

## **Service quality and customer satisfaction in healthcare services under public private partnership**

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### **Abstract**

The purpose of this research paper is to investigate the impact of service quality on customer satisfaction in healthcare services under public private partnership. The data was collected using modified standardized questionnaire from 650 respondents. Multiple regression analysis was used to investigate the impact of service quality on customer satisfaction. Findings suggested the significant correlation between dimensions of service quality and customer satisfaction. Further, findings revealed strong evidences that dimensions of service quality, assurance, responsiveness, empathy, tangibility and reliability, significantly impacted the customer satisfaction in healthcare services.

**Keywords:** Service quality, customer satisfaction, healthcare services, public private partnership.

## **Introduction**

Last ten years have been witnessed an exponential increase in PPP in the healthcare sector. The type of partnership has taken care of the various challenges in expanding the healthcare facilities such as facilities construction, arranging latest medical and diagnostic equipments, healthcare service delivery etc. Just like any other sector the healthcare sector is also experiencing the challenges of cost control and maintaining reputation due to globalization happening in all parts of the world. This is leading to varied types of public private partnerships being experimented in order to drive the required synergies for meeting the constantly changing dynamics of challenges. As a result, these partnerships are playing the role of a catalyst for innovations, improving the efficiencies and providing access to the masses. However, we cannot rely on them 100 percent in case of the most challenging task of delivering services in the rural areas. Hence while forging partnerships a careful analysis needs to be done of the respective strengths and expertise brought on the table by the partners along with the way in which partnerships are planned and implemented. Main aspects which should get due weightage are:

- Establishing and maintaining standard of practices at all locations.
- Same treatment quality irrespective of economic profile of patient.
- Maintaining a consistent quality of services.
- Health services should be economical making everybody capable of availing them.
- Certification of facility and services.

Keeping in view the importance of PPP model in healthcare sector, current study focuses on measuring the Impact of perceived service quality of healthcare services under PPP model on customer satisfaction.

## **Review of Literature**

This section comprises the review of studies on the patient satisfaction of healthcare sector, which includes the factors for service quality which affect the patient satisfaction, impact of patient satisfaction on the performance or the reputation of healthcare sector, measuring gap between perception and expectations of the patients towards the healthcare services, selection

of healthcare provider based on satisfaction level, and the comparative studies on the patient satisfaction of public and private hospitals.

Lank & Senevirathne (2017) have assessed the patient's satisfaction with service quality of hospitals. The study highlighted the low level of satisfaction among the majority of patients due to inconvenience, improper infrastructural facilities, complexity of procedures, behavior of doctors and hospital staff, cost of services, discomfort and lack of emotional support. The study also showed that the old patients had higher level of satisfaction as compare to the young patients. The research emphasized on understanding the dynamic perceptions of patients and improving the image of institution with the implementation of suitable strategies at regular intervals of time.

Srinivasan & Saravanan (2015) have assessed the impact of customer satisfaction on internal revenue generation of public healthcare services. The study revealed the higher level of dissatisfaction among the patients due to inadequate information about provisions of hospital services, improper availability and supply of drugs at hospital pharmacy as well as long waiting time. The study stressed on establishing a separate wing in the hospitals to redress the grievances of the patients.

Faezipour & Ferreira (2013) have explored the relationship between patient satisfaction and service quality of health care providers in the hospitals. Patient satisfaction is very important in the Health Care service sector as a social element, which aims at providing sustainability and quality of life.

Allahham (2013) has revealed that patient's expectations, their past experience, transparency in services, clarity, monetary efficacy and quality of services were the major determinants that govern patients' satisfaction for healthcare services. Hence, the study suggested to enhance various determinants of patient satisfaction to attain the maximum advantage by bridging the gap between the patient's expectations and ground realities.

Efuteba (2013) revealed that low level of satisfaction among the respondents regarding the services provided at the hospitals due to inefficiency on the part of staff, improper respond to patient's expectations, rigid tax policies, inadequate communication between patients and doctors as well as low level of development in healthcare services in the hospitals. The acknowledgement of patient's needs and wants was found essential to achieve their satisfaction and loyalty.

Mankar et al. (2013) revealed the sound level of patient satisfaction regarding the services provided at healthcare services. The research also found some factors like dirty toilets, uncleanliness, improper examination by the doctors, delay in reports, lack of availability of senior doctors, access to healthcare services and costly medicines, which posed hindrances in the smooth functioning of the hospitals. The study suggested that the hospitals must make the primary healthcare material available to the patient at subsidized price and upgrade their supportive services to benefit the patients.

Nasir et al. (2012) stated that the majority of the respondents were gratified with the physical appearance, pharmacy, diagnostic, billing, emergency, food as well as overall services of the hospital. The higher level of satisfaction was also found among the patients with regard to the consultation services provided by the personnel at the hospitals. The study emphasized on developing patients' feedback strategical system to recognize their views and giving a suitable response to maintain the quality services to fit the patient's needs.

Hussain & Rehman (2012) highlighted that service quality and reputation were significantly correlated with the patient satisfaction whereas trust did not have direct influence on it. Maintenance of standards, making level of patient satisfaction, highly competitive environment was found as the various challenges encountered by the healthcare industry.

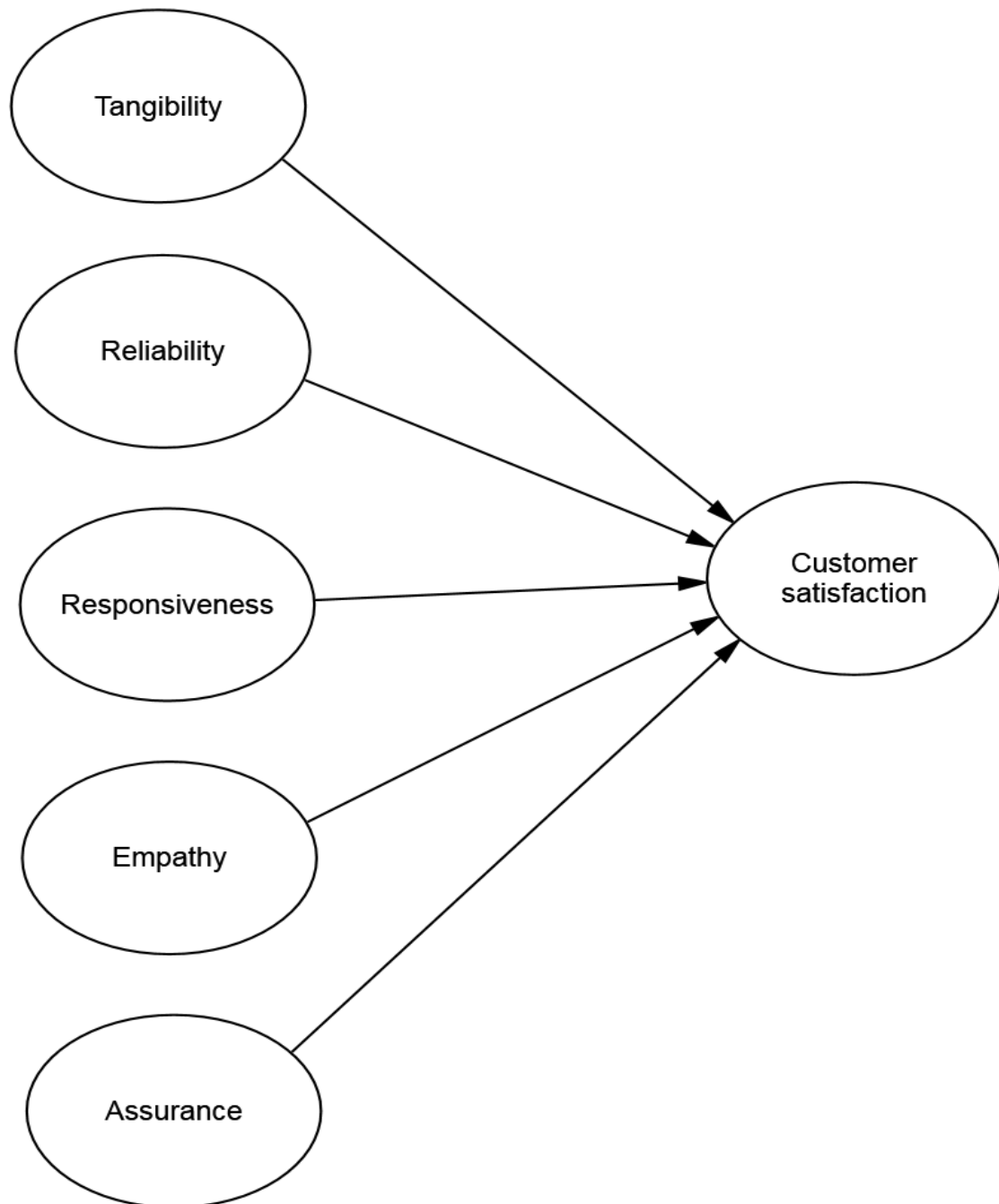
Joshi et al. (2012) found the higher level of satisfaction among respondents with regard to the efficiency of the hospital services, communication and explanation by the medical professionals as well as waiting time at hospital. The study stressed on decreasing the cost of investigation to make the services accessible to the poor patients and appointing adequate number of medical staff to serve the patients precisely.

Heng (2011) have analyzed the expectations and perceptions of patients towards service quality of private hospitals. The study revealed that the patients were not satisfied with services provided by doctors, hospital staff, administrative as well as infrastructural facilities. Hence, it was suggested that the hospitals must understand the expectations of patients and develop the ways to fulfill their needs. There must be proper system of organizing training campaigns at regular basis to train the healthcare staff.

Daniel and Deirdre (2011) have given an overview regarding the healthcare facilities towards the community. Patients' satisfaction had been reckoned as a measuring yard to analyze the effectiveness of health care services across different domains. The study had drawn the attention towards some challenges like awareness among people about technological

advancements, raising expectations of people, increase in cost of health care, which affect the functioning of Healthcare systems. The research emphasized that the policy makers must include the requirements and options of the patients so that there could be improvement in the quality of healthcare.

**Figure I:** Theoretical hypothesized model



**Note:** This figure shows the relations between dimensions of service quality and customer satisfaction

**Research Methodology:**

The main aim of the study is to analyze the quality of the MRI and CT scan services which are being provided under PPP model, in civil hospitals of the Haryana state. Further, the satisfaction of the customers towards these services and the loyalty among the customers towards these services has been measured. The sample of the study consists of 650 customers from 13 civil hospitals of 12 major districts of the Haryana state based on the population size. The sampling technique used in the study was non-probability convenience sampling and the mode of data collection was survey method, using questionnaire. Customers were approached personally by researcher. Reliability of the questionnaire was measured and it was above 0.70, which shows the questionnaire was reliable and also got it content validated by the experts of the marketing area. Data has been analyzed using multiple regression analysis, and descriptive analysis.

**Findings and Discussions**

This section contains the data analysis of customer satisfaction based on service quality. The effect of various factors like; tangibility, responsiveness, reliability, empathy and assurance on customer satisfaction has been described here.

**Table 1: Service quality and customer satisfaction**

		Tangibility	Reliability	Responsiveness	Empathy	Assurance	Customer Satisfaction	Service Quality
Tangibility	R-value	1	.072	.436**	.179**	.095*	.646**	.631**
	p-value		.056	.000	.000	.015	.000	.000
	Number	650	650	650	650	650	650	650
Reliability	R-value	.072	1	.204**	.201**	.130**	.458**	.403**
	p-value	.056		.000	.000	.001	.000	.000
	Number	650	650	650	650	650	650	650
Responsiveness	R-value	.436**	.204**	1	.253**	.085*	.656**	.377**

	p-value	.000	.000		.000	.030	.000	.000
	Number	650	650	650	650	650	650	650
Empathy	R-value	.179**	.201**	.253**	1	.154**	.429**	.172**
	p-value	.000	.000	.000		.000	.000	.000
	Number	650	650	650	650	650	650	650
Assurance	R-value	.095*	.130**	.085*	.154**	1	.184**	.145**
	p-value	.015	.001	.030	.000		.000	.000
	Number	650	650	650	650	650	650	650
Customer Satisfaction	R-value	.646**	.458**	.656**	.429**	.184**	1	.599**
	p-value	.000	.000	.000	.000	.000		.000
	Number	650	650	650	650	650	650	650
Service Quality	R-value	.631**	.403**	.377**	.172**	.145**	.599**	1
	p-value	.000	.000	.000	.000	.000	.000	
	Number	650	650	650	650	650	650	650

The inter-correlation between all the five dimensions of the quality of healthcare services under PPP model was found to be significant and positive as well, which signifies that all the dimensions are associated to each other, any increase or decline in any of the dimension of the service quality will have same effect on other dimensions; as all are moving in same direction. Further, the variable service quality was itself found to be positively correlated to all of its dimensions.

Regression Model	R-value	R <sup>2</sup> value	Adjusted R <sup>2</sup>	Std. Error
1	.862 <sup>a</sup>	.743	.741	.67566
a. Predictors: (Constant), Assurance, Responsiveness, Reliability, Empathy, Tangibility				

The value of R-square shows that 74 percent of the variation caused by the dimensions of service quality in the value of customer satisfaction, in context of healthcare services provided under PPP model in Haryana state. While 26 percent of unexplained variance shown by regression results.

Model		SS	df	MS	F-value	p-value
1	Regression	849.979	5	169.996	372.377	.000 <sup>b</sup>
	Residual	293.996	644	.457		
	Total	1143.975	649			
a. Dependent Variable: Customer Satisfaction						
b. Predictors: (Constant), Assurance, Responsiveness, Reliability, Empathy, Tangibility						

The table shows the results of F-test: F-value of consumer satisfaction towards services like assurance, responsiveness, reliability, empathy and tangibility was found to be 372.377 at a p-value of .000, which is significant. Thus, it can be said that; there is a significant relationship between customer satisfaction and the services provided by the health care Centre under PPP model. A customer who is getting support of doctors, timely services, cost effectiveness and modern equipment for diagnose, favourable payment modes will definitely be happy and will be satisfied.

*H1*: Tangibility of test centre significantly influences the customer satisfaction.

*H2*: Reliability of test centre significantly influences the customer satisfaction.

*H3*: Responsiveness of test centre significantly influences the customer satisfaction.

*H4*: Empathy of test centre significantly influences the customer satisfaction.

*H5*: Assurance of test centre significantly influences the customer satisfaction.

**Table 4: Coefficients**

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Hypothesis
		B	Std. Error	Beta			
	(Constant)	-7.053	.263		-26.844	.000	
	Tangibility	.874	.045	.431	19.333	.000	Supported
	Reliability	.713	.048	.310	14.937	.000	Supported
	Responsiveness	.905	.059	.352	15.335	.000	Supported
	Empathy	.482	.052	.195	9.209	.000	Supported
	Assurance	.080	.038	.043	2.087	.037	Supported
Dependent Variable: Customer Satisfaction							



Table 4 depicts the results of t-test. The t-value of customer satisfaction is found to be significantly related to the factors like assurance, responsiveness, empathy, tangibility and reliability. The variables customer awareness is statistically significant at 5 percent level of significance. Customer satisfaction is a result of combined efforts like safety measures, ambulance service in case of emergency, CCTV facility, safe and secure parking area, immediate power back up, helping staff, responsible administrative staff and many more.

### **Conclusion:**

It can be concluded from the study that the inter-correlation between all the five dimensions of the quality of healthcare services under PPP model was found to be significant and positive as well, which signifies that all the dimensions are associated to each other, any increase or decline in any of the dimension of the service quality will have same effect on other dimensions; as all are moving in same direction. Further, the variable service quality was itself found to be positively correlated to all of its dimensions. The results of F-test show that there is a significant relationship between customer satisfaction and the services provided by the health care Centre under PPP model. A customer who is getting support of doctors, timely services, cost effectiveness and modern equipment for diagnose, favourable payment modes will definitely be happy and will be satisfied. The t-value of customer satisfaction is found to be significantly related to the factors like assurance, responsiveness, empathy, tangibility and reliability. The variables customer awareness is statistically significant at 5 percent level of significance. Customer satisfaction is a result of combined efforts like safety measures, ambulance service in case of emergency, CCTV facility, safe and secure parking area, immediate power back up, helping staff, responsible administrative staff and many more.

### **Limitations and future scope:**

The study has been conducted for the hospitals of Haryana state only, which shows geographical limitations of the study. Future studies can be done covering other states of the country to have more generalized results. Study has included the perceptions of the patients only while service providers' viewpoints are also important to be considered for the purpose

of measuring the gap in the service quality. Future researchers can collect the data related to the service providers' perceptions towards the healthcare services under PPP model.

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