

The relationship between services quality and customer satisfaction among Jordanian healthcare sector

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ABSTRACT

The aim of this study is to investigate the effect of the application of service quality on patient satisfaction in Jordanian hospitals using the SERVQUAL model. The study uses samples from Al Hussein Military Hospital in Jordan, where 350 questionnaires were distributed to the admitted patients. The study implements structural equation modeling to examine the effects of the SERVQUAL components; namely tangible, reliable, assurance, empathy and responsiveness on customer satisfaction. The results show that quality of service dimensions affected patient satisfaction. Moreover, the SERVQUAL model also appeared as an appropriate tool for assessing the quality of hospital medical services.

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1. Introduction

Customer satisfaction can be described as the attitude or the opinion of a person concerning the services in the field of health (Sahoo & Ghosh, 2016). Therefore, it does take the cognitive and emotional aspects in consideration after going through the previous experience. Somebody has also noted that the customer's satisfaction reflects the patients' attitude in the hospital environment (Sadeh, 2017). Customer satisfaction is also an important indicator of hospital health outcomes. It has been shown that satisfaction affects the therapeutic results of the real healing process. Customer satisfaction is the feedback of health care recipients to aspects of health services according to previous experience (Alrabeah et al., 2015). The emotional response of a customer to the evaluation on the quality of the health service during health seeking experience is based on his/her basic knowledge about the healthcare services (Linqvist Leonardsen et al., 2016). Thus, the customer deserves respect and appreciation as the main focus of the organization in such a way that the health service quality of the provider can be reflected in the health-seeking behavior of the customer (Maria Stock et al., 2017). The satisfaction level of customers towards the health services provided reflects the quality of service which in turn may create loyalty among customers to the service and the place (Xesfingi & Vozikis, 2016). However, in some notions, measurement

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of satisfaction is considered only as an expression of the organization's success in meeting the needs of customers. In some studies, social and demographic characteristics, such as age and gender, have been shown to influence customer satisfaction. In general, older customers' satisfaction with health care is higher than younger customers, and satisfaction among male customers is greater than female customers (Sadeh, 2017). Customer evaluations of the quality of services provided help health care service providers to learn from their successful and failed efforts and to assess themselves when responding to the needs and requirements of customers (Sahoo & Ghosh, 2016) and can be achieved when the customer's expectations of the quality of the health service are met with the actual service given to him at the hospital (El-Tohamy et al., 2015).

Low satisfaction levels among customers are associated with lack of trust in health institutions; staff capacity in health institutions; and the replacement of healthcare providers, especially doctors (Züllich et al., 2012) and trust in health institutions (Maria Stock et al., 2017). In this study, we aim to determine the effect of quality of service on customer satisfaction as Jordanian citizens who receive healthcare from public, private and military hospitals need the best health care services. The value paid is very high. All citizens need to have health insurance to get treatment where health care can be expensive and in the absence of insurance cover, households with severe and immediate medical needs can be forced to spend a large fraction of their household budget on health care (Burhan et al., 2015). In addition, workers in the civil or military sector, around \$200-\$500 per year is deducted for health services if required (Al Sharq, 2017). Although, private sector employees obtain health insurance in any public, military or special company that provides health insurance for members of all hospitals in the Government for a total of \$400-\$600 per year. Hence the importance of customer satisfaction to hospital services is needed.

In the capital of Amman alone, there are many private hospitals very close to one another in the distance. Therefore, patients can choose between hospitals to choose an appropriate hospital without forcing them any distance from another hospital or not receiving health insurance at any hospital (Al Masry, 2017). Even for the case of people who get private insurance or want to pay cash, they can choose between hospitals, Also those with government health insurance can refuse government insurance and contract with an insurance company to get insurance at a private hospital (Ministry of Health, 2017). The choice of patients to receive treatment at a particular hospital depends on the experience of previous patients in the same hospital, the hospital's reputation and the level of quality of service provided. The hospital is interested in achieving patient needs and exceeding their expectations through high quality medical services based on the understanding of patient needs and goals. The hospital has a huge impact on financial returns, market share, reputation and general hospital effects, which are indirectly provided by patients who are loyal to the community.

2. Literature review

2.1 Customer Satisfaction

Customer satisfaction is a common term in numerous fields including marketing and finance (Fornell & Larcker, 1981; Yi & Natarajan, 2018). Customer satisfaction is referred to the application of some procedures to bridge the gap that exists between the needs and expectations of a client and available products and services (Linqvist Leonardsen et al., 2016; Sadeh, 2017; Xesfingi & Vozikis, 2016). According to Parasuraman et al. (1985), customer satisfaction results from the application of quality services. Many researchers discussed about the customer satisfaction and attempted to improve its definition. Most of them considered customer satisfaction as specific situation for the appraisal of the interpretation from customer opinion safer purchase to describe the customer's level of satisfaction (Izogo & Ogba, 2015; Yi & Natarajan, 2018)

Satisfaction influences patient recommendations positively (Dang et al., 2013; McCall et al., 2016). As stated by Swies et al. (2017), customer satisfaction refers to attaining the provision needed by the customer. Satisfaction is a situation that occurs as a result of the customer's relationship with the organization over a period of time (Izogo & Ogba, 2015). According to Maria Stock et al. (2017), satisfaction is the consumers' assessment of a product or service in respect of whether their expectations and needs are met with regards to those products or services. Satisfaction is considered as a positive and emotional state determined through the assessment of all facets of the customer's relationship with the organization (Al-Abri, R., Al-Balushi, 2014).

The major focus of an organization is customer satisfaction since it reflects the nature of services of products produced for the customers (Lagrosen & Lagrosen, 2016). Customer satisfaction is an evaluation procedure between the anticipated and the real occurrence. It is also the inspiration of the action and production procedure for the loyalty of consumer behaviour (El-Tohamy et al., 2015). Customer satisfaction refers to an accrued practice of a consumer's purchase experiences (Linqvist Leonardsen et al., 2016). For example, healthcare sector comprise certain different proportions to provide its clear characteristics (Anbari & Tabaraie, 2013), Previous studies on customer satisfaction have indicated that differences exist between expectations and gain of the customer (El-Tohamy et al., 2015; Khan & Beyazit, 2013; Xesfingi & Vozikis, 2016).

2.2 *Services Quality*

The SERVQUAL model developed by Parasuraman et al. (1985) has led to the realization of many successes in several institutions and sectors, despite the diversity of services and customer needs. The SERVQUAL has flexibility, which makes it possible to be modified by the researcher according to the nature of the institution without changing its five-dimensional structure (Ali & Raza, 2017; Anbari & Tabaraie, 2013) which are Tangibles, Reliability, Responsiveness, Assurance, and Empathy.

Several researchers have suggested a number of dimensions to assess the quality of services or products, and all the dimensions came from the main five dimensions of quality of services or products. The dimension of quality product is about the degree of achieving the productivity in the best way and based on the criteria set according to the customer's needs. As stated by Dang et al. (2013), there are four criteria in the dimensions related to social and physical environment, supplier and service policy (El-Jardali et al., 2014). The dimension of service quality includes the structure and the characteristics of the employees, the process that interrelates the company structure, and the result of applying this process in the structure.

In the healthcare sector, there are six dimensions that influence customers (patients): Facility of physical structure, medical care, nursing care, information, good quality, and reserve appointments (Izogo & Ogba, 2015). Some researchers used the SERVQUAL scale to assess the goodness of quality of service by evaluating the degree of patient satisfaction with the services. This scale contained five dimensions to assess the quality of service as addressed in many research project previously: Tangibility, reliability, responsiveness, assurance, and empathy (Awang et al., 2015) as shown in Fig. 1. Quality of service measurement should take into account the users' expectations of the service provided and their perceptions of the services they want. As Ali and Raza, (2017) conclude, there are many models that seek to determine this concept, but they have encountered many rejection and criticisms. Therefore, the research hypothesis for path as follows:

H₁: Service Quality has postive and significant effect on Customer Satisfaction.



Fig. 1. Theoretical Framework

3. Research methodology

The measurement of satisfaction is an indicator of the performance of the institution and an important measure of the quality of the services and products provided by the institution, which needs improvement and development based on measuring the satisfaction of patients, Health institutions in Jordan are implementing a number of quality programs that regulate the work of health institutions in terms of technical aspects, such as health accreditation programs, the national goals program for quality and safety of healthcare, as well as the ISO program and finally the excellence program.

3.1 Study population and sampling

The study population consists of patients in the King Husin medical city, which is a military hospital in Jordan. The hospital consists of five specialty hospital/ center; king Husin hospital, queen alia center for cardiac, Queen Rania hospital for chiliads, Queen Husin center for kidney deses, and Royal Rehabilitation Center. The patients were selected from King Husin hospital patient. The sample of the respondents was selected by systematic approach, where the number of the King Husain admitted patients during the year of 2017 was 2435 patients. The researcher selects the patient they admitted more than three days, while they were 1183. According to Krejcie and Morgan (1970) the sample size required is (285), so the interval (k) is (4), and the first patient number selected was (2) then (k+4) and so we used 285 patients.

3.2 The measurement instrument

The study questioner adapted from some previous researches used SERVQUAL items to test services quality (El-Tohamy et al., 2015; Izogo & Ogba, 2015; Sadeh, 2017), and also the items to test patient satisfaction were adapted from some previous studies in health care services (Izogo & Ogba, 2015; Linqvist Leonardsen et al., 2016; Rahman & Osmangani, 2015; Sadeh, 2017)

3.4 Instrument reliability

For internal consistency, the Cronbach Alpha test was performed, which measures the reliability of the internal construction. According to Sekaran and Bougie (2009), the acceptable minimum is 0.70. As the results show, the total value of items was (0.932) indicating the consistency of the tool. Table 1 shows the results of the Cronbach Alpha test for each element in the questionnaire.

Table 1
Cronbach Alpha Result

Construct	Cronbach Alpha	No. of Items
Tangibility	0.943	5
Assurance	0.700	4
Reliability	0.862	4
Empathy	0.819	6
Responsiveness	0.846	5
Customer Satisfaction	0.777	5

4. Structural Equation Modelling (SEM)

The analysis of this study uses the Structural Equation Modelling (SEM) to investigate the effect of quality of service on customer satisfaction toward Health institution in Jordan. The SEM analysis has recently been known as a method of choice in the marketing (Aimran et al., 2017a), management (Aziz et al., 2016), tourism (Afthanorhan et al., 2017; Awang et al., 2015, 2016), family (Bakar & Afthanorhan, 2016) and business research. According to Henseler (2018) and Aimran et al. (2017b), the SEM analysis has two families that is variance based structural equation modelling and covariance based structural equation modelling. These two methods can be differentiated from two complementary approaches that is exploratory and confirmatory approach. Exploratory method is aimed to explore the potential relationships in the model and the objective is to predict the path model developed from lack of facts (Hofman et al., 2017). In contrast, the confirmatory approach focuses to confirm the existing relationships in the model and the objective is to test the established path model into different domains (Henseler, 2018; Hair et al., 2017). Based on this, we claimed that the current study is heading to confirmatory approach where covariance based structural equation modelling is adopted for further investigations.

4.1 Measures

The demographic for the respondents show that 62.9% of them are men and 37.1% are females. In addition, between 20 and 40 years of age, 46.4%, 29.5% of the age group are under 20 years of age, and 18.7% of the age group are between 41-60 years old. As for the educational level of the respondents, the majority of respondents hold a master's degree (39.9%), followed by 29.5% with a bachelor's degree, and 15.8% with a doctorate degree. SPSS 21 was used to analyze the collected data. The classification and description of the collected data were then used to describe the characteristics of the study sample using frequencies, standard deviations and percentages. To measure the relationship between the variables, the Pearson test was used. Alpha Cronbach was calculated for variables to test the reliability of the scale used.

Table 2

Mean and Standard Deviation Results

Construct	Mean	Standard Deviation
Tangibility	4.09	0.57
Assurance	3.95	0.61
Reliability	3.97	0.56
Empathy	3.89	0.66
Responsiveness	3.94	0.58
Customer Satisfaction	4.01	0.68

4.2 Empirical Findings

The Confirmatory Factor Analysis (CFA) was conducted in the first phase to evaluate the performance of measurement models. At the first step, we specify the measurement model in the form of higher order construct since the service quality construct was assessed by five dimensions (Tangibility, Assurance, Reliability, Empathy and Responsiveness). The causal effect from main construct is exerted on each five dimensions as depicted in Fig. 2. All items were manifested in corresponding dimension. Then, the analysis of SEM was conducted using maximum likelihood estimator with 100 iterations to generate the parameter estimates for each construct in a model. The results show that the service quality and customer satisfaction constructs were satisfied as reaching the threshold values. Specifically, the Chi-square normalized by degree of freedom = $1.032 < 3.0$; RMSEA = $0.011 < 0.08$; CFI = $0.998 > 0.95$; IFI = $0.998 > 0.95$; and TLI = $0.997 > 0.95$. To determine the model reliability and validity, we perform the composite reliability, convergent and discriminant validity. According to Nunnally and Bernstein (1994) and Awang et al. (2015), the minimum value for construct reliability is 0.7 and the convergent validity is satisfied if the value is higher than 0.50. The discriminant validity was established through Fornell and Larcker (1981) approach. The results for reliability and validities are as follows:

Table 3
Discriminant Validity

Construct	Service Quality	Customer Satisfaction
Service Quality	0.782	
Customer Satisfaction	0.74	0.793

The discriminant validity result is satisfied as latent variable correlation is below than 0.85 as recommended by Hair et al. (2017). Other than that, the bold values are higher than the latent variable correlation value implying that all constructs involved in a model are distinct to each other. The subsequent analysis is by calculating the convergent validity and composite reliability.

Table 4
Convergent validity and Composite reliability

Construct	Composite Reliability	AVE
Tangibility	0.896	0.632
Assurance	0.863	0.612
Reliability	0.877	0.641
Empathy	0.900	0.600
Responsiveness	0.879	0.592
Customer Satisfaction	0.899	0.632

The convergent validity is assessed by the Average Variance Extracted (AVE) and the result is satisfied when the value is greater than 0.50. In this case, all constructs were satisfied and the AVE values are falls in the range between 0.592 and 0.641. In other words, all constructs explain more than half of the total variation in a model. The composite reliability is indicated as the best measures under reliability testing (Westland, 2010). As such, this scale is chosen to replace the conventional scale of Cronbach Alpha once field study is involved. In the case of composite reliability, all constructs are reliable which the values were falls in the range of 0.863 and 0.900.

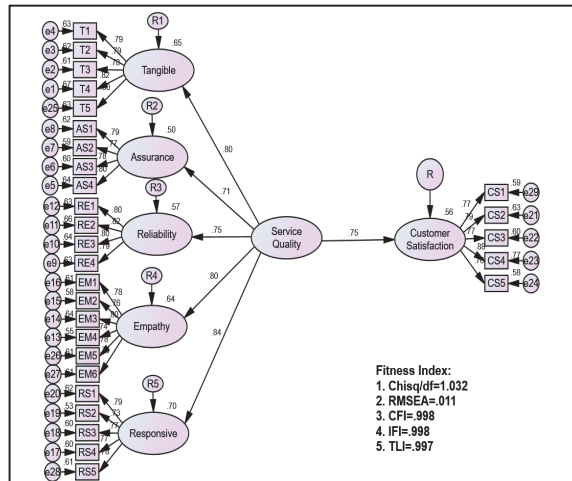


Fig. 2. Structural Model

Table 5
Regression Weights

		Estimate	S.E.	C.R.	P	Result
Customer Satisfaction	← Service Quality	.905	.100	9.006	***	Significant

Based on SEM output, the service quality has significantly affected on customer satisfaction with beta estimate of 0.905 (p-value < 0.001). It shows that the effect from service quality to customer satisfaction is very strong which is above 0.70. Moreover, the squared multiple correlation from this results is 0.56 which means the customer satisfaction construct has been explained about 56% from service quality construct.

5. Discussion and Conclusions

This research aims to examine the relationship between quality of service and patient satisfaction. The SERVQUAL model was used to examine the relationship between QoS and customer satisfaction across different sectors and areas, such as banking, mobile, hotel, and health. In this study, SERVQUAL was used to investigate the relationship between quality of service and patient satisfaction at Hussein Hospital - Al Hussein Medical City (Jordan). Despite the implementation of multiple quality programs such as health accreditation, ISO, and King Abdullah II Excellence Award, the patient satisfaction is still dropping. The search uses this form because it includes five main criteria that form the essence of quality of service, and all quality of service standards reflect SERVQUAL dimensions, such as health accreditation standards. Based on the above results, hospital policy and procedures can be redesigned and harmonized with medical service quality standards and future direction to develop a national health strategy for the quality and safety of medical care and in line with health accreditation standards and other quality programs applied in the hospital.

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