

# Innovations

## A study on impact of service quality of private hospitals on patient's loyalty in Pune city: a Covid 19 perspective

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### Abstract

*Hospitals play an important role in pandemic. Lots of challenges are faced by them in the pandemic season, like dramatically increase in no of patients, lack of human power and resources, etc. which affects their service quality. In this research we identify patient's loyalty and satisfaction towards various dimension that affects service quality. This study is empirical in nature. Regression analysis is carried out to identify the relationship between variables. The results of this study show that there is a positive and significant relationship between them. Service quality is positively related to patient satisfaction, and patient satisfaction is positively related to patient loyalty. Therefore, the improvement in knowledge of human resources and the training of staff should be done to provide better-quality services and enhance patient satisfaction, so as to enhance the loyalty, re-visit and recommendation of patients*

**Key Words:** 1. service quality, 2. patient satisfaction, 3. patient loyalty, 4. SERVQUAL, 5. Covid 19, 6. Pandemic

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### Introduction

A pandemic is a global disease outbreak. A flu pandemic occurs when a new influenza virus emerges for which people have little or no immunity, and for which there is no vaccine. The

disease spreads easily person-to-person, causes serious illness, and can sweep across the country and around the world in a very short time. It is difficult to predict when the next influenza pandemic will occur or how severe it will be. Wherever and whenever a pandemic starts, everyone around the world is at risk. Countries might, through measures such as border closures and travel restrictions, delay arrival of the virus, but they cannot stop it. An especially severe influenza pandemic could lead to high levels of illness, death, social disruption, and economic loss. Everyday life would be disrupted because so many people in so many places become seriously ill at the same time. Impacts can range from school and business closings to the interruption of basic services such as public transportation and food delivery while some service sectors are facing increasing competition along with very high customer expectations like the Healthcare sector.

Healthcare is a dynamic and rapidly growing sector of public services market which is currently facing high level challenges and simultaneously got an opportunity to create loyal customer by providing high level customer satisfaction. In the highly competitive market, creating a strong relationship with the customers, which could be consequently followed by their loyalty, is considered to be a key factor for increasing the market share and building a sustainable competitive advantage. Service quality is perceived as an important factor for building customer loyalty. In healthcare industry, patient satisfaction is an indicator of healthcare quality service and involved as an outcome measure. Quality of healthcare service and patient satisfaction has been affected by the current coronavirus disease (COVID-19) pandemic. It induced uncertainty and shortage of medical supplies due to a limited global movement. Therefore, this study aimed to identify and evaluate the structure of private hospital service quality construct from patient's perspective in pandemic and determine the relative importance of quality dimensions in predicting the level of patient's satisfaction and the patient loyalty.

### Literature review

**Customer loyalty:** Reichheld (1993) defined loyalty as the willingness to make a personal sacrifice in order to strengthen a relationship. Consumer satisfaction is one of the factors determining customer loyalty (Kotler and Keller, 2009). Griffin (2005) emphasizes customer loyalty as a more reliable measure to predict the growth of sales and finance, compared to consumer satisfaction. Many companies rely on the consumer satisfaction as a guarantee of success later but then they are disappointed to find out their customers are satisfied to purchase competitor's products without hesitation. Kotler and Keller (2009) express loyal customers are indeed valuable for a company and generally competitors feel difficult to snatch them. Besides, they can be company marketers, meaning they can make recommendations and contribute huge profit to the company since they affect customer purchasing patterns and free recommendations given to others.

Parasuraman et al. (1988) reveals a company performing good service quality can increase customer loyalty. It means customer loyalty is affected by service quality. Findings on Service Quality which positively affect Customer Loyalty are discovered by Parasuraman *et al.* (1988); Atkins *et al.* (1996); Ketchand (1998), Caruana (2000), Cronin and Taylor (1992), Sureshchandar *et al.* (2002), Akbar and Parvez (2009). From the perspective of antecedents and consequences of loyalty, Boulding et al. (1993) found positive relationships between service quality and repurchase intentions and willingness to recommend. Moreover, Rust and Zahorik

(1993) related service quality perceptions to consumer loyalty in banking, Crosby and Stephens (1987) investigated loyalty in the insurance industry.

Having a loyal customer is the ultimate goal of all companies. But most of the companies do not know that customer loyalty is formed through several stages, starting from looking for potential customers up to the formation of advocate customers that will bring benefits to the company. Hurriyati (2005) stated that customer loyalty plays an important role in a company, maintaining them means improving financial performance and maintaining the company's survival, this is the main reason for a company to attract and retain customers. Efforts of making loyal customers cannot be done directly, but through several stages, ranging from looking for potential customers to obtain partners. Understanding on the customer loyalty is actually not only seen from the transaction alone or repeat purchase (repeat customer). According to Griffin (2005), there are several other characteristics of a customer can be considered, namely:

- 1) Customers who repurchase regularly (makes regular repeat purchases)
- 2) Customers who purchase for other products/services in the same place (purchases across product and services line)
- 3) Customers who refer to others (refers other)
- 4) Customers who cannot be influenced by competitors to move (demonstrates an immunity to be the full of the competition).

**Customer satisfaction:** Customer satisfaction is the value that customers get by comparing the expectations of the product or service and the perception of the product or service it receives. If they get fit or even more than expected, then they can be said to be satisfied, and if not then it can be said not satisfied (Gill and White, 2009). According to Kotler and Keller (2012), customer satisfaction is a pleasant or unpleasant feeling experienced by customers based on the results of his evaluation of the expectation and reality of product /service obtained. Many researchers are paying greater attention to service quality and customer satisfaction, for reasons such as increased competition (Reichheld & Sasser 1990). Academics have also been studying quality & satisfaction to understand determinants and processes of customer evaluation (Oliver 1997; Parasuraman, Zeithaml, & Berry, 1988). Academic literature suggests that customer satisfaction is a function of the discrepancy between a customer's prior expectation and his or her perception regarding the purchase (Churchill & Surprenant, 1982; Yi, 1990). When an experience is better than the customer expected, there is positive disconfirmation of the expectation, and a favorable customer evaluation is perceived.

When we consider healthcare industry, in emerging countries like Vietnam, buyers of health services are becoming more demanding. Patient satisfaction can also be used to help hospitals compete and grow their market share. Satisfaction can improve a patient's quality of life, resulting in increased mental well-being and faster healing. Customer satisfaction is one of the expected outcomes of healthcare, and it is linked to the quality of medical services. Furthermore, Gill and White (2009) stated the existence of a gap theory in the healthcare industry. They explain that basically the patient's orientation and service provider is different, and if the condition is appropriate, the patient will feel satisfied. Therefore, patient satisfaction plays an important role in assessing service quality and continued service in the next period (Grogan et al., 2000).

**Service Quality:** Quality and service are facilities to achieve satisfaction and commitment. The overall business objective is to make satisfied and loyal customers be willing to establish business with a company. Therefore, providing high quality and excellent facility is compulsory when expecting satisfied and loyal customers as the goal (Richard, 2002). Piercy et al. (2002) exposes service is an activity or performance to create customer benefit by providing an adjustment allowing to be accepted by customer. To achieve those, however, ZeithamI (2000) states consumer service is the one raised to support the core product of a company. Concerning service quality, Sureshcandar et al. (2002) identify five factors of significant service quality in consumer perspective, namely (1) the core of service or of product; (2) elements of service mode; (3) systematization of service mode; (4) forms of service; and (5) social responsibilities. According to Lehtinen and Lehtinen (1982), Service quality must be reviewed and judged on two aspects: the service delivery process and the service delivery results. Service quality, according to Parasuraman et al. (1985), is defined as providing outstanding service and exceeding client expectations. According to Tabash et al. (2019), good service has a positive impact on customer satisfaction. Parasuraman conceptualized the idea of service quality based on disconfirmation paradigm and proposes that service quality is the discrepancy between perceived and expected services. He developed SERVQUAL model consisting of five dimensions: reliability, tangibles, responsiveness, assurance, and empathy. SERVQUAL model has been used in many service sectors. Several researchers developed their own models to conceptualize service quality in hospital services. Carman (2000) has identified two components in hospital sector viz. technical and interpersonal aspect. Nursing care, outcome, and physical care constitute technical aspect while as food, noise; cleanliness and parking are parts of interpersonal aspect. Hasin et al found that communication, responsiveness, courtesy, cost and cleanliness are the components of service quality in hospitals. Tucker and Adams (2001) have taken caring, empathy, reliability, and responsiveness as dimensions in US hospitals.

Service quality is defined similarly as a comparative function between consumer expectations and actual customer perception (Parasuraman et al., 1995). In the service quality literature, it is referred to as the “SERVQUAL Model.” It has five generic dimensions or factors that are stated as follows:

**Reliability:** Ability to perform the promised service dependably and accurately.

**Responsiveness:** Willingness to help customers and provide prompt service.

**Assurance:** Employees’ knowledge and courtesy and their ability to inspire trust and confidence.

**Empathy:** Caring, individualized attention given to customer

**Tangibles:** Appearance of physical facility, equipment, personnel and written materials.

In this study SERVQUAL model is used to study service quality. The 5 key dimensions (Parasuraman et al., 1995) that were identified and their modified definition for hospital industry are given in Table:

S. No.	Servqual attribute	Modified definition for hospital industry
1	Reliability	<ul style="list-style-type: none"> <li>➤ Speed of Service</li> <li>➤ Speed in handling patients</li> <li>➤ Service appropriateness of laboratory personnel according to the agreement</li> <li>➤ Speed of registration</li> <li>➤ Regularity of medical personnel to visit patient</li> <li>➤ Accuracy of treatment</li> </ul>
2	Responsiveness	<ul style="list-style-type: none"> <li>➤ Speed of response to Complaints and requests</li> <li>➤ Ability to assist in handling hospital administration</li> <li>➤ Concern to patient</li> <li>➤ Ability to provide information required by patients</li> <li>➤ Desire for helping</li> </ul>
3	Assurance	<ul style="list-style-type: none"> <li>➤ Medical personnel experience in handling disease</li> <li>➤ Doctor concern to patients</li> <li>➤ Reliability of medical personnel ability</li> <li>➤ Nurse attitude to patients</li> <li>➤ Patient's trust in medical personnel performance</li> <li>➤ Room security</li> </ul>
4	Empathy	<ul style="list-style-type: none"> <li>➤ Ease of communication</li> <li>➤ Attention and patience of the Doctors, nurses and other Medical personnel</li> <li>➤ ability to encourage patient to face a disease</li> <li>➤ ability to provide secure feeling to patient</li> </ul>
5	Tangibles	<ul style="list-style-type: none"> <li>➤ Availability of medical devices</li> <li>➤ Cleanliness and tranquility of patient room and hospital hygiene</li> <li>➤ Quality of food given to patient</li> <li>➤ Furniture are present in patient room</li> <li>➤ Peace/security in hospital area</li> <li>➤ Electricity available for emergency</li> <li>➤ Up-to-date hospital facility</li> <li>➤ Pathology lab</li> <li>➤ Employee performance</li> </ul>

### Objectives

- To study the impact of Service Quality of Private Hospitals on Patient's loyalty.
- To study the satisfaction level of patients from service quality of private hospitals in covid 19 pandemic.
- To evaluate the impact of Service Quality of Private Hospitals on Patient's loyalty.

## Hypothesis

- H<sub>1</sub>: There is a significant impact of Service Quality of Private Hospitals on Patient's loyalty.
- H<sub>2</sub>: Patients of private hospitals are satisfied from their service quality in covid 19 pandemic.

## Research methodology

To gather the required information for this study, both secondary and primary source of data was used. Secondary data has been collected from journals, magazines, news articles, books, internet and other documented material.

Primary Data is collected through questionnaire. The study and thus the questionnaire include questions related on various dimensions of SERVQUAL Model and Customer Loyalty. SERVQUAL Model is used to study Service Quality. In this model, a five point scale is used in the questionnaire to collect the information.

## Research approach

Customers of various private hospitals of Pune city are selected as the respondents. A convenient sampling method was adopted to collect data. The sample size of the study is 50 and we analyze the entire 50 filled questionnaire. Hypotheses are tested at 5% level of significance.

## Tool used for data analysis

Cronbach's Alpha test is used to check the reliability of scale. Linear Regression test was conducted to test the impact of Service Quality of Private Hospitals on Patient's loyalty. Various dimensions of SERVQUAL model are taken as independent variable and Patient's loyalty is taken as dependent variable for the regression test. Same test is used to test the impact of Service Quality of Private Hospitals on Patient's satisfaction level. Here Patient's satisfaction is taken as a dependent variable. SPSS 17.0 version is used for data analysis.

## Regression models

In the study, bivariate regression model is used. The basic regression equation is:

$$Y_i = \alpha_0 + \alpha_i X_i + h_i$$

Where,

Y<sub>i</sub> = dependent or criterion variable,

X<sub>i</sub> = independent or predictor variable,

α<sub>0</sub> = intercept of the line

$\alpha_i$  = slope of the line

$h_i$  = the error associated with  $i$ th term in the observation.

In each model, average of unstandardised coefficients of all 10 questions (2 questions on each dimension) based on 5 dimensions of SERVQUAL model is taken. In these models, ‘PS’ stands for Patient’s Loyalty.  $\alpha_0$  and  $\alpha_{SQ}$  are the unstandardised coefficients of explanatory variables.  $\alpha_0$  is the intercept for the respective models. In  $\alpha_{SQ}$ , ‘SQ’ stands for Service Quality.  $h_1, h_2, h_3, h_4, \& h_5$  is the random error terms for the models.

$$PS1 = \sum_{k=1}^{10} \alpha_01 + \sum_{k=1}^{10} \alpha_{SQ} + h_1 \quad \dots\dots\dots \text{Model (1)}$$

$$PS2 = \sum_{k=1}^{10} \alpha_02 + \sum_{k=1}^{10} \alpha_{SQ} + h_2 \quad \dots\dots\dots \text{Model (2)}$$

$$PL1 = \sum_{k=1}^{10} \alpha_03 + \sum_{k=1}^{10} \alpha_{SQ} + h_3 \quad \dots\dots\dots \text{Model (3)}$$

$$PL2 = \sum_{k=1}^{10} \alpha_04 + \sum_{k=1}^{10} \alpha_{SQ} + h_4 \quad \dots\dots\dots \text{Model (4)}$$

$$PL3 = \sum_{k=1}^{10} \alpha_05 + \sum_{k=1}^{10} \alpha_{SQ} + h_5 \quad \dots\dots\dots \text{Model (5)}$$

To find the overall impact of Service Quality on Patient’s Satisfaction, a new model (Model 6) is created which is a combination of model 1 and model 2, is framed. In this model, average of all unstandardised coefficients of both models is taken. For this model  $h_6$  is the random error term.

$$PS = \sum_{k=1}^2 \alpha_06 + \sum_{k=1}^2 \alpha_{SQ} + h_6 \quad \dots\dots\dots \text{Model (6)}$$

To find the overall impact of Service Quality on Patient’s Loyalty, a new model (Model 7) is created which is a combination of model 3, model 4 and model 5, is framed. In this model, average of all unstandardised coefficients of all 3 models is taken. For this model  $h_7$  is the random error term.

$$PL = \sum_{k=1}^3 \alpha_07 + \sum_{k=1}^3 \alpha_{SQ} + h_7 \quad \dots\dots\dots \text{Model (7)}$$

## Findings:

### Reliability test: Cronbach’s alpha test

The Cronbach alpha method was adopted to check the reliability of all the dimensions which make up the research instruments. Cronbach’s Alpha is calculated for internal consistency reliability.

In the table 1, the value of Cronbach's Alpha, Cronbach's Alpha Based on Standardized Items, and number of Items for scale used to measure service quality i.e. SERVQUAL Scale are given. Similarly, in table 2 and table 3, these values for Scale used to test Patient’s Satisfaction and Patient’s loyalty is mentioned respectively.



**Table 1: Reliability Statistics: Service Quality Scale: SERVQUAL**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
.748	.742	10

*Source: Primary Data*

**Table 2: Reliability Statistics: Scale used to test Patient's Satisfaction**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
.990	.990	2

*Source: Primary Data*

**Table 3: Reliability Statistics: Scale used to test Patient's Loyalty**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
.968	.969	3

*Source: Primary Data*

**Regression test:**

The impact of service quality on patient's satisfaction level and patient's loyalty was tested separately and Separate tables are constructed.

In the table 4, the value of R square, intercept, slope and their respective p-value for each question of patient's satisfaction are given, when independent variable is service quality of private hospitals. To find the influence of service quality on patient's satisfaction level, the average of values of R square, intercept, slope and their respective p-value for all questions related to patient's satisfaction, is calculated. The regression model framed is shown at the top of the table.



**Table 4: Regression test to measure Patient’s Satisfaction**

Regression model (overall): $PS = \sum_{k=1}^2 \alpha_0 + \sum_{k=1}^2 \alpha SQ + h_6$							
S. N. $k \downarrow$	Dependent variable	R-square	R-square Sig.	Unstandardized Coefficients (intercept)	Unstandardized Coefficients (intercept) Sig.	Unstandardized Coefficients (slope)	Unstandardized Coefficients (slope) Sig.
1	Patient’s Satisfaction 1	.771	.000	2.374	.011	0.0335	.001
2	Patient’s Satisfaction 2	.763	.000	2.377	.000	0.0333	.000
	<b>Avg. Total</b>	0.767	0	2.3755	0.0055	0.0334	0.0005

Source: Primary Data; PS: Patient’s Satisfaction

In the table 5, the value of R square, intercept, slope and their respective p-value for each factors of patient’s loyalty are given when independent variable is service quality of private hospitals. To find the influence of service quality on patient’s loyalty, the average of values of R square, intercept, slope and their respective p-value for all questions related to patient’s loyalty, is calculated. The regression model, framed is shown at the top of the table.

**Table 5: Regression test to measure Patient’s Loyalty**

Regression model (overall): $PL = \sum_{k=1}^3 \alpha_0 + \sum_{k=1}^3 \alpha SQ + h_7$							
S. N. $k \downarrow$	Dependent variable	R-square	R-square Sig.	Unstandardized Coefficients (intercept)	Unstandardized Coefficients (intercept) Sig.	Unstandardized Coefficients (slope)	Unstandardized Coefficients (slope) Sig.
1	Loyalty 1	.369	.033	3.308	.006	0.0134	.002
2	Loyalty 2	.486	.002	4.178	.000	0.1145	.000
3	Loyalty 3	.453	.004	3.805	.000	0.1238	.000
	<b>Avg. Total</b>	0.436	0.013	3.763667	0.002	0.0839	0.000667

Source: Primary Data; PL: Patient’s Loyalty

In the table 6, the frequency distribution of respondents in terms of gender is mentioned. From the table, it is observed that among all, 46% respondents are male and 54% respondents are female.

**Table 6: Demographic Analysis**

	Frequency	%
<b>Male</b>	23	46
<b>Female</b>	27	54
<b>Total</b>	50	100

*Source: Primary Data*

### **Analysis and discussion:**

#### **Reliability test Analysis and Discussion:**

From the table1, 2 and 3, we find that the value of Cronbach’s alpha is 0.748, 0.990 and 0.968 for SERVQUAL scale, Scale used to test Patient’s Satisfaction and Scale used to test Patient’s Loyalty respectively. All these values are greater than 0.6. It indicates that the scale used to measure service quality, patient’s satisfaction and patient’s loyalty is acceptable and thus reliable. It shows acceptable internal consistency among the test items.

#### **Regression Analysis and Discussion:**

The impact of service quality on patient’s satisfaction level and patient’s loyalty was tested separately and Separate tables are constructed. From them, the impact of service quality on patient’s satisfaction level and patient’s loyalty is studied and analyzed separately.

**In table 4**, the p-value for R-square of questions or parameters used to study patient’s satisfaction is 0.000 i.e. less than  $\alpha$  (0.05) therefore all the value of R-square is significant; and there is a relationship between service quality and patient’s satisfaction level. The regression equation created for each parameter or question used to study satisfaction level of patients are:

$$PS1 = 2.374 + 0.0335SQ + h1$$

$$PS2 = 2.377 + 0.0334SQ + h2$$

It is observed that the average value of R-square is 0.767; therefore 76.7% of variations in patient’s satisfaction are explained by Service quality of private hospitals. The overall estimated regression equation for patient’s satisfaction is:

$$PS = 2.3755 + 0.0334SQ + h6$$

Where ‘PS’ is Patient’s Satisfaction and ‘SQ’ is Service Quality.

The positive sign with the slope indicates the positive relationship between service quality and patient's satisfaction, i.e. as the service quality of hospitals improves or increases, the satisfaction level of patients also increases and vice versa. It means that higher the quality of services provided by the hospitals, their patients are much more satisfied with them.

**In table 5**, the p-value for R-square of questions or parameters used to study patient's satisfaction is 0.013 i.e. less than  $\alpha$  (0.05) therefore all the value of R-square is significant; and there is a relationship between service quality and patient's loyalty with the hospitals. The regression equation created for each parameter or question used to study satisfaction level of patients are:

$$PL1 = 3.308 + 0.0134SQ + h3$$

$$PL2 = 4.178 + 0.1145SQ + h4$$

$$PL3 = 3.805 + 0.1238SQ + h5$$

It is observed that the average value of R-square is 0.436; therefore 43.6% of variations in patient's loyalty are explained by Service quality of private hospitals. The overall estimated regression equation for patient's loyalty is:

$$PL = 3.764 + 0.084SQ + h7$$

Where 'PL' is Patient's Loyalty and 'SQ' is Service Quality.

The positive sign with the slope indicates the positive relationship between service quality and patient's loyalty, i.e. as the service quality of hospitals improves or increases, the loyalty of patients towards hospitals is also increases and vice versa. It means that higher the quality of services provided by the hospitals, their patients are much more loyal with them.

Thus, analysis of results revealed that strong relationship exists between service quality of hospitals and patient's loyalty towards the hospitals, so hypothesis  $H_1$  is accepted. Also From the results, we found that Patients of private hospitals are satisfied from their service quality in covid 19 pandemic, therefore hypothesis  $H_2$  is accepted.

## Conclusion

Service Quality holds a very important role in enhancing the loyalty of patients. Therefore the hospital management should pay attention on variable associated with service quality and patient satisfaction, to improve patient loyalty and thus profitability. From the research we conclude that patients are not delighted with the service quality provided by the private hospitals of pune. They are moderately satisfied with their services which in turn made them moderate loyal towards the hospitals. Hospital managements thus establish the enhanced service quality practices in future by the past experiences for the remaining of pandemic covid19 season to increase patient's satisfaction level and thus loyalty.

## Recommendations

This research provides directions to hospital management to develop strategies so that they can enhance their level of service quality beyond the expectations of customers and thus increase their competitiveness. The following recommendations are made to the private hospitals:

**Reliability:** Hospital management should increase their speed of various services and handling patients. They should ensure about the Regularity of medical personnel to visit patient. They have to make sure that patients should be able to feel safe in their transactions with these institutions. Hospitals should provide that type of services from which patient should feel positive that they have recovered well before they are discharged.

**Responsiveness:** Hospital management should provide a quick response to various complaints and requests. They should simplify the process of discharge and admission of patients, so that these operations are performed in less time. They should provide a proper response regarding the treatment explanation, various queries, etc. to the patients.

**Assurance:** Hospital management should assure the experience and knowledge of medical personnel in handling the disease. They have to make sure that their promise to do something by a certain time will be completed.

**Empathy:** Hospital management should provide secure feeling to patient and encourage them to face a disease. Various personnel associated with hospitals like doctors, nurses, lab incharges, etc. should provide a proper attention and shows patience towards the patients and their relatives.

**Tangibles:** Hospital management should make sure that various medical devices or equipment are available on time and are updated and with recent technology. If food is provided then it should fresh, nutritious and better in taste. They should take care about the cleanliness and hygiene inside the hospital. Apart from this, various facilities like parking, electric generators, water purifier, etc. should be managed effectively.

## Limitations

Irrespective of the best efforts, some of the limitations are unavoidable. In this study, we consider only internal factors, but some other factors like social factors, trust, market image, strategy, customer values, etc. had an influence on the mind of patients, which in turn influence their perception about the service quality. This perception affects their satisfaction level and thus loyalty. These factors are ignored in this study. Further with higher sample space and sample size, and with advanced survey methods; studies needs to be expanded. It is because each research space has characteristics that are different from one another therefore study cannot be generalized.

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