Patient-centric quality assessment framework for healthcare services

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ABSTRACT

In this study we propose a quality assessment framework for healthcare services. The proposed assessment framework is patient centric as it is based on patient expectations and perceived quality of service through their personal experience with the healthcare provider, across the various touchpoints during patient care. The framework generates a quality score which is a measure of the degree to which the patient's expectations were met or exceeded. We model the patient's perceived experiential value as a combination of extrinsic and intrinsic values. The extrinsic value includes the functional or utilitarian value, and to some extent, the social value. The intrinsic value includes emotional, epistemic and intrinsic social value. Using this generic framework for healthcare providers, and using a computerized system, appropriate instruments, rubrics or metrics can be designed for specific types of healthcare services. We show how this framework can be utilized for creating an assessment instrument for a specific healthcare facility in Korea – the Childhood Asthma Atopy Center in a general hospital located in Korea.

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1. Introduction

It is imperative for all types of service providers, including healthcare providers to provide high-quality service to their customers, and to engage in continuous improvement efforts, to stay competitive. Such efforts require effective quality assessment instruments to help the service providers assess their own service quality and to identify areas for improvement. In developed nations, such as the European Union, services contribute 62% of the GDP whereas the traditional industry and agriculture contribute the remaining 38%. Further, services are being offered across national borders and in order to stay competitive, they must focus on quality (Blind and Hipp, 2003). Traditionally, service quality was evaluated on transaction based attributes such as price and outcome. More recently, quality assessment of services has been based on customer experience. As a result, over the last 25 years or so, there has been a stream of research on customer experience management (CEM) in service delivery systems. The term "quality" is difficult to define precisely and many definitions of "quality" are found in the literature. For the purposes of this paper, we use a customer-centric definition of quality, proposed by Deming (1993) as the degree to which customer's expectations are met or exceeded. The "customer experience" alluded to in the CEM literature goes beyond simply customer satisfaction; it

encompasses a holistic experience which includes emotional, social and personal fulfillment during the various touchpoints involved in a service (Gentile et al., 2007). Healthcare services distinguish themselves from other types of services such as insurance, financial, hospitality, entertainment and other services in many ways. For example, (i) they involve a high degree of personalized or individualized interactions with the customer (patient), (ii) there are many touchpoints from start to finish and (iii) in addition to the patient, the patient's loved ones are also involved at an emotional level when receiving the services. Due to these differences, patient experience involves some emotional and social dimensions that may not be so critical in assessing the quality in other types of services. It is therefore critical that the quality assessment framework for healthcare services take into account these unique dimensions in assessing quality. While there is vast amount of literature on CEM in services in general, literature on CEM in healthcare services is somewhat sparse. This paper attempts to fill that gap. In this paper, we propose a patient-centric quality assessment framework especially designed for healthcare providers. Using the framework, a comprehensive quality score is generated which represents the degree to which the patient's expectations are met at all the touchpoints. This generic framework for healthcare providers can be used to build appropriate instruments, rubrics or metrics for assessing specific types of healthcare services, such as dental, surgical, outpatient, emergency care etc.

The patient perceives value on two dimensions, namely, extrinsic and intrinsic. The extrinsic value is derived from (i) utilitarian or functional value, such as how effective the treatment was, how clean

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the facilities were, etc. and (ii) extrinsic social value, such as how pleasant the personnel interactions were. The intrinsic value is derived from (i) emotional value, such as empathy received from health personnel and not being ignored by the personnel, (ii) epistemic value, such as whether the patient's belief systems were honored and (iii) intrinsic social value such as being treated respectfully. It is important for an effective quality assessment framework to include all these value themes.

The contribution of this paper is a proposed generic patient-centric framework for assessing the quality of healthcare services that captures and compares the patient's expected and perceived quality on many dimensions, some of which are unique to health services, across all the touchpoints or stages during the service. It generates a quality score which is a measure of the degree to which the patient's expectations were met or exceeded. To the best of our knowledge, no existing framework provides such a comprehensive quality assessment from the patient's perspective.

In the next section, we will describe the relevant literature in customer experience management in service delivery and assessment frameworks. In Section 3, we will describe our framework and the instruments that can be derived from such a framework. Section 4 demonstrates an example of the application of the proposed framework in developing a quality assessment instrument for a specific healthcare service at a particular hospital in Korea. Sections 5 and 6 include discussion and conclusions respectively.

2. Background and literature

Within the broad area of service quality assessment, there is significant amount of literature; not all of it is relevant to healthcare services. The key idea in the literature over the past twenty five years has been that assessment of service quality has transitioned from the traditional transactional approach to a customer experience centric approach, giving rise to the term customer experience management (CEM). Hirschman and Holbrook (1982) in their seminal paper on CEM talked about moving away from a rational consumer perspective to an irrational consumer perspective. The rational consumer was engaged in information processing to evaluate utility whereas the irrational consumer relies on experiential value that relates to multisensory, fantasy and emotive aspects of experience. As mentioned before, Deming (1993) has proposed a customer-centric definition of quality as the degree to which the customer's expectations are met or exceeded. Many more studies, since Hirschman and Holbrook (1982) have underscored this customer centric value theme. For example, LaSalle and Britton (2003) explained that the customer experience is strictly personal and implies customer's involvement at different levels such as rational, emotional, sensorial physical and spiritual. Gentile et al. (2007) claimed that customer experience depends largely upon the relationship developed between the service provider and the customer. Tynan and Mckechnie (2009) reviewed the literature on experience marketing and pointed the wide gap between academia and practice. They also stressed that the customer is the final and only arbiter of value and that the service provider must be flexible and responsive to the customer needs. Torres et al. (2014) said that these new approaches enable development of emotional relationships between customers and service provider, thereby enhancing positive customer experience which reflects positively on the service provider. Won (2015) has classified customer experience attributes based on interaction, responsiveness, and expandability and stressed that the strategies of the future must weigh heavily on overall customer experience of the services received and the responsiveness of the service provider rather than on just the effectiveness of the treatment. Osei-Frimpong et al. (2016) point out that patients these days are much more educated due to access to health related information online which allows patients to co-create value. Yeon et al. (2006) warn that new technologies should be introduced cautiously as new technologies might be viewed favorably by some customers while not so favorably by others.

When assessing the customer's experiential value it is important to identify broad value categories or dimensions and attributes within those broad value categories. For example, Hirschman and Holbrook (1982) talked about hedonic attributes that include emotions and sensory satisfaction. LaSalle and Britton (2003) also included emotional and sensory satisfaction and also added spiritual satisfaction. A popular survey instrument used to assess service quality is called SERVQUAL (Parasuraman et al., 1991) which uses the following five broad dimensions: Reliability, Assurance, Tangibles, Empathy and Responsiveness. The SERVQUAL quality model also goes by the name RATER, based on the first letter of these five dimensions. Reliability includes the competence of the service provider; Assurance includes the trustworthiness of the service provider; Tangibles include the physical facility, equipment and appearance or personnel; Empathy includes the care and individualized attention provided to the customers; Responsiveness includes willingness to help customers and provide timely service. In each category, questions can be designed specific to the service provided and customers are required to express their satisfaction on a seven-point Likert scale. The use of the SERVQUAL survey instrument has received some criticism as a valid tool for the healthcare industry as it was designed primarily for service industry in general.

A popular emerging framework for quality divides customers' experience value into extrinsic and intrinsic values (Holbrook, 1999; Kim et al., 2011; Sheth et al., 1991; Cho et al., 2010). These categories are more suitable for healthcare services as they involve emotional and social dimensions. The extrinsic value is derived from (i) functional value which captures the utilitarian aspect, i.e. how effective was the treatment provided and (ii) extrinsic social value, i.e. how friendly were the encounters with the service provider employees. The intrinsic value is derived from emotional value (active and reactive), epistemic value and intrinsic social value. Emotional value of intrinsic component is defined as utility from mood or emotional states, and such emotional value is classified into active emotion and reactive emotion (Scherer, 2004). The epistemic value is derived from customer's curiosity including knowledge, beliefs and information. Social value captures the utility recognized by one or more social groups, and exists both in both extrinsic and intrinsic components (Sheth et al., 1991; Cho et al., 2010) (See Fig. 1).

Another construct our proposed framework is built upon is the aggregation of multiple touchpoints throughout the service. A typical healthcare service is comprised of a series of service encounters or touchpoints, such as setting up appointments, reception, waiting, physician interaction, interactions with the nurse and other healthcare personnel, pharmacy, billing and other administrative personnel etc. Customers evaluate the contribution of each service encounter in the service delivery system which is made up of numerous service encounters provided by the entire organization (Zeithaml and Bitner, 2002). Rawson et al. (2013) calls the entire customer experience as an end-to-end journey and concludes that organizations that are able to skillfully manage the entire experience reap enormous rewards. Redelmeier and Kahneman (1996) have shown that the perceived pain by a patient during an exam was not so much related to the total amount of pain and duration of the exam but on the worst level of pain even though of a brief duration. Along the same lines, a negative experience at one of many touchpoints can result in an overall negative evaluation, even if all the other touchpoints resulted in a positive experience. We have incorporated this idea of end-to-end journey in our proposed assessment framework. The idea of series of touchpoints from end-to-end is explained schematically in Fig. 2. Depending on the specific type of healthcare service, the activities may be different.

We will next describe the proposed patient-centric framework.

3. Patient-centric quality assessment framework

Our proposed quality assessment framework is built upon the following key ideas:

1. Quality should be assessed in terms of meeting or exceeding customer expectations; in our case it is patient expectation, i.e., it should be