

Measurement Of Service Quality In Healthcare Organization

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ABSTRACT

Defining and measuring the quality of service has been a major challenge in healthcare industry. The service quality measurement scale (SERVQUAL) is used in research to measure quality of service in a hospital service environment. SERVQUAL as an effective approach has been studied and its role in the analysis of the difference between patient expectations and service providers' perceptions has been highlighted through a case study conducted at XYZ Hospital which is one of the best hospitals in Ujjain giving quality service to patients. The main objective of this project is to demonstrate the use of SERVQUAL for measuring patient's perceptions of health care quality in XYZ Hospital.

The research methodology consists of preparing a detailed questionnaire based on twelve SERVQUAL attributes. Opinion of 62 patients in hospital is taken to find out the service quality perceived by them. The data obtained is analyzed using software SPSS. Result of study showed that hospital service attributes have positive impact and are significant to build patient satisfaction. The result of this study is expected to give more knowledge about the importance of service quality (SERVQUAL), so that the hospital can use them as initial building block for management of hospital to evaluate its service and further improve it. This result can be conveniently generalized for any other organization in Indian context.

Keywords:- Service, Quality, SERVQUAL, Healthcare Industry, Customer Satisfaction.

1. INTRODUCTION

Today the healthcare industry has emerged as one of the most challenging sector as well as one of the largest service sector industries in India with estimated revenue of about US \$ 30

billion constituting 6% of the GDP (Rajashekhar et al., 2009). The Indian healthcare Industry, though still nascent in size and dynamic compared to other countries, has also benefited from this economic boom.

Internal marketing is important strategy to boost a service that will make the customer satisfy (Bolton and Drew 1991). This project start with the concept of service quality, customer satisfaction and followed by study on different models of measuring service quality but focusing mostly on SERVQUAL approach, which is the most common method for measuring service quality. The purpose of the project is to find the most important service quality dimensions that affect customer satisfaction in healthcare service in XYZ hospital located in Ujjain city. Since SERVQUAL model is a comprehensive method, it is adopted and deployed to encompass various aspects of service quality in relation to this case hospital. Questionnaire survey is adopted as methodology for this project.

Objectives of Project

Following are major objectives of this project that have been identified

- To study the importance and impact of service quality in hospital.
- To find the most important dimensions of service quality that affects the customer satisfaction in hospital.
- To determine the customers expectations from hospital service.

Expected Deliverables

The expected deliverables that have been identified are as follows:

- A comprehensive list of applicable Variables.
- Most Critical, Critical, and Sub Critical Success factors for better healthcare services.
- Managerial implications of the study.
- Various Suggestions to the case hospital.

CHAPTER 2 LITERATURE REVIEW

This Chapter will give an overview of literature and models that are related to the field and objectives presented in the previous Chapter. In this Chapter, concepts of services, characteristics of services, service quality, services in hospitals, hospital service quality dimensions and service quality model of hospital services are introduce in order to give a clear idea about the project area.

Services:- The rapid development of the service sector in developed market economies and the growing scale of international transactions in services have been major features of the world's economic development over the last few decades. Additional revenues and growth stimulated by these exports have, in turn, influenced favorably the potential for internal reforms, facilitating structural adjustments and modernization. (Pascal, 1987) .

Customer Satisfaction

Customer satisfaction is the key factor determining how successful the organization will be in customer relationships (Reichheld, 1996); therefore it is very important to measure it.

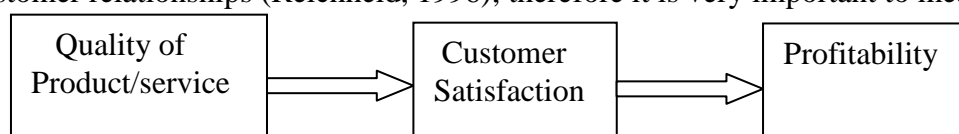


Fig. 2.2: Dependence between quality, satisfaction and profitability**Characteristics of a Service**

There are six characteristics to a service which will be discussed in Fig. below

Lack of ownership	Intangibility	Inseparability	Perishibility	Heterogeneity	Variability
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Fig.: Characteristics of Services**Service Quality**

The purpose of the research is to find the most important service quality dimensions that affect customer satisfaction in hospital service in Ujjain. Since SERVQUAL model is founded a comprehensive method, we are going to adopt and deploy it to encompass various aspects of service quality in relation to the hospital industry in Ujjain. Besides, a questionnaire has been designed based on literature in order to examine all service quality dimensions in SERVQUAL model.

Parasuraman, Zeithaml, and Berry (1985); "Service quality is determined by the differences between customer's expectations of services provider's performance and their evaluation of the services they received".

Service Quality Model

- Gap 1: *Gap between consumer expectations and management perceptions:*
- Gap 2: *Gap between management perception and service quality specification:*
- Gap 3: *Gap between Service quality specifications and actual service delivery:.*
- Gap 4: *Gap between service delivery and external communications: Consumer*
- Gap 5: *Gap between perceived service and expected service:*

Figure 2.5 shows these 5 gaps in the conceptual model of service quality

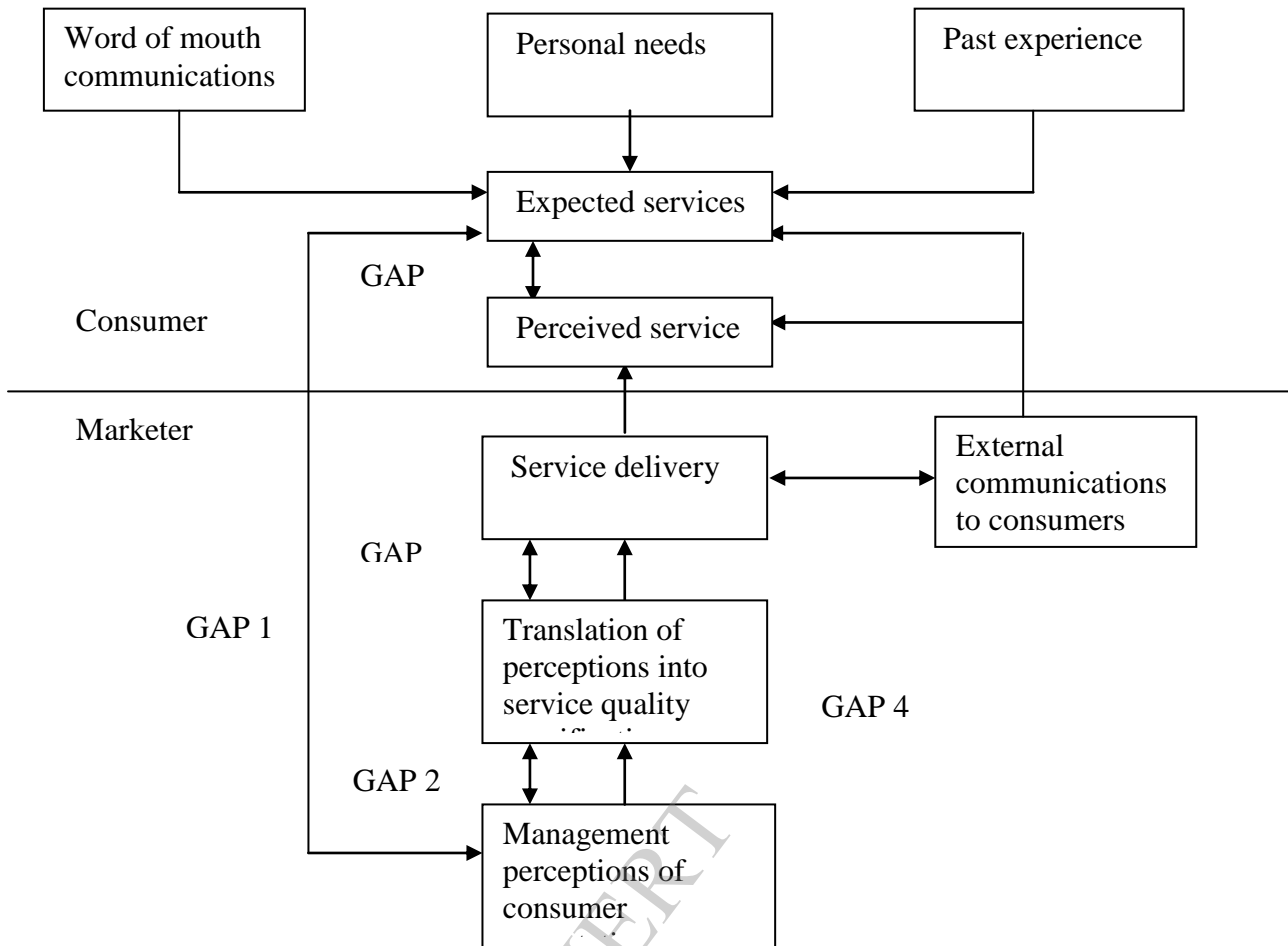


Fig. 2.5: Conceptual Model of Service Quality (source: PZB, 1985)

2.4.4 SERVQUAL

The SERVQUAL instrument developed by Parasuraman et al., (1985) has proved popular, being used in many studies of service quality.

The SERVQUAL instrument consists of 42 statements for assessing consumer perceptions and expectations regarding the quality of a service. Respondents are asked to rate their level of agreement or disagreement with the given statements on a 5-point Likert scale. Consumers' perceptions are based on the actual service they receive, while consumers' expectations are based on past experiences and information received. The statements represent the determinants or dimensions of service quality. Refinement of this work reduces the original service dimensions used by consumers to judge the quality of a service from ten to five.

The 12 key dimensions (Parasuraman et al., 1985) that were identified are given in Table 2.1

Table 2.1: SERVQUAL attributes and definition according to hospitals

S. No.	Servqual Attribute	Definition	Modified Definition for Hospital Industry
1	Reliability	Ability to perform the promised service dependability and accurately	<ul style="list-style-type: none"> • Speed of Service • Speed of registration • Accuracy of treatment
2	Responsiveness	Willingness to help customers and provide prompt service	<ul style="list-style-type: none"> • Speed of response to complaints • Concern to patient • Desire for helping
3	Assurance	Knowledge and courtesy of employees and their ability to inspire trust and confidence	<ul style="list-style-type: none"> • Doctor concern to patients • Nurse attitude to patients • Room security
4	Empathy	Caring, individualized attention the firm provides its customers	<ul style="list-style-type: none"> • Ease of communication • Attention and patience of the nurses
5	Tangibles	Physical facilities, equipment, and appearance of personnel	<ul style="list-style-type: none"> • Availability of medical devices • Cleanliness and tranquility of patient room • Choices of menu and portion • Furniture are present in patient room • Electricity available for emergency • Pathology lab • Employee performance
6	Competence	Possession of required skills and knowledge to perform the service	<ul style="list-style-type: none"> • Doctors qualification • Qualification of staff in hospital • Experience of doctors • Reputation of doctors
7	Access	Approachability and ease of contact	<ul style="list-style-type: none"> • No. of hours doctors sitting in the chamber • No. of rounds taken/day/week
8	Courtesy	Politeness, respect , and friendliness	<ul style="list-style-type: none"> • Politeness of the staff to patient

			<ul style="list-style-type: none"> • Behaviour of the staff and doctors
9	Communication	Keeping customers informed in language they can understand and listening to them.	<ul style="list-style-type: none"> • Counselling facility • Communication and ITC • Computerized registration facility • Computerized billing facility • Computerized dispensary
10	Credibility	Trustworthiness, believability, honesty. It involves having the customer's best interests at heart	<ul style="list-style-type: none"> • Truthworthiness • Doctors faith • Belief
11	Security	The freedom from danger, risk, or doubt.	<ul style="list-style-type: none"> • Alarm provided for danger • Fire proof arrangement • Accidental facility • General safety
12	Understanding /Knowing the patient	Making an effort to understand the Customer's needs	<ul style="list-style-type: none"> • To know what type of dieses patient suffering from • What type of problem arises to patient

3. METHODOLOGY

This presents brief description of the research methodology used for the project. This includes data collection, statistical methods used for project like Pearson correlation and linear multiple regression. In this project, software SPSS 11 which provides the descriptive statistics and other statistical tools is used.

Data Collection

For this study relevant data is collected by using a questionnaire consists of 42 questions based on 12 SERVQUAL attributes in XYZ hospital in Ujjain. While collecting data there were some problems associated such as:

- Around 250 patients were asked to fill questions but only 62 responded positively.
- Language of questionnaire was a problem for few respondents. They were explained about questions in Hindi.
- The hospital employees refused to participate in data collection.

Table below shows the sample of tabulation of data and Table 3.2 shows the Servqual scale.

Table : Sample of tabulation of data

S. No.	Servqual Attributes	Modified Definition for Hospital industry	1	2	3	4	5
1	Reliability	i. Speed of Service					
		ii. Speed of registration					
		iii. Accuracy of treatment					
2	Responsiveness	i. Speed of response to complaints					
		ii. Concern to patient					
		iii. Desire for helping					
3	Assurance	i. Doctor concern to patients					
		ii. Nurse attitude to patients					
		iii. Room security					
4	Empathy	i. Ease of communication					
		ii. Attention and patience of the nurses					
5	Tangibles	i. Availability of medical devices					
		ii. Cleanliness and tranquility of patient room					
		iii. Choices of menu and portion					
		iv. Furniture are present in patient room					
		v. Electricity available for emergency					
		vi. Pathology lab					
		vii. Employee performance					
6	Competence	i. Doctors qualification					
		ii. Qualification of staff in hospital					
		iii. Experience of doctors					
		iv. Reputation of doctors					
7	Access	i. No. of hr. doctors sitting in chamber					
		ii. No. of rounds taken/day/week					
8	Courtesy	i. Politeness of the staff to patient					
		ii. Behaviour of the staff and doctors					
9	Communication	i. Counselling facility					
		ii. Communication and ITC					
		iii. Computerized registration facility					
		iv. Computerized billing facility					

		v. Computerized dispensary					
10	Credibility	i. Truthworthiness					
		ii. Doctors faith					
		iii. Belief					
11	Security	i. Alarm provided for danger					
		ii. Fire proof arrangement					
		iii. Accidental facility					
		iv. General safety					
12	Understanding /Knowing the patient	i. To know what type of dieses patient suffering from					
		ii. what type of problem arises to patient					

Table 3.2: Servqual Scale**Descriptive Statistics**

Statistics is the science of the collection, organization, and interpretation of data. It deals with all aspects of this, including the planning of data collection in terms of the design of surveys and experiments.

3.3.1 Mean:- In mathematics and statistics, the arithmetic mean, often referred to as simply the mean or average when the context is clear, is a method to derive the central tendency of a sample space.

Suppose we have sample space $\{a_1, \dots, a_n\}$. Then the arithmetic mean A is defined via the equation

$$A := \frac{1}{n} \sum_{i=1}^n a_i$$

Eq. 3.1

Where A = Mean

n = Sample Space

3.3.2 Standard Deviation:- Standard deviation is a widely used measurement of variability or diversity used in statistics and probability theory.

1	2	3	4	5
Very Slow	Slow	Medium	Fast	Very Fast
Weak	Little Satisfactory	Satisfactory	Good	Very Good
Little bit	Somewhat	Moderately	Accurate	Very Accurate
Lower	Satisfactory	Mediocre	Higher	Excellent
Minimum	Somewhat	Average	Mostly	Maximum

Standard deviation is a statistical measure of spread or variability. The standard deviation is the root mean square (RMS) deviation of the values from their arithmetic mean.

$$S = \frac{\sum(X-\mu)^2}{n-1}$$

Eq. 3.2

Where S = Standard deviation

X = Individual score

μ = Mean of all scores

n = Sample size

3.3.3 Reliability and Validity:- In statistics, reliability is the consistency of a set of measurements or of a measuring instrument, often used to describe a test. Validity is often assessed along with reliability, the extent to which a measurement gives consistent results. (Seyed, 2008)

Cronbach's α is defined as

$$\alpha = \frac{K}{K-1} \left(1 - \frac{\sum_{i=1}^K \sigma_{Y_i}^2}{\sigma_X^2} \right) \quad \text{Eq. 3.3}$$

Where K is the number of components

σ_X^2 is the variance of the observed total test scores

And $\sigma_{Y_i}^2$ the variance of component i for the current sample of persons

3.4 Pearson Correlation:- Correlation is a technique for investigating the relationship between two quantitative, continuous variables, for example, age and blood pressure. Pearson's correlation coefficient (r) is a **measure of the strength of the association** between the two variables. The variables are not designated as dependent or independent. The two most popular correlation coefficients are: Spearman's correlation coefficient rho (r) and Pearson's product-moment correlation coefficient.

The value of a correlation coefficient can vary from +1 to -1. A minus one indicates a perfect negative correlation, while a plus one (+1) indicates a perfect positive correlation. A correlation of zero (0) means there is no relationship between the two variables.

Mathematical Representation of Pearson Correlation

The mathematical formula for Pearson Correlation is given as shown below:

$$r_{xy} = \frac{\sum_{i=1}^n (x_i - \bar{x})(y_i - \bar{y})}{(n-1)S_x S_y}, \quad \text{Eq. 3.4}$$

Where x and y are two variables or the sample means of X and Y and S_x and S_y are the sample standard deviations of X and Y .

3.5 Multiple Regression:- Simple regression is used to examine the relationship between one dependent and one independent variable. After performing an analysis, the regression statistics can be used to predict the dependent variable when the independent variable is known.

Multiple regression is a statistical technique that allows us to predict someone's score on one variable on the basis of their scores on several other variables. **Beta (standardised regression coefficients)**

The beta value is a measure of how strongly each predictor variable influences the criterion variable. The beta is measured in units of standard deviation

R Square

R is a measure of the correlation between the observed value and the predicted value of the criterion variable. In the example, above this would be the correlation between the levels of

job satisfaction reported by participants and the levels predicted for them by our predictor variable

4. DATA ANALYSIS

Attributes	No. of item	Minimum	Maximum	Mean	Std. Deviation	Cronbach's Alpha
Reliability	62	1.67	4.67	3.3118	.69048	.7457
Responsiveness	62	1.33	4.33	2.7527	.70112	.6245
Assurance	62	1.67	4.33	3.0753	.52068	.4454
Empathy	62	1.33	3.33	2.1129	.37179	.3112
Tangibles	62	2.71	4.29	3.4217	.37523	.5432
Competence	62	3.00	5.00	4.0202	.49236	.7028
Access	62	2.00	4.50	2.9032	.71195	.6802
Courtesy	62	1.50	4.50	3.1613	.79328	.7958
Communication	62	1.40	4.20	2.8355	.56860	.7690
Credibility	62	2.33	4.67	3.4409	.59376	.6558
Security	62	1.25	2.50	1.9879	.24970	.0297
Understanding	62	1.00	5.00	2.9597	.88844	.8287

Table : Descriptive Statistics and Cronbach's alpha value

Table: Likert five point scale

1	2	3	4	5
Very Slow	Slow	Medium	Fast	Very Fast
Weak	Little Satisfactory	Satisfactory	Good	Very Good
Little bit	Somewhat	Moderately	Accurate	Very Accurate
Lower	Satisfactory	Mediocre	Higher	Excellent
Minimum	Somewhat	Average	Mostly	Maximum

Pearson Correlation Analysis

Table 4.3: Correlation Coefficients between SERVQUAL attributes using Pearson Correlation Coefficient

Variables	Reliability	Responsiveness	Assurance	Empathy	Tangibles	Competence	Access	Courtesy	Communication	Credibility	Security	Understanding
Reliability	1											
Responsiveness	.358**	1										
Assurance	.349**	.321*	1									
Empathy	.343**	.472**	.520**	1								
Tangibles	.268*	.367**	.406**	.302*	1							
Competence	.343**	.383**	.282*	.383**	.448**	1						
Access	.157	.373**	.330**	.176	.094	.052	1					
Courtesy	.371**	.284*	.307*	.308*	.267*	.443**	.507**	1				
Communication	.261*	.151	.345**	.306*	.414**	.340**	.337**	.445**	1			
Credibility	.383**	.393**	.433**	.472**	.350**	.521**	.174	.514**	.387**	1		
Security	.133	.225	.217	.147	.293*	.310*	.097	.082	.234	.212	1	
Understanding	.448**	.212	.568**	.262*	.378**	.424**	.227	.422**	.347**	.583**	.173	1

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed)

Table 4.4: Multiple Regression analysis between SERVQUAL attributes

Variable	Dependent						
	Responsiveness	Assurance	Empathy	Courtesy	Communication	Credibility	
Independent							
Reliability	.230	.083	.210	.135	.052	.086	
Tangibles	.210	.210	.128	.020	.260*	.033	
Competence	.244	-.048	.256	.346**	.129	.301**	
Access	.335***	.199	.122	.448***	.269**	.051	
Security	.052	.069	-.007	-.114	.068	.025	
Understanding	-.159	.414***	-.015	.125	.098	.389***	
R square	.355	.416	.225	.480	.305	.442	
F	5.056	6.541	2.663	8.449	4.028	7.265	

*p<.05, **p<.01, ***p<.001

Multiple Regression Analysis

Multiple regression analysis is conducted to visualize the causal relationship between various variables. Multiple Regression analysis computed by choosing six dependent variables and six independent variables. The dependent variables are responsiveness, Assurance, Empathy, Courtesy, Communication, Credibility and Independent variables are Reliability, Tangibles, Competence, Access, Security, Understanding and their relationship shows the positive and negative impact on the attributes. Results of regression analysis are summarized above in Table 4.4.

‘Responsiveness’ has a significant relationship with ‘access’, greater the value of these factors greater will be response to service in healthcare industry hence it is important parameter to give a strong positive relationship. Next variable ‘assurance’ is strongly dependent on ‘understanding’ it means greater the values of this variable better will be the assurance between service provided in healthcare organization. ‘Courtesy’ has a statistically significant correlation with ‘competence’ and ‘access’, indicating that ‘courtesy’ may be improved by improving the ‘competence’ and ‘access’. ‘Courtesy’ has negative relation with ‘security’ indicating that higher ‘Security’ leads to compromise in courtesy. ‘Communication’ is depending on ‘tangibles’ and ‘access’ it means higher communication with customers gives higher access to customers. ‘Credibility’ may be improved by improving ‘competence’ and ‘understanding’.

R squared is comprehensible measure for indicating the percentage variation in the dependent variable which is accounted for by the independent variable (Sancheti & Kapoor, 1998). The R-square value is an indicator of how well the model explains the variance (Shukla et al, 2011). R square values ranges from 0.225 to 0.48 which implies that 22.5% to 48% of the variation in the dependent variable has been explained by the independent

variable. 'F' statistic shows goodness of fit. Higher the value of F the fit is good and all the values of F are high ranging from 2.663 to 8.449.

5. RESULT AND DISCUSSION

The result obtained from the analysis of data and discussion about obtained results. Mean, Pearson correlation coefficient, and Regression analysis is done to measure the customer perception in healthcare organization. Data analysis is done in previously in which relationship between various factors of Servqual are calculated. Result of this study shows the satisfaction level of customers in the health service centre. Discussion about result shows percentage variation of mean and suggests how to improve other factors which are ranked low in the analysis.

Result and Discussion

Mean of twelve Servqual factors is 2.99 which is average of overall Servqual attributes showing satisfactory results on Likert five point scale. Out of 12 factors 6 are identified as most critical factors with mean ranging from more than 3 which is presents in Table 5.1. Four other factors are sub critical factors with mean ranging between 2.1 and 3. Remaining two factors with mean less than 2.2 are considered less critical. The results of mean with their ranking are showing in Table 5.1 below.

Table : Categorization of variables

Most critical variables	critical variables	less critical variables
1. Competence	1. Access	1. Empathy
2. Credibility	2. Understanding	2. Security
3. Tangibles	3. Communication	
4. Reliability	4. Responsiveness	
5. Courtesy		
6. Assurance		

Result of correlation shows many significant positive correlations between factors which are presents in Table 5.2 below.

Table : Result of correlation between factors

Factors	positive correlation with other factors
Reliability	responsiveness, assurance, empathy, competence, courtesy, credibility, tangibles, communication and understanding
Responsiveness	assurance, empathy, tangibles, competence, access, courtesy and credibility
Assurance	empathy, tangibles, competence, access, courtesy, communication, credibility and understanding
Empathy	tangibles, competence, courtesy, communication, credibility and understanding
Tangibles	competence, courtesy, communication, credibility, security and understanding
Competence	courtesy, communication, credibility, security, and understanding
Access	courtesy and communication

Courtesy	communication, credibility and understanding
Communication	credibility and understanding
Credibility	understanding

Table : Result of multiple regression between factors

Dependent factors	Positive relation with Independent factors
Responsiveness	Access
Assurance	Understanding
Courtesy	Competence and Access
Communication	Access and Tangibles
Credibility	Understanding and Competence

The result obtained from this study shows that level of Servqual is not very good but overall mean of the Servqual attribute is less which shows that service given by the healthcare system is satisfactory. The level of service can be increased by improving various attributes such as attention of nurses, ease of communication and security. These factors can contribute to large extent to improve the Servqual.

6. CONCLUSIONS

Following major Conclusions are drawn after careful analysis of data and discusses these of:

- The contribution of this study is the identification of factors that determine customer satisfaction with the quality of services provided in healthcare organization. The study is based on empirical research.
- Determinants identified are reliability and responsiveness, assurance, empathy, tangibles, competence, access, courtesy, communication, credibility, security, and understanding.
- In order to improve service quality, it is necessary to contact employee regularly and assess their service experiences. Reliability, competence, courtesy, tangibles, assurance and credibility factors are considered most important by patients. These factors determine customer's satisfaction in XYZ hospital and may be different from determinants of satisfaction with healthcare organization as a whole.
- The study thus provides a direction for healthcare whereby areas for improving services may be identified and user (patient) satisfaction, specifically in hospital, may be enhanced. Like the external customers, an internal customer too considers categories of service attributes, such as reliability and responsiveness, in judging the quality of internal services.
- With the knowledge of the internal service quality dimensions, the service organizations can then judge how well the organization or employee performed on each dimension and managers could identify the weakness in order to make improvement. Indian hospitals need to concentrate on reliability and responsiveness, the dimensions of service

quality and allocate resources to provide better service and ultimately better service to external customers.

- The significant gaps and importance was associated to reliability, responsiveness, empathy and all servqual dimensions implying that the health center is still only “cure centre” and not “care centre”. Leadership should be committed to create a service oriented culture that permeates to all levels of the organization.

Scope of Future Work

This study largely focused on SERVQUAL being the measurement tool for measuring the service quality. With the development of healthcare industry, some areas which are not covered in this study are interesting and need to be explored. In addition, the limitation and shortcoming of this study also provide implications for future research. Future research could add extensions to this study. This research needs further analysis. While this research yields a number of very interesting results, we believe that there are a number of things that should be done to confirm our results. Firstly medical tourism in India contributing maximum percentage all over world which gives the financial support to government and also decreasing the unemployment problem. Secondly, education in medical science is now more advantageous to improve knowledge and standard. Thirdly, healthcare industries are in competitive global market to give a service all over India. At the end, in this competitive market, service quality is one of the key elements which bring customer satisfaction.

Suggestions to Case Organization

The results clearly establish the areas where quality improvements are more demanding. Further, it provides directions for hospital managers and policymakers to develop strategies which will meet patients' expectations of service quality restore patients' trust in public hospitals and increase thus their competitiveness. Finally, it gives support to the view that, although difficult, service quality in the health sector can be measured and consequently be monitored systematically in order to narrow previously identified gaps and take corrective actions when necessary. Though the results obtained from this study following the suggestions to XYZ hospital Ujjain are made;

Tangibles:

1. They should have better equipment & technology.
2. Availability of physical facilities should be visually appealing.
3. Bathroom should be very clean.
4. Water purifier should have good company.
5. Room should be clean and clear.
6. Meals should be nutritious and better in taste.
7. Food should be fresh.
8. Staff should respect privacy and good behave.
9. Room should be quiet.
10. Parking should be convenient.

Assurance:

1. Food should be delivered on time to time.
2. When staff of the institutions promises to do something by a certain time, they should do it.

3. They should keep patients' records accurately and systematically.

Responsiveness:

1. They should be expected to tell their customer exactly when services will be performed.
2. Patients who will be discharged should expect prompt service from employees of the hospital for the discharging operations.
3. Patients who come to hospital should expect prompt service from employees of the hospital for the admission operation.
4. Employees of the hospital should always be willing to help their patients.
5. Employee of the hospital should address customers' questions appropriately about any procedure.
6. Treatment should be explained to the patient very clearly.
7. Discharge should be explained to the patients' family.

Reliability:

1. Customer should be able to trust staff of the hospital.
2. Patient should be positive that they have recovered well before they are discharged.
3. Patients should be able to feel safe in their transactions with these institutions' employees.

Courtesy:

1. Employees should be polite during admissions procedure.
2. Employees should be polite during housekeeping process.
3. Nurses' behaviour should be very polite to customers.
4. Nurses should be cheerful.

Empathy:

1. Patients should expect employees to know what they need from them.
2. Patients should expect nurses to give them their personal attention.

6.6 Concluding Remarks

Healthcare Industry has gained lot of importance in India due to arrival of super specialty hospitals and resulting health tourism. This study provides an opportunity to evaluate the application of operations management tools in service organization. SERVQUAL model is used to evaluate quality of service in XYZ hospital of Ujjain & many important conclusions which have significant managerial implications are drawn.

REFERENCES

- 1) Babakus, E., and Mangold, W. (1992), "Adapting the SERVQUAL Scale to Hospital", *Journal of Health Services Research*, Vol. 26, No. 5, pp. 7767-87.
- 2) Boltan, R. N., and Drew, J. H. (1991), "A longitudinal analysis of the impact of service change of customers attitude", *Journal of Marketing*, Vol. 55, pp. 10-19.
- 3) Buttle, F. (1996), "SERVQUAL: review, critique, research agenda" *European Journal of Marketing*, Vol. 30, No. 1, pp. 8-32.

- 4) Cristina, F. (2009), "Adaptation and application of the Servqual scale in higher education", São Paulo State University, Brazil.
- 5) Çaha, H. (2006), "Service Quality in Private Hospitals in Turkey", *Journal of Economic and Social Research*, Vol. 9, No. 1, pp. 55-69.
- 6) Drucker, P. (1991), "Innovation and entrepreneurship: Practice and Principles", Louisiana, Louisiana State University Press.
- 7) Glaveli, N., Karassavidou, E., and Chrissoleon, T. (2008), "Health Care Quality in Greek NHS Hospitals: No one knows better than patients", Department of Economics, Aristotle, University of Thesssaloniki.
- 8) Grönroos, C. (1984), "A service quality model and its marketing implications", *European Journal of Marketing*, Vol. 18, pp. 36-44.
- 9) Gronroos, C. (1988), "Service Quality, the Six Criteria of Good Service", Quality Review of Business 3, New York: St. John's University Press.
- 10) Hossein, S. S. (2008), "Measuring service quality using servqual model, a case study of e-retailing in Iran", *Journal of marketing*, Vol. 1, No. 1, pp. 1-32.
- 11) Kotler, P. (2003), Marketing Management, Pearson Education, Inc. Eleventh edition, pp. 446-456.
- 12) Nandan, G., Shefali (2010), "Determinants of Customer Satisfaction on Service Quality: A Study of Railway Platforms in India", *Journal of Public Transportation*, Vol. 13, No. 1, pp. 108-10.
- 13) Parasuraman, A., Zeithaml, V.A., and Berry, L.L. (1985), "A Conceptual Model of Service Quality and its Implications for Future Research", *Journal of Marketing*, Vol. 49, No. 4, pp. 41-50.
- 14) Parasuraman, A., Zeithaml, V. A., and Berry, L.L. (1988), "SERVQUAL-A Multiple Item Scale for Measuring Customer Perception of Service Quality", *Journal of Retailing*, Vol. 64, No. 1, pp. 12-30.
- 15) Ratna, H. N. (2007), "The analysis of service quality with servqual approach and its effect to customer satisfaction at the hospital business", Widyatama University, Indonesia, Vol. 1, No. 1, pp. 1-10.
- 16) Randheer, K., AL-Motawa, A. A., Vijay, J. P. (2011), "Measuring commuters' perception on service quality using servqual in public transportation", *International Journal of Marketing Studies*, Vol. 3, No. 1, pp. 21-31.
- 17) Sachdev, B., Verma, V. (2004), "Relative importance of service quality dimensions: a multisectoral study", *Journal of Service Research*, Vol. 4, No. 1, pp. 98-106.
- 18) Shukla, A. C., Deshmukh, S. G. and Kanda, A. (2009), "Green supply chain management: challenges in Indian context", paper presented at the National Conference on Mapping for Excellence: Challenges Ahead, Pioneer Institute of Professional Studies, Indore, 16 February.
- 19) Zeithaml, V. A., Berry, L.L. and Parasuraman, A. (1991), "The nature and determinants of customer expectations of service", working paper 91-113, Marketing Science Institute, Cambridge, MA.

Web Resources

- 1) PricewaterhouseCoopers, Emerging Market Report: “Health in India 2007”, <http://www.cdc.gov/ncidod/dvbid/dengue/> Viewed on 13 may 2011.
- 2) Ministry of Health and Family Welfare (2005), Government of India; <http://mohfw.nic.in/np2005.htm> Viewed on 13 may 2011.
- 3) Department of AYUSH, Ministry of Health and Family Welfare, Government of India; <http://indianmedicine.nic.in/summary-of-infrastructure.asp> Viewed on 21 may 2011.
- 4) Statistical Review chapter 7, Correlation and Regression; <http://www.ncbi.nlm.nih.gov> Viewed on 23 April 2011.

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