

# The Impact of Service Quality Dimensions on Patient Satisfaction in the Private Healthcare Industry in Pakistan

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## Abstract

The present study examines the “The impact of service quality dimensions on patient satisfaction in the private health sector located in district Sargodha, Pakistan. Service quality is considered to be as one of the significant factor to keep people safe and health from diseases. The study has been carried out by employing questionnaire as data collection techniques by designing 21 items on a five point likert scale. The sample size of the study is composed of 380 respondents from district Sargodha. The results of the study reveals that the most important factor that impact on service quality dimension is tangible “(Physical facilities, equipment, and appearance of personnel)” and empathy “(Caring, individualized attention the firm provides its customers)” so these are the most important factors of SERVQUAL model that impact on service quality. Future research may explore the service quality in various sectors in Pakistan in general and in the Sargodha region in particular.

**Keyword:** Patient satisfaction; Service quality dimensions; SERVQUAL model

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## Introduction

In the last three decades, there has been incrementing the interest internationally in the quality of health care services, as standards of living have transmuted and there is an ordinant dictation for better medical care to amend lifestyles. Amending the quality of medical care accommodations has become a primary concern for patients so in order to provide better accommodation to patients service quality has become increasingly paramount for hospitals in reverence of gratifying and retaining patients [1]. As Quality of Life is badly affected in health care services more than of any other service sector [2] so health care providers that fail to understand the importance of delivering service quality and customer satisfaction may be inviting a possible loss of patients [3,4]; Patients are becoming more and more conscious about the quality of health care accommodations provided by hospitals [5,6]. Consumers of health care accommodations have exceptionally higher prospects and authoritatively mandate a high caliber of precision, reliability, responsiveness and empathy from accommodation providers [7-9].

Service quality is defined as the difference between customer perceptions and their expectations, according to customers;

quality is satisfactory if performance meets with expectations [10]. We can also identify about satisfaction from the feedback of customers [11-13]. Satisfied customers shows long term relationship with their service provider which result in higher level of compliance that leads to better health outcomes [14-16]. Customer satisfaction is an important aspect for service organizations and is highly related to service quality [17-20].

When service quality improves, the probability of customer satisfaction increases. Increased customer satisfaction leads to behavioral outcomes such as commitment, customer retention, and creation of a mutually rewarding relationship with the service provider and the user, increased customer tolerance for service failures and positive word-of-mouth advertising about the organization [21-24]. In order to measure international service quality there is two school of thought, the 1<sup>st</sup> one is Nordic school of thought [25] and second is American school view, Nordic school of thought explain service quality in two ways such as functional and technical quality whereas the American school of thought define about service quality in five dimensions “(1) Tangibles (Physical facilities, equipment, and appearance of personnel); (2) Reliability (Ability to perform the promised service dependably and accurately); (3) Responsiveness (Willingness

to help customer and provide prompt service); (4) Assurance (Knowledge and courtesy of employees and their ability to inspire trust and confidence); (5) Empathy (Caring, individualized attention the firm provides its customers)" in this paper we have to use these five dimensions.

The main objective of this paper is to determine factors that influence on customer satisfaction that is intricate but we are going to simplify it by applying scientific study. In this study, we are going to identify the customer satisfaction on the health sector, there is limited literature that related to this topic in Pakistani context; we are going to fulfill this gap by contributing in limited Pakistani literature by applying empirical methodology. The aim of this study is to research in the field of service quality in the health sector of district Sargodha to get customer satisfaction. For the Purpose to measure the service quality the SERVQUAL instrument and to see if a replication of the SERVQUAL instrument would result in a fit of the five-factor model; to test the impact of the dimensions of the SERVQUAL instrument on customer satisfaction and the impact of customer satisfaction on customer recommendation of the health sector to others.

## Literature Review

If we explain the service quality into two different schools of thought such as it is the Nordic school view [25] and the second is the American school of thought from which the Nordic school define the service quality in two dimensions such as functional and technical, Whereas the American school define service quality into five dimensions "(1) Tangibles (Physical facilities, equipment, and appearance of personnel); (2) Reliability (Ability to perform the promised service dependably and accurately); (3) Responsiveness (Willingness to help customer and provide prompt service); (4) Assurance (Knowledge and courtesy of employees and their ability to inspire trust and confidence); (5) Empathy (Caring, individualized attention the firm provides its customer)". In this study we have to use these five dimensions.

## Service Quality

In order to achieve competitive advantage it is most important to focus on service quality because customers are more conscious about quality, so it's important to deliver higher service quality better than its competitors [26]. The service firm can differentiate itself by delivering high quality service more than that of its competitors because ability of service firm depend on how consistently it provides value to its customers, whereas best method to retain customers is depend on their quality [27]. Service quality is defined as the difference between customer expectation and their perception about the service experience [2].

The most important work on such topic was the gap model developed by Parasuraman and his colleagues [28]. Many contributions have been done on the measuring of service quality that is considered around the SERVQUAL scale. In order to easily understand about service quality this model is very important [29]. It has many applications which are used and tested in a variety of sectors, like insurance restaurant in banking

and internet banking [30-33]. In order to access about the service quality of health care some students have done their work on public sector health care [33-35] and some on the private sector health care (Figure 1).

## Customer Satisfaction

Service quality is an important factor of customer satisfaction as well as word-of-mouth communication. There is a direct relationship between both service quality and satisfaction as service quality is the antecedent of satisfaction [36]. It was observed by Parasuraman et al. that their instrument (SERVQUAL) can be habituated to evaluate the relative paramountcy of the dimensions of quality in influencing customers' overall perceptions of an accommodation. Reliability and empathy are the significant dimensions the insignificant across a seemingly wide array of service types. According to Zeithaml et al. [2] demonstrated that, using a variation of SERVQUAL those tangibles proves to be consistently unimportant. Barclay et al. [37] defined the responsiveness as the faculty to react purposefully and within a felicitous timescale to paramount events, opportunities and threats, especially from the external environment to establish or maintain competitive advantage.

According to research in marketing and sales, there have been huge differences in the approach of empathy. The former approach of empathy have described empathy as a personal character [38,39] or as an capability [40] and it can be one of cognitive, affective or both. The perspective of cognitive about empathy, also report as "perspective taking", is the understanding of another person's direction at a cognitive level [41]. Perspective taking allows a person to cognitively gauge the situation from another person's point of view and assume their needs and motivations [42]. The emotive view of empathy is described as an emotional impression that increments the understanding of another person's perception [43]. The emotive view merges different aspects such as emotional concern and emotional contamination [44]. Empathic involvement occurs when an individual responds to the emotional state of someone else without experiencing the emotion themselves [45]. Empathic concern is associated with altruistic comportments, due to feelings of congruency with a person who is in need [46]. Empathic matter is correlated with human behaviors, due to feelings of congruency with a person who is in need [46]. Emotional behavior result when a person simultaneously shares the emotion experienced by another person [41]. As emotional behavior involves the transfer of emotions from one person to another, it can lead to imitation of expressions and gesture [47]. We conceptualize empathy as a personality trait that are consist of cognitive as well as affective components and explain as "the ability to identify and understand another person's feelings, thoughts and situation" [48,49].

## Service Quality and Patient Satisfaction

Service quality impact on consumer loyalty have been concentrated in numerous fields [49,50] and have turned into a dubious issue in advertising writing. A few analysts and scholastics saw that service quality is a forerunner of consumer loyalty [2,7,51]. In the clinic business, [52] found that the relationship

among human service quality and patient satisfaction is great. A patient is fulfilled at the point when healing center service quality matches with their desires and prerequisites, thusly, the more noteworthy the patient fulfillment [53]. Be that as it may, patients have their rights and decision, and on the off chance that they are not fulfilled by their healing facility, they have the chance to change to another healing facility [54]. Besides there is no accord concerning the relation between service quality and patient satisfaction in the healing facility industry, as various specialists of social insurance industry are more direct on measuring specialized and utilitarian quality as opposed to patient fulfillment [55], and patient satisfaction keeps on being measured as an intermediary for the patient's appraisal of administration quality [56].

## Methodology

It was a quantitative research in which primary data were collected by using a questionnaire. It was a causal study, which done in a natural environment, i.e. in a non-contrived setting. The purpose of this study was to find out satisfaction level about health sector located in District Sargodha. Variables used in this study were such as the dependent variable was patient satisfaction in health sector and the independent variables are reliability, responsiveness, assurance, empathy and tangibles. It was a field study in which data were gathered by using a questionnaire. The Population used in this study was people belong to District Sargodha.

The sampling used in this study was non-probability sampling design. Respondent were those people, who belong to District Sargodha, convenient sampling was used to collect data. The Sample size used in this study was 380, data gathered by distributing questionnaires in different private and public organizations as well as by using an online survey. This study tries to focus on 21 "quality characteristics" these characteristics found significant in the previous studies. Our selected respondents were those people who are using the services of the private hospitals situated in District Sargodha.

A part of demographics also used in the questionnaire in which questions related to gender, marital status, age, Income level, education level were included. All measures were obtained by using "Self-report" questionnaire except the demographic part all the items were measured on a five point Likert scale through 1 to 5 in which 1 indicate strongly disagree and 5 indicate strongly agree [57]. For the analysis of data, software used is SPSS and Amos. The OLS regression model is used to test the relationship between dependent and independent variable. Patient satisfaction is used as the dependent variable and the dimension of service quality are namely reliability, responsiveness, assurance, empathy and tangibles as the independent variable.

The OLS model is as follows:

Basically, CSHSCustomer satisfaction in hospital sector,

$$CSHS = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + e$$

X1=Reliability, X2=Responsiveness, X3=assurance, X4=empathy, X5=Tangibles.

In this regression line  $\alpha$  is constant and  $\beta$ s are coefficients, and  $e$  is the error term. Customer satisfaction in hospital sector is dependent variable and reliability, responsiveness, assurance, empathy, and tangibles are independent variables. In order to check out inter-correlation among variable bivariate correlation analysis was used. In order to check the internal consistency among items factor analysis also performed.

## Hypothesis

H1: Responsiveness has a significantly positive influence on patient satisfaction.

H2: Empathy has a significantly positive influence on patient satisfaction.

H3: Assurance has a significantly positive influence on patient satisfaction.

H4: Reliability has a significantly positive influence on patient satisfaction.

H5: Tangible has a significantly positive influence on patient satisfaction.

## Analysis

Given below the **Table 1** represents the mean and standard deviation of the respondent. The result indicates that the mean of the variables ranged from 2.9302 to 3.6306 and the standard deviation ranged from .97947 to 1.15916.

Results also indicate that the mean of "Neat appearance of employees" are  $\mu=3.6306$ , "Say positive things about the hospital to other people"  $\mu=3.5293$  and the mean of Ability to handle patients' problems  $\mu=3.500$  these are the factors which have the highest mean score (**Table 2**).

Descriptive statistics of all the dimensions are calculated in which highest mean 3.450 and 3.4107 which are the mean of tangible and assurance. Cronbach's  $\alpha$  value of each dimension is also calculated in which highest value is .807 and .753 that is the value of patient satisfaction and tangible.

## Factor analysis

We thoroughly analyzed the results this section that were collected from 380 respondents. Application of principal component analysis using SPSS was employed to investigate the latent factors linked to these 21 items. The Kaiser-Meyer-Olkin and Bartlett's Test of Sphericity were carried out to check the strength and sufficiency of sample and relationship among variables. KMO is used to find whether data are suitable for applying the factor analysis or not?. And tells us which variables should be drop to overcome the multicollinearity problem. Its value ranges from 0 to 1 where higher value greater the 0.60 indicates the significance of the data and factor analysis can be employed. If its value is less than 0.60 then several items should be deleted which are unnecessary variables based on the anti image values. Results of KMO and Bartlett's test reveal that variables are highly significant and principal component analysis was suitable (**Table 3**).

**Table 1:** Descriptive statistics of variables.

Variables	Mean	Std. Dev	Min	Max
Maintains error free records	2.9820	1.04941	1	5
A sincere interest in solving problems	3.0608	1.12167	1	5
Providing services as promised	2.9617	1.07333	1	5
Responding quickly	3.0113	1.05486	1	5
Willing to help patients	3.2162	1.09095	1	5
Offering prompt services to patients	3.0743	1.15263	1	5
Constantly courteous	3.1036	1.15916	1	5
Ability to instill confidence in the patient	3.3581	1.02570	1	5
Having the knowledge to answer patients' questions	3.3739	0.98743	1	5
Ability to handle patients' problems	3.5000	0.97947	1	5
Given individual attention	3.2072	1.08232	1	5
Convenient consultation hours	2.9302	1.04399	1	5
Understand the specific needs of patient	3.2365	1.03021	1	5
Neat appearance of employees	3.6306	1.13175	1	5
Visual appealing facilities	3.4392	1.09520	1	5
Neat appearance of polyclinic service	3.3288	1.01450	1	5
Professional appearance of employees	3.4234	1.09420	1	5
Modern equipments	3.4324	1.14716	1	5
Say positive things about the hospital to other people	3.5293	1.01080	1	5
Encourage friends and relatives to use the services of this hospital	3.4167	1.08334	1	5
Intend to continue using the services of this hospital	3.2545	1.05625	1	5
Have strong preference in this hospital	3.3491	1.11312	1	5

**Table 2:** Resulting dimension and their reliability coefficients.

Service quality dimensions (items)	Mean	Variance	Cranbach's A
<b>Reliability</b>	3.0015	0.713	0.680
Maintains error free records			
A sincere interest in solving problems			
Providing services as promised			
<b>Responsiveness</b>	3.1006	0.745	0.687
Responding quickly			
Willing to help patients			
Offering prompt services to patients			
<b>Assurance</b>	3.4107	0.580	0.642
Ability to instill confidence in the patient			
Having the knowledge to answer patients' questions			
Ability to handle patients' problems			
<b>Empathy</b>	3.1246	0.663	0.664
Given individual attention			
Convenient consultation hours			
Understand the specific needs of patient			
<b>Tangibles</b>	3.4509	0.606	0.753
Neat appearance of employees			
Visual appealing facilities			
Neat appearance of polyclinic service			
Professional appearance of employees			
Modern equipments			
<b>Patient Satisfaction</b>	3.3874	0.720	0.807
Say positive things about the hospital to other people			
Encourage friends and relatives to use the services of this hospital			
Intend to continue using the services of this hospital			
Have strong preference in this hospital.			

It was quite difficult to decide whether how many factors would be used in the study, but based on initial eigenvalues 5 factors were selected as shown in **Table 4**. To relate items to its core constructs with minimum loading advocated that factor loading greater the 0.30 should be noted, while values greater than 0.40 were considered significant for the analysis.in current study factor with the loadings greater than 0.40 are accepted.We have dropped one variable on the basis of our results which have a loading of less than 0.40 (**Tables 4-6**).

### Regression analysis

Our results develop the regression model as follows.

$$PS=3.259+0.164X1+0.271 X2+0.315X3$$

$$S.E=(.722) (.057) (.041) (.067)$$

$$T \text{ Values } (4.515) (2.874) (6.534) (4.715)$$

$$R \text{ square (Adj)}=0.338 \text{ F}=46.154$$

Significance at 99%

PS=Patient satisfaction

X1=Assurance

X2=Empathy

X3=Tangible.

Analysis of regression coefficients explains about the relationship between dependent and each independent variable. According to Sig. Value assurance, empathy and tangible have a significant correlation with patient satisfaction level. Here table sig. Value is. 05 which is greater than calculated sig. Value .011, .000 respectively. Assurance, empathy and tangible shows significant so these factors have some impact on service quality.

Here X1(Assurance)=0.141 i, e, 100% change in assurance leads to 14.1% change in customer satisfaction level.

X2 (Empathy)=0.317 i, e, 100% change in empathy leads to 31.1% change in customer satisfaction level.

X3 (Tangible)=0.227 i, e, 100% change in tangible leads to 22.7% change in customer satisfaction level.

### Bivariate correlation analysis

Bivariate analysis for all variables was conducted and their result indicates that all the variables have significant correlation with another variable.

Reliability was positively correlated with patient satisfaction (r=0.282, p<0.1), positively correlated with responsiveness (r=0.392, p<0.1), positively correlated with assurance (r=0.433, p<0.1), positively correlated with tangible (r=0.508, p<0.1) and patient satisfaction were positively correlated with empathy (r=0.445, p<0.01).

**Table 3:** KMO and Bartlett's Test.

Kaiser-Meyer-Olkin Adequacy	Measure of Sampling	0.851
Bartlett's Test of Sphericity	Approx. Chi-Square	2103.872
	Df	91
	Sig.	0

**Table 4:** Total Variance Explained.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative%	Total	% of Variance	Cumulative%	Total	% of Variance	Cumulative%
1	6.793	30.876	30.876	6.793	30.876	30.876	2.695	12.250	12.250
2	1.855	8.431	39.307	1.855	8.431	39.307	2.652	12.054	24.303
3	1.471	6.685	45.992	1.471	6.685	45.992	2.498	11.357	35.660
4	1.151	5.234	51.225	1.151	5.234	51.225	2.396	10.892	46.552
5	1.108	5.036	56.262	1.108	5.036	56.262	2.136	9.710	56.262
6	0.942	4.281	60.542						
7	0.897	4.078	64.621						
8	0.843	3.830	68.450						
9	0.713	3.240	71.691						
10	0.677	3.076	74.767						
11	0.629	2.858	77.625						
12	0.608	2.763	80.388						
13	0.564	2.562	82.950						
14	0.544	2.473	85.423						
15	0.513	2.330	87.753						
16	0.475	2.159	89.911						
17	0.460	2.091	92.002						
18	0.403	1.833	93.835						
19	0.386	1.755	95.590						
20	0.344	1.561	97.152						
21	0.316	1.438	98.590						
22	0.310	1.410	100.000						

Extraction Method: Principal Component Analysis.

### Conclusion of research hypothesis

Considering the results concerning the specific hypothesis, it is seen that all except reliability and responsiveness are supported at the 0.05 levels (Table 7)

In this study, we have to develop five hypothesis all the five hypothesis except reliability and responsiveness were found to be true, all the finding of hypothesis are as follows:

H1=Reliability was found to have a negative impact on patient satisfaction.

H2=Responsiveness was found to have a positive impact on patient satisfaction.

H3=Assurance was found to have a positive impact on patient satisfaction.

H4=Empathy was found to have a positive impact on patient satisfaction.

H5Tangible was found to have a positive impact on patient satisfaction.

Figure 2 shows the structure and the result of the analysis of the model.

Table 5: Model summary.

R	R square	Adjusted R square	Std Error of the estimate
0.587	0.345	0.338	2.76257

Table 6: Regression coefficient analysis of the model coefficients.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	3.259	0.722		4.515	0
	REL	-0.046	0.063	-0.034	-0.724	0.469
	RES	0.105	0.068	0.08	1.532	0.126
	AS	0.164	0.057	0.141	2.874	0.004
	TAN	0.271	0.041	0.317	6.534	0
	EMP	0.315	0.067	0.227	4.715	0

Dependent Variable: P.S  
Source: SPSS is used to find the regression model.

Table 7: Conclusion of research hypothesis.

Hypothesis	Constructs		Path coefficients	T. value	p
H1	Satisfaction	Reliability	-0.06	4.515	0.469
H2	Satisfaction	Responsiveness	0.14	-0.724	0.126
H3	Satisfaction	Assurance	0.17	1.532	0.004
H4	Satisfaction	Empathy	0.32	2.874	0.000
H5	Satisfaction	Tangible	0.25	6.534	0.000

### Conclusion and Discussion

Success of any country depends on its people if they were healthy then they will be active and can do better for their country by actively participating in their work, but if they were not healthy, they cannot actively participate in their work, so it is very important to upgrade hospitals and improve their service quality in order to satisfied patients. It is also important to identify whether people are satisfied with their hospital or how much they are satisfied with the services of their hospital. In order to check the service quality of hospitals in district Sargodha we have conducted an empirical research.

The aim of this study was to identify the impact of service quality dimension on patient satisfaction in district Sargodha. Furthermore, this research examined the relationship among variables and their significance. The main objective of this study was to identify which variable impact more on the patient satisfaction by using the SERVQUAL model. This model can also apply to the range of different service companies.

This study suggests that most important factor that impact on the service quality is tangible and empathy so these are the most important factors among other five factors of SERVQUAL model. Similar results were found in the study [58], in that study they examined patient satisfaction in the healthcare industry. Their study showed that empathy and assurance are important antecedents of satisfaction. In this study results indicate that

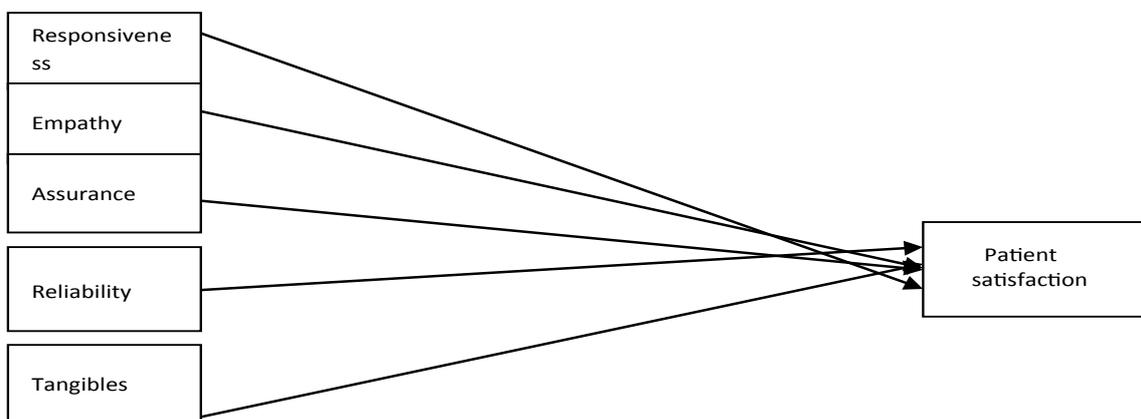
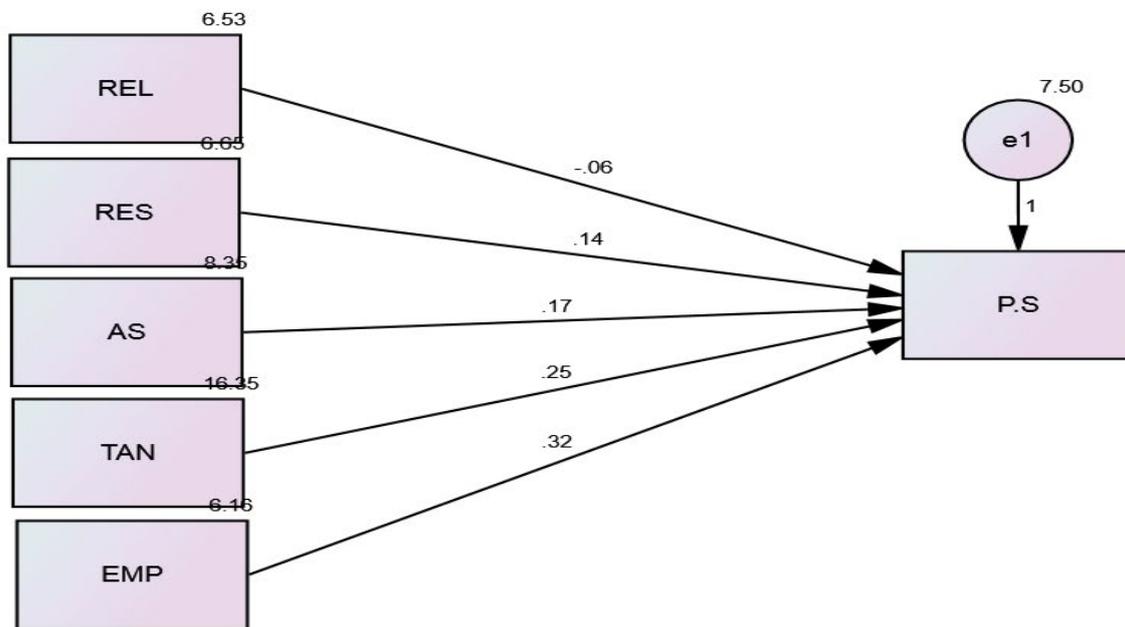


Figure 1 Conceptual model.



**Figure 2** Empirically Validated Model.

assurance, empathy and tangible are significant for patient satisfaction, but reliability and responsiveness are insignificant. The findings of this study are important for public hospitals located in District Sargodha. The administration of the hospital need to modify their hospital and improved the service quality.

There are also some limitations related to this study. The sample

size of this study was small and in order to get more reliable results it is necessary to replicate the study by using larger sample size it also can use Govt as well as foreign hospitals located in Pakistan. This model can also use to check service quality in any service sector. We also can replicate it by using other context such as Province level or country level.

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