy and assurance had least satisfaction score in a study conducted among engineering students, using a combination of SERVQUAL and SERVPERF instruments. Hence it may be assumed that the likely hood of arriving at similar outcomes is very rare, as the perceptions of students is influenced by many intrinsic and extrinsic motivations that differ from time to time and person to person, given similar or dissimilar environments.

Svensson[26] Study found that the rights and obligations in citizen-authority and student – university relationship rather than customer – supplier relationship focused only on students' academic performance. Similar studies with more contextual attributes of educational services may be identified and measured using the SERVQUAL dimensions. It may be concluded that universities offering quality services may need to engage with the student as a university citizen with strong rights that change with time spent at the university. There is bound to be a marked significant perception with students who have spent a longer period in the University.

Conclusion

According to the major findings of the results, the student's perception gap on tangibles were significant and homogenous. The perceptions of female students has significant differences (heterogeneous) from male students. In order to reduce the gaps and improve the quality of educational services in the hotel management course at Manipal University, attention must be provided to all aspects of service quality, particularly to the tangibles dimension. It will also improve the perceptions in all other dimensions because existence of defects in one dimension leads to low quality in other dimensions (Lamei[14]) with resonating effect.

The concept of assessment of educational services through SERVQUAL dimensions is a relatively new effort among Indian Universities. There is limited literature and published articles using the SERVQUAL model for assessing quality of educational services.

Consequently this study may be used as a guide for academic institutions and universities alike who may constantly seek to improve the quality of services they offer after identifying the quality gaps. However any study done on the population is not to be statistically generalized.

There is no apparent disadvantage in population sampling as in this study access to the entire list of students was easy. There was no need for geographical dispersion.

It is very important to note that the outcomes of this study should not be analytically generalized to other student groups elsewhere or other group types. Also assuming that there would be some uncommon characteristics of the population, further research may be conducted on these samples using in- depth qualitative research methods.

Tan[27] concluded that, as attention to service quality in higher education heightens, there needs to be a correspondent increase in the use of its assessment tools. Over the past decades the SERVQUAL instrument has been customized and used to study students perceptions of universities academic and service quality , sometimes the attributes listed have been as high as 76.

Similar and more attributes may be covered in further studies. The demographic profiling may be altered and comparisons between different years of study may be administered. The SERQUAL may be used to study perceptions of graduates versus undergraduates of the same faculty or different faculty. A comparative study may also be conducted among local and foreign students.

University administrators may benefit at large to uniquely position their services according to perceptions and satisfaction levels expected of students (genders) studying on different programs. For example the same SERQUAL measure may have very different outcomes if conducted for engineering students.

Bahadori et al. (2011) conclude their research by saying that quality gap indicates universities failure to act to its commitment and to its incapability to meet the expectations of students. The authors also recommend that the administrative staff should be trained through special courses to enhance the educational service and to improve communication with students. They also suggest that students should be assigned special hours to share their views and thoughts to the administrative boards so that the universities may improve the services.

The outcomes of this study may also benefit several organizations that have concern in regulating educational services, such as Ministry of HRD: Government of India, Higher education regulatory bodies like the AICTE (All India Council for Technical Education) other stakeholders (parents , Industry experts) of public and private universities in India and other Institutions offering the Hotel Management degrees in other countries as well.

Feedback from students and continuous improvement should be an ongoing process in all universities that are conscious of quality of service.

Cross sectional and longitudinal studies may be conducted to explore student's perception of educational services through University education by comparing within time frames, other key variables like learning, responsibly, engagement and satisfaction.

Assuring and delivering overall service quality would enable good universities to understand the various dimensions and its effects so that the service delivery process may be efficiently designed.

Models may be developed on EduSERV or EduPERF which includes more determinants for measurement and other demographic profiling and disciplines of educational services.

References

1. Babacus, E., & Boller, G. W. (1992). An empirical assessment of the SERVQUAL scale. *Journal of Business research, 24*(3), 253–268.
2. Barnes, B. R. (2006, December). Analysing service quality : The case of post graduate Chinese Students. *Leeds University Business School; Working paper series, 1*(1), 1–34. Retrieved from http://business.leeds.ac.uk/fileadmin/webfiles/research/WPS/BARNES.pdf
3. Beheshtirad, R., Ghalavandi, H., & Ghaleei, A. (2012). The interval of educational services quality: Distance of current and desirable situation by nursing students point of view of Urnia Medical University. *International Research Journal of Applied and Basic Sciences, 3*(12), 2466-2471.
4. Campbell, J., Ramsay, J., & Green, J. (2001). Green J. Age, gender, socioeconomic and ethnic differences in patients' assessments of primary health care. Quality in health care. 2001; 10:90-95. Doi: 10.1136/qhc.

10.2 90.[pubMed]. *Campbell JL, Ramsay J, Green J. Age, gender, socioeconomic and ethnic differences in patients' assessments of primary health care. Quality in health care. 10:90-95. Doi: 10.1136/qhc. 10.2 90.[pubMed], 10*(2), 90–95. doi:10:90-95. Doi: 10.1136/qhc. 10.2 90.[pubMed]

5. Chua, C. (2006). Perception of Quality in Higher Education. *Australian Universities Quality Forum Quality in a time of change : proceedings of the Australian Universities Quality Forum 2004, Adelaide, Australia, 7-9 July 2004, 2004 (ISBN: 1877090336) (ISSN: 1446-4268).* Adelaide: Proceedings of the Australian Universities Quality Forum 2004, Adelaide, Australia, 7–9 July 2004. Retrieved from http://www. auqa.edu.au/ files/ publications/ auqf2004_proce - edings.pdf
6. Cook, C., & Thomson, B. (2001). Scaling for the LibQUAL +TM instrument : A comparison of desired , perceived and minimum expectation responses versus perceived only. *4th Northumbria International Conference.* Pittsburgh Pennsylvania US.
7. Cronin, J. J., & Taylor, S. A. (1994). SERVPERF versus SERVQUAL: Reconciling performance based and perception - Minus - Expectations measurement of Service Quality. *American Marketing Association, 58*(1), 125–131.
8. Deming, W. E. (1950). *Elementary Principles of the Statistical Control of Quality.* Tokyo: Nippon Kagaku Gijutsu Renmei.
9. Gronroos, C. (1988). Service Quality: the six criteria of good service quality. *Review of Business, 9*(3), 10–13.
10. Hassan, H. F., & Iliaz, A. (2008). Service Quality and Student Satisfaction: A Case Study at private higher education institutions. *International Business Research, 1*(3), 163–175.
11. Johns, N. (1996). The developing role of quality in the hospitality industry. In M. D.Olsen, R. Teare, & E. Gummesson, *Service Quality in Hospitality organizations* (pp. 9–26). New york: Cassell.
12. Kandampully, J., Mok, C., & Sparks, B. (2008). *Service Quality Management in Hospitality and Tourism.* Mumbai: Jaico Publishing House.
13. Kebriaei, A., & Akbari, F. (2008). Quality gap of educational services at Zahedan University of Medical Sciences, Iran. *Bangladesh Medical Research Council Bulletin , 34*(3).
14. Lamei, A. (2000). *Total Quality Management in Health Care.* Teheran: Ministry of health and education, IRAN.
15. Malik, S. A., Hassan, S., & Iqbal, M. Z. (2012). Measuring students' perceptions and expectations in business schools of Pakistan. *Asian Education and Development Studies, 1*(3), 222–236.
16. Mills, P. K. (1986). *Managing Service Industries: Organisational Practices in a Post Industrial Economy.* New York : Ballinger.
17. Mohammadkarim, B., Sadeghifar, J., Nejati, M., Hamouzadeh, P., & Hakimzadeh, M. (2011). Assessing Quality of Educational Service by the SERVQUAL model: Viewpoints of paramedical students at Teheran University of medical science. *technics technologies education management, 6*(4), 1058–1065.
18. Nightingale, M. (1985). The Hospitality Industry: Defining Quality for Quality Assurance Programme - A study of perceptions. *Service Industries Journal, 5*(1), 9–24.
19. Olsen, M. D., Teare, R., & Gumesson, E. (1996). *Service Quality in Hospitality Organisations .* New York: cassell.
20. Parasuram, A., Zeithaml, A. V., & Berry, L. L. (1985). A conceptual Model of Service Quality and its implications for future research. *Journal of Marketing, 49*(4), 41–50.
21. Parasuraman, A., Berry, L. L., & Zeithaml, V. A. (1985). A Conceptual Model of Service Quality and Its Implications for Future Research. *Journal of Marketing, 49*(4), 9–24.
22. Parasuraman, A., Berry, L. L., & Zeithaml, V. A. (1988). SERVQUAL:a multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing, 64*(1), 12–14.
23. Rodrigues, L. L., Barkur, G., Varambally, K., & Motagh, F. G. (2011). Comparision of SERVQUAL and SERVPERF metrics: an empirical study. *The TQM Journal, 23*(6), 629–643.
24. Shostack, L. G. (1977). Breaking Free from Product Marketing. *Journal of marketing, 41*(2), 73–81.
25. Slade, L., M, H., & Harker, D. (2000, 28 November). Why do they leave , why do they stay ? Perceptions of service quality at a new university",. *, ANZMAC2000, proceedings of Australia New Zealand Marketing Academy, 28 November-1 December, Griffith Unive* (p. 28). Gold Coast, Australia: In A. O'Cass (Ed.).
26. Svensson, G., & Wood, G. (2007). Are university students really customers? When illusion may lead to delusion for all! *International Jaournal of Educational Management, 21*(1), 17–28.
27. Tan, K. C., & Kek, S. W. (2004). Service Quality in Higher Education using an enhanced SERVQUAL approah. *Quality in Higher Education, 10*(1), 17–24.
28. Tenner, A. R., & DeToro, I. J. (1994). *Total Quality Management.* Boston: Addison Wesley .

29. Xu, H. (n.d.). Students' perceptions of university education – USA vs. China. Retrieved December 3, 2014 from www.aabri.com/manuscripts/10703.pdf
30. Zainuddin, S., Kahmis, M., Muhamad, A., & Mamat, N. (2014). Perception and expectation of students towards the service quality: perspective in malaysian research university. *Malaysian online journal of educational management, 2*(2), 73–91.
31. Zeithaml, V., Berry, L. L., & Parasuraman, A. (1990). *Delivering Quality Service Balancing Customer perceptions and expectations.* New York: Free Press.