

A STUDY ON CONSUMERS PERCEPTION TOWARDS SERVICE QUALITY IN PRIVATE HOSPITALS

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ABSTRACT

Hospitals are in a renewed focus for the last six months thanks to the COVID-19 pandemic. A study was conducted in the private hospitals from the Ahmednagar district of Maharashtra that features the state's top 10 districts, the worst-hit state in India. Four hundred private hospital patients during the last six months were interviewed through a SERVQUAL instrument. The aim was to determine if the service quality of private hospitals is satisfactory and up to the patients' expectations. The study also endeavored to measure the perceived gaps in private hospitals' service quality, including their difference across patient and hospital attributes. Results clearly show that the service quality is far from satisfactory, along with huge gaps in fulfillment of the patients' expectations. Interestingly it was found that these perceived gaps differ significantly based on different patient and hospital attributes. Specifically, the research found that COVID-19 patients were relatively more satisfied than those with other ailments.

Keywords: Hospital, Service Quality, Patient Satisfaction, Perception, SERVQUAL

1. Introduction

Hospitals are in a renewed focus for the last six months thanks to the COVID-19 pandemic. A study was conducted in the private hospitals from the Ahmednagar district of Maharashtra that features the top 10 worst affected districts of the state, the worst-hit state in India. Given the COVID-19 pandemic, it becomes interesting and relevant to determine how hospitals fare on service quality using the SERVQUAL model.

SERVQUAL Model

The SERVQUAL model is additionally referred to as the RATER model, which stands for the five service factors it measures, specifically: reliability, assurance, tangibles, empathy, and responsiveness. As is demonstrated by the name of this model, SERVQUAL is a measure of service quality. It is a type of organized statistical surveying that splits service into five segments. The SERVQUAL model features numerous services advertising course books, for the most part, while talking about consumer loyalty and service quality. It was created during the 1980s by notable scholarly scientists in services marketing, particularly Zeithaml, Parasuraman, and Berry. The SERVQUAL model was at first intended for use for service firms and retailers. In all actuality, while most associations will give some client support, it is truly just service businesses that are keen on understanding and

estimating service quality. SERVQUAL takes a more extensive viewpoint of service; a far beyond basic client assistance.

As suggested by the original developers of the SERVQUAL model, the easiest way to remember the five dimensions are by using the letters of RATER, as follows:

- R = Reliability
- A = Assurance
- T = Tangibles
- E = Empathy
- R = Responsiveness

The five components of the model are explained below in brief:

- **Tangibles** allude to physical facilities, equipment, and appearance of personnel
- **Reliability** is the organization's ability to perform the promised service dependably and accurately
- **Responsiveness** is the organization's willingness to help the customer and provide prompt service
- **Assurance** is knowhow and courtesy of the firm's employees and their ability to inspire trust and confidence
- **Empathy** is caring and individualized attention paid to the customers

The entire model along with its sub-components can be conceptualized as shown in Figure 1.

The SERVQUAL model, as shown in Figure 1, has 22 questions spread over five buckets.

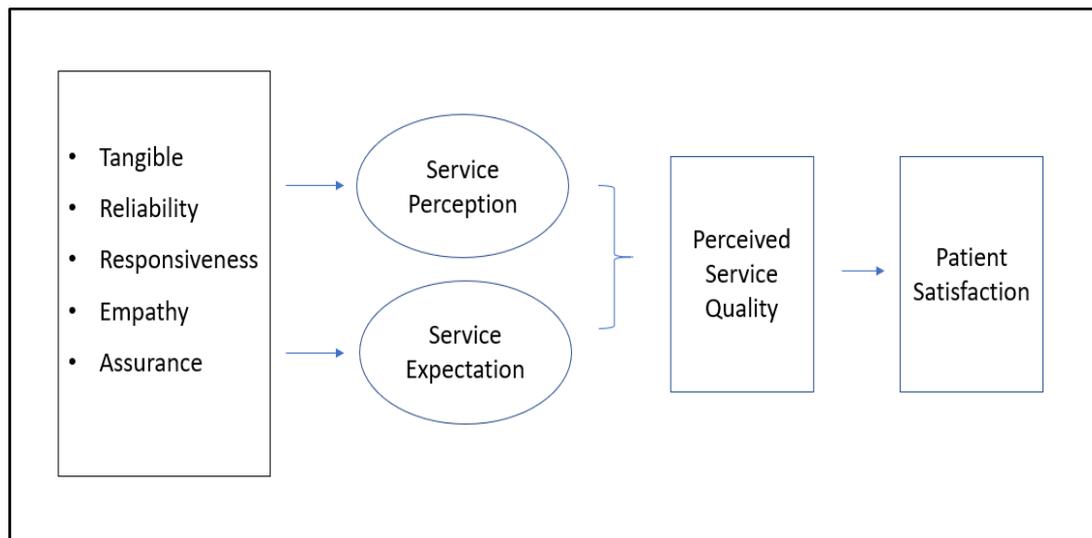


Figure 1: SERVQUAL Model

(Source: Author)

The questionnaire has two parts. First, a set of questions defines the customer expectations. And second, the actual delivery of service, which measures the perception. The difference between these two sets measures (service gap) the service quality, which ultimately results in client satisfaction or otherwise.

Research Objectives:

- 1) To measure the service quality gap across the five dimensions of SERVQUAL
- 2) To measure the service quality gap for COVID-19 patients
- 3) To measure service quality gap for different hospital types viz. private and run by a trust

2. Literature Review

There are several studies on the service quality of hospitals using SERVQUAL. Studies such as Bakhtari et al. (2018), Haghshenas et al. (2017), Mohammadi-Sardo and Salehi (2019), Behdioglu et al. (2019), Chalise et al. (2018), Suriya and Janani (2019), Hashemi et al. (2018), Omidi et al. (2017), Rezaei et al. (2018) have dealt with SERVQUAL based assessment of service quality in hospitals.

A review of a few recent studies is given below.

Pekkaya et al. (2019) have posited that measuring and evaluating the satisfaction level of the people who benefit from healthcare services is vital and may improve healthcare service quality. Managers and researchers should know the details of healthcare service quality dimensions' weak points and to which degree the weaknesses reach out for that

organization. The Servqual scale is ordinarily utilized in the healthcare service quality evaluation. This investigation plans to quantify/assess continuous healthcare service quality and patient satisfaction using the Servqual scale regarding outpatients' view. In this examination, an overview dependent on the Servqual scale is executed on a medical clinic in Zonguldak/Turkey, for evaluating perceived and expected healthcare service quality. As indicated by the outcomes, healthcare service quality of the SERVQUAL scale dimension grades varies from one another in at least two dimensions out of five. Results recommend that patients demographically separate healthcare quality from age, income, and service type, but not for gender, marital status, and, educational level. In addition, reliability is seen as the most important dimension for outpatients' satisfaction.

The reason for this paper (Al-Neyadi et al., 2018) is to assess the quality of healthcare services by exploring the elements influencing patient satisfaction in private and public hospitals in the UAE based on five service quality dimensions of the SERVQUAL in particular; tangibles, reliability, responsiveness, assurance, and empathy. A modified SERVQUAL questionnaire was utilized to gather the research data. The respondents of the examination comprised 127 patients admitted six months before the beginning of the examination. The investigation uncovered that the perceived

healthcare services in private hospitals and public hospitals do not significantly vary. Even though patients were happier with nursing care, the perceived satisfaction of patients with the quality of services given by physicians and nurses and the hospital environment's quality does not essentially fluctuate in both public and private hospitals. The assurance dimension was appraised the highest, while responsiveness was perceived as the least important of the five SERVQUAL dimensions. The five dimensions of the SERVQUAL gave off an impression of being a predictable and reliable scale for measuring healthcare service quality in the United Arab Emirates. The modified SERVQUAL might upgrade the quality of healthcare services in UAE and other comparative situations.

The motivation behind this paper by Ali et al. (2018) is to understand and analyze patients' expectations of healthcare services and their perceived performance. The paper likewise gives insights into the specific service factors and quality of hospital services required to meet the needs of Indian patients. An aggregate of 210 exit interviews was led conducted utilizing a structured questionnaire tending to the probable factors of quality identified with healthcare services in a five-point Likert scale. The study was led among the patients recently discharged and released from private hospitals of Delhi. A set of questionnaires is managed to gather reactions on expected and perceived service qualities. The outcomes gave an outline of the viewpoints of Indian patients on the quality of service in private hospitals. Patients demonstrated the best satisfaction in certain dimensions of services, to be specific, the tangible dimension of "hospitals give adequate parking spots," empathy dimension of "Specialists are never too occupied to even think about reacting to my request," assurance dimension of "I can rely upon Doctor/Nurse," and in the responsiveness dimension of "employees always communicate truly" on hospital matters.

According to Jabraeily et al. (2019), assessment of Hospital Information System (HIS) service quality helps address the needs of users and a strategy to expand the interaction between HIS developers and the users. SERVQUAL is an extensively used technique

to measure the service quality of information systems. The motivation behind this investigation was to assess HIS service quality by the SERVQUAL model in the teaching hospitals affiliated to Urmia University of Medical Sciences (UMSU). This examination is an analysis carried out in UMSU teaching hospitals in 2017. The sample was included 270 users selected randomly. The modified SERVQUAL questionnaire, which included five dimensions, was used to gather data. The gap between the perceptions and the users' expectations was calculated, and the significance of scores was tested. The highest quality gaps in the five dimensions were related to responsiveness (- 1.52) and reliability (- 1.34), and also, the most reduced quality gap was related to tangibles (- 0.95). There were significant contrasts among the users' perceptions and expectations altogether SERVQUAL dimensions ($P < 0.001$). This suggested that the quality of the conveyed services was lower than what the users expected.

Qolipour et al. (2018) have opined that continuous quality improvement of the hospital services is a basic necessity of the medical tourism industry. The various dimensions of hospital service quality are assessed constantly to improve the service of medical tourism. This investigation aimed to decide the service quality of medical tourism in private and public hospitals. In this cross-sectional examination, hospital services' quality was assessed considering 250 Iraqi tourists alluded to Ahvaz private and public hospitals in 2015. Data were gathered utilizing a valid medical tourism SERVQUAL questionnaire (MTSQ). This questionnaire incorporates eight main dimensions with 31 things. Finally, Mann-Whitney, Kruskal-Wallis, and Wilcoxon tests were used to analyze the data. There was a negative gap in the dimensions of service quality in the examined hospitals ($P > 0.001$). The highest and most minimal quality gap was found in the "exchange and travel facilities" (-2.63) and the "tangibles" (-0.68) dimension, individually.

According to Fan et al. (2017), the doctor-patient relationship has been a major focal point of society. Hospitals' efforts to improve the quality of their medical services have

decreased the probability of doctor-patient clashes. In this examination, we aimed to decide the gap among expectations and perceptions of service quality according to patients to give reference data to create strategies to improve health care quality. 27 hospitals in 15 provinces were selected for our study; we conveyed 1,589 questionnaires, of which 1,520 were gathered (response rate 95.65%), and 1,303 were valid (85.72% effective recovery rate). Paired t-tests were used to analyze significant contrasts between patients' expectations and perceived service quality. A binary logistic regression analysis was used to decide if there were significant contrasts in the gap between expectation and view of service quality according to patients' demographic characteristics. According to patients both before and after receiving medical services, there was a significant contrast between the expected and perceived service quality ($p < 0.05$).

Furthermore, the service quality gap of each service dimension was negative. Specifically, the gaps in service quality were as per the following: economy, responsiveness, empathy, assurance, reliability, and tangibles. Overall, we can presume that patients' perceptions of service quality are lower than their expectations.

Prabhu and Iyer (2018) have posited that service quality and the assessment of services offered to a customer or the degree to which the services offered live up to customers' expectations play a significant job in the healthcare industry. Patients pay hefty prices for the services they avail from specialty hospitals, and they demand quality services. Hospitals have a larger challenge in delivering these services effectively to the patients. The current examination encourages us to understand the part of information systems in service delivery measures. Most of the hospitals have adopted healthcare information systems because of the advantage it gives. The examination attempts to analyze the impact of information systems on service quality in the hospitals located in Tier-II urban communities. The popular SERVQUAL model is adopted for this reason. Patients who visit the hospitals were part of the respondent gathering. A gap score is found to notice the patients' expected

and actual experience based on five dimensions.

This examination by Singh et al. (2020) is the first of its sort, which has used the SERVQUAL model related to the Net Promoter Score approach to compare the service delivery of a private and a public hospital in the Himalayan state of Sikkim. The investigation was cross-sectional and causal, carried out from March – June 2018. This examination has used the SERVQUAL gap model given by Parasuraman, Berry, and Zeithaml with Reichheld's Net Promoter Score approach. The statistical tools used in this examination are mean, Cronbach's alpha, and independent-sample t-test. A statistically significant distinction was found for the tangibility and empathy dimensions between the public and private hospitals, where the service quality gap score was higher for the public hospital in both the dimensions.

The goal of this paper by Kottala (2019) is to investigate the patients as customers, patient satisfaction and its determinants, measurement issues in health care units of India using an exploratory approach. The empirical examination utilized five dimensions of SERVQUAL in various urban communities covering three states of India Telangana, Chhattisgarh, and Himachal Pradesh. A total of 120 responses from patients as customers and 45 responses from doctors were gathered. A seven-point scale was used to investigate the outcomes. The outcomes announced are used by the health care units to refine, restructure, to enhance quality management issues and for future directions. This work helps in planning effective healthcare quality strategies in hospitals based on the gap analysis.

This examination by Yani et al. (2019) aimed to analyze and formulate a strategy to improve the quality of service at the inpatient care unit of AnuntalokoParigi Hospital based on a SERVQUAL approach. This research was an analytical examination with a cross-sectional plan, where the data analysis is collected from facts that have happened or are taking place in the investigation population. The technique used in this examination was a review of 96 patients and 24 officers. The outcomes demonstrated that the quality of service at the inpatient care unit at AnuntalokoParigi

Hospital was exceptionally low. There were a significant relationship in 5 (five) dimensions of quality of service experienced by patients, there were a significant relationship in 2 (two) dimensions of quality of services, namely, reliability and responsiveness, between the services expected by patients and quality of service, and on the dimensions of tangible, there was no significant relationship regarding reliability and empathy. There was a negative gap between the services expected and perceived by patients. Last, the service dimension that affected the quality of service was responsiveness.

Research Gap

Several studies on the service quality of hospitals using SERVQUAL focused on India and internationally. However, a contextual gap exists for this study, which is focused on hospitals in Ahmednagar. Moreover, this study is unique which evaluates the service quality of hospitals using SERVQUAL for COVID-19 patients.

3. Methodology

The research methodology adopted is outlined below:

- 1) A survey was administered to 400 patients using the SERVQUAL questionnaire.
- 2) The questionnaire had 22 questions divided into five sections, and two responses (expectation and perception) for each question were sought from each patient.
- 3) The 22 questions were as given below:
 - a) Tangible:
 - Cleanliness of health center environment
 - The neat and professional appearance of health center staff
 - Visual appealing and comfort of physical facilities
 - Adequacy of equipment in the health center
 - b) Reliability:
 - When health service is promised, it is done
 - Discipline of staff
 - Delivery of the service right on time
 - Provision of health services when promised
 - c) Responsiveness:
 - Keeping client records correctly without mistake

- Providing Information when services are performed
 - Provision of prompt service
 - Employees are always willing to help
- d) Empathy:
- Giving individual attention to each client
 - Operating hours appropriate for all clients
 - Employees give personal attention to client
 - Employees have client's best interests at heart
 - Understanding the specific needs of clients
- e) Assurance:
- Accessibility of staff when needed
 - An adequate explanation of health-related Problems
 - Feeling security and safety in receiving health care and communication with staff
 - Employee knowledge to answer client questions
 - Courteous and polite behavior towards client

- 4) Responses were sought on a 5-point Likert scale – 1 to 5 (1 = strongly disagree, 2= somewhat disagree, 3= neither disagree not agree, 4= somewhat agree, 5= strongly agree)
- 5) Service quality gap was calculated using the difference between the perception score and expectation score, ranging from -4 to +4, and indicating dissatisfaction and satisfaction.
- 6) Average service quality gap scores were calculated for each of the five dimensions (tangible, reliability, responsiveness, empathy, and assurance), and the entire 22 questions
- 7) t-test was used at 95% confidence level, and the sample mean was tested for statistical significance by comparing it with a hypothesized population mean of 0 (midpoint of -4 and +4) connoting an event by chance.
- 8) Regression analysis was used to test correlations between demographic factors (such as COVID-19 patients and hospital type) with service quality gap score.

Hypotheses

- H1: There is a significant impact of Tangible factors on service quality gap scores.
 H2: There is a significant impact of Reliability factors on service quality gap scores.

H3: There is a significant impact of Responsiveness factors on service quality gap scores.

H4: There is a significant impact of Empathy factors on service quality gap scores.

H5: There is a significant impact of Assurance factors on service quality gap scores.

H6: There is a significant impact of all the combined factors on service quality gap scores.

H7: There is a significant relationship between COVID-19 patients and service quality gap scores.

H8: There is a significant relationship between hospital types and service quality gap scores.

The survey instrument returned a Cronbach’s alpha of 0.782 that is better than 0.70 (the standard), and hence was considered reliable.

4. Data Analysis
Descriptive analysis

Out of the 400 patients, 207 were male, and 193 were female. One hundred thirty-seven patients were less than 30 years of age, 127 were aged between 30 to 40 years, and 136 were more than 40 years of age. One hundred thirty-one patients were treated for COVID-19, and 269 were treated for other ailments. One hundred ninety-one respondents were from Trust run hospitals, and 209 were from private hospitals.

Hypothesis testing

Hypotheses 1-6 were tested using t-tests. The sample means of service quality gap scores were compared with a hypothesized population mean of 0. The results are given in Table 1.

Table 1: Testing of hypotheses 1-6

Parameter	H1	H2	H3	H4	H5	H6
Dimension	Tangible	Reliability	Responsiveness	Empathy	Assurance	Combined
Sample Mean Service quality gap score(\bar{x})	(1.76)	(1.73)	(1.76)	(1.71)	(1.75)	(1.74)
Hypothesized population mean (μ)	0	0	0	0	0	0
SD of sample	1.26	1.27	1.28	1.27	1.23	1.26
N	400	400	400	400	400	400
t-value	27.85	27.11	27.48	26.87	28.41	27.54
p-value	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Decision	Reject Null	Reject Null	Reject Null	Reject Null	Reject Null	Reject Null

All the corresponding null hypotheses were rejected, which means, all the dimensions individually and on a combined basis have a statistically significant impact on the service quality gap scores.

Hypothesis 7

Hypothesis 7 was tested using regression analysis between patient attributes (COVID-19 and non-COVID-19) and service quality gap scores. The summary statistics, correlation matrix and ANOVA are given in Tables 2, 3 and 4 respectively.

Table 2: Summary Statistics (Patient Attributes and Service Quality gap)

Variable	Observations	Obs. with missing data	Obs. without missing data	Minimum	Maximum	Mean	Std. deviation
All	400	0	400	-2.591	0.500	-1.739	0.574
Covid	400	0	400	1.000	2.000	1.673	0.470

Table 3: Correlation matrix: (Patient Attributes and Service Quality gap)

	Covid	All
Covid	1	-0.506
All	-0.506	1

Table 4: Analysis of variance (All): (Patient Attributes and Service Quality gap)

Source	DF	Sum squares	of Mean squares	F	Pr> F
Model	1	33.664	33.664	136.998	<0.0001
Error	398	97.798	0.246		
Corrected Total	399	131.462			

Equation of the model: All = -0.70-0.62*COVID-19

Interpretation:

Given the p-value of the F statistic computed in the ANOVA table, and given the significance level of 5%, the information brought by the explanatory variables is significantly better than what a basic mean would bring. The correlation of -0.506 read along with p-value of <0.0001 implies rejection of null hypothesis.

Hypothesis 8

Hypothesis 8 was tested using regression analysis between patient attributes (trust run and private hospitals) and service quality gap scores. The summary statistics, correlation matrix and ANOVA are given in Tables 5, 6 and 7 respectively.

Table 5: Summary Statistics (Patient Attributes - trust run and private hospitals and Service Quality gap)

Variable	Observations	Obs. with missing data	Obs. without missing data	Minimum	Maximum	Mean	Std. deviation
All	400	0	400	-2.591	0.500	-1.739	0.574
Hosp-Type	400	0	400	1.000	2.000	1.523	0.500

Table 6: Correlation matrix: (Patient Attributes - trust run and private hospitals and Service Quality gap)

	Hosp-Type	All
Hosp-Type	1	0.292
All	0.292	1

Table 7: Analysis of variance (All): (Patient Attributes - trust run and private hospitals and Service Quality gap)

Source	DF	Sum squares	of Mean squares	F	Pr> F
Model	1	11.238	11.238	37.205	<0.0001
Error	398	120.223	0.302		
Corrected Total	399	131.462			

Equation of the model: All=-2.24+0.33*HOSP TYPE

Interpretation: Given the p-value of the F statistic computed in the ANOVA table, and given the significance level of 5%, the information brought by the explanatory variables is significantly better than what a basic mean would bring. The correlation of 0.29 read along with p-value of <0.0001 implies rejection of null hypothesis.

Discussion and Findings

1) Hypotheses 1-6 were tested using t-tests. The mean Service quality gap score was between -1.71 and -1.76. The standard deviation was between 1.23 and 1.28. The p-

values for all the dimensions individually and on a combined basis was <0.05. Hence, the null hypotheses were rejected. This implies SERVQUAL dimensions have a significant impact on the service quality gap score. In other words, the service quality gap between customer perception and customer expectation is significant, or the customers are dissatisfied with the service provided.

2) Hypothesis 7 was tested using regression analysis. The dependent variable was the service quality gap score, and the independent variable was the type of patient (COVID-19 and otherwise). The mean service quality gap score was -1.739 (indicating dissatisfaction), and the Standard deviation was 0.574. The

correlation coefficient was -0.50, and the p-value was <0.05. Hence the null hypothesis for Hypothesis 7 was rejected. This implies patient attribute (COVID-19 and non-COVID-19) are correlated with the service quality gap score. For the patient category with COVID-19 treatment, the service quality gap score (negative) was less than that of non-COVID-19 patients. This suggests that the COVID-19 patients were relatively better satisfied as compared to non-COVID-19 patients.

3) Hypothesis 8 was tested using regression analysis. The dependent variable was the service quality gap score, and the independent variable was the type of hospital. The mean service quality gap score was -1.739 (indicating dissatisfaction), and the Standard deviation was 0.574. The correlation coefficient was 0.29, and the p-value was <0.05. Hence the null hypothesis for Hypothesis 8 was rejected. This implies patient attribute (trust run and private hospital) are correlated with the service quality gap score. For the patient category with private hospitals, the service quality gap score (negative) was less than that of trust run hospital patients. This suggests that private hospitals are relatively better placed compared to trust run hospitals.

5. Conclusion

All of the SERVQUAL dimensions – tangibles, reliability, responsiveness, empathy, and

assurance-significantly impact the service quality gap scores. As such, a service quality gap was evident across the board. This clearly shows that the service quality needs improvement across the various dimensions. Generally, patients have high expectations from the hospital in terms of service quality, and in reality, it is difficult to deliver on these expectations. Different areas need to be identified, and an action plan needs to be developed to bridge this gap. The silver lining was the revelation that COVID-19 patients fared better than patients with other ailments. The COVID-19 patients were under focus and received good attention. This is an interesting outcome of this study. The government and authorities have paid active attention to the treatment of COVID-19 patients, and the hospitals have lived up to the expectations to a greater extent. The last finding that private hospitals are doing well compared to those run by trusts is not surprising. Private hospitals, as compared with those run by trusts, are more professionally managed and can provide more attention to the patients. They charge more for their services but at the same time can demonstrate better service quality.

The limitation of the study was that it was carried out in hospitals based in Ahmednagar district. Further research can be carried out in other districts and other states.

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