

**Perceived Service Quality of Hospitals in the City of Udaipur: The User Perspective**

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**Abstract**

Healthcare is one of the fastest growing sector, which is developing at a very fast pace. Huge investments are being made in the R&D expansion of coverage and establish most of the multispecialty hospitals which leads to the development of new & better life saving drugs equipments. Health planning in India is an integral part of the national Socio-Economic planning. The health care system is represented in India by two major sectors i.e. public health care service providers and private health care service providers. In this paper, a study of perceived service quality is undertaken covering public and private healthcare service providers in Udaipur. Seven dimensions were taken for evaluating the healthcare & satisfaction level of the patients towards the healthcare services in the present research study. To achieve the objectives primary research is conducted constituting 150 respondents having experience of both private and public hospitals of Udaipur city. The sampling procedure is purposive and type of research is exploratory. The data is collected with the help of structured questionnaire containing questions about personal information and their experience in the terms of Tangibility, Reliability, Responsiveness, Courtesy, Communication, Security & Physical environment, Competence and Empathy.

**Key Words:** Quality, healthcare, patients, services, hospitals

**Introduction:**

In both developing and developed countries Healthcare is remarkably the fastest growing service. Healthcare has been recognized as highly important for satisfying and retaining customers. Quality becomes an important and core dimension in satisfying customer's .The situation seems that quality and satisfaction becomes parallel to each other. Accordingly the 2Q's firstly, what is perceived service quality? And secondly ,”How must service quality be measured?” have been debated by academics over the last 3 decades now and is

of utmost interest .Thus , the importance of both service quality and customer satisfaction to service providers has received considerable attention in the marketing literature in recent years (Ibanezet al ,2006 ; Sureshchandar et al , 2002)

Service quality has been defined as “ the outcome of an evaluation process where the consumers compares his perceptions with the service he has received or the difference between expected service and perceived, whereas satisfaction is defined as an evaluation, affective or emotional response.

Service quality receives special attention from their service marketers because it is within the control of service provider and by improving service quality, its consequences could be improved which may in turn influence the buyers intention to purchase the service.

In healthcare care production and consumption are inseparable .The services are consumed when they are produced which makes quality control difficult. Due to these and other factors in services it makes it extremely difficult for the consumers to judge service quality.

Competition and technological up gradation have resulted in pressure on consumer service. Customers based determinants and perceptions of service quality plays an important role when choosing a hospital .Consumers are becoming more sophisticated in their requirements and are increasingly demanding higher standard of service .To them service means customers satisfaction , customer delight, service delivery , customer relationships etc .Therefore interest in managing the services through customer service is considerably high .In other words , while considering levels of performance in setting customer service objectives , service companies need to take into account the importance of service quality variables such as Reliability, responsiveness , assurance, empathy, tangibles, communication , security and competence.

The intangible and perishable nature of services makes it difficult for organizations to measure quality, identify the loopholes and take necessary steps to improve the quality. Many models were used from time to time to evaluate the design and delivery of service quality and the most promising model was "SERVQUAL" model devised by Parsuraman

et al (1988), which consisted of five dimensions:-

1. **Tangibles:** Appearance of physical facilities, equipment, personnel and written materials. Service is intangible to customers. However they assess the service by the equipment used to provide the service, the premises within which the service providers need to ensure that they provide the right ambience and infrastructure to the customers and offer high quality service.

2. **Reliability:** Ability to perform the promised service dependably and accurately. The service offered by an organization needs to meet the perception of customers consistently. It is only then that a customer considers the service reliable and the organization dependably. Therefore, services should be tested for their consistency before they are launched.

3. **Responsiveness:** Willingness to help customer and provide prompt service. Service personnel should be prompt in attending to customers and serving their requirements. The customers should perceive them to be enthusiastic and serving them.

4. **Assurance:** Employees' knowledge and courtesy and their ability to inspire trust and confidence. Service personnel should have a thorough knowledge of the service they are providing to the customers.

5. **Empathy:** Caring, individualized attention given to customers. The service personnel of an organization should be easily accessible and open to communication. They should empathize with the customers who reports problems and work quickly to solve them.

**In addition to this, three other dimensions also presents the result of a service quality**

perception study designed to measure the patients' perceptions of service quality in Udaipur based hospitals.

6. **Competence:** Competence about the individuals is more or less a subjective term in the hospitals, and is spread through the word of mouth among patients. We want to feel that our doctors have incredible knowledge in their field, but every doctor needs to know how to apply their knowledge with wisdom.

7. **Communication:** Communication is an important component for patient care and it is an interaction between Medical staff and Patient's family members as they are the persons who look after the patient.

8. **Security:** Maintenance of privacy in the hospitals .Healthcare services is inherently personal, but not private. Normally, other services do not require customers to relinquish so much of their privacy or to bare themselves physically and emotionally as is required by medical services.

This research presents the results of a service quality perception study designed to measure the patients' perceptions and perceptions of service quality in Udaipur based hospitals, using the multidimensional, generic and internationally used market research instrument called SERVQUAL (Parasuraman et al., 1988). The SERVQUAL instrument has been widely used in many service industries, including hotels, density, travel, higher education, real estate, hospitals and architecture.

$Q = 1/26 \sum (P_i)$  Q = Perceived service quality;  
P<sub>i</sub> = Performance level perceived on attribute I for the delivered service. The score for the quality of service is calculated by computing the ratings that customers assign to perception statements.

## 2. Literature Review:

Concerns with quality in healthcare and its measurement are not at all new. As long ago as 1854, Florence Nightingale demonstrated that a statistical approach with graphical methods could be persuasive in reducing the cost of poor quality care by 90% within a short period of time. Hart, (1996:26).

Perception of hospital care is derived from a set of criteria based on perceptual cues that patient use. Lehtinen and Laitamaki (1985) present a holistic view on how to monitor measure and operationalise customer perceptions of service quality in health care organizations. John (1989) argues that there are four dimensions of health care service quality: the curing dimension, the caring dimension, the access dimension and the physical environment dimension. However, most of the studies of health care are based on SERVQUAL, a generic, internationally used market research instrument.

Babacus and Mangold (1992) empirically evaluated SERVQUAL for its potential usefulness in a hospital service environment. The completed perceptions and perceptions scales met various criteria for reliability and validity. Suggestions were provided for the managerial use of the scale and a number of future research issues were identified.

An empirical study in a Belgian hospital by Vandamme and Leunis (1993) has been reported on the development of an appropriate multiple-item scale to measure hospital service quality. Discrepancies between SERVQUAL and the dimensions obtained from their study were discussed in some detail, along with the reliability and validity properties of the scale.

Anderson (1995) measured the quality of services provided by a public university health clinic, using a 15-item instrument representing the fine dimensions of SERVQUAL. According to her findings, all the five dimensions measured negatively, assurance being most negatively measured. Based on these results, Anderson made some recommendations for budgeting future quality improvement projects.

Youssef et al. (1995) measured service quality in West Midlands NHS hospital and in all the five dimensions of SERVQUAL that were measured found that patient' perceptions failed to meet their perceptions. Another study by Youssef (1996) revealed reliability as the most serious problem facing the NHS hospital providers involved in their study.

Lim and Tang (2000) attempted to determine the perceptions and perceptions of patients in Singapore hospitals through the use of modified SERVQUAL that includes 25 items representing six dimensions namely; tangibles, reliability, assurance, responsiveness, empathy and accessibility and affordability. Their study revealed the existence of an overall service quality gap between patients' perceptions and perceptions.

Lim and Tang (2000) emphasized that in the healthcare industry, hospitals provide the same types of service, but they do not provide the same quality of service. Furthermore, consumers today are more aware of alternatives on offer and rising standards of service have increased their perceptions. They are also becoming increasingly critical of the quality of service experience. Service quality can therefore be used as a strategic differentiation weapon to build a distinctive advantage which

competitors would find difficult to copy. To achieve service excellence, hospitals must strive for "zero defections", retaining every customer that the company can profitably serve. "Zero defections" require continuous efforts to improve the quality of the service delivery system.

Rose, *et al.* (2004) identified that the service providers in health care increasingly have to deal with a wide range of social, financial, political, regulatory and cultural challenges, the impact of which, among other factors, is the demand for greater efficiency, better quality and lower costs. Hence, quality management has emerged not only as the most significant and enduring strategy in ensuring the very survival of organizations, but also a fundamental route to business excellence. Moreover, due to the availability of information and a better-educated population, the need to measure up is no longer a choice but a necessity in meeting rising perceptions from better-informed customers.

People today have taken a new approach to healthcare services – they are informed, suspicious, and eager to take responsibility for their own care. In this era of information, consumers of healthcare have exceptionally high perceptions. "If we are sick we go to the doctor and expect him to fix it. If he can't, we expect him to send us to a specialist who can. And we want the full range of medical services available to us regardless of our ability to pay." Thus, the post-modern hospital is a far different place as a result of the constant change in the needs and perceptions of patients. Driven by economic necessity and technological advances, the patient demands a higher level of accuracy, reliability and overall better service than in the past. Because of the Internet

patients are well informed and research solutions to their health care problems. Due to this new paradigm in healthcare, hospital administrations need to be skilled practitioners in marketing and business planning. These skills can assist managers in increasing volume, controlling costs, and increasing profit. Managers with these skills can improve healthcare standards and add long term value because they know how to provide superior service and develop innovative strategies Harmening, (2003:288).

The research literature on service quality has thrown numerous models by different researchers across the world. Health care service quality is multi dimensional. The multi-dimensionality of health care was supported by Griffith and Alexander (2002). Given the consumers' propensity to switch service providers rather than complain, it is of paramount importance for hospitals to be accurately aware of what the general public looks for while evaluating the professional service of a particular hospital.

Service quality has been increasingly identified as the key in differentiating services and building competitive advantage (Tanner and Anthony, 2006: i). Therefore, understanding, measuring and improving quality is a formidable challenge for all organizations since they compete to some degree on the basis of service. The bottom line for strategic advantage in health care is quality. People are not as accepting now as say ten years ago. The high cost for health care services and legal backing has placed a greater emphasis on service providers (doctors and hospitals) to deliver a thorough high quality service to the customer. Patients now have a preconceived standard of quality before arriving at a hospital and

therefore the understanding between the customer and provider needs to be understood clearly.

Kim, Cho, Ahm & Goh (2008) discussed the factors of large-sized quality hospital. In their study they test the correlations among the value of care, patient satisfaction and intention to re-visit. In the study they revealed that hospitals of large size had increased the value of care and patient satisfaction to ensure patients will re-visit and also increase revenue by taking the factors into consideration. The study also uses interview data which is obtained from outpatients in a large-sized university hospital located in Seoul, Korea with approximately 1000 hospital beds.

Tsai, Yafang, and Tang, Ta-wei (2008) have investigated the relationship between three internal marketing practices and service quality in the main purpose of study. They examined the relationship between internal marketing and service quality with structural equation modeling the research adopts a cross sectional design. The result of the research clearly depicts that there are significant positive relationships between internal marketing practices and service quality. In particular, the results of the present research demonstrate that training programmes have a strong relationship with service quality. However, there is a relationship from performance incentives to service quality was not at all found.

Takin, Mahmut, (2010) has done their research in totally four randomly chosen hospitals among from public and private sector hospitals from Kayseri. In the research they found private hospitals are more technology and private hospitals have high service quality. They emphasized on importance of information

technologies and technology management in private hospitals is comparatively higher to that in public hospitals. In general, it can be said that the managers and the employees of hospitals do not give the required support to information technologies and technology management in hospitals.

### **3. Research methodology:**

The researcher has gone through primary data i.e. interviewing patients and using schedules. The total of 150 respondents were contacted, the respondents were the patients of Public and Private Hospitals in the city of Udaipur.

#### **3.1 Research Objectives:**

- To identify the Factors influencing the Quality of healthcare.
- To study the perception of patients about the services offered by both public & Private Hospitals.
- To measure & compare the service quality offered by public & private hospitals in Udaipur.
- To study the impact of patients' income on their perception about both types of Hospitals.
- To study the impact of patients Health Insurance on their perception about both type of hospitals.

#### **3.2 Research Design:**

The well-documented 'Service Quality model' of Parasuraman et al, and some additional dimensions (1985) were used as a conceptual framework for measuring service quality delivery in Health Care Services.

#### **3.3 Sample:**

The present study has been conducted in Udaipur City in Rajasthan state. A purposive sample of 150 individuals was considered from among those who have experienced hospital services in the city. The respondents were requested to give their responses with respect to each type of hospital public and private both with which they have experienced.

#### **3.4 Research Instrument:**

The schedules used in this research are based upon the basic five dimensions of the SERVQUAL instrument developed by Parasuraman et al.(1988) & three other dimensions. The instrument includes 26 items

#### **3.5 Data collection and Analysis:**

The primary data on 150 patients' perceptions were collected from patients using SERVQUAL research instrument. Personal interview with the patients and service quality experts were also conducted. Averages were used to measure perception scores.

The data collected was analyzed using Microsoft Excel-2003 software package. The study covers all type of Hospital Services provided. The average score for each dimension of service quality for each type of hospital was calculated and statistical tests of significance were applied to test for significant differences between the scores for the different types of hospitals. The relationship of customer satisfaction with the scores for each dimension for each type of hospital was studied using Index. This analysis will be useful for each hospital to identify the areas, which have to be improved to enhance customer satisfaction.

#### **3.6 Analysis and Interpretation:**

The Calculated scores of perception with respect to eight service quality dimensions for

both type of hospital .In all the cases the perceptions of the mean scores are greater than 2.89, which indicate that all service quality

dimensions are important to the customer for both type of hospitals. Earlier studies also reported the same result for other services

**Comparison of Means Using Customer’s Scores:**

|                | Average Score | Rank | Public |                    | Private |                    | Gap between Mean |
|----------------|---------------|------|--------|--------------------|---------|--------------------|------------------|
|                |               |      | mean   | Standard deviation | mean    | Standard deviation |                  |
| Tangibility    | 12.84         | 4    | 2.89   | 1.57               | 5.19    | 1.52               | 2.302            |
| Reliability    | 13.31         | 3    | 3.64   | 1.53               | 4.73    | 1.44               | 1.089            |
| Responsiveness | 13.58         | 2    | 3.40   | 1.45               | 4.69    | 1.48               | 1.285            |
| Assurance      | 12.07         | 5    | 3.87   | 1.70               | 4.35    | 1.60               | 0.482            |
| Empathy        | 11.47         | 6    | 3.68   | 1.57               | 4.31    | 1.54               | 0.632            |
| communication  | 11.17         | 7    | 3.73   | 1.69               | 4.61    | 1.54               | 0.880            |
| security       | 10.52         | 8    | 3.81   | 1.51               | 4.66    | 1.52               | 0.847            |
| Competence     | 14.11         | 1    | 3.78   | 1.88               | 4.85    | 1.55               | 1.073            |

Out of all eight gaps competence (14.11) is the most important dimension for both type of hospital followed by Responsiveness (13.58), Reliability (13.31), Tangibility (12.84), Assurance (12.07), Empathy (11.47), Communication (11.17), and Security (10.52). The perception of patients varies significantly for public and private hospitals. Here once again assurance is the most important followed by reliability, responsiveness, empathy, tangibles, communication, security and competence. Further in order to check the gap of dimensions the mean difference between the

perception of public and private hospitals were calculated and following inferences were drawn.

Between both the hospitals the maximum gap is in tangibility (2.302) i.e. public hospitals have lower quality of infrastructure followed by responsiveness (1.285), reliability (1.089), and competence (1.073). But the study shows that the gap in these four dimensions communication (0.880), security (0.847), Empathy (0.632), Assurance (0.482) is very low means that the quality of these dimensions are almost similar in both type of hospitals.

**Weighted Average of Hospitals:**

|                | Weighted average of Public hospital |      |        | Weighted average of Private hospital |      |        |
|----------------|-------------------------------------|------|--------|--------------------------------------|------|--------|
| Tangibility    | 12.84                               | 2.89 | 37.13  | 12.84                                | 5.19 | 66.68  |
| Reliability    | 13.31                               | 3.64 | 48.43  | 13.31                                | 4.73 | 62.93  |
| Responsiveness | 13.58                               | 3.40 | 46.17  | 13.58                                | 4.69 | 63.62  |
| Assurance      | 12.07                               | 3.87 | 46.70  | 12.07                                | 4.35 | 52.51  |
| Empathy        | 11.47                               | 3.68 | 42.25  | 11.47                                | 4.31 | 49.50  |
| Communication  | 11.17                               | 3.73 | 41.64  | 11.17                                | 4.61 | 51.47  |
| Security       | 10.52                               | 3.81 | 40.12  | 10.52                                | 4.66 | 49.02  |
| Competence     | 14.11                               | 3.78 | 53.32  | 14.11                                | 4.85 | 68.46  |
| Total          |                                     |      | 355.76 |                                      |      | 464.21 |

**Hypothesis Testing:**

H<sub>0</sub> = The perception of patient is independent on nature of ownership.

H<sub>a</sub> = The perception of patient is dependent on nature of ownership.

**Table-1 test result of perception**

| Type of ownership | Perception |     | $\chi^2_{\text{calculated}} = 65.518$                             |
|-------------------|------------|-----|---|
|                   | High       | Low |   |
| private           | 145        | 5   | $\chi^2_{\text{tabulated (at 5% degree of significant)}} = 3.841$ |
| Public            | 86         | 64  |   |

The analysis provides enough evidence not to reject the Null Hypothesis. In other words patient's expectation is totally independent of nature of ownership. The patient's expectation does not change with the public and private hospitals.

H<sub>0</sub> = The perception of patient from private hospitals is independent of income.

H<sub>a</sub> = The perception of patient from private hospitals is dependent of income.

**Table-2: Test Result of Perception from Private Hospitals**

| Income Group | < 15000 | 15000-25000 | 25000-35000 | 35000-45000 | > 45000 |
|--------------|---------|-------------|-------------|-------------|---------|
| high         | 36      | 46          | 21          | 12          | 30      |
| low          | 1       | 2           | 1           | 1           | 0       |

$\chi^2_{\text{calculated}} = 2.050$

$\chi^2_{\text{tabulated (at 5% degree of significant)}} = 9.488$

The analysis supports the null-hypothesis that the perception of patient about private hospital is independent of income. The perception of

patient about private hospital does not vary with the income of the family.

H<sub>0</sub> = The perception of patient from public hospitals is independent of income.

$H_a$  = The perception of patient from public hospitals is dependent of income.

**Table-3: Test Result of Perception from Public Hospitals**

| Income Group | Below 15000 | 15000-25000 | 25000-35000 | 35000-45000 | 45000 & above |
|--------------|-------------|-------------|-------------|-------------|---------------|
| High         | 19          | 26          | 16          | 11          | 15            |
| Low          | 18          | 22          | 6           | 2           | 15            |

$\chi^2_{\text{calculated}} = 7.488$

$\chi^2_{\text{tabulated(at 5\% degree of significant)}} = 9.488$

The analysis supports the null-hypothesis that the perception of patient about public hospital is independent of income. The perception of patient about public hospital does not vary with the income of the family.

$H_o$  = There is no impact of owing health insurance on perception of patients' of private hospitals.

$H_a$  = There is a impact of owing health insurance on perception of patients' of private hospitals.

**Table-4: Test Result of Perception from Private Hospitals**

|             | Private Hospitals |     | $\chi^2_{\text{calculated}} = 0.801$                              |
|-------------|-------------------|-----|---|
|             | High              | Low |   |
| Insured     | 87                | 2   | $\chi^2_{\text{tabulated(at 5\% degree of significant)}} = 3.841$ |
| Not insured | 58                | 3   |   |

Enough evidence is available from the above analysis to reject the null-hypothesis thus it can be inferred that there is no impact of owing health insurance on perception of patients' of private hospitals.

$H_o$  = There is no impact of owing health insurance on perception of patients' of public hospitals.

$H_a$  = There is a impact of owing health insurance on perception of patients' of public hospitals.

**Table-5: Test Result of Perception from Public Hospitals**

|             | Public Hospitals |     | $\chi^2_{\text{calculated}} = 0.0435$                             |
|-------------|------------------|-----|---|
|             | High             | Low |   |
| Insured     | 51               | 38  | $\chi^2_{\text{tabulated(at 5\% degree of significant)}} = 3.841$ |
| Not insured | 36               | 25  |   |

Enough evidence is available from the above analysis to reject the null-hypothesis thus it can be inferred that there is no impact of owing health insurance on perception of patients' of public hospitals.

**Factor Analysis:** it is primarily used for data reduction and summarization. With the help of factor analysis, the relationship among various interrelated variables is examined. The approach used in the factor analysis is "Principle Component Analysis". It determines the minimum number of factors that will

account for maximum variance in the data for use in subsequent multivariate analysis. It is a method of factor rotation that minimizes the numbers of variables with high loading on a factor, thereby enhancing the interpretability of the factors.

The result of factor analysis over 26 variables showed that there were 6 key factors, which were determined by clubbing the similar variables which majorly consider being most influencing factors for influencing service quality of a Hospital.

The table below shows the respective percentage of variance of all these factors derived from factor analysis.

It is observed from analysis that only 6 factors have Eigen value more than one, so

accordingly we proceeded with these factors. The total variance explained by the factors were 13.482%, 13.040%, 12.210%, 10.593%, 9.966% and 5.556% of variance, whereas the cumulative variance explained by all these factors is 64.848%.

**Interpretation:** Table shows each statement corresponding to the highlighted factor loading which is correlated with the factors corresponding to that factor loading. Higher the factor loading, stronger is the correlation between the factors and statement. On the basis of rotated component matrix the factor extraction table has been prepared which is as under.

Factor Extraction Table given below shows the variables in each factor corresponding to the loading and percentage of variance.

**Table-6: Test result of perception from Public Hospitals**

| <b>Factors</b>                              | <b>% of variance</b> | <b>Loading</b> |
|---|----------------------|----------------|
| <b>F1(Tangibility)</b>                      | 13.482               |                |
| Modern Equipment.                           |                      | 0.798          |
| Physical facilities.                        |                      | 0.865          |
| Neat appearance of Personnel                |                      | 0.793          |
| Clean and comfortable area.                 | 0.747                |                |
| <b>F2(Responsiveness)</b>                   | 13.041               |                |
| Follow the appointment time                 |                      | 0.61           |
| Shows a sincere interest in solving problem |                      | 0.522          |
| Assist in a reasonable amount of time.      |                      | 0.688          |
| Provides accurate lab reports.              |                      | 0.632          |
| Gives you prompt service.                   | 0.661                |                |

|   |        |   |
|---|--------|---|
| <b>F3(Reliability)</b><br>Provides its services at the time it promises.<br>Tell exactly when services will be performed.<br>Staff always willing to help you.<br>Always ready to respond<br>feel safe and secure with the parking                        | 12.21  | 0.629<br>0.74<br>0.653<br>0.66<br>0.6     |
| <b>F4(Assurance)</b><br>Behavior of staff build confidence<br>Timings are according to the requirement.<br>operating hours are convenient<br>Hospital personnel give personal attention.<br>Personnel understand your specific needs.                     | 10.593 | 0.554<br>0.745<br>0.647<br>0.629<br>0.409 |
| <b>F5(Communication)</b><br>Specialists convince you<br>staff consistently courteous<br>Feel safe and secure dealings with the hospital<br>Hospital Personnel have knowledge to answer questions.<br>Have good interpersonal communication with patients. | 9.966  | 0.707<br>0.574<br>0.477<br>0.66<br>0.48   |
| <b>F6(Value)</b><br>Cost is reasonable.<br>Hospital has your best interests at heart  | 5.556  | 0.796<br>0.558                            |

**Conclusion:**

It is clear from the SERVQUAL results that there is a gap between the perception of patients of public and private hospitals in the city of Udaipur. A lot of criticism, over a number of issues, has been published about the SERVQUAL instrument but clearly this instrument does identify and has identified weaknesses in hospital services.

The high competition in the health care sector in domestic market leads us to realize that public hospitals need to improve their service quality. To develop and to maintain the hospital image, the hospital staff must rely on

the experience attributable to competence at work.

Though the public sector hospitals have the best manpower in terms of qualified doctors and personnel, still they are less responsive and do not have adequate infrastructure, will power and man power. The private hospitals cater to personal attention, personal care and with good infrastructure and high will power to serve the patient. The private hospitals are able to attract the patients as they have high perception about their quality. The perception of patient's changes as per the ownership of hospitals & income do not have significant impact on patient's perceptions.

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