

Measuring Service Quality Dimensions: an Empirical Study of Private Hospitals in Jaffna District, Sri Lanka

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Abstract

The quality of hospitals services has a significant impact on customer satisfaction of healthcare in private hospitals of Jaffna District in Sri Lanka. The objective of the study is to assess the important dimensions of service quality in the services offered by private hospitals and to understand the factors that influence service quality in private hospitals. The findings of this study could provide useful information as to how hospitals could better manage their services to enhance their service quality. A questionnaire survey was conducted on 250 patients those availed health services from a private hospital in Jaffna District.

Service quality were measured based on customer satisfaction levels by using a questionnaire which consist the service quality dimensions of tangible, reliability, responsiveness, assurance, empathy, and communication. The research findings indicated that all factors have positive correlations and the relationship among variables is significant. And further more Jaffna district private hospitals' patients rated the reliability dimension the most important of all, followed by tangibles, assurance, empathy, responsiveness, whereas the communication dimension rated least important of all. By considering these findings, the hospital will make the patients satisfied with its services, and in turn improve their willingness to recommend the hospitals' services to others.

Keywords: Service quality, SERVQUAL model, Customer perception, Private hospitals

1. INTRODUCTION

This study aims to explore most common constructs for quality of hospitals services and to understand the factors that influence service quality in private hospitals of Jaffna District. It also manipulates the effect of service quality dimensions on service quality in hospital relationships and to discuss the come up with recommendations that may help hospitals to increase customers' satisfaction and loyalty through improving service quality.

It should go without saying that customers are the lifeblood of all organizations, yet few companies seem fully capable of matching their performances to the needs of their customers, either in quality, efficiency or personal service. Measurement of customer perceptions of service quality is necessary to evaluate the impact of quality improvement activities initiated through the clinic's strategic planning process. By measuring quality in this manner, management can better direct financial resources to improve clinic operations in those areas which impact on customer perceptions of service quality the most. Such evaluation of service quality is essential in today's competitive, cost-conscious health-care market (Elizabeth, 199

In Sri Lanka, a series of health sector problems, both in the current health status of the country and in the health services, has been identified (Poverty, Transition and Health, WHO, Colombo, March, 2002). In the case of health services, the following major problems are identified; deficiencies in health promotion, weak preventive care services, and problems in the curative health services such as lack of trained personnel, weak management and lack of regulation. In addition to that, problems such as unequal distribution of available resources, lack of appropriate referral systems and congestion in some hospitals, while others are under-utilized, continued to loom over the health system of the country. Hence the present study is made to find out the "Service quality of the private hospitals" in Jaffna District in Sri Lanka.

The rest of this paper is organized as follows; review of literature, significance of the study, objectives and hypotheses, research methodology, data analysis, findings. Finally, discussion and managerial implications with limitations and future research are drawn.

2. REVIEW OF LITERATURE

Due to the competition increasing, the hospital industry is seeking new tools to create competitive advantages. Therefore, it is putting a large amount of effort into selecting the best tools or methods to measure service quality development. In terms of measuring the service quality in the hospital industry, SERVQUAL has been applied as a tool for understanding the factors affecting the service quality in the hospital industry. A provider's service quality is a distinct construct from customer satisfaction with the service and precedes customer satisfaction (Cronin & Taylor 1992; Parasuraman, Zeitham and Berry, 1994). Similar to Dick and Basu (1994), Anderson and Fornell (1994), Iacobucci, Ostrom and Grayson (1995), and Rust and Oliver (1994, "quality is one dimension on which satisfaction is based") they view service quality as an antecedent to satisfaction. Bolton and Drew (1991), point out "customer satisfaction depends on preexisting or contemporaneous attitudes about

service quality”.

As suggested by Salazar, Xosta and Rita (2010), this study could contribute in the areas of both consumer decision-process theory and service marketing literature focusing on service quality. It includes the different customer groups requiring different management strategies in order to achieve excellent service quality. Analyzing perceived service quality in terms of private hospitals, it can help management to develop different strategies to meet the needs of each specific segment (Zhang, Ye & Law, 2011). In practice, the management is able to apply the research findings in designing and prioritizing hospital strategies and to recognize the weaknesses of service quality in order to undertake quality improvement and development to satisfy customer needs more efficiently and effectively.

Kavitha (2012), tested in her study, the factors influencing service quality gap between expected service and perceived service. SERVQUAL model has been used to measure the service quality which was developed by Parasuraman, Zeithmal and Berry (1985). For this study, a questionnaire was developed to measure the service quality gap by dimensions of tangibles, reliability, responsiveness, assurance, and empathy. From Sri Gokulam hospital in Salem, samples of 100 in-patients were selected to measure the quality gap based on convenience sampling. The result indicates that as far as the quality gap between the expected and perceived service is concerned almost all the independent factors have no relation with respect to all the dimensions.

Syed saad andaleeb (2000), pointed out the conjecture that private hospitals would be rated better on service quality than public hospitals was tested. The results, there are significant overall group differences in the service quality ratings of public and private hospitals.

Knutson *et al* (1992) investigated the application of the SERVQUAL instrument and developed a new scale called LODGSERV. Based on their study, five main dimensions including reliability, assurance, responsiveness, tangibles, and empathy were developed for LODGSERV. Mei, Dean and White (1999) also examined the dimensions of service quality in his study. They used SERVQUAL as a foundation and developed a new scale called the HOLSERV scale. As a key finding from their study, they concluded that service quality was represented by three dimensions, relating to employees, tangibles, and reliability. According to these three dimensions, the best predictor of overall service quality was employees.

Dilaver, Adnan and Sophia (1999) also pointed out “In the quality of service provision in both public and private hospitals, significant differences were noted among all hospitals in several areas. First, consumers reported higher trust and confidence regarding their belief in the accuracy of the information they received from professionals and the skill, experience and training of professional staff in the private hospitals. Many consumers reported that not only were the physicians and nurses perceived to be more skilled, but they were also more helpful and had more pleasant attitudes regarding consumer needs”. Qingyue Meng, Xingzhu Liu and Junshi Shi (2000), pointed out in their results of variance analysis comparing the quality of clinics for the four selected indicators are summarized. No significant differences in score values. Finally, results of the analysis of clinic supervisor’s evaluation also revealed no differences in health workers’ quality across the four clinic types.

The SERVQUAL instrument developed by Parasuraman *et al.* (1985) comprised of 22-items representing five dimensions had been widely used in health care to measure the service quality and in health care literature ‘SERVQUAL’ is considered as most reliable and valid measurement of perceived service quality (Reidenbach & SandiferSmallwood, 1990; Babakus & Mangold, 1992; Vandamme & Leunis, 1993; Lam, 1997; Wong, 2002; William, Duffy, Michael & Geoge, 2004)

3. SIGNIFICANCE/NEED OF THE STUDY

Particularly, in Sri Lanka, no significant study is yet published that has investigated the service quality and customer satisfaction of private health sector of Jaffna district in Sri Lanka. Thus, a gap in the literature and inconclusive empirical findings are a few reasons that have evoked the need for this empirical study.

4. OBJECTIVES AND HYPOTHESES

The objective of the study is to assess the important dimensions of service quality in the services offered by private hospitals and to understand the factors that influence service quality in private hospitals of Jaffna District.

H₁: Service quality dimensions have a positive relationship with Customer satisfaction

H₂: Service quality dimensions have significant impact on Customer satisfaction

5. RESEARCH METHODOLOGY

Instrument Development

The instrument was developed based on review of the literature, and questions used as the questionnaire which was an adapted version of SERVQUAL developed by Parasuraman *et al.* (1985) for tangible, reliability, responsiveness, assurance, and empathy, and the last dimension of communication from Pui-Mun (2004). This questionnaire was applied to the purpose of rating the importance of 21 service quality latent items and measures the customer satisfaction level based on their experience of hospital service.

The questionnaire for this study divided as two main sections. The first Section carries 06 questions, which were designed to elicit personal information about the respondents, and selected Customers are asked to mark “√” in the appropriate case.

In the section two, questionnaires were structured and, that hospital patients were asked to rate their level of agreement regarding the hospital service at when they stayed in wards, on a five-point Likert scale was used.

Sample

Population was defined as private hospital patients. Five private hospitals were selected from Jaffna District and we planned to select 50 patients from each hospital. A comparison with the actual population of the private hospitals’ patients in Jaffna district, collected from the admission counter information (private hospitals admission books), reveals that the sample is reasonably represented the population. The sum of the computed chi-square values (8.66) is less than the chi-square table value of 9.48 (at 5% confidence level) and this means that considering the total sample, there is no significant difference between observed and expected frequencies suggesting that the sample used in representative of the population.

A stratified random sample of 290 private hospital patients had been used. The sample consisted of, 290 questionnaires actually distributed and a total of 276 questionnaires were returned, among them 250 were suitable for the study, which represented 86.2% response rate, and had been used in the data analysis.

6. VALIDITY AND RELIABILITY TEST

For the present study, the content validity of the instrument was ensured as the service quality and customer satisfaction dimensions and items were identified from the literature, those used by several past studies. Thus it has content validity.

Prior to the main analysis, reliability test carried out to assess the internal reliability of the instrument, which used to test the variables in the conceptualization model. This was done by calculating Cronbach’s Alpha coefficients using the computer programme SPSS 13.0. Cronbach’s alpha as suggested by many experts (Cooper & Schindler, 2001; Page & Meyer, 2000), and it was calculated for each variable. All of the Cronbach Alpha coefficients are above 0.85 threshold recommended by Nunnally (1978), and Peterson (1994). Table 1 shows the results of Cronbach’s Alpha coefficients.

Table 1: Factor matrix for Service Quality items

Scale items of Service Quality Dimensions	Factor 1 Tangibles	Factor 2 Reliability	Factor 3 Responsiveness	Factor 4 Assurance	Factor 5 Empathy	Factor 6 Communication
Modern equipment	.733	.234	.204	.218	.325	.322
Employees neatness	.538	.391	.382	.408	.326	.347
Materials (like reports)	.649	.345	.407	.311	.307	.359
Execution of promises	.308	.638	.413	.448	.396	.297
Interest in solving problem	.323	.677	.451	.391	.392	.278
Performs right the first time	.407	.682	.494	.421	.394	.388
Error- free records	.230	.618	.183	.288	.332	.229
Doctors’ punctual	.243	.320	.684	.392	.350	.379
Employees’ willing to help	.402	.445	.696	.471	.439	.337
Employees’ respond to requests	.435	.509	.803	.364	.527	.452
Confident in treatment	.329	.412	.330	.667	.415	.359
Employees’ courteous	.287	.464	.478	.626	.361	.346
Employees’ knowledge	.324	.323	.328	.725	.307	.380
Nurses’ respond to needs	.306	.432	.479	.433	.675	.430
Safe in transactions	.378	.314	.298	.334	.564	.353
Employees’ personal attention	.239	.419	.439	.282	.576	.380
Hospital’s best interests	.323	.264	.294	.283	.570	.322
Understanding specific needs	.216	.295	.290	.256	.605	.316
Information of condition	.353	.390	.418	.405	.437	.747
Information treatment	.306	.192	.254	.293	.371	.639
Explaining Procedures	.484	.407	.490	.473	.510	.805
Eigen values:	61.383	9.962	8.701	7.780	6.682	5.491
Cronbach’s alpha:	0.854	0.850	0.850	0.851	0.851	0.850

7. DATA ANALYSIS

Primary and secondary data were used for this study, and both descriptive and inferential statistics has been used to analyze the data. Statistical software of statistical package for social sciences (SPSS), version 13.0 has been used in the analysis.

For the 250 respondents of 5 private hospitals in Jaffna District, 50 patients from each hospital, the gender distribution was 47.6% male. Their ages were below 20 years (11.2%), 20–35 years (30%), 36–50 years (28%), and above 50 years (30.8%). The majority of the respondents were married (68.8%). Most respondents were others category (27%) staff grade employees (23%), labour grade (16%), business (13%), agriculture (11%), executive (09.2%). The question on the educational level of the patients showed that most of the respondents (59.6%) had the educational qualification of school education, which is highest for university education (26%) and professional education (14.4%).

8. MULTICOLLINEARITY TEST FOR NORMALITY OF DATA

Studies have advocated undertaking analysis to establish the multicollinearity among variables, for the purpose of ensuring the independent variables are not highly correlated among them, thus multicollinearity test was performed and results are presented in the Table 2.

Table 2: Summary of Multicollinearity Diagnostics

Coefficients		Co linearity Statistics	
		Tolerance	VIF
1	Tangibles	.618	1.618
	Reliability	.507	1.971
	Responsiveness	.496	2.016
	Assurance	.527	1.897
	Empathy	.474	2.110
	Communication	.521	1.920

a. Dependent Variable: Total Satisfaction

The Table 2 depicts the results of variance inflation factor (VIF) are around 2 and below, which are very less than the cutoff (10). According to the result, there is no multicollinearity problem to use these independent variables in regression analysis to prove the hypotheses (O'Brien 2007).

Table 3: Result of Correlation matrix

Variables	Tangible	Reliability	Responsiveness	Assurance	Empathy	Communication
Reliability	.484**					
Responsiveness	.495**	.584**				
Assurance	.465**	.589**	.560**			
Empathy	.490**	.578**	.603**	.532**		
Communication	.525**	.456**	.536**	.537**	.603**	
Service quality	.716**	.794**	.803**	.770**	.834**	.775**

Significant level, **, $p < 0.001$ (two tailed)

The results of correlation Analysis of the study reflect that all factors have positive correlations. Table 3 indicates that the relationship among variables is significant ($p < 0.001$).

Table 4: Regression analysis result

Variables	Proposed effect	Coefficient	Observed t-value	Significance P<
Tangibles	+	.169	3.242	.001
Reliability	+	.223	3.886	.000
Responsiveness	+	.145	2.504	.013
Assurance	+	.169	3.002	.003
Empathy	+	.150	2.528	.012
Communication	+	.125	2.212	.028

Significant level, **, $p < 0.001$

The result of regression equation based on six independent variables (tangible, reliability, responsiveness, assurance, empathy, and communication) is reflected in Table 4. The results indicate positive and statistically significant ($F=59.077$, $p < 0.001$) relationship of these variable with perceived service quality. These variable accounted for 59.3% ($R^2 = 0.593$) of variance in perceived service quality. The relationship of tangible, reliability, responsiveness, assurance, empathy, and communication is positive and statistically significant ($p < 0.001$).

9. DISCUSSION AND CONCLUSION

The objective of the study is to assess the important dimensions of service quality in the services offered by private hospitals and to understand the factors that influence service quality in private hospitals of Jaffna District. The analysis identified six dimensions for Jaffna district private hospital (tangible, reliability, responsiveness, assurance, empathy, and communication). Most of these dimensions have been identified and validated in prior research on service quality in other countries also (Syed Saad Andaleeb, 2000; Parasuraman *et al.*, 1985, 1988). In addition, these dimensions have their own unique characteristics in private hospital context.

The tangible dimension refers to the quality of physical infrastructure, the modern- looking equipment of available to make the hospital service a delightful experience, the neatness and outward show of doctors, nurse and assistants, who are providing the services. Customers expect that the interior decor and design would be appealing (Zeithaml & Bitner, 2000). The customer want that information material provided is well composed, and attractive. The frontline personnel providing services should be neat, clean, and well dressed and give pleasing look (Chi, Yeh & Jang, 2008). Barnhoorn (2006) stressed that communication facilities and other equipment are modern and up-to-date, and easy availability of materials associated with the service.

The dimension of reliability entails ability to perform the services accurately and dependably. The customers expect that, service providers provide accurate service as promised (Chich, Tang, & Chen, 2006). The patients want accurate and on time billing. Sigala (2006) emphasized customers' desire the staff to be sympathetic, facilitating, and reassuring to their needs. The customers expect that their record of use of service is kept accurately and readily available (Ozer & Aydin, 2005).

Responsiveness is the degree of willingness to help and facilitate the customers by providing prompt services to the customers. Responsiveness accounts for a prompt response to the customers' needs. Gerpott, Rams and Schindler, (2001) stressed the need of timely service to hospital patients. The frontline employees are expected to anticipate the needs of the users and proactively respond to these needs (Lee, Feick, & Lee, 2001). Hospital patients are keen to get a prompt response from the employees regarding their complaints and enquiries.

Assurance is about knowledge, skills and expertise of the employees involved in delivering services and the ability to create trust and confidence among the customers, and their ability to instill faith and dependence in the service providers' competence. Lee *et al.*, (2001) argued in favour of facilitating role of staff in dealing with customers. They stressed that staff should have the competence to inspire trust and confidence among the customers about the ability of hospital service providers in anticipating and meeting customers' needs. Sigala (2006) stressed that politeness of staff builds trust in the service provider ability to respond to the needs of the customers.

Empathy is about the individual attention and care provided to the customers by the service provider and its human resource. Empathy necessitates placing customers over and above everything else during the course of staff interaction. Lim (2005) highlights that caring and personalized approach in dealing with customers provide them a pleasant experience and helps builds long term relationship with service provider.

Communication is keeping customers informed in a language they understand; listening to customers (Parasuraman *et al.*, 1985). 'Plain English' pamphlets and brochures; communication material tailored to the needs of individual groups (ethnic minorities, visually impaired *etc*); suggestions and complaints systems are help to service provider for better communication.

An evaluation of relative importance of hospital service quality dimensions is essential to identify the effects of these dimensions on customer perception of hospital service quality. This would enable Jaffna district private hospitals to identify and undertake necessary initiatives to improve those aspects that customers value the most and to design the marketing strategy for health care services over time. The results of regression analysis in Table 4 indicate that Reliability is the most dominant dimension in affecting the customers' perception of Jaffna

district private hospitals' service quality. This would enable to Jaffna district private hospitals to identify and undertake necessary initiatives to improve those aspects that customers value the most.

Private hospitals are vigorously concern on problem solving, execution of promises, performs right the first time, error-free records, confident in treatment, employees' courteous, knowledge of Employees, modern equipment, and employees neatness, and diversified offering to attract new customers and retain the existing customers. The results of this study substantiate the response strategy of private hospitals industry to enhance reliability, the tangible, responsiveness, and assurance, empathy, and communication dimensions of services that are vital to affect the customers' perception of quality of service.

The results of regression analysis in Table 4 indicate that reliability, tangibles assurance, empathy, responsiveness, and communication are dimensions that have positive and significant impact on customers' perceived service quality of private hospitals. The results of the study concur with the outcome of other studies on traditional service quality setting (Bitner, 1990; Parasuraman *et al.*, 1988). The results of this study are in harmony with research of customers' perceived service quality (Joachim & Omotayo, 2008; Johnson & Sirikit, 2002; Leisen & Vance, 2001; Pampallis, Wal & Bond, 2002; Wang & Lo, 2002). In competitive environment, service providers need to ensure that right service is provided the first time (Lai, Hutchinson, Li, & Bai, 2007). Once trustworthiness of the service provider is compromised, the organization suffers from reduced market share, diminished revenues, and profitability (Parasuraman *et al.*, 1988).

Regarding the importance of service quality dimensions, the study concludes that Jaffna district private hospitals' patients rated the reliability dimension the most important of all with average points of .223, followed by tangibles and assurance are with .169, empathy with .150, responsiveness with .145, points, whereas the communication dimension rated least important of all with .125. By considering these, the hospital will make the patients satisfied with its services, and in turn improve their willingness to recommend the hospitals' services to others. Further, managers and doctors should build cultural values, renew the operational system and recruit qualified managerial and medical staff to offer an excellent, kind, and constant level of service quality over time.

10. LIMITATIONS AND FUTURE RESEARCH

Regardless of the contribution to the topic of service quality, the present study suffers two points of limitation. First, Stratified random sampling technique was mainly used to select the study respondents. Such procedure restricts the representation of all patients of health industry in Jaffna District, and thus will affect the generalization of the study findings. Second, the study evaluated the quality of health services from the investigated patients' expectations and perceptions toward the service quality of the health sector, while providers' attitudes were not undertaken. To get a complete and accurate vision of health services in health industry of Jaffna District, further empirical researches is needed to cover both patients and providers.

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