Antecedents and Consequences of Hospital Service Quality – A Conceptual Model

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Abstract

The main objective of this paper is to identify the factors underlying service quality and the outcomes of service quality management in hospital setting. This is a qualitative work which involves critical analysis of existing literature on hospital service quality. This paper has proposed a conceptual model to show the antecedents and consequences of hospital service quality. According to the model quality of structure, quality of process, and quality of outcome are the three major factors underlying hospital service quality which leads to patient satisfaction which in turn helps a firm achieve competitive advantage through repeat buying, higher prices, loyalty in crisis, word-of-mouth, one-stop shopping, and new product development.

Keywords: *Hospital, Service quality, Patient satisfaction, Competitive advantage*

I. INTRODUCTION

The total health expenditure in India constitutes 4.1% of the GDP (Planning Commission February, 2017). According to Indian Brand Equity Foundation (IBEF) September, 2016 report, the Indian healthcare industry is expected to record a compound annual growth rate (CAGR) of 16.5% to touch a market size of USD160 billion by 2017 and USD280 billion by 2020. According to the same report, hospitals account for major share of about 71% of the total healthcare revenue in India. Some of the key trends observed in the Indian healthcare industry are: gradual shift from communicable to lifestyle diseases, expansion of private healthcare facility to tier-II and tier-III cities, emergence of telemedicine, increasing penetration of health insurance, and mobile based health delivery. These factors combined with increased level of consumer income and awareness has led to higher importanceon quality of services in hospitals.Due to increased importance on quality, hospitals are spending huge on appointing trained professionals like quality managers, patient relation executives and also on getting accreditation from accreditation agencies like National Accreditation Board for Hospitals & Healthcare Providers (NABH), International Organization for Standardization (ISO), and National Accreditation Board for Testing and Calibration Laboratories (NABL) etc. This article emphasizes on the underlying factors that are responsible for determining the quality of service in a hospital which in turn results in patient satisfaction that is essential for differentiating from competitors.

II. LITERATURE REVIEW

A. *Factors Determining Hospital Service Quality*

International Organization for Standardization (ISO 8402) defines quality of service as "the totality of features and characteristics of a service that bear on its ability to satisfy the stated and implied needs of patients". Bitner and Hubbert (1994) defined service quality as the consumer's overall impression of the relative inferiority or superiority of the organization and its services.Health care is a process, whose quality can be defined through the quality of production and quality of output (Brent and James, 1989). Quality of production refers to the processes followed to deliver the health service. The quality of output refers to an individual's evaluation or judgment based on perception of some set of attributes of the outcome from the health service. It is a relative term and assessed by comparing to other similar items or events. Quality is thus a perception that is based on an individual's valuesystem.

According to Donabedian (1980), quality of care consists of three major underlying dimensions such as structure, process, and outcome. Quality of structure refers to the condition of physical environment, infrastructure, resources, and facilities in a healthcare organization. Quality of process refers to the operational activities and interactions in the delivery of medical services to patients. Quality of outcome refers to the end result of the process such as effectiveness of medical services in curing illness. Thus, it can be inferred that structure provides the platform for service delivery through processes leading to desired outcomes.

Hospital service quality consists of two broad components such as 'Technical quality' and 'Functional

quality (Anderson and Zwelling, 1996). Technical quality can be expressed in terms of what service is delivered and functional quality can be expressed in terms of how the service is delivered (Gronroos, 2001). Technical quality refers to the quality of the service product, whereas functional quality refers to the quality of the manner in which service is delivered. Technical quality includes the core service that is the treatment for which a patient goes to a health care service provider and its indicators are mostly quantitative in nature such as length of stay, rate of infection, number of diagnostic tests performed, rate of getting the successful outcome of treatment etc. The indicators of functional quality are mostly qualitative in nature such as attitude of hospital staff, cleanliness of the facility, quality of food, patient safety, waiting time etc.

Parasuraman et *al.* (1988) introduced the most famous five underlying factors of service quality such as tangibility, reliability, assurance, empathy, and responsiveness. Tangibility refers to the infrastructure, and physical facility of the service provider. Reliability refers to delivery of service accurately and dependably as promised. Assurance refers to the knowledge and expertise of employees involved in service delivery. Empathy refers to the caring and individualized attention of a firm provides to its customers.Responsiveness refers to the willingness of employees to listen to customers and help them solve problems.Many researchers like Anderson and Zwelling (1996), Wong (2002), Sohail (2003), Doran and Smith (2004), John et al. (2011), Singh (2013) have implemented these five factors to determine standard of service quality in hospitals.

Arasli et *al.* (2008) identified six underlying factors of hospital service quality such as empathy, relationship, giving priority to inpatients' needs, professionalism of staff, food, and physical environment. 'Empathy' measures parameters like doctors' attempt to make patients comfortable, doctors and nurses spending extra time with patients, giving choices while deciding treatment plan, and patients' involvement planning of medical treatment. 'Relationships' measures parameters like kind and gentle attitude of nurses, taking consent before performing any diagnostic test, maintaining patients' privacy, dissemination of information about rules and regulations in the ward, respect and dignity to patients and providing explanation for tests and procedures to be performed. 'Giving priority to inpatients' needs' measures parameters like courteous attitude of doctors, respect to patients, level of trust in doctors, importance given to patient's personal concerns, and capability of doctors to perform tests and procedures. 'Professionalism of staff' measures parameters like frank and politeness of doctors, conducting tests carefully, simplicity of medical advice that a patient can understand, and patient's clear understanding about his health condition. 'Food' measures parameters like adequacy of quantity, presentation of meal, temperature at which meal is served, availability of choices, and cleaning of plates after taking meal. 'Physical environment' measures parameters like level of comfort, cleanliness, ventilation, noise, decoration in the wards.

Mahapatra (2013) identified seven underlying factors of hospital service quality such as tangibility, reliability, assurance, responsiveness, empathy, accessibility, and affordability. This study measured the gaps in service quality and determined the ability of these gap scores to predict patients' preference for private or public hospital for medical services. Sower et *al.* (2001) determined eight dominant factors or dimensions of hospital service quality namely, respect & caring, effectiveness & continuity, appropriateness, information, efficiency, effectiveness & meals, first impression, and staff diversity.

Mejabi and Olujide (2008) determined eight dimensions that determine hospital service quality namely, resource availability, quality of care, condition of clinic/ward, condition of facility, quality of food, attitude of doctors/nurses, attitude of non-medical staff, and waiting time for service. 'Resource availability' refers to availability of doctors, nurses, drugs, diagnostic facility, and emergency services. 'Quality of care' refers to explanation of problem, solution to problem, clarity of prescription, and promptness of response. 'Condition of clinic/ward refers to cleanliness, adequacy of illumination, level of ventilation, adequacy of water supply, and aesthetics. 'Condition of facility' refers to clarity of directions/signages, ease of movement, cleanliness of hospital environment, and aesthetics. 'Quality of food' refers to taste, adequacy, and variety of meals served. 'Attitude of doctors/nurses' refers to empathy, politeness shown by doctors and nurses to patients. 'Attitude of non-medical staff' refers to empathy, politeness shown by potters, orderlies, and medical record staffs to patients. 'Waiting time for service' refers to the amount of time required to see doctor, collect medicines, make payments, get results/reports of diagnostic tests like X-ray, ultrasound and laboratory tests.Duggirala et *al.* (2008) identified seven dimensions those determine hospital service quality namely; infrastructure, personnel quality, process of clinical care, administrative procedures, safety indicators, social responsibility and overall experience of medical care received.

Padma et *al.* (2009) proposed eight factors determining hospital service quality. These factors are infrastructure, personnel quality, process of clinical care, administrative procedures, safety indicators, corporate image, social responsibility, and trustworthiness of the hospital. 'Infrastructure' includes the tangible features of service delivery which refers to appearance of facility, signage, availability of resources etc. It is also referred to as man-made physical environment or servicescape. 'Personnel quality' refers to quality of all the personnel involved in service delivery process. It consists of all the interactions between service personnel and patients including moments of truth, critical incidents, and service recovery etc. 'Process of clinical care' refers to the core service or primary service or technical quality of the hospital service. It explains the width and depth of services offered by hospital. 'Administrative procedures' include the process of admission, stay and discharge of patients. This dimension evaluates the ease of getting appointments, ambulance services, simplicity of admission and discharge etc. 'Safety indicators' includes parameters like adequacy of hygienic care and procedures, response to allergic reactions, and presence of safety or comfort measures like handrails in aisles, ramps for wheel chair etc. 'Hospital image' refers to the reputation of a hospital. 'Social responsibility' of a hospital addresses parameters like fair medical treatment, provision of services at nominal cost to the needy patients, and ethical principles followed by the hospital. 'Trustworthiness of the hospital' measures the sense of well-being of a patient in the hospital. It evaluates the parameters such as the level of confidence in doctors, accuracy and reliability of billing system, providing services as promised, maintenance of privacy and confidentiality of patient.

B. Impact of Service Quality on Patient Satisfaction:

Wong (2002) established the ability of five underlying factors of service quality (tangibility, reliability, empathy, assurance, and responsiveness) to predict overall patient satisfaction. Further, higher correlation coefficient values for responsiveness, assurance, and empathy indicated these three dimensions to be better predictor of overall service satisfaction. Dagger et *al.* (2007) investigated and validated a model to establish the impact of service quality on patient satisfaction which in turn impacts their behavioral intention. This model also established the direct relationship between service quality and patients' behavioral intention. Results of regression analysis indicated that patients' perception of service quality had a significant impact on their satisfaction with respect to the healthcare service delivery. Results also confirmed significant impact of service quality on behavioral intentions as well as significant impact of service satisfaction on behavioral intentions. Duggirala et *al.* (2008) established the seven underlying factors of patient perceived total quality service in healthcare as significant predictors of overall patient satisfaction with healthcare received. Padma et *al.* (2009) proposed a conceptual model showing a direct relationship between the eight underlying factors of hospital service quality, patient satisfaction and their behavioral intention.

C. Patient Satisfaction and Competitive Advantage

According to Seth (1991), customer satisfaction can help a firm achieve competitive advantage in six different ways. (a) Economy of scale resulting from higher order volume due to repeat buying. (b) Higher prices commanded due to differentiation that can be created through product excellence, service excellence, brand reputation, and customer centric culture. (c) Satisfied customers provide protection to a firm in a crisis situation as they assist in its survival and act as the best source of insulation. (d) Product diversification growth through one-stop-shopping which is preferred by satisfied customers due to convenience and discounted price. (e) New market growth through word-of-mouth spread by satisfied customers that reduces the economic risk, reliability risk, social risk, and safety risk associated with purchase of products or services. (f) New product innovations can arise from open communication and exchange of experiences related to the use of products/services by satisfied customers. Thus, it has become imperative for hospitals to create patient satisfaction through effective management of service quality. Since it is not only important to achieve competitive advantage, but also to maintain the same for longer period of time to excel in an industry, hospitals should focus on continuous measurement and improvement in service quality that results in higher level of patient satisfaction.

III. THE CONCEPTUAL MODEL

Based on the review of litareture, this article has proposed a conceptual model (shown in figure 1) showing the antecedents and consequences of hospital service quality. According to this model hospital service quality has three major underlying factors such as quality of structure, quality of process and quality of outcome. These three factors determine the quality of service in a hospital. There is a direct relationship between hospital service quality and patient satisfaction. Better the quality of service delivery higher is the level of patient satisfaction in a hospital. According to the model patient satisfaction helps a hospital achieving competitive advantage through six

ways such as repeat buying, higher prices, loyalty in crisis, word-of-mouth, one-stop shopping, and new product development.

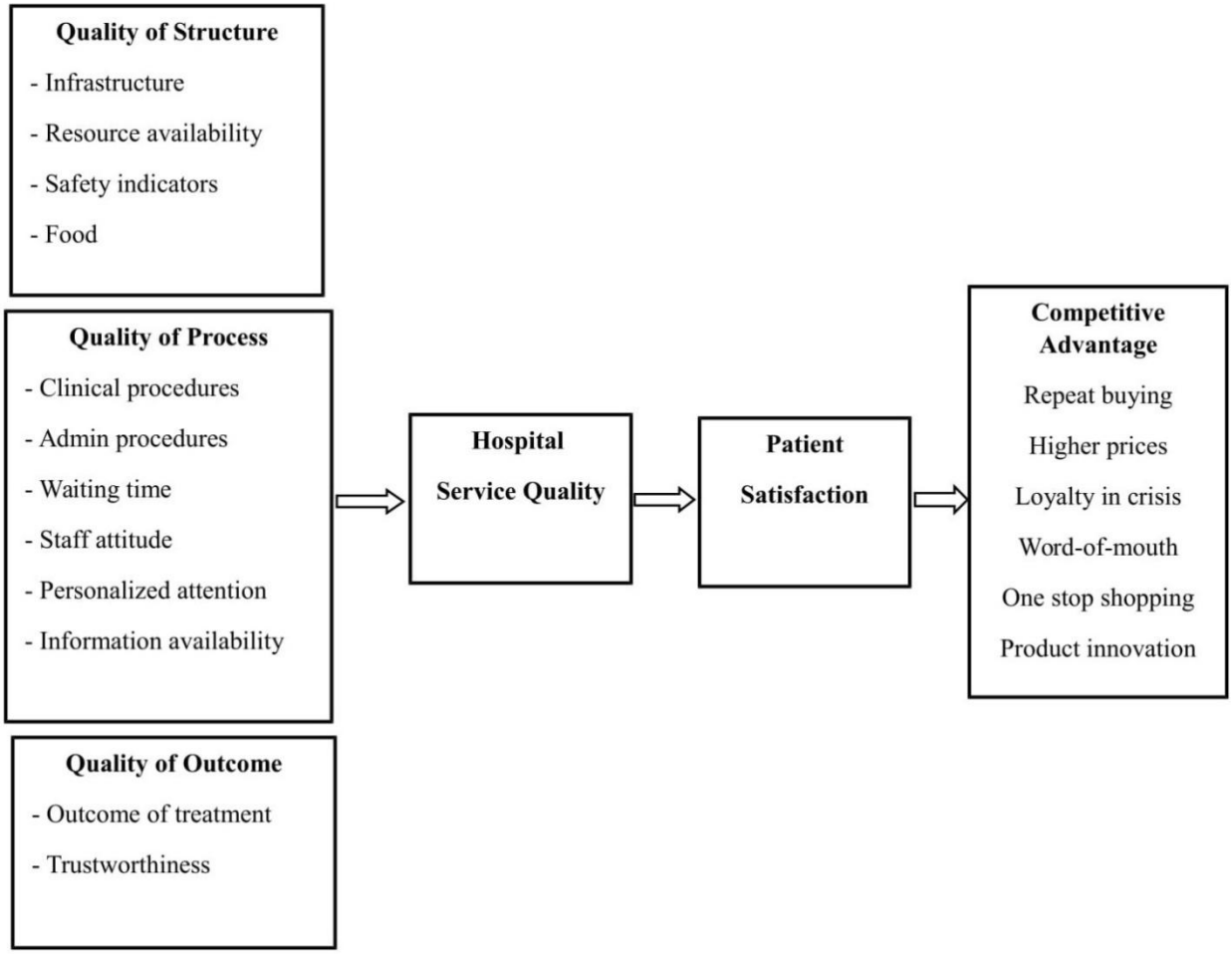

Fig 1: Conceptual model for antecedents and Consequences of Hospital Service Quality

Quality of structure further consists of four sub-dimensionslike infrastructure, resource availability, safety indicators, and food. 'Infrastructure' refers to the parameters like cleanliness, ambience, comfort, and presence of directional signage in a hospital. 'Resource availability' refers to parameters like availability of doctors, nurses, ambulance, drugs, blood, and equipment in a hospital. 'Safety indicators' refers to parameters like hygienic procedures, infection prevention, safety from theft of personal belongings, and measures to prevent patients' fall. 'Food' refers to the quality, taste, quantity, and timeliness of food served during hospital stay.

Quality of process further consists of six sub-dimensions like clinical procedures, administrative procedures, waiting time, staff attitude, personalized attention, and information availability. 'Clinical procedures' refers to parameters like performance of adequate number of diagnostic tests, proper physical examination by consulting doctors, preoperative and postoperative advice given by doctors. 'Administrative procedures' refers to parameters like the process of admission, bed allocation, maintenance of medical record, and discharge from a hospital. Waiting time refers to parameters like time required to get appointment, get diagnostic test reports, and to meet the doctors. 'Staff attitude' refers to parameters like willingness of hospital staff to help patients, and quick response to solve queries of patients. 'Personalized attention' refers to parameters like treating patients as human beings with respect, and providing individual attention with patients' best interest at heart. 'Information availability' refers to parameters like providing information to patients regarding their health condition, treatment and diagnostic procedures to be conducted, and cost involved in the treatment process.

Quality of outcome further consists of two sub-dimensions like outcome of treatment, and trustworthiness or hospital image. 'Outcome of treatment' refers to effectiveness of the treatment in curing patients' illness. 'Trustworthiness or Hospital image' refers to assurance of patients related to skill and expertise of doctors, and their ability to handle treatment process efficiently.

IV. CONCLUSION

The research paper has identified three major factors such as quality of structure, quality of process, and quality of outcome those are mainly responsible for overall quality of service delivery in a hospital. The sub-dimension under these three major factors will help healthcare managers to identify the factors or elements in a healthcare service that are responsible for creating patient satisfaction which is essential for a hospital to achieve competitive advantage. The proposed model indicates a direct relationship between hospital service quality, patient satisfaction and competitive advantage.

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