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Service quality management through Quantitative methods-A Study on English medium schools

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Abstract

The competition in the business world is dominated by the companies who actually provide quality goods and services to their customers. In practice it is the customers who actually dictate the very domain of the business. The concept and applications of quality measures and principles are applied not only in the industrial production but equally applied in the service sectors. But default Education is a kind of service, which the schools, colleges and Universities generally provide to their students. The number of enrollment in each domain is determined by the quality of their services, commitment to their stakeholders and continuous improvement. To impart quality education with related facilities are the prime focus of the Schools, Colleges, Institutes and Universities. The present study has thrown some lights on the Service Quality Management on English Medium Schools through Quantitative Methods. The individual SERVQUAL scores of the schools has been calculated and then compared with the SERVQUAL scores of the other competing schools. These scores basically are the prime points to select the quality English medium schools. In this study ANOVA was also applied to see the observations within and between the schools.

Keywords: Quantitative Measures, Education, Quality, Service and SERVQUAL

1. Introduction

The very changing nature of the business, economy, commerce and technology is inevitable. Liberalization, Privatization and Globalization have set new rules for competition. The better the quality of goods and services better is the market share for the organization. The competition in this current era is for the better and consistent quality of the products and services.

Quality is very important factor in any organization, be it a non-profit organization or a profit oriented organization. It is the customers who define the quality of the products or the services. The different parameters are generally used to define the quality of products and services are conformance to specifications, value for money, support, fitness for use, psychological impressions, customer support, safety, performance, features, reliability, serviceability, durability and appearance.

There are lots of researches in the areas of quality management. The Gurus of Quality are Deming, Juran, Crosby and others have contributed significantly in the zone of quality. The very important issue here is the product and service quality. The organizations need to focus on creating quality products and services.

For creating quality products and rendering quality services organizations need to practice Total Quality Management (TQM) principles and practices. TQM basically focuses on the zone of customer satisfaction, supplier relationship, continuous improvement, employee empowerment and Leadership issues. In practicing TQM in an organization the involvement of everyone is very essential.

2. Need of The Study: The continuous focus on MAKE IN INDIA is the basic driving force for the present study. It is very clear that the root of the education starts from the school level. It is the school that actually gives the foundation to a citizen. The quality of education in the school level can actually groom a child.

There is lot of uncertainty develops in the mind of the parents before they send their kids to the schools. Now-a-days we see there is mushroom growth of different schools (especially

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venture schools) in different towns. Often it creates ambiguity in the minds of the parents to select the best school for their kids. The schools generally go for aggressive marketing and promotional campaign to draw large pool. It is the quality of service that is rendered by the schools is important. Due to better quality of services the name and fame of schools generally flourished.

In a school's classroom the customer is the students. The product is the knowledge disseminated. The people involved in the process of providing the knowledge to the student customers are the teachers.

From the wider range of alternatives of the schools, the parents need to choose the best school for their kids. The service quality management tool SERVQUAL is very important tool to pin point the GAP in service that generated from the perception about the service and the expectation of the service. The more the GAP more is the drawback in terms of quality. Sometimes the schools may improve their basic features of services by practicing benchmarking process.

3. Review of Literature: Considering the study, good numbers of reviews have been done to have proper clarification about the topic. Total Quality management (TQM) was originally developed for industrial applications, now the TQM concept is applied in the area of education. The basic processes of TQM have applied in the industrial area. The result was that best qualities of products are manufactured. The teaching, which is the primary part of nation building, can impart quality education to the budding citizens. The teaching processes targets on quality education and good result. Thus TQM in educational processes continuously improves the quality of instructions. The beneficiaries are the students (Crawford & Shutler, 1999) [3]. From the basic functioning of the organization to its excel zone the very important role played by the leadership style. It is the leadership that creates a strong value system, good foundation and excellent set up for the organization. As leadership is important in manufacturing sector, so it is equally important in the service sectors. Thus Leadership is quite important in schools. The schools need a strong leadership for imparting quality education to its students and to create brand value (Berry, 1997) [1].

There was quite great initiatives have taken on quality of education both at local level as well as in international level. The measures of quality fail due to lack of comprehensive understanding and conceptualizing quality in education and teaching from different perspectives. This thinking can contribute to ongoing policy discussion, school educational practices and development for quality management (Cheng & Tam, 1997) [2].

A framework for quality management in education was developed considering the creations of teacher's professional communities and on an organizational model – institution's learning, feedback, development and evolution (Konidar & Abernot, 2006) [7]. The findings of the work were on the need for a teacher-led approach for school's transformation.

A study was carried out on teachers working at primary schools. By choosing stratified sampling method with 21 schools and 420 teachers were selected randomly. A total of 396 of the questionnaires were collected and evaluated for the study. The study identified problems related with teachers' perceptions on TQM practices, level of education and tenure. The findings were really eye opener as it pointed

out some measures of change management and implementation of the TQM principles (Toreman, Karakus & Yasan, 2009) [10].

The leadership practices have significant impact on the TQM practices. The leadership concept and TQM need to be integrated properly. The Leadership practices & TQM models were defined and discussed with real life examples from industries (Puffer & McCarthy, 1996) [9].

Deming's principles and TQM problem-solving tools and techniques were used to solve non in structural problems of schools. The focus areas were vandalism, school dropouts and student absenteeism. The outcome of the model suggested quality outcomes at reduced cost in noninstructional areas. The root cause analysis was also carried out (Weller, 2000) [11].

Based on test of a sample of business executives a service quality model was developed. The marketing implications were also considered. The study also concluded with the point that quality dimensions are interrelated (Gronroos, 1984). [4]

Marketing and promotional activities are very important part of the business sectors. The educational institute may be pioneer in the field of quality education with TQM. But they need to give equal emphasis to their marketing activities for drawing students (Harvey, 1996) [5].

The role and quality of teachers were very important to impart quality education. The study identified some key characteristics of high quality teachers as commitment, love of children, mastery on domain and the ability to collaborate with other teachers (Hopkins & Stem, 1996) [6].

Parasuram *et al* (1985) [8] discussed a model of service quality called the gap model. GAP 1 exists between the expectations of the customer and the perception of the service provider. GAP 2 exists between the perception of the service provider and the translation of these perceptions into the creation of the specifications of the service. GAP 3 exists in service specifications and service delivery. GAP 4 exists between the external communication and the actual service delivery and finally the GAP 5 exists between the expectations of the consumers from the service and their perceptions about the service after having experienced it.

4. Research Gap: Thus very limited numbers of studies have considered the appropriate measures of service quality management in schools. No such works have been noticed for this. Considering the above issues the study is well placed.

5. Objectives of the Study

Following are the objectives of the study:

- To identify the GAP score resulted from Perception and Expectations on the English Medium Schools.
- To identify the SERVQUAL Scores of the English Medium Schools.
- To compare the SERVQUAL Scores of the English Medium Schools.

6. Hypotheses for the Study

Following hypotheses has been formulated for the study:

- H01: There is no significant difference in SERVQUAL scores between the English Medium Schools.
- H02: There is no significant difference in SERVIQUAL scores obtained from the parents within the English Medium Schools.

7. Scope of the Study

The study has focused on the issues related to the factors like Tangible, Reliability, Responsiveness, Assurance and Empathy for both Expectations and Perceptions.

8. Limitations of the Study

The study has considered five different schools only to calculate the GAP scores and SERVQUAL Scores. Although there were 25 other schools in the district.

9. Research Methodology and Data

The present study is descriptive and partially empirical in nature. The study is carried in Cachar District of the State of Assam. The study has considered 05 numbers (X1,X2,X3,X4 and X5 Schools) of English Medium Schools. The actual names of the schools have not been cited here for their brand issues. The data were collected from 50 numbers of parents (respondents). The sampling frame is of the following type:

	X1 School	X2 School	X3 School	X4 School	X5 School	Total
Respondents (Parents)	10	10	10	10	10	50

The data is primary in nature which is collected with the help of structured questionnaire. The data collected is analyzed with the help of SERVQUAL. The technique used was on the GAP exists between the expectations of the consumers

from the services of the Schools and their perceptions about the service from the school after having experienced it. Also the ANOVA is applied to know the nature of the scores in detail. The following methods were used with the data:

Table 1: GAP SCORE

Q No	Expectations	E	Perceptions	P	Gap Score (P-E)
	Tangibles		Tangibles		P-E
1	Excellent Schools will have modern up to date ICT enabled class-rooms		X school has modern up to date ICT enabled class rooms		
2	Excellent schools will have up to date play ground		X school has up to date play ground		
3	Teachers and Non-teaching Staff at Excellent Schools will appear neat		X School teachers and non-teaching staff appears neat		
4	Excellent Schools will have good transportation like Bus		X School has good transportaion like Bus		

	Expectations	E	Perceptions	P	Gap Score (P-E)
	Reliability		Reliability		P-E
5	When Excellent Schools promise to complete syllabus by a certain time, they do		When X School promises to complete syllabus by a certain time, they do		
6	When a student ask questions on any paper, excellent school will show a sincere interest to solve it.		When a student ask questions on any paper, X school shows a sincere interest to solve it.		
7	Excellent school will hold their sessional test on schedule time		X school has hold its sessional test on scheduled time		
8	Excellent school will hold their final exam on schedule dates and declare the results on time		X school has hold its final exam on schedule dates and declared the results on time		
9	Excellent school will hold their annual sports week on schedule dates		X School has hold its annual sports week on schedule dates		
	Responsiveness	E	Responsiveness	P	P-E
10	Teachers of Excellent schools will communiante the progress of the students to their parents		Teachers of X School has communicated the progress of the students to their parents		
11	Teachers and Non-Teaching staffs of Excellent schools will give prompt service to students		Teachers and Non-Teaching staffs of X school has given prompt service to student		
12	Teachers and Non-Teaching staffs of Excellent schools will always be willing to help students and parents		Teachers and Non-teaching staffs of X school are always willing to help your kid and you		
13	Teaching and Non-Teaching staffs of Excellent schools will never be too busy to respond to students and parents queries.		Teaching and Non-Teaching staffs in X school are never too busy to respond to you and your kid's queries.		
	Assurance	E	Assurance	P	P-E
14	The behaviour of Teaching and Non-Teaching staffs in excellent schools will instill confidence in students and parents		The behaviour of teaching and non-teaching staffs in X school instills confidence in your kids and you		
15	The students of excellent schools will be confident with the level of teaching and exposure		Your Kid is confident with the level of teaching and exposure of the X School		
16	Teaching and Non-teaching staffs of Excellent schools will be consistently courteous to parents		Teaching and Non-Teaching staffs in X school are consistently courteous to you		
17	Teaching and Non-Teaching staffs of excellent schools will have the knowledge to answer parents questions		Teaching and Non-Teaching staffs in X school have the knowledge to answer your questions		

	Expectations		Perceptions		GAP Score (P-E)
	Empathy	E	Empathy	P	P-E
18	Excellent Schools will give students individual attention		X school gives your kid individual attention		
19	Excellent schools will have teachers and non-teaching staffs who give students personal attention		X school have teachers and non-teaching staffs who give your kids personal attention		
20	Excelent schools will have their student's best interest at heart		X school has your kid's best interest at heart		
21	The teachers of excellent schools will understand the specific needs of their students		The teachers of X school understand your kid's specific needs.		
22	Excellent schools will have sufficient consultation hours with their students and parents		X school has sufficient consultation hour with you and with your kids		

10. Analysis and Findings

For analyzing the data following methods were used:

Expectations

The present survey needs your opinions on English Medium Schools. Please indicate your view to which you think the English Medium Schools should possess the following features. Share your view by the number that shows your expectations about the School when you wanted to admit your kid.

Strongly Disagree							Strongly Agree	
1	2	3	4	5	6	7		

Perceptions

These statements relate to your feeling as a parent about the particular School (X) you have chosen. Please indicate your view to which you believe the particular school has the feature described in the statement. Share your view by the number that shows your perceptions about the particular School (X) where you have admitted your kid.

Strongly Disagree					Strongly Agree	
1	2	3	4	5	6	7

For X1 school we have analyzed response of a parent in the following way:

Table 2: GAP Score for X1 School

Category	Q No	Expectation Score	Perception Score	Gap Score (P-E)	Average Score
Tangible	1	5	3	-2	
	2	3	2	-1	
	3	7	5	-2	
	4	5	2	-3	-2
Reliability	5	3	1	-2	
	6	2	4	2	
	7	6	3	-3	
	8	5	6	1	
	9	3	1	-2	-0.8
Responsiveness	10	4	2	-2	
	11	7	3	-4	
	12	7	1	-6	
	13	3	5	2	-2.5
Assurance	14	5	6	1	
	15	6	2	-4	
	16	2	1	-1	
	17	7	4	-3	-1.75
Empathy	18	4	5	1	
	19	2	2	0	
	20	3	3	0	
	21	1	1	0	
	22	7	2	-5	-0.8

Table 3: Servqual Score for X1 School:

For School No X1			
Category	Weights	Average Score	Weighted Average Scores
Tangible	10	-2	-20
Reliability	30	-0.8	-24
Responsiveness	20	-2.5	-50
Assurance	10	-1.75	-17.5
Empathy	30	-0.8	-24
Total of Weights	100		-27.1
			Servqual Score

For X2 school we have analyzed response of a parent in the following way:

Table 4: GAP Score for X2 School

Category	Q NO	Expectation Score	Perception Score	Gap Score (P-E)	Average Score
Tangible	1	5	3	-2	
	2	4	2	-2	
	3	5	5	0	
	4	4	2	-2	-1.5
Reliability	5	4	1	-3	
	6	4	4	0	
	7	5	3	-2	
	8	5	6	1	
	9	3	1	-2	-1.2
Responsiveness	10	5	2	-3	
	11	6	3	-3	
	12	6	1	-5	
	13	3	5	2	-2.25
Assurance	14	6	6	0	
	15	4	2	-2	
	16	2	1	-1	
	17	5	4	-1	-1
Empathy	18	6	5	-1	
	19	4	2	-2	
	20	5	3	-2	
	21	4	1	-3	
	22	7	2	-5	-2.6

Table 5: Servqual Score for X2 School

For School No X2			
Category	Weights	Average Score	Weighted Average Scores
Tangible	10	-1.5	-15
Reliability	30	-1.2	-36
Responsiveness	20	-2.25	-45
Assurance	10	-1	-10
Empathy	30	-2.6	-78
Total of Weights	100		-36.8
			Servqual Score

For X3 school we have analyzed response of a parent in the following way:

Table 6: GAP Score for X3 School

Category	Q NO	Expectation Score	Perception Score	Gap Score (P-E)	Average Score
Tangible	1	5	4	-1	
	2	4	3	-1	
	3	7	6	-1	
	4	6	5	-1	-1
Reliability	5	4	3	-1	
	6	3	2	-1	
	7	6	4	-2	
	8	5	6	1	
	9	3	1	-2	-1
Responsiveness	10	5	2	-3	
	11	6	3	-3	
	12	4	1	-3	
	13	3	4	1	-2
Assurance	14	5	4	-1	
	15	6	3	-3	
	16	2	2	0	
	17	7	3	-4	-2
Empathy	18	4	3	-1	
	19	2	1	-1	
	20	3	2	-1	
	21	4	1	-3	
	22	7	2	-5	-2.2

Table 7: Servqual Score for X3 School

For School NO X3			
Category	Weights	Average Score	Weighted Average Scores
Tangible	10	-1	-10
Reliability	30	-1	-30
Responsiveness	20	-2	-40
Assurance	10	-2	-20
Empathy	30	-2.2	-66
Total of Weights	100		-33.2
			Servqual Score

For X4 school we have analyzed response of a parent in the following way:

Table 8: GAP Score for X4 School

Category	Q NO	Expectation Score	Perception Score	Gap Score (P-E)	Average Score
Tangible	1	5	4	-1	
	2	5	4	-1	
	3	6	4	-2	
	4	7	4	-3	-1.75
Reliability	5	7	5	-2	
	6	6	5	-1	
	7	5	5	0	
	8	4	4	0	
	9	6	4	-2	-1
Responsiveness	10	7	3	-4	
	11	5	4	-1	
	12	4	1	-3	
	13	4	5	1	-1.75
Assurance	14	7	5	-2	
	15	7	2	-5	
	16	5	5	0	
	17	5	5	0	-1.75
Empathy	18	4	5	1	
	19	7	6	-1	
	20	5	6	1	
	21	6	1	-5	
	22	7	6	-1	-1

Table 9: Servqual Score for X4 School:

For School NO X4			
Category	Weights	Average Score	Weighted Average Scores
Tangible	10	-1.75	-17.5
Reliability	30	-1	-30
Responsiveness	20	-1.75	-35
Assurance	10	-1.75	-17.5
Empathy	30	-1	-30
Total of Weights	100		-26
			SERVQUAL SCORE

For X5 school we have analyzed response of a parent in the following way:

Table 10: GAP Score for X5 School

Category	Q NO	Expectation Score	Perception Score	Gap Score (P-E)	Average Score
Tangible	1	5	4	-1	
	2	3	4	1	
	3	7	3	-4	
	4	5	4	-1	-1.25
Reliability	5	3	3	0	
	6	2	4	2	
	7	6	3	-3	
	8	5	4	-1	
	9	3	5	2	0
Responsiveness	10	4	6	2	
	11	7	4	-3	
	12	7	5	-2	
	13	3	4	1	-0.5
Assurance	14	5	4	-1	
	15	6	5	-1	
	16	2	5	3	
	17	7	4	-3	-0.5
Empathy	18	4	4	0	
	19	2	4	2	
	20	3	3	0	
	21	1	4	3	
	22	7	2	-5	0

Table 11: Servqual Score for X5 School

FOR SCHOOL NO X5			
Category	Weights	Average Score	Weighted Average Scores
Tangible	10	-1.25	-12.5
Reliability	30	0	0
Responsiveness	20	-0.5	-10
Assurance	10	-0.5	-5
Empathy	30	-0.5	-15
Total of Weights	100		-8.5
			SERVQUAL SCORE

Table 12: SERVQUAL Scores on the five schools

	X1	X2	X3	X4	X5
P1	-27.1	-36.8	-33.2	-26	-8.5
P2	-30	-44	-43.9	-44.9	-9.3
P3	-33.5	-42	-21.8	-34.8	-7.8
P4	-43.2	-48	-23.3	-32.9	-6.8
P5	-45	-21.8	-22.7	-38.4	-5.5
P6	-37	-24.8	-29.8	-23.8	-5.8
P7	-39.1	-33.8	-26.8	-27.9	-5.2
P8	-35.7	-31.9	-43.8	-29.8	-8.9
P9	-33.7	-35.4	-31.9	-33.4	-9.8
P10	-25	-20.6	-38.4	-26.3	-9.7

Source: From field data

The 50 SERVQUAL score responses that have been received for 5 schools with 10 respondents each are shown below:

Table 13: ANOVA table

Anova: Single Factor						
SUMMARY						
Groups	Count	Sum	Average	Variance		
X1	10	-349.3	-34.93	42.20455556		
X2	10	-339.1	-33.91	87.46766667		
X3	10	-315.6	-31.56	68.82488889		
X4	10	-318.2	-31.82	41.67066667		
X5	10	-77.3	-7.73	3.173444444		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	5210.914	4	1302.7285	26.76752603	0.0000000002127	2.578739184
Within Groups	2190.071	45	48.66824444			
Total	7400.985	49				

It is clear from the above table that the variance of SERVIQUAL Score for X5 school is very less and it is 3.173444444. Thus it is consistent. But the variance of SERVIQUAL score for X2 school is very high thus not

consistent enough. The P value here is 0.0000000002127<0.05 thus the null hypothesis is rejected in this case. Thus there is significant difference in SERVQUAL scores between the English Medium Schools.

Table 14: ANOVA table to find the situation within the group

Anova: Single Factor				
SUMMARY				
Groups	Count	Sum	Average	Variance
Row 1	5	-131.6	-26.32	118.857
Row 2	5	-172.1	-34.42	235.507
Row 3	5	-139.9	-27.98	179.742
Row 4	5	-154.2	-30.84	271.563
Row 5	5	-133.4	-26.68	240.307
Row 6	5	-121.2	-24.24	133.568
Row 7	5	-132.8	-26.56	166.943
Row 8	5	-150.1	-30.02	167.947
Row 9	5	-144.2	-28.84	114.833
Row 10	5	-120	-24	107.425

ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	454.217	9	50.4685556	0.290601647	0.97341128	2.124029264
Within Groups	6946.768	40	173.6692			
Total	7400.985	49				

It is clear that the P value is $0.97341128 > 0.05$ thus null hypothesis is accepted. Thus there is no significant difference in SERVQUAL scores obtained from the parents within the English Medium Schools.

The above tables indicated the GAP scores. The GAP is calculated from (P-E). Once the GAP is calculated then the respective simple average is calculated for the components and the GAP score is thus generated. Now the weightages are inserted and these are multiplied with the respective component GAP scores and thus new scores obtained. At the last step the new scores average is calculated to find the SERVQUAL score. Generally the SERVQUAL scores and GAP scores comes in negative signs, indicating that perception is lower than the expectation. Here the SERVQUAL Score is -8.5 (lowest) for the X5 school compares to the other schools. Thus, lower the SERVQUAL Score better is the service quality. Here it is the X5 School.

11. Conclusion

Education is the very important service to the nation. Thus the English medium schools need to constantly focus on their performance in terms of their service quality. It is the quality which will pay in the long run. The one important technique which is applied in the English medium schools to justify their service quality is the SERVQUAL. Through SERVQUAL Scores schools can identify the gap and tries to improve on those lagging factors.

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