Student Satisfaction: on Service Quality (SERVQUAL) in Indian Management Education: Empirical Evidence from the State of Sikkim, India

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Abstract

The quality of higher education is the need of the hour. The quality parameters of service quality of teaching should be on par with the global standards. The technology-based education using creative teaching techniques is only helping the students to cope up with the requirements of the industry. In this parlance, the current paper has explored many dimensions of quality using SERVQUAL model parameters. The service quality of the Indian Management Educational Institutions including higher educational institutions offering business management-related course is poor and substandard. The study on service quality assessment has already been done in the field of engineering education and school education. But there is no specific study observed in the literature with regard to higher educational institutions offering business management education. With this view, the current research assesses the impact of various dimensions of service, quality on the overall service quality and the influence of overall service quality on the level of satisfaction. The research can help in identifying the service quality issues in terms of standard parameters and its impact on overall service quality, thereby satisfying the stakeholders. It attempts to measure service quality from students' point of view, preparing students for the needs of the corporate, up gradation in terms of physical and intellectual infrastructure of the institute. In addition, competition in the higher education makes the institutes to provide best service standards and customer services to compete and sustain in the long run and focus more on quality services in order to serve the students in a better manner and to improve the satisfaction level.

Keywords

Service Quality, Higher Education, Educational Institutions, Students Satisfaction, Indian Management Education, Quality Standards.

1. Introduction

Higher education, similar to most of the business and corporate today, is ever more worried about the quality of its products and services [1]. At present, the past reviews relating and pertaining to service quality in higher education sector are extensively undeveloped. Conservatively, many investigators have compensated and consideration their exertions on viable services. Since any other intangibles, management education colleges and institutes are as well an innovative kind of service sector. In today's reasonable educational setting like most business and management schools is gradually more worried about the implication of quantifying service quality [2]. Management education has seen a distinguished growth in India within the later years as reflected contained by the vertical and the sharp rise fenced by the assortment of institutes as extended as postgraduate programs in management education. With the growth within the diversity and kinds of business faculties, there are intensifying concerns about preserving the excellence of management education between the countries through quality service [3, 4 & 5].

Education is such an important and productive speculation that it always plunder in manifold ways. It has forever been accorded a privileged place in every saving. The strong and effective educational organism results in the economic enlargement, social alters and greater recital of the students. Thus, education sector plays a more and more important role in behind public education by gathering insist for products and services that together complement essential education services and in addition their fundamental goals [6]. The sector is clear by four main categories: Products, Services and Education Service oriented Businesses. As a result of globalization, Indian economy strongly influences higher education to pick up the excellence of existence [7].

2. Objectives of the Study

- To identify the key service quality (SERVQUAL) dimensions in business management education in Sikkim.

- To examine the relationship between Pre and Post attributes of service quality (SERVQUAL) and student satisfaction in Sikkim.

3. Literature Review

Berry, Parasuraman, and Zeithaml's, (1988) [8] conceptualisation of five dimensions which include tangibles, responsiveness, reliability, empathy and assurance ultimately led to a model that measures service quality named SERVQUAL.

Zeithaml, Berry, & Parasuraman, (1996) [9] Studies indicate that there is a positive relationship between the behavioural intention of the customers and the service quality of the organisation.

Angell, Heffernan, & Megicks, (2008) [10] Educational institutions always tried to enhance their physical infrastructure while trying to set up programs for improving the admissions into their courses. Studies indicate that the service quality of the educational institutions is measured predominantly by using the teaching and learning mechanism that is followed in the educational institution.

Quinn et al., (2009) [11] Education institutions which tried to implement total quality improvement programs in this system has always been profitable

Mosadeghrad, (2014) [12] Education and training regarding the usage of product and services by an organisation for their customers helps to improve the services expected by the consumers towards the organisation.

4. Research Methodology

The major aim of this research is to analyse student satisfaction on service quality (SERVQUAL) in management education with reference to business management students in Sikkim, India. 52 samples from management students from different institutes offering management courses in Sikkim and the data were tested for reliability by Cronbach's alpha test (72.5%). Both Primary and Secondary data were collected by using a structured questionnaire and available sources respectively. The sample area is Sikkim state, India and the sampling method and technique used were Non-probability and Convenient sampling. The collected data was analysed by appropriate statistical tools using SPSS and AMOS.

The data were helped to analyse the reliability and validity analysis for structuring a valid questionnaire. Further appropriate research model has been constructed.

The current research is limited to educational institutions offering management education in the state of Sikkim and other institutes are not considered. The research is cross sectional research in nature and the research is confined to non-probability sampling. The time factor associated with the research is an inherited hindrance.
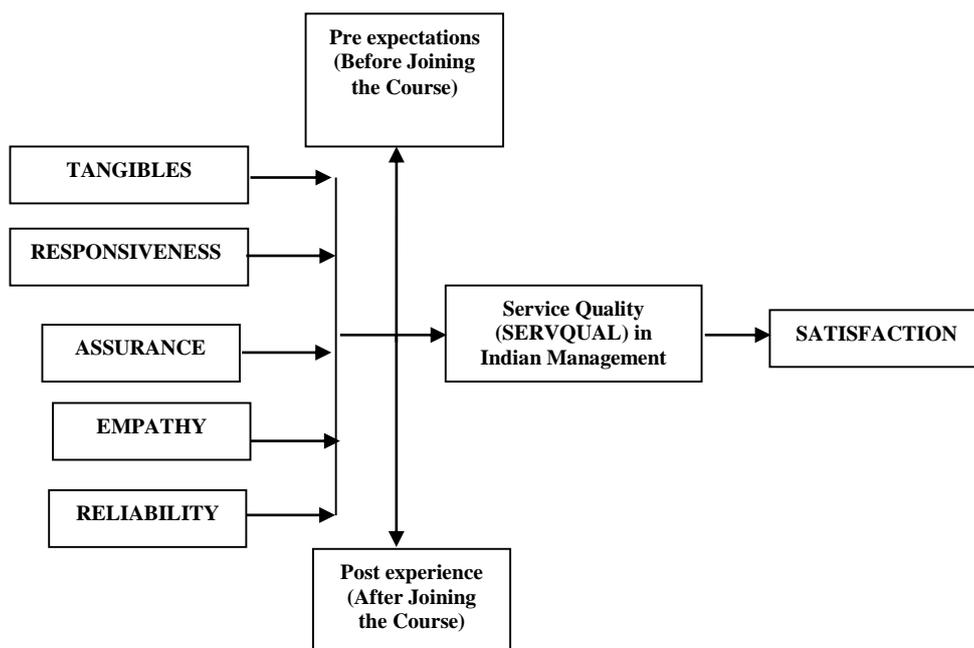
*(**Source:** Shahin, A. (2004). SERVQUAL and Model of Service Quality Gaps)*

5. Data Analysis and Interpretations

5.1 Reliability Test

Reliability is the proportion of factual difference to the whole difference capitulated by the calculating tool. It specifies strength and also the internal stability of a test. The consistency is a degree indicating the steadiness and regularity with which the tool actions the idea and benefits to measure the 'goodness' of a quantity. A portion is consistent to the gradation that it applies dependable outcomes.

Table 1: Cronbach's Alpha Reliability Test – Student Satisfaction on (SERVQUAL) in Management Education in Sikkim

S. No.	Constructs	Cronbach's Alpha Value
1	Tangibles	0.781
2	Responsiveness	0.632
3	Assurance	0.851
4	Empathy	0.741
5	Reliability	0.625
6	Student Satisfaction	0.723
Average		**0.725**

The overall Cronbach's Alpha coefficient for student satisfaction on (SERVQUAL) in management education in Sikkim construct is 0.725, which is acceptable.

Validity Test for Data Collection Instrument – Face Validity: The mechanism is calculated based on confirmed instruments from the various past literature surveys. Sixty five item survey questionnaires have circulated to the business management students in Sikkim and identical and ambiguous variables and factors are removed. A test investigation has been piloted among fifty respondents to confirm face validity and founded on the response 45 variables are nominated.

5.2 Communality Test

Communalities are healthier at the period of model construction and the minimum edge limit for founding the communality of the information and data is 0.5. All variables with communality range of less than 0.5 must be removed.

Table 2: Communality Checking for Student Satisfaction on (SERVQUAL) in Indian Management Education in Sikkim

S. No.	Variables	Communality
1	Tangibles	.656
2	Responsiveness	.700
3	Assurance	.678
4	Empathy	.745
5	Reliability	.731
6	Student Satisfaction	.659

It can be obtained from the above table that the communality range in respect of all the factors exceeds the edge limit of 0.5 and hence all items in Student Satisfaction on (SERVQUAL) in Business Management Education in Sikkim related factors in the proposed study.

5.3 Normality Test

In general footings, normality requires that the data are ordinarily distributed and normally and uniformly distributed data will result in the construction of a bell shaped curve. Normality of data and variable is crucial for arriving at CFA, SEM and deficiency of normality will harmfully affect the goodness of fit indices and declaration error.

Table 3: Normality Test for Student Satisfaction on (SERVQUAL) in Management Education in Sikkim

S. No.	Variables	Skewness	Kurtosis
1	Tangibles	-0.901	1.774
2	Responsiveness	-0.735	-0.404
3	Assurance	0.036	-0.654
4	Empathy	0.117	-1.211
5	Reliability	-0.379	-0.153
6	Student Satisfaction	-0.6	-0.326

The above table refers that the data in all the relevant items in Student Satisfaction on (SERVQUAL) in Management Education in Sikkim dynamics easily pass the normality assessment as the Skewness value is in the range between +1 to -1 and the worth of Kurtosis ranges among +3 and -3. Hence all the factors are normally distributed.

5.4 Linearity Test

Table 4: Linearity Test

R^2	F Change	df1	df2	Significant F Change
.59802	12.07891	2	379	<0..001**

Testing of direct association among the variables is significant in multivariate investigation. Further, most multivariate techniques indirectly trust that association between flexible are lined. Departures from linearity have an outcome on considered correlations among variables. Statistical tools such as regression, SEM and correlation can be implemented only if the data is linear.
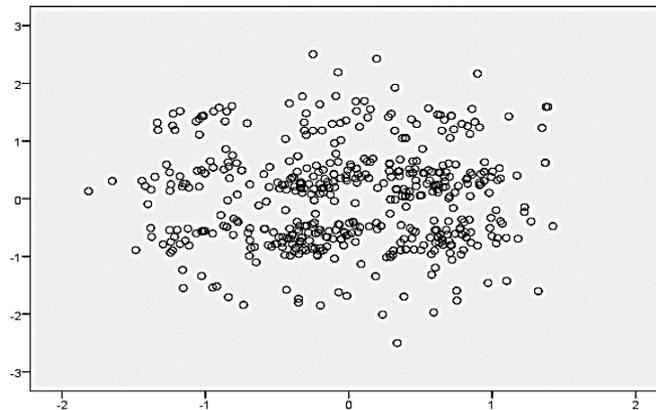
Figure 1: Student Satisfaction on (SERVQUAL) in Management Education in Sikkim

The researcher has taken two factors randomly (Tangibles and Student Satisfaction) to confirm the linearity level of the data. Adoption of Student Satisfaction is taken as the Dependent (DV) Variable and Tangibles as Independent (IV) Variables. The above table and figure focus that the R^2 value, is highly sufficient to represent that the data are linear.

5.5 Homogeneity Test

Homogeneity of data is required to smear any statistical tools and technique in all research. Homogeneous data can be gained from a unique person. Usually some external forces will disturb, change and unexpected the data, though booming the research. Openly speaking keeping Homogeneity data is a serious one. For assessment of the Homogeneity of the data set, the researcher used one categorical or demographic variable incorporated in the study.

Table 5: Test of Homogeneity of variance – Student Satisfaction on (SERVQUAL) in Management Education in Sikkim

Variables	Levene Statistic	Df1	Df2	P value
Tangibles	.941	2	379	.391
Responsiveness	.740	2	379	.478
Assurance	.532	2	379	.588
Empathy	3.531	2	379	.091
Reliability	1.473	2	379	.230
Student Satisfaction	4.521	2	379	.199

From the above table, it is inferred that the Levene statistic is not significant among all the items included in the factors. It is confirmed that those values that the homogeneity among the data is absent. Since, the data available can be used for further statistical analysis.

5.6 Multicollinearity Test

Multicollinearity presents if two or more independent variables assess the same thing. The correlation values exceeding 0.90 in respect of variables in the same dataset can cause statistical problems. To evaluate multicollinearity, item to item correlations are calculated between each item. It helps to solve the multicollinearity problem in the data set. Multicollinearity is checked for all items under study.

Table 6: Correlation for Student Satisfaction on (SERVQUAL) in Management Education in Sikkim

	Tangibles	Responsiveness	Assurance	Empathy	Reliability	Satisfaction
T	1					
R	0.711	1				
A	0.717	0.645	1			
E	0.706	0.686	0.712	1		
R	0.679	0.687	0.658	0.685	1	
S	0.719	0.718	0.708	0.711	0.712	1

It can be detected from the above table that the correlation coefficient value in detail of all the variables does not surpass the prescribed value of 0.90, and therefore, it can be concluded that there are no multicollinearity problems in the data.

5.7 Hypothesis Testing

The major contributions of the study is elaborating various statistical tools gives for testing different hypothesis and followed by findings which provide a summary of different inferences.

H$_1$: Higher influence on tangibles over business management student satisfaction on service quality.

H$_2$: Higher influence on responsiveness over business management student satisfaction on service quality.

H$_3$: Higher influence on assurance over business management student satisfaction on service quality.

H₄: Higher influence on empathy over business management student satisfaction on service quality.

H₅: Higher influence on reliability over business management student satisfaction on service quality

Table 7: Contribution of the Student Satisfaction on (SERVQUAL) in Indian Business Management Education in Sikkim

S. No.	Dependent Variable	Independent Variable	R^2	P value	Supported / Not Supported
H₁	Student satisfaction on service quality	Tangibles	0.603	0.001**	Supported
H₂	Student satisfaction on service quality	Responsiveness	0.711	0.003**	Supported
H₃	Student satisfaction on service quality	Assurance	0.789	0.001**	Supported
H₄	Student satisfaction on service quality	Empathy	0.698	0.008**	Supported
H₅	Student satisfaction on service quality	Reliability	0.856	0.011*	Supported

(*Source:* Primary Data; Note: **-indicates highly significant at the 1% level)

The null hypothesis is rejected for all five constructs with respect to Student satisfaction on service quality. The F value is significant at the 95% level. So this is inferred that the theoretical model was fitted with all the statistical parameters. Hence the five factors, such as Tangibles, Responsiveness, Assurance, Empathy and Reliability were making higher influence on Student Satisfaction on (SERVQUAL) in Management Education in Sikkim.

5.8 Analytical Hierarchy Process (AHP)

According to literature survey, there are extensive assortments of criteria that guide to evaluate criteria of Student Satisfaction on (SERVQUAL) in Management Education in Sikkim. In this study, it provides us with hierarchically representation of four major criteria which are important and are presented below:

Table 8: Priority Weights

Item No.	Item Number	1	2	3	4	5
Item Description		Tangibles	Responsiveness	Assurance	Empathy	Reliability
1	Tangibles	1.00	0.125	0.14286	0.142	0.125
2	Responsiveness	8.00	1.00	0.14286	0.125	0.1666
3	Assurance	7.00	7.00	1.00	0.166	0.1428
4	Empathy	7.00	8.00	6.00	1.00	0.1666
5	Reliability	8.00	6.00	7.00	6.00	1.00

*(**Source:** Primary Data)*

The total priority weights enclosed by the basics in the steps are recognized. All the assessment factors and its conforming weights are obtainable.

Table 9: Criteria and Attribute's Priority Weights

Tangibles	Responsiveness	Assurance	Empathy	Reliability
37.00	30.13	22.29	14.43	9.60

*(**Source:** Primary Data)*

The priority weight of the criteria and characteristic is calculated by means of the eigenvector techniques mentioned above, a pairwise comparison matrix is industrialized for each criterion, and the subsequent matrix is regularized to unify the result. To get foremost concern of a sole criteria (or attribute, or alternative) relative weights-pairwise judgments are combined by be around the conforming values.

Table 10: Synthesis of Priority Weights

Item Description	Tangibles	Responsiveness	Assurance	Empathy	Reliability	Weight
Tangibles	0.22	0.03	0.01	0.01	0.02	**45.3%**
Responsiveness	0.19	0.23	0.04	0.01	0.01	**22.1%**
Assurance	0.19	0.27	0.27	0.07	0.02	**15.0%**
Empathy	0.22	0.20	0.31	0.42	0.10	**9.5%**
Reliability	0.16	0.27	0.36	0.48	0.83	**6.0%**

(***Source:*** Primary Data)

From the above table, it is noted that tangibles give first importance over the others. Responsiveness and Assurance were also important and ranked second and third. Empathy is given last priority overall Student Satisfaction on (SERVQUAL) in Management Education in Sikkim.

Table 11: Results of Consistency Test

Respondent	Consistency Ratio value	Consistency
1	0.282	Not Consistent
2	0.231	Not Consistent
3	0.320	Not Consistent
4	0.303	Not Consistent
5	0.248	Not Consistent

(***Source:*** Primary Data)

The results reveal that all CR value is greater than 0.1, thus the consistency of all the judgments are not satisfactory.

Table 12: Geometric Mean of Pairwise Comparisons

Item No.	Item Number	1	2	3	4	5
Item Description		Tangibles	Responsiveness	Assurance	Empathy	Reliability
1	Tangibles	1.00	0.1562	0.19521	0.2357	0.16994
2	Responsiveness	6.40	1.00	0.15343	0.1716	0.18429

3	Assurance	5.12	6.52	1.00	0.1699	0.18928
4	Empathy	4.24	5.83	5.88	1.00	0.20879
5	Reliability	5.88	5.43	5.28	4.79	1.00

(Source: Primary Data)

And the group CR is calculated as **0.191,** still it is not consistent.

Table 13: Consistency Table

CR Value =	0.223	Not Consistent			
Item Description	Tangibles	Responsiveness	Assurance	Empathy	Reliability
Tangibles	1.00	0.19712	0.14877	0.17064	0.1528
Responsiveness	5.07	1.00	0.30514	0.56098	0.786
Assurance	6.72	3.28	1.00	0.15735	0.20164
Empathy	5.86	1.78	6.36	1.00	1.43097
Reliability	6.54	1.27	4.96	0.70	1.00

(Source: Primary Data)

Table 14: Best Criteria- Obtaining the Final Ranking

Criteria	Statements	Weights	Local Rank
Student Satisfaction on (SERVQUAL) in Indian Business Management Education in Sikkim	Reliability	6.40%	5
	Empathy	10.80%	4
	Assurance	16.30%	3
	Responsiveness	23.40%	2
	Tangibles	40.20%	1

The upshot of the analytical hierarchy process, which gives you an idea about those Tangibles, should be given more importance, Responsiveness constructs are second important. Assurance constructs third important aspect in Student Satisfaction on (SERVQUAL) in Management Education in Sikkim. Fourth and fifth important factors were Empathy and Reliability respectively.

Table 15: Best Criteria: Ranking

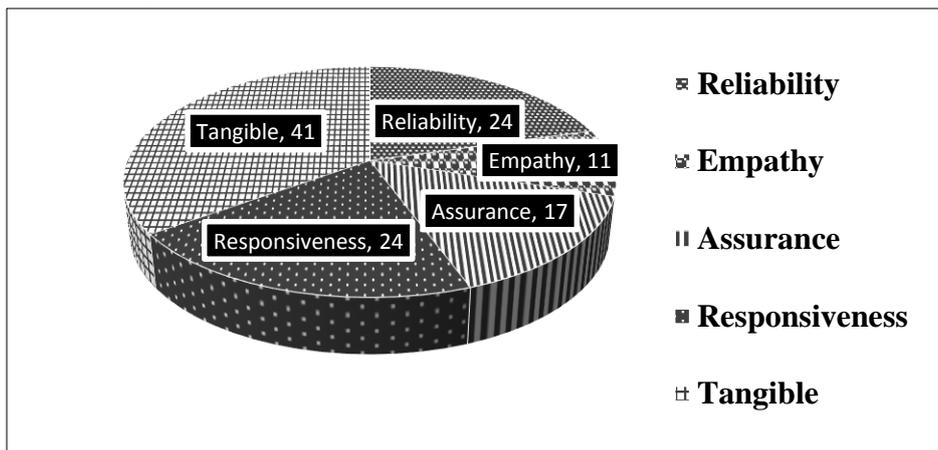| Criteria	Statements	Local Rank
Student Satisfaction on (SERVQUAL) in Indian Business Management Education in Sikkim	Reliability	5
	Empathy	4
	Assurance	3
	Responsiveness	2
	Tangibles	1

(Source: Primary Data)

Figure 2: Student Satisfaction on (SERVQUAL) in Indian Business Management Education

6 Findings and Recommendations

The majority of the respondents' constitute postgraduate courses in Business and Management Education and the other respondents were in undergraduate courses in Business and Management Education. The average age group was founded between 20-23 years of almost equal gender with parents working in both government and private concern which may influence customer satisfaction. Out of the ten dimensions of service quality such as Tangibility, Reliability, Responsiveness, Communication, Credibility, Security, Access, Competence and courtesy, the five factors such as Tangibles, Responsiveness, Assurance, Empathy and Reliability were making higher influence on Student Satisfaction on (SERVQUAL) in Management Education in Sikkim.

The upshot of the analytical hierarchy process, which gives an idea about the Tangibles, should be given more importance and Responsiveness constructs are second important. Assurance constructs are the third important aspect. Whereas, fourth and fifth important factors were Empathy and Reliability respectively in Student Satisfaction on (SERVQUAL) in Management Education in Sikkim.

To meet industry expectations, the curriculum to be redesigned and make management education student-centric. Impart practical education through learning in industries with maximum industrial exposure & learning concepts. Diversified experienced faculty and connect theory with practical applications encourage innovation and creativity in management education pedagogy. It is important to update need based courses and diversified specialization for better employment in North East India. Improved safety in terms of infrastructure, vigilant systems, administrative procedures, rules and code of conduct in the campus, divergent thinking in times of emergency, physical and moral strength to face problems to overcome the challenges will help to improve the standards. Focus on training and development and create enlightening learning environment through better quality services in Management Education leads to better employment.

7 Conclusion

Total quality is realized by founding an inventive organization, single that is elastic, which is able to regulate quickly to vagaries in its milieu and is proficient of education. The continuous development concentration of total quality management is a vital way of gratifying the answerability necessities, common to learning improvement [13]. Functioning a no-fear TQM system with a center on incessant increase and development offers more enthusiasm and encounter to students and teachers than a "good-enough" knowledge surroundings can offer [14].

The aim of the study was to highlight the student's satisfaction on SERVQUAL in Indian Management Education. The study results of the service quality provide empherical evidence about the relationship between pre and post attributes of SERVQUAL dimensions and management student's satisfaction level in Sikkim state.

Student's satisfaction has become an important indicator of quality of service in Management educational institutions. In the present scenario, the management students are well informed and expect outstanding service quality from their institutions [15]. The institution should focus on planning and allocation of resources that includes Reliability as first priority, Assurance as second, Responsiveness as third, Empathy as fourth and Tangibility as a last priority of Quality Dimensions.

References

1. Becker, B. W. (1992), "*Marketing services: Competing through quality*".
2. Manatos, M. J., Rosa, M. J., & Sarrico, C. S. (2018), "Quality Management in Universities: towards an Integrated Approach?" *International Journal of Quality & Reliability Management*, 35 (1), 126-144.
3. Juran, J. M. (1974), "*Quality Control Handbook*", New York: McGraw-Hill.
4. Crosby, P. B. (1979), "*Quality is Free*", New York: New American Library.
5. Garvin, D. A. (1984), "*What Does Product Quality Really Mean*?" Sloan Management Review, 26 (1).
6. Grönroos, C. (1984), "A Service Quality Model and its Marketing Implications", *European Journal of Marketing*, 18 (4): 36-44.
7. Horovitz, J. (1990), "*How to Win Customers – Using Customer Service for a Competitive Edge?*" Harlow: Longman.
8. Berry, L. L., Parasuraman, A., and Zeithaml, V. A., (1988) "*The Service-Quality Puzzle*," Business Horizons, 31(5), p 35.
9. Zeithaml, V., Berry, L., and Parasuraman, A., (1996), "The Behavioral Consequences of Service Quality," *Journal of Marketing*, 60 (2), p 31.
10. Mosadeghrad, A., (2014), "Factors Influencing Healthcare Service Quality," *International Journal of Health Policy and Management*, 3 (2), pp 77-89, 214.
11. Quintal, Vanessa Ann Sultan, P., and Yin Wong, H., (2012), "Service Quality in a Higher Education Context: An Integrated Model," *Asia Pacific Journal of Marketing and Logistics*, 24 (5), pp 755-784.

12. Angell, R., Heffernan, T., and Megicks, P., (2008), "*Service Quality in Postgraduate Education,*" Quality Assurance in Education, 16 (3), pp 236-254.

13. Lehtinen, U. and Lehtinen, J. R. (1982), "*Service quality: A Study of Quality Dimensions*"', Helsinki: Service Management Institute, Unpublished working paper, Finland Oy.