

Empirical Examination of SERVQUAL on Patients' satisfaction and Loyalty in UAE Healthcare Industry

Ahmed Abdulkareem Mosa Alhatti^a, ^aManagement and Science University, Malaysia,

The healthcare industry has been booming across the world. The aim of this research is to measure the effect of SERVQUAL dimensions on patients' satisfaction and examining the mediating role of satisfaction on patients' loyalty. The SERVQUAL model was used to develop the conceptual model for this study. Five independent variables, one mediating and one dependent variable was included in the model. A quantitative approach was used as the research design in this examination. In order to collect primary data, this study developed a well-structured questionnaire based on prior SERVQUAL items. With a one-month effort, this study managed to obtain 412 respondents based on non-probability sampling. Multiple regression and Sobel tests were applied to test the hypotheses in this study. Results indicated all of the four dimensions of the SERVQUAL model were found to significantly affect both patients' satisfaction and loyalty as well as excepting tangibility. Moreover, the Sobel test confirmed the mediating effect of satisfaction on patients' loyalty. This study can be considered as one of another empirical evidence of the effectiveness of SERVQUAL model in UAE healthcare industry. Based on the results, this study provides several practical implications for the UAE healthcare industry.

Key words: *SERVQUAL, Satisfaction, Loyalty, Empathy, Responsiveness, UAE.*

Introduction

The conveyance of excellent service is the way to achieving accomplishments in service industries. In the present time of exceptional challenge, observing and improving service quality is profoundly fundamental for creating productivity and business volume. In both manufacturing and service industries, quality improvement is the chief factor that affects both customer fulfillment and purchasers' buying aims.

Over the last three decades, there has been an increase in the intrigue globally in the nature of the social insurance service, as ways of life have transmuted and there is an ordinate correspondence for better medicinal consideration to alter ways of life. Changing the nature of medicinal consideration facilities has turned into an essential worry for patients. To give better convenience to a patient's service quality has turned out to be progressively central for emergency clinics in the veneration of satisfying and holding patients (Anderson et al., 2007). Quality of Life is severely influenced by social insurance benefits more than many other services, so there will be negative impacts on the medicinal services suppliers that neglect to comprehend the significance of conveying their service quality and consumer loyalty. According to (Tarofder, Azam, & Jalal, 2017), medical suppliers might welcome a conceivable loss of patients; patients are winding up increasingly more cognizant about the nature of human services lodging given by emergency clinics (Holder & Berndt, 2011). Purchasers of human services lodging have especially higher prospects and definitively order a high bore of accuracy, dependability, responsiveness, and sympathy from accommodation providers (Kitapci, Akdogan, & Dortyol, 2014; Arun Parasuraman, Berry, & Zeithaml, 1991).

Service quality is characterized as the distinction between client recognitions and their desires, as per the client's quality, it is acceptable if the execution meets their desires. We can likewise distinguish fulfillment from the input of clients (Bara, Van den Heuvel, Maarse, & Van Dijk, 2002). Fulfilled clients show long haul association with their specialist organization which results in a more elevated amount of consistency that prompts better wellbeing results. Consumer loyalty is a significant part of service organizations and is exceptionally identified with service quality (Tarofder, Nikhashemi, Azam, Selvantharan, & Haque, 2016; Brinkerhoff & Wetterberg, 2013).

At the point when service quality improves, the likelihood of consumer loyalty also increases. Expanded consumer loyalty prompts conduct results, for example, duty, dedication, client maintenance, and the production of a commonly remunerating association with the specialist organization and the client, expanded client resistance for service disappointments and positive verbal dissemination about the association (Kitapci et al., 2014; Njong & Tchouapi, 2014).

While there have been endeavours to study service quality, there has been no broad concession to the estimation of the idea. Most of the work to date has endeavoured to utilize the SERVQUAL methodology with an end goal to quantify service quality. Measurements of service quality (SERVQUAL) were initially presented by Parasuraman, A, Valerie A Zeithaml and Leonard L Berry in 1985 in the territory of service quality (Zeithaml, Parasuraman, Berry, & Berry, 1990). SERVQUAL was created dependent on the perspective on the client's appraisal. It has five conventional measurements or factors and is expressed as follows (Van Iwaarden, Van der Wiele, Ball, & Millen, 2003):

- (1) Tangibles. Physical facilities, equipment and appearance of personnel.
- (2) Reliability. Ability to perform the promised service dependably and accurately.
- (3) Responsiveness. Willingness to help customers and provide prompt service.
- (4) Assurance (including competence, courtesy, credibility and security). Knowledge and courtesy of employees and their ability to inspire trust and confidence.
- (5) Empathy (including access, communication, understanding the customer). Caring and individualized attention that the firm provides to its customers.

The great nature of the service will ensure that clients are satisfied with the service provided. Great quality service will, at last, give a few advantages, including the foundation of an amicable connection between the suppliers of products and ventures with patients, by giving a decent establishment to the formation of client dependability that is profitable for the specialist organizations. The nature of service has a cosy association with patient fulfillment and consequently, tolerant fulfillment has a cosy association with client dependability. Great service quality gives the driving force for clients to build up solid ties with the organization. Over the long haul, such holding enables emergency clinics to see cautiously the patient's desires and needs (Juhana, Manik, Febrinella, & Sidharta, 2015).

Service quality is the most significant vital dynamic aspect regarding specialist organizations to get an upper hand, so it ought to be all-around improved (Lee & Yom, 2007). These days, in light of expanded expectations for everyday comforts and higher clients' desires, it has turned out to be required to give exclusive expectations of human services to the patients. In such a manner, it is turning into a difficult undertaking for researchers, emergency clinic directors, government policymakers, and therapeutic specialists to decide factors past patients' fulfillment (Al-Borie & Sheikh Damanhouri, 2013). Since in growing long haul connections among clinics and patients, service quality isn't just adequate to be considered, so there is a requirement for medical clinics to look somewhere else fulfillment to create reliability to limit the obvious dangers, as it requires more cost and endeavours to pull in new clients as opposed to holding existing clients (Juhana et al., 2015)

Even though the accentuation on patient dependability is expanding, still the immediate connection among SERVQUAL and patient reliability is being disregarded as for both open and private social insurance specialist organizations to discover the distinctions like human services, tolerant fulfillment, and patient devotion (Meesala & Paul, 2018).

The present examination in this way will research the connection between SERVQUAL, understanding fulfillment, and steadfastness in the medicinal services industry. The primary goal of this paper is to decide factors that impact consumer loyalty that is unpredictable, yet this examination will rearrange it by applying logical investigation (Juhana et al., 2015; Meesala & Paul, 2018). This examination will likewise inspect the general social insurance service quality and will explore the overall significance of medicinal services service quality measurements as for patient fulfillment and patient devotion in both open and private division human services specialist organizations. In addition, the interceding impact of patient fulfillment will likewise be considered between human services service quality and patient dedication.

This article will address the following research questions:

Q 1. How does the quality of hospitals' healthcare perceived services effect the patients' loyalty and the patient satisfaction of public and private sector hospitals?

Q 2. Does patient satisfaction mediate the relationship between SERVQUAL model and patient's loyalty?

Q 3. Does patient satisfaction affect patients' loyalty?

In nutshell, this examination will dissect the effects of SERVQUAL factors on the patient fulfillment and how it improves patient's unwaveringness among patients in a rapidly developing nation. This examination will reveal those basic components, which can be valuable for service associations in creating nations

Literature Review

In service writing, service quality is turning into the most significant research territory for specialists and experts. On the off chance we clarify the service quality into two distinct ways of thinking, for example, one is the Nordic school way and the second is the American way of thinking. The Nordic school characterize the service quality in two measurements, for example, utilitarian and specialized, whereas the American school characterize service quality into five measurements as follows: (1) Tangibles (Physical offices, gear, and presence of faculty); (2) Reliability (Ability to play out the guaranteed service constantly and precisely); (3) Responsiveness (Willingness to support the client and give brief service); (4)

Assurance (Knowledge and graciousness of representatives and their capacity to move trust and certainty); (5) Empathy (Caring, individualized consideration and the firm gives its client)." (Grönroos, 1984). In this investigation, we need to utilize these five measurements.

Service quality is certifiably not a solid idea; thus, it inclines toward a few measurements, every one of which differs in significance, as to by and large service quality, and their effect on patient's fulfillment (Tarofder, Jawabri, Haque, & Sherief, 2019; Graham Saunders, 2008). The World Health Organization suggests (Organization, 2006) that a wellbeing framework should make upgrades in six measurements. They are (1) viability (adherence to proof base and results in improved wellbeing result), (2) productivity (boost asset use and keep away from waste), (3) availability (convenient and topographically sensible), (4) acknowledgment/persistent focused (considers singular inclinations), (5) fairness (does not shift in quality because of components, for example, sexual orientation and financial status) and (6) security (limits hazard and damage); so as to improve the nature of consideration. This WHO structure is general and relates more to the open conveyance framework, however not the administrative parts of value service. Since our exploration focuses only on these service quality measurements, an explained discourse is introduced as a writing audit.

To measure apparent service quality, a scale in particular, the SERVQUAL scale was created by Parasuraman et al. (Anantharathan Parasuraman, Zeithaml, & Berry, 1985), which has been tried in a few service areas effectively. It depends on 22 things, involving five measurements in particular substantial quality, confirmation, unwavering quality, compassion, and responsiveness. The SERVQUAL scale which is utilized to evaluate apparent service quality is reflected as extraordinary compared to other concurred and versatile instruments in various service areas and it tends to be changed by the mindful association (Hasan, Abdullah, Lew, & Islam, 2019). As it were, these five measurements establish a quality framework that will possibly improve practical quality and service execution (Arun Parasuraman et al., 1991).

The patients in developing nations will, in general, depend intensely on suggestions of the treating doctor. A McKinsey study likewise exhibits the significance of the doctor's choice even in a created nation. To decide the components impacting clinic choice, McKinsey studied (Grote, Newman, & Sutaria, 2007) over 2000 US patients with business protection or Medicaid in 2007; the patients overviewed were approached to allot 100 points as per the significance they would provide for every one of them. The four components were: (a) patient experience, (b) hospital reputation, (c) physician's decision, and (d) location; on a normal, they gave 41 points to patient's involvement, 21 to doctor's choice, 20 points to notoriety of the emergency clinic, and 18 to area. Remarkably, the doctor's choice is the second most significant factor.

Isik et al. (Isik, Jones, & Sidorova, 2011), contemplated the materialness of SERVQUAL measurements to human services through basic conditions demonstrating investigation. Their exploration recommends that SERVQUAL is a helpful estimating instrument in evaluating the service quality in emergency clinics. Through the components of value service, enhancements for each measurement could be distinguished. For example, quality service and consumer loyalty are applicable to accomplish improved authoritative execution. A concise talk on the ideas of patient's fulfillment and the patient's dependability to the medical clinic and its suggestions is exhibited in the accompanying segment (Meesala & Paul, 2018).

Patients' satisfaction

A lack of concern can be translated as a push to satisfy something or make something satisfactory. Consumer loyalty is a condition wherein the needs, desires, and wants of the clients are met. The service is viewed as palatable if the service can address the issues and desires for clients. As indicated by Kotler (Kotler, 2003), consumer loyalty as the sentiment of joy or disillusionment of somebody to an item after he looked at the after effects of items which was thought to the normal item execution. On the off chance that the presentation meets desires, it implies that the client is fulfilled. In any case, on the off chance that the presentation doesn't meet client desires, at that point, the client isn't fulfilled (Izadi, Jahani, Rafiei, Masoud, & Vali, 2017). Understanding fulfillment is the patient observation that the desires have been met or surpassed. Quiet fulfillment is a patient's degree of inclination that emerges because of the exhibition of wellbeing services acquired after patients contrasted and what was normal. On the off chance that the outcomes are felt to approach or surpass desires, at that point it will cause a sentiment of fulfillment, generally, there will be an inclination of frustration or disappointment when the outcomes are not alongside desires (Juhana et al., 2015).

Various examinations report that patient's fulfillment is impacted by various factors and as per (Peprah & Atarah, 2014), the accompanying variables assumes a basic job in the fulfillment of patients; the mentalities of medical caretakers toward patients, the ability to convey brief service without sitting around, the capacity to disperse data to patients and the accessibility of forward-thinking hardware. Others incorporate the clinic's capacity to render 24-hour service, the persistence of the specialist to clarify what wasn't right with patients before giving treatment, giving patients detailed data about their medications, and allure and neatness of the emergency clinic. Parasuraman et al. (Anantharanthan Parasuraman et al., 1985), disclosed fulfillment in connection to support quality. They contended that service quality is characterized as the hole between anticipated or anticipated service (client desires) and saw service (client observations). On the off chance that a clients' desire is more prominent than execution, at that point, apparent quality is respected not exactly agreeable and a service quality hole emerges. This does not imply that the service is of low quality but

instead the client desires have not been met and consequently client disappointment happens and this presents an open door for improving the support available to a client to meet the client desires in the future (Bahadori, Teymourzadeh, Ravangard, & Saadati, 2018).

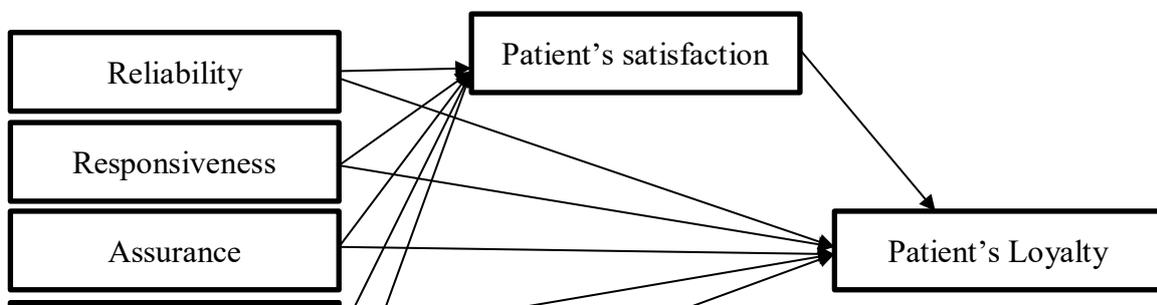
Loyalty

Steadfastness is an individual against an object of unwaveringness or pledges to clients to a brand, store or provider, considering an exceptionally inspirational frame of mind and reflected in predictable recurrent buys. While the clients unwaveringness with regards to advertising services is characterized by Dick and Basu (Dick & Basu, 1994), as a reaction they are firmly connected to vow or vow to maintain the responsibility of the basic progression of the relationship, and this is typically reflected in reasonable obtaining from suppliers of comparative services based on devotion and even minded limitations. Steadfast purchasers are loyal by repurchasing and this is continued by positive words. Patients will give monetary incentives to the emergency clinic (Gómez-Cruz, 2019). The devoted patient is a priceless resource for the emergency clinic, while the attributes of faithful patients are that they continue making repurchases, purchasing between product offerings and services, referencing to other people, and indicating protection from the contenders (Solayappan, Jayakrishnan, & Velmani, 2011).

The advertising writing has an accentuation on client unwaveringness as it impacts social goals. In the service area, accentuation on dependability is additionally expanding because the outcome of patient fulfillment prompts an expansion in the hierarchical picture and piece of the pie. Faithfulness is well-characterized as a seriously held duty with the item or service that manufactures reliably rebuying conduct later (Chumpitaz Caceres & Paparoidamis, 2007).

As per Zeithaml et al. (Zeithaml, Berry, & Parasuraman, 1996), rebuying conduct is characterized as keeping up associations with specialist organizations, while verbal exchange is characterized as correspondence in which clients will inform others in regards to their involvement with the item or service (Kitapci et al., 2014). This experience can be great, as it assembles dependability, rebuying conduct, and positive verbal exchanges. While it also may be a horrible experience, which makes for a negative informal exchange and the client changing to purchasing off the contenders, subsequently, unwaveringness is an attitudinal aspect that prompts rehash to buy conduct (Famiyeh, Asante-Darko, & Kwarteng, 2018).

Conceptual Model of this study





Hypothesis

H1: There is a significant positive direct effect of Reliability on patient satisfaction and loyalty.

H2: There is a significant positive direct effect of responsiveness on patient satisfaction and loyalty.

H3: There is a significant positive direct effect of assurance on patient satisfaction and loyalty.

H4: There is a significant positive direct effect of empathy on patient satisfaction and loyalty.

H5: There is a significant positive direct effect of tangibles on patient satisfaction and loyalty.

H6: There is a significant mediating effect of patients' satisfaction on patients' loyalty by service characteristics.

Research Design

This study adopts a quantitative research approach by collecting primary data through a valid structure questionnaire. A deductive method was applied to develop the hypothesis and was tested by executing the most appropriate statistical techniques. This study design uses a cross sectional approach to test the hypothesis. In order to test the hypothesis, this study applied a causal method.

Instrument development

A structured questionnaire was developed by adopting items from Rehaman and Husnain (2018). There were 25 items that measured the seven variables. All these items were slightly modified due to the Arabic context. A five-point Likert scale was used to measure the variables. There were three sections in the questionnaire including demographic, hypothesis based and patients' suggestions. A nominal scale was applied in the demographic section.

Several steps were taken into consideration before finalizing the questionnaire including a pre-test and a pilot test. Moreover, this study also tested the three important validity components including face, content and construct.

Sampling and Respondents' profile

Due to the confidentiality of the patients, this study was not able to get the appropriate sample frame. Hence, a non-probability, convenience sampling was used to collect data from four reputed hospitals from UAE. With a four week effort, this study managed to get 412 indoor patients as respondents from those four hospitals. This study achieved a 32 percent response rate without offering any incentive to the respondents. Respondents' characteristics indicated that there were more female respondents than male respondents, more specifically, 60.2 percent of respondents were female in this study. Our respondents' age range covers a wide range from 25 to 70, with an average age of 46.7 years old. The monthly average income of our respondents was 25523 dirhams. Interestingly, 4.5 percent of patients were foreigners. Almost 91 percent of respondents had insurance. Last but not least, 86.7 percent of respondents were married. Overall, respondents for this study had a wide range of attributes, which strengthens the data analysis.

Factor analysis

This study applied the Exploratory Factor Analysis (EFA) to the unidimensional factors. Principles of components was executed to examine the number of factors from the 31 constructs included in this study. With the value of .854, Kaiser-Meyer-Olkin confirmed the strength and sufficiency of the sample and the association among the variables. EFA results presented in the Table 1 include the Cronbach alpha value. Based on the alpha value, it is clear that all the scales of this study are highly reliable as the lowest value of the alpha was .834. There were six factors where the eigenvalues were more than 1. These six factors explained 72.4 percent of the total variance of this study, which is considerably high. Hence, EFA confirmed that the six factors are to be used to explain the dependent variable, namely patients' loyalty. Results indicated that Reliability constructed by the five contracts with highest eigenvalues of 10.10. This variable explained 32.60 percent of the variance. The factor loading value were higher than the 0.50.

Table 1: Exploratory Factor Analysis

	Component					
	1	2	3	4	5	6



Rel 1	.877					
Rel 2	.843					
Rel 3	.787					
Rel 4	.780					
Rel 5	.775					
Res 1		.755				
Res 2		.750				
Res 3		.716				
Res 4		.626				
Res 5		.616				
Assu 1			.752			
Assu 2			.732			
Assu 3			.699			
Assu 4			.668			
Assu 5			.652			
Tan 1				.882		
Tan 2				.824		
Tan 3				.810		
Tan 4				.792		
Tan 5				.783		
Emp 1					.886	
Emp 2					.865	
Emp 3					.824	
Emp 4					.805	
Emp 5					.791	
Emp 6					.741	
PATSAT 1						.855
PATSAT 2						.803
PATSAT 3						.795
PATSAT 4						.772
PATSAT 5						.695
Alpha	.995	.904	.913	.834	.911	.879

With 4.280 eigenvalues, the second factor that emerged was responsiveness. This variable was explained 13.80 percent of total variance and five constructs were loaded with minimum of .616. Similarly, the third factor, Assurance, consisted of five items with the minimum factor loading of .652. The Eigenvalue of this factor was 2.569, which explained 8.288 of the total variances. The results confirmed that the fourth independent factor, titled as Tangibility, consisted of five items as well, with a minimum factor loading of .783 and explained 7.198 of the total variances. With the eigenvalue of 1.409, the fifth factor, labelled as empathy, explained 5.544 of the total variances. This factor consisted of six items with a minimum loading value of .741. Lastly, patients' satisfaction has been merged with five items and the minimum factor loading was .695. This factor considers the mediating factor in this study and it explained the 4.10 percent of the total variance. Hence, these six variables had been taken into consideration for the next level of analysis.

Direct Effect of Service Characteristics on Customer Satisfaction and Repurchase Intention

This study applied multiple regression to estimate the direct effect of service characteristics on both patients' satisfaction and loyalty. Regression results are presented in Table 2 and 3. The results indicated that the adjusted R square for both satisfaction and loyalty were .732 and .541 respectively. It confirmed that service characteristics influence both satisfaction and loyalty by more than 50 percent. Moreover, based on the F value, results confirmed that both models were statistically significant. In relation to the direct effect of each of the characteristics, results indicated that the reliability relatively has a stronger effect on loyalty compared to satisfaction. More specifically, reliability explained 74 percent of the patients' loyalty, whereas, 40 percent of patients' satisfaction. Similarly, responsiveness has a significant effect on both patients' satisfaction and loyalty. Results indicated that responsiveness explained 48 percent of patients' satisfaction. In relation to assurance, results indicated that it has positive effect on both, however, it explains patients' satisfaction more than loyalty. In particular, assurance explained 41 percent of patients' satisfaction, whereas, loyalty explained 20 percent of patient's satisfaction. Results indicated that empathy is not statistically significant for the patients' loyalty, . empathy explained 25 percent of patients' satisfaction. Regression results confirmed that tangibility was neither important for satisfaction nor loyalty.

Table 2: Direct effect of Independent variables to Satisfaction and Loyalty

Predictor	Patient's satisfaction		Patient's Loyalty	
	Adjusted R Square: .732		R Square: .541	
	Standardized Beta	Significant Value	Standardized Beta	Significant Value
Reliability	.405	.000	.740	.000

Responsiveness	.480	.000	.215	.039
Assurance	.415	.000	.209	.015
Tangibles	.084	.135	.076	.301
Empathy	.250	.000	.086	.239
F Value and Sig Value	106.486	.000	46.558	.000

Table 3: Direct effect of Patient’s Satisfaction on Loyalty

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.524	.195		2.690	.008
Satisfaction	.842	.048	.782	17.368	.000

a. Dependent Variable: Loyalty

Regression results confirmed that reliability is the most important determinant for a patients’ loyalty, as well as their satisfaction in the context of hospital service. Results also indicated that responsiveness also plays important role in both cases. Between these two characteristics, reliability plays an important role in determining patients’ loyalty, whereas, responsiveness is important for patient's satisfaction. Similarly, regression results indicated that doctors’ confidence and skills play an important role in determining patients’ satisfaction and loyalty, however, assurance has a stronger effect on satisfaction than loyalty. An interesting finding was presented by the regression analysis, which found that physical facilities and hospital equipment is not important at all. Moreover, empathy plays an important role in determining a patients’ satisfaction but not in loyalty.

Mediating Effect of Patients’ Satisfaction

This study executed the Sobel test to test the mediating effect of patients’ satisfaction on loyalty. Hypothesis five proposed the mediating relationship and this study applied the four steps of the Sobel test as suggested by Baron and Kenny. According to their suggestions, this study measured the effect of service characteristics on the mediating variable. In the second stage, this study measured the association between service characteristics and the dependent variables. The results are presented in Table 4. In the third stage, this study combined the effects of service characteristics and the mediating variables on the dependent variables. In the final stage, this study applied the Sobel calculator to measure the mediating effect of a

patient's satisfaction on a patients' loyalty. Table 4 presents the final effect of the based on the Sobel calculation.

Table 4: Results of Mediating Effect

Hypothesis	Step 1	Step 2	Step 3
5a	Reliability → Satisfaction $\beta = -.405, p < 0.000$	Reliability → Loyalty $\beta = -.740, p < 0.000$	Reliability + Satisfaction → Loyalty $\beta_{\text{reliability}} = -.116 - p = 0.000$ $\beta_{\text{satisfaction}} = .687, p < 0.000$
5b	Responsiveness → Satisfaction $\beta = .480, p < 0.000$	Responsiveness → Loyalty $\beta = 0.215, p < 0.000$	Responsiveness + Satisfaction → Loyalty $\beta_{\text{responsiveness}} = .232, p = 0.000$ $\beta_{\text{satisfaction}} = .927, p < 0.000$
5c	Assurance → Satisfaction $\beta = .415, p < 0.0005$	Assurance → Loyalty $\beta = .209, p < 0.0005$	Assurance + Satisfaction → Loyalty $\beta_{\text{assurance}} = .105, p = 0.109$ $\beta_{\text{satisfaction}} = .705, p < 0.000$
5d	Tangibles → Satisfaction $\beta = .084, p < 0.135$	Tangibles → Loyalty $\beta = .086, p < 0.239$	Tangibles + Satisfaction → Loyalty $\beta_{\text{tangible}} = -.362, p = 0.000$ $\beta_{\text{satisfaction}} = .536, p < 0.0000$
5e	Empathy → Satisfaction $\beta = -.250, p < 0.0005$	Empathy → Loyalty $\beta = -.417, p < 0.0005$	Empathy + Satisfaction → Loyalty $\beta_{\text{empathy}} = -.126 - p = 0.016$ $\beta_{\text{satisfaction}} = .847, p < 0.000$

Table 5: Sobel Statistic

Predictor	Sobel Statistic		
	Test Statistics	Standard Error	P Value
Reliability	4.275	0.099	0.000
Responsiveness	4.354	0.099	0.000
Assurance	6.030	0.672	0.000
Tangibles	1.487	0.058	0.136
Empathy	4.333	0.053	0.000

Table 4 clearly indicated that patients' satisfaction has a significant mediating effect on the patients' loyalty. More specifically, there is a significant reduction in the effects of the independent variables in step 3 compared to step 2 on loyalty. For example, in step 2, the

effect of reliability on loyalty was .740; whereas this effect had dropped significantly at .116 when patients' satisfaction had been included in the model (step 3). Similarly, the effect of assurance in step 2 was .209, which had dropped to .109 in step 3. However, the effect of tangibility had increased significantly in step 3 when compared to step 2 (Table 3). Afterwards, this study used the Sobel calculator to measure the significance of the mediating effects. Based on the results presented in Table 4, it is clear that patients' satisfaction has significant mediating effects on patients' loyalty by reliability, responsiveness, assurance and empathy. The significant value for all those values was below 0.05. The Sobel test also indicated that there is no significant mediating effect of patients' satisfaction on patients' loyalty by tangibility.

Discussions and Practical Implications

The regression analysis clearly indicated that responsiveness is seen as the utmost important service characteristic in hospitals. Similar results had been reported in numerous prior studies (Namahoot & Laohavichien, 2018; Wu, 2017). In most of the previous studies it was suggested that responsiveness plays an important role in satisfying patients' satisfaction, which eventually lead to a higher level of loyalty among patients (Famiyeh, Asante-Darko, & Kwarteng, 2018; Shabbir, Malik, & Janjua, 2017). Precisely, the responsiveness was related to a prompt response from employees to solve a patients' problem. In other words, responsiveness pertaining to employees' willingness to assist patients in a short time plays a crucial role in the healthcare industry (Idris & Naqshbandi, 2019; Shin & Hwang, 2017). In most of the cases, patients are not willing to wait for a long period of time to receive the appropriate services in hospitals. Several prior studies mentioned that a longer time to respond to patient's may significantly increase their dissatisfaction. Hence, this study reported a strong positive effect of responsiveness on patients' satisfaction which lead to patients' loyalty.

Secondly, this study confirmed the significant positive effect of assurance on patients' satisfaction and loyalty. Results indicated that assurance is the second most important service characteristic in the health care industry. Similar results have also been reported in the most of the relevant prior studies (Zolfagharian, Hasan, & Iyer, 2017; Subrahmanyam, 2017). Assurance is one of the prime concerns of patients in the hospitals. It mainly reflects on the skills of doctors and nurses; efficiency; constant feedback and so on. Based on the results, it is clear that assurance plays a very important role in satisfying patients in UAE hospitals. Moreover, the results of the study also confirmed that patients' satisfaction has a significant mediating effect on patients' loyalty by assurance. In a similar fashion, reliability of the hospital services plays an important role in satisfying patients. These characteristics have been in the top three in most of the studies conducted. Reliability mainly emphasises on the quality of the services provided by the hospitals and the results indicated that it becomes the

third most important factor affecting UAE patients' satisfaction. Similarly, the Sobel test also confirmed that reliability has a significant mediating effect on patients' loyalty through patients' satisfaction. Therefore, this study becomes another form of empirical evidence that explains the effect of reliability on patients' satisfaction and loyalty.

In relation to empathy, results reported that empathy becomes the fourth most important determinant for patients' satisfaction and their loyalty. The results indicated that taking care of the patients, and providing good care of the patients plays an important role in improving patients' satisfaction, which eventually improve the patients' loyalty. Similar results had been found in many previous studies (Gómez-Cruz, 2019), where the authors suggested that empathy is one of the important service characteristics that elevate patients' satisfaction (Rahman, Hassan, Osman-Gani, Abdel Fattah, & Anwar, 2017). This study also confirmed a similar pattern. On the other hand, this study identified interesting yet inconsistent results, that tangibility did not play any significant role in satisfying patients' in the healthcare industry (Sufi & Shojaie, 2018). Despite having a strong correlation between tangibility and patients' satisfaction, this study clearly indicated that tangibility does not play any significant role in UAE's health care. The possible reason could be the standardization rule for healthcare industry in UAE (Akroush, Jraisat, Kurdieh, AL-Faouri, & Qatu, 2016).

Based on the findings, this study provides several practical insinuations for the hospitals and healthcare industry in UAE. Firstly, giving a prompt response to the patients must be the utmost priority for the hospital at UAE. This includes minimizing the registration process, promptly attending to the patient by the doctor and so on. Secondly, both doctors and nurses must be well equipped and apt in their profession. They must be skilful in handing the patient's problem effectively and efficiently. Thirdly, the hospital must ensure the quality of the service by providing ample information to the patients. Last but not least, the hospital must adopt cutting-edge technology to maintain a healthy relationship with their patients by having a constant feedback system pre and post treatment.

Limitations and Further studies

Despite minimizing several constraints, this study has a number of limitations, which can create an avenue for further study to be conducted. Firstly, the small sample size, this study collected respondents only from four hospitals out of the 25 in UAE, due to the small budget and time limitations. Therefore, generalizing the findings would not be wise. But these findings can form the foundation of further studies and it is strongly suggested that researchers collect more of a sample for the cross examination of these results. Secondly, this study is one of the replications of the SERVQUAL model. Despite the great popularity of this model, this study suggests the need to include some other variables that can influence a patients' satisfaction and loyalty in the health care industry. Lastly, this study did not



compare the service quality between private and public or national and international hospitals. This can be another important area when conducting research, which will provide an in-depth understanding on how to improve the service in the UAE health care industry.

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