

# Impact of Process Improvement on Customer Satisfaction

## Case of Healthcare Sector

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**Abstract:-** The interest for the patients' needs, the quality of the services offered and the satisfaction level from healthcare is increasing during the last decade. The measurement and the evaluation of patient satisfaction is a milestone for the improvement of the services provided, given that these results can provide a useful variety of information and data.

Indian Healthcare industry has become one of the biggest industries in India, both in regards of overall revenue and number of employments. Healthcare Industry consists various medical clinics/hospitals, medical equipment/devices, medical trials, outsourcing in the industry, medical tourism, telemedicine, health care coverage-insurance. The healthcare industry in India is developing at a rapid pace because of the increasing services, benefits provided and expenditure by various players- private as well as public players, involved in this industry. In the context of modern medicine, increasing emphasis is given to the patients' opinion on matters associated with the quality of services as well as the satisfaction level that derives from them. Both the quality and the satisfaction level measurement concerning the offered health care services are powerful evaluation tools. In a healthcare sector, patient satisfaction is an important measure of healthcare quality as it offers information on the provider's success at meeting patient's expectations and is a key determinant of patient's perspective behavioral intention. This paper aims to assess the degree of patient satisfaction with reference to some variables.

**Keywords**—Customer satisfaction; Patient Satisfaction; Healthcare; Hospital; Services; Process improvement.

### I. INTRODUCTION

This Quality of care is a dominant concept in quality assurance and quality improvement programs in the healthcare sector. The importance of quality in the healthcare sector has been recognized, but it has been accelerated over the last decade through the development of quality insurance, quality improvement programs and patients' agendas [1]. While quality of care, rather than price, is the main concern in healthcare [2], the service provider's technical competence, as

well as the immediate results, is very difficult for a patient to evaluate [3].

Rapid changing environment, increased customer expectations and employee turnover has riddled the healthcare industry with many challenges. This industry has similarities as manufacturing sector where workers from both industries are dealing with complicated processes to deliver products or service care to end consumer. There has been an increasing interest in measuring patient satisfaction levels in different countries. The worldwide interest on measuring patient satisfaction levels has been empowered by the need for evaluation and improvement on the quality of health services. [4]

The healthcare managers and medical service providers are facing challenges of delivering the healthcare services to the patients securely and safely. So, they are progressively needed to get new capabilities and skillsets to capably perform the required services and tasks. Now a days it is necessary for the medical professionals, administrators, and the service providers to make patient driven processes, giving utmost importance to the patient. The hospitals, now must understand the advantage of improving the patient services in the form of fully satisfied and faithful patients. They are needed to offer better types of assistance to customers/patients to expand the customers/patients trust and sponsorships. The capability of the medical care institutes to provide quick and compelling patient care is basic to its prosperity and success.

The quality of the services provided along with customer satisfaction are the milestones of many marketing strategies in the health care sector, as they are means for achieving a distinctive competency.[5] The concept of patient satisfaction has been presented in the international literature as a reliable index for the evaluation of health policy results; it is directly linked to the sufficient satisfaction of the general and health needs. Due to their very nature, patient satisfaction levels are difficult to measure, but nonetheless they offer multiple benefits to stakeholders. Furthermore, they may contribute to the efforts made for quality improvement. [6]

## II. LITERATURE REVIEW

Customer satisfaction is fixed with two basic ways: “either as a result or, as a process; the first way determines the satisfaction as a final situation or as a result of experience of consumption or use of product or service”. Customer satisfaction is a multidimensional construct and it can be defined from various perceptions including while consuming a product/service and if it reached, exceeded or underperformed the expectations the customer had about it, prior to its use. In general, the most popular definitions of customer satisfaction is based on meeting customer’s expectations.

Health care industry has been one of the fastest growing industries in the service sector over the last two decades.[7] Buyers of health care services are better educated and more aware than in the past. They know exactly what they need. They carefully monitor and study the health care options available to them.[8]

Different researchers have measured the customer satisfaction under varied environments. The health care organizations need to know how satisfied their patients’ are in order that their need are translated into parts of their strategy. Andaleeb (1998) stated that “hospitals that fail to understand the importance of delivering customer satisfaction may be inviting possible extinction”. This statement identifies the need for a customer oriented strategy that may lead a health care organization to gain a competitive advantage. Patients, in general, receive various services of medical care and judge the quality of services delivered to them. [9] Patient satisfaction leads to favorable results, such as higher rates of patient retention, positive word of mouth and higher profits in the health care sector. [10,11]

A comparative study of patient satisfaction was conducted between Japan and the United States, where measurement of patients’ satisfaction from medical care in general analyzed providers’ technical skills and competence, nurse’s technical skills and competence, amount of time spent with provider, provider’s explanations to patients concerning their condition and the prescribed drugs, courtesy and consideration show by provider, medical care received, care received from nurses and, the waiting time to see provider form at clinic. [12]

The current models that are being used in different industries like manufacturing, logistics and transportation cannot be used directly into the healthcare industry, and it will not be easy to modify these models to fit directly into the healthcare industry. So, the new models will be required to address the specific issues effectively and efficiently, that encounter in the healthcare environment. Investments in the EMR (Electronic medical record) and HIT (Health information technology) infrastructure could be one of the keys to improving quality and efficiency as suggested by many experts. Whereas data is necessary for the successful usage and calibration of these models or technology. So analytical tools will be needed to convert this data into the information, and then to convert this smart information to the smart decision. [13]

In the absence of a solid conceptual basis and consistent measurement tool for consumer satisfaction, there has been a proliferation of surveys over the past ten years, that focus exclusively on patient experience, i.e., aspects of the care experience such as waiting times, the quality of basic amenities, and communication with healthcare providers, all of which help identify tangible priorities for quality improvement [14]. Some researchers have suggested that defining quality improvement from patients’ perspective provides better value for their money with improved safety, accessibility, equity, and comprehensiveness of care, while from a provider’s point of view, quality improvement may be more efficient, providing more effective services to a greater number of consumers with a reasonable level of satisfaction, with the latter being enough for customer retention [15].

Numerous examinations have shown the immediate effect of the service quality factor on the satisfaction of the patients that is, if these variables/factors (communication, discipline, responsiveness, assurance) are completely satisfied and as per the requirements of the customers/patients then they will be completely satisfied from the quality service provided by the hospitals. It is the regular procedure in the public healthcare units that when any patient comes/visit the hospital, then he/she compulsorily requires to fill numerous requisite forms. Nobody will attend the incoming patient until and unless he/she has filled the form and is officially admitted in the hospital. Additionally, it has been seen that when patient calls nursing staff, they usually come as per to their will, by not thinking about the problems of the patients. For a rapid recuperation of patients in hospital, it is the duty of nursing staff at healthcare units to assist and help patients and to offer them a prompt customer services. If the nursing staff is receptive to the patient requirements and react to them promptly when asked for, then the overall level of satisfaction will enhance and improve. Higher level of patient’s satisfaction can be accomplished when the doctors and nursing staff keep wellbeing and the best interests of the patients at a core.[16]

With the expanding corporatization of hospital and healthcare segment, financial/monetary stableness and the sustainability of hospitals are the main things to address. Additionally, the public sector/government healthcare units are battling for assets, funds and the operating proficiency required to be derived. The usage of these assets/funds is depending upon the medical officers appointed by the state government, who are unfit for handling and improperly prepared. Low quality and imperfections in the healthcare units’ operations and the pointless waiting in the queue for certain services, emphatically influences the impressions of hospital patients.[17]

In order to gain competitive advantage in the market and as the number of health care organizations increases, competition becomes tough and maintaining service quality levels becomes imperative because delivering quality service directly affects the customer satisfaction. [18] Customer based determinants and perceptions of service quality play an important role when choosing health care organizations. [19] Service quality from the patients’ perspective needs to be routinely monitored and assessed.[20]

One of the principal goals of the healthcare institute is to give sufficient service and treatment to its customer/patients. The main product of the healthcare institutes is the surgical, nursing, and medical services for the patients and its focal responsibility is the health and life of the patient. They require to grow a much better understanding of this patient-hospital relationship and set up a long-haul patient-hospital bond. The healthcare organizations endeavor to assess or quantify the patient satisfaction and relationship offers number of monetary and economic benefits like customer retention, sustaining competitive pressures, reducing patient outflow to other competitors, bringing in new clients/customers through reference/referrals from other patients. Hospitals ought to be capable of meeting all the requirements and expectations of the customers/patients which may include physical, spiritual attention to the need and necessities of the customer/patient. In general, patients develop a sense of loyalty towards the healthcare provider depending upon the experience during the visit to the hospital. Their conversation and interaction with the staff, doctors, nursing professionals, even cleaners, guards, receptionists handling final bills make a huge factor in forming impression of the healthcare institute during their visit or stay. The degree of fulfilment and received service quality makes an impact on the patient's readiness to visit again the specific healthcare unit. Quality of the service provided to the patient has consistently been one of the major components in the hospital performance.

### III. LIVE CASE

A live application of measuring patient satisfaction was done in the healthcare sector. The case study company was a hospital and research institute with a multi-specialty clinic and 15 super specialty critical services.

The hospital served neighborhood patients but also was a center to provide advanced, affordable, and fair medical care services to the general population at large. The hospital also organized different camps across different parts of the district in which the agenda was to provide the medical services to the maximum regions of the society.

The study was conducted among patients visiting the outpatient department (OPD) of the hospital. A patient attending the OPD having age above 18 years was included in the study after taking informed consent. Patients with serious physical or mental pathologies, such as terminal disease and psychosis were excluded from the study. Patients who were included were done so by using systematic random sampling to ensure maximum variability.

A predesigned questionnaire was used for the study and the patient responses were tabulated on a 5-point Likert rating scale. The rating of the various factors was done as following, 5= Strongly agree/Highly Satisfied, 4= Agree/satisfied, 3= Neutral, 2= Disagree/Unsatisfied, 1= Strongly disagree/Highly Unsatisfied.

The variables under consideration basis the literature review was as follows:

Variable 1: Service Quality

Variable 2: OPD Process

Variable 3: Discharge Process

Variable 4: Infrastructure

Basis the variables, the Hypothesis was formulated as below:

- Hypothesis 1:

H0: There is no significant relationship between the service quality and overall customer satisfaction.

H1: There is a significant relationship between the service quality and overall customer satisfaction.

- Hypothesis 2:

H0: There is no significant relationship between smooth discharge process and overall customer satisfaction.

H1: There is a significant relationship between smooth discharge process and overall customer satisfaction

- Hypothesis 3:

H0: There is no significant relationship between OPD appointments scheduling and overall customer satisfaction.

H1: There is significant relationship between the OPD appointments scheduling and overall customer satisfaction.

- Hypothesis 4:

H0: There is no significant relationship between the infrastructure and overall customer satisfaction.

H1: There is a significant relationship between the infrastructure and overall customer satisfaction.

We received responses from 90 OPD patients, out of which 54% were male patients and 45% were female patients.

Reliability is to maintain the constancy and uniformity of the outcomes got from the analysis utilized in the project. Reliability is accomplished when a similar examination measure is redone, and it replicates results inside the expressed certainty limits. The reliability of a research is fulfilling if another research scholar can lead the similar experiment/research and makes the similar determinations. This has to do with the capability of an analysis findings to duplicate itself if a similar research/project is directed.[21]

Accordingly, to guarantee the findings of this project the Cronbach Alpha was utilized to test the reliability of inquiries done or questions asked for the project. The outcome from the analysis test shows Cronbach Alpha to be 0.8832, which is above the required 0.7 mark. This is an acceptable level.

Basis the four variables selected for the study; the overall survey responses through various questions checked how the patient's viewed the impact of these variables on their satisfaction with the hospital. The results were as follows:

Variable 1: Service Qualit

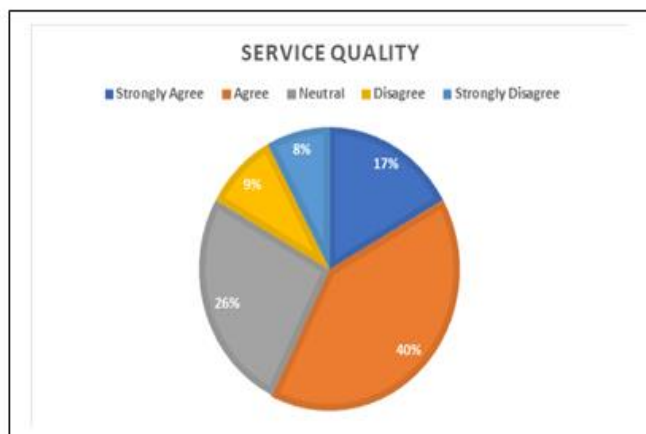


Fig.1. Service Quality Impact

Variable 2: OPD Process

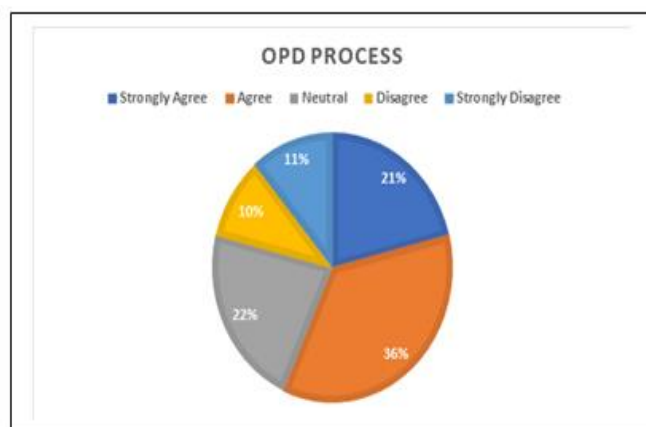


Fig.2. OPD Process Impact

Variable 3: Discharge Process

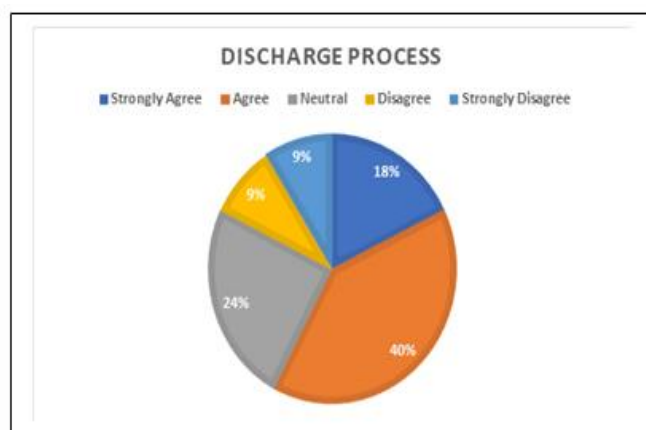


Fig.3. Discharge Process Impact

Variable 4: Infrastructure

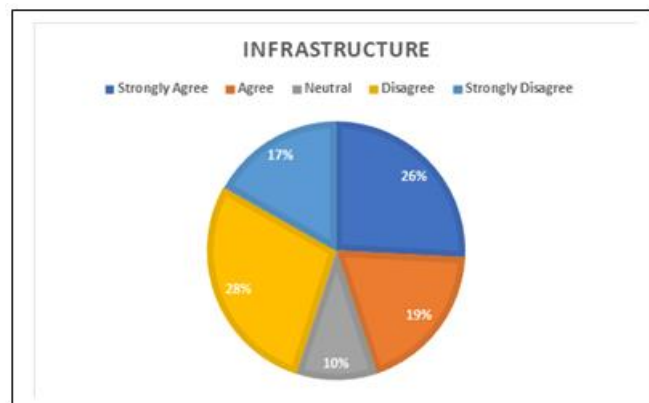


Fig.4. Infrastructure Impact

Further descriptive statistics, correlation and regression was carried out on the data collected.

The results are shared in the table above.

Correlation coefficient results shows that all the factors such as service quality, Infrastructure, OPD process and discharge process are positively correlated. However, except relationship of Infrastructure management and the overall satisfaction of the patients in the hospital, all correlations are significant.

From all the factors/constructs only service quality, OPD process and Discharge process has a significant relationship with the dependent variable that is patients' satisfaction as all these factors/constructs are having p values less than 0.05. Service quality is having  $p=0.0035$  which is less than 0.05, OPD process is having  $p= 0.000003$  and Discharge process is also having the  $P<0.05$ .

Based on the results, only hypothesis H1, H3 and H4 are accepted and Hypothesis H2 is rejected.

IV. CONCLUSION

The live case study is an attempt by the researchers to demonstrate the impact of various factors on the overall customer/patients' satisfaction in the particular case study of

Hospital. Hospital officials and managers should see customer/patients' satisfaction studies as a system to understand and learn the assumptions and views of the patients regarding the healthcare service. It ought to be seen as an effective management tool to expand the patients' loyalty and increase the hospital's working performance. This is necessary in certain scenarios, as some new corporate companies both Indian as well as international are working hard to pull in more patients. The way the hospitals become more successful relies on how capably it competes with other rival hospitals. They unquestionably need to vie for patients' satisfaction to pull in more patients. So, the patient / customer centric developments are acquiring more strength in the medical care.

This study was an initial attempt to study the case of patient satisfaction in this domain and hence it is worth to further evaluate the construction of the satisfaction index. Possible changes and errors in the way the patient interpreted the questions could lead to limitations of the study and influence the satisfaction index. Therefore, further research could focus on a country-level analysis, different categories of hospitals and also take into consideration omitted factors, to evaluate the satisfaction index further.

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