

# INFLUENCE OF HOSPITAL IMAGE AND SERVICE QUALITY ON PATIENTS' SATISFACTION AND THEIR LOYALTY INTENTION

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**Abstract:** *The increasing number of hospitals in the country have resulted in the competitive environment in healthcare industry. This highly competitive scenario requires service providers to focus on competitive edge such hospital image and service quality and to ensure satisfaction experience by the patients; which in turn, would secure their loyalty. Therefore, having good image and providing high service quality would achieve patients' satisfaction and would result in their loyalty. This research finding from an empirical study on the effect of Hospital Image and Service Quality on patients' satisfaction and their loyalty towards public hospitals in Terengganu. The Structural Equation Modelling (SEM) was used to test the proposed hypothesis in the study. The finding showed that hospital image does not have significant influence on patients' loyalty, but it has a significant effect on patients' satisfaction. Furthermore, patients' satisfaction has significant effects on their loyalty. This study also found that the service quality provided by the hospital has a significant influence on patients' satisfaction and their loyalty. Thus, patients' satisfaction (as a construct) has full mediation effects in linking the relationship between hospital image, service quality and patients' loyalty.*

**Keywords:** *Hospital Image, Service Quality, Patients' Satisfaction, Patients' Loyalty, Structural Equation Modelling*

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## Introduction

Globalisation has brought up a competitive competition in all sectors. Accomplishment gain in the competition is determined by probability and effective feedback towards every prerequisite variation of customers' behaviours. Organisation is obliged to be more creative and innovative in engaging customer by endorsing product through providing the best necessity and service (Aryani & Rosinta, 2010; Pranomo, Haryono, & Warso, 2016). The revolution of quality is a phenomenon which has big impact towards management system in an organisation. A good

service quality can be described as a part of the organisation to be successful in this industry (Ramli, Fun, & Idris, 2009). Besides, service sector is one of the sectors which drive the nation economy development. Service-based sector has become the primary key to support the organisation in various fields such as banking, healthcare, hospitality, telecommunication and others (Boon & Nasir, 2011). According to Pariyo et al., (2009) service quality offered to the customer indicates the level of knowledge, ability and willingness of the employee to serve them. The effectiveness of the service quality is determined by customers' satisfaction which will meet the desired requirement from the parties involved to ensure the service quality is correspondence with the rapid development. In confronting the competition with other countries, the effort to intensify the service quality and image of an organisation must always be in appropriate state and progress accordingly and timely.

On the word of Johnson, Andreassen, Lervik, and Cha (2001), service quality served has become a priority to an organisation, thus an effective service quality can be termed as a service which able to satisfy patient's expectation (Boon & Nasir, 2011). Therefore, it is important for a hospital to always evaluate the patients' need and anticipation (Geliş et al., 2017) to ensure the patients' satisfaction towards hospital (Kui-Son, Hanjoon, Chankon, & Sunhee, 2005) and behavioural intention of patient (Amin & Nasharuddin, 2013).

This study was conducted to examine the influence of hospital service and image quality on patients' satisfaction and patients' loyalty towards the service provider (hospital). Here the patients' satisfaction acts as a mediator that connects the service quality and corporate image constructs with the intention of loyalty to hospitals. Responses collected from respondents will be used in achieving the objectives of the study as follows:

- a) To identify factors affecting patients' satisfaction on the service quality provided by the hospital.
- b) To study the relationship between hospital image and patients' satisfaction with hospital services.
- c) To study the effects resulting from service quality provided by the organization and the patients' loyalty towards hospital.
- d) To study the impact of hospital images on patients' loyalty.
- e) To study the effect of patients' satisfaction towards their loyalty intention.

### ***Problem Statement***

In today's sophisticated and rapidly revolutionised world, healthcare organisation such as clinic and hospital are one of the fields in the service-based sector which provide healthcare service and become the attention and focus of community. With the growing demand on the healthcare service, issues such as customers' satisfaction and loyalty have become a significant topic to the management team and customer. According to Al-Borie and Sheikh Damanhour (2013), the most vital problematic and arising issue towards several previous researches was concerned with the hospital's service from the patient's point of view but, Hensen, Schiller, Metze, and Luger (2008) debate on the hospitals' service evaluation from the point of view of health officer. Nekoei-Moghadam and Amiresmaili (2011) whom studied on the quality of healthcare service at emerging countries recommended a solution to thwart healthcare problem by increasing the quantity and quality of the health expert and resource (doctor, nurse, and other healthcare-related employee) through providing trainings and health department should monitor all employees' activities. As stated by Meirovich, Brender-Ilan, and Meirovich (2007), they

suggested that the hospital management department must be able to manage and build-up the hospital's performance and the service quality provided to the patient.

The outcome of this study indicated that the higher the level of hospital's service quality, the higher the level of satisfaction and behavioural acquire by the patient. Furthermore, a study done by Wang and Shieh (2006) explained that the dimension of trustworthiness could positively affect the hospital's service. Therefore, in conjunction to achieve a competitive and driven quality, it can be attained by escalating the quality provided by the service-provider. Feedback, suggestion and consideration obtain from the patients' satisfaction is a significant element in the hospital management system all around the world and also as an important requirement towards the healthcare supplier. The effort lead by the government in the healthcare service sector is currently seen as ineffective and unable to achieve the satisfactory level if compare to the patients' desire and anticipation. For the customer loyalty evaluation, it becomes an essential mechanism which needs to be given a full attention and concerned. According to Oliver (2009) customer loyalty has become the primary focus key during the discussion in the marketplace. Part of the organisation priorities customer loyalty since adequate profit margin level is gained from loyal customer. Babin, Lee, Kim, and Griffin (2005) insists that customer loyalty is an important issue and must be protected because a loyal customer is the important asset to the organisation.

## **Literature Review**

### ***Service Quality***

Service Quality is defined as “a function of the difference between service expected and customer's perceptions of the actual service delivered” (Goel & Yang, 2015; Wang & Shieh, 2006) and it has received intense research attention in services marketing. Among others, delivering high service quality is considered an essential strategy for success and survival in this competitive environment (Andronikidis, Georgiou, Gotzamani, & Kamvysi, 2009). According to Nitecki and Hernon (2000), they found that service quality in terms of meeting or surpassing customer expectations, or as the difference between customer perceptions and expectations of service. In the case of healthcare services, perception is defined as the process by which the consumer receives, selects, organizes and interprets the stimuli to which it is exposed in a manner consistent with its own frame of reference - attitudes, values, motivations, previous experiences (Andreea & Ruxandra, 2016). The perception of quality of healthcare service based on three dimensions which is the physical environment (which includes the state of the environment, the social factor and the tangible elements), qualitative interaction (including attitudes and behaviour, diagnosis and quality of the medical process), and quality of the results (including waiting times, patient satisfaction and loyalty) (Chahal & Kumari, 2010).

### ***Corporate Image***

According to Aydin and Özer (2005), corporate image is well defined as the overall impression made on the minds of the public about a firm. Corporate image can be defined as perceptions of an organisation reflected in the associations held in consumer memory. A planned and well managed corporate image is the most promising marketing strategy in order to attracting current consumers (Ghazali, Johari, Norrizan, Amzah, & Albattat, 2017). Nguyen and LeBlanc (2001) found that corporate image is related to the physical and behavioural attributes of the firm such

as business name, architecture, variety of services and to the impression of quality communicated by each person interacting with the firm's clients. They also defined that corporate image relates positively with customer loyalty in three sectors which are telecommunication, retailing and education. Johnson, Gustafsson, Andreassen, Lervik, and Cha (2001) stated that corporate image as an attitude that will affect behavioural intentions such as customer loyalty.

### ***Patients' Satisfaction***

Patient satisfaction can be defined as "the result of judgment made by the healthcare consumers after analysing the medical outcome of the process in order to see if their expectations have been accomplished or not" and satisfaction was defined as "the consumers' feelings based on the experiences gained after consumption (Andreea & Ruxandra, 2016). A study done by Andaleeb, Siddiqui, and Khandakar (2007) about patients' satisfaction with health services in Bangladesh, they found that measuring service quality and satisfaction is very important. On a similar note, Aldana et al., (2001) study about client satisfaction and quality of health care in rural Bangladesh. They found that almost more than 80% of the 125 million population of Bangladesh lives in the countryside, the main objective of the present study was to assess in detail the expectations of quality of care and the level of satisfaction of patients attending rural government health facilities.

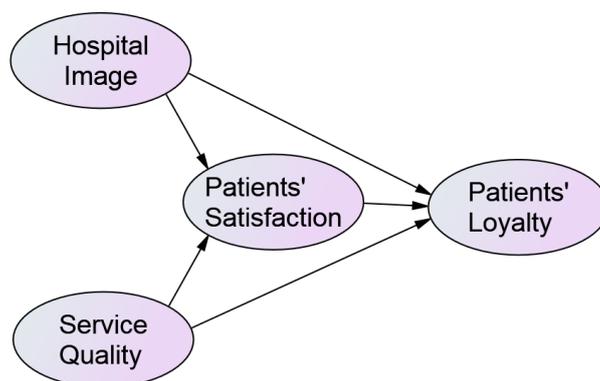
A better understanding of the determinants of client satisfaction should help policy and decision makers to implement programmes tailored to patients' needs as perceived by patients and service providers. Besides, Boscarino (1996) studied the biases that are associated with assessing quality care based on patients' perception. In this study, patients have become more involved in hospital choice, while many patients do not choose a hospital directly, findings suggest that they often do this indirectly through choice of a personal physician. Patients' satisfaction with hospital treatment positively influences the image of the medical facility (Szyca, Rosiek, Nawokowska, & Leksowski, 2012). They found that many factors are involved which is the assessment of the quality of the medical service that is associated with the rapid solution of the reported problem, staff empathy and attitude, as well as the understanding and precise information. Besides, they suggested the need to satisfy the health needs of patients by the medical facilities but also strive to meet these expectations which leads to increased satisfaction considering the quality of medical services.

### ***Patients' Loyalty***

According to Geliş et al., (2017), customer loyalty was a concept in business literature that is approached as patient loyalty or commitment in health services. Generally, a loyal patient or consumer means a person who regularly uses a service provider or vendor, repeats to purchase of service or product from the same corporate and does not consider another services provider or vendor for this need (Geliş et al., 2017). Patient loyalty, which is very important for healthcare providers, can be described as the situation that the patient continues the relation with the hospital and recommends the services of the hospital to the potential patients. The satisfaction of the patient with the service taken is important in terms of loyalty and positive perception of the hospital (Chi & Gursoy, 2009). It is not possible for an unsatisfied customer to be a loyal customer while a satisfied customer is always a loyal customer (Chang, Tseng, & G. Woodside, 2013).

### ***Conceptual Framework of the Study***

The variables under investigation in this study are shown in the following diagram.



**Figure 1: Proposed framework**

### **Research Methodology**

The research methodology involves the administration of questionnaire on the population of *Hospital Sultanah Nur Zahirah, Kuala Terengganu* (HSNZKT) patients at emergency unit. The items included in the questionnaire were adapted and processed according to the suitability of the research at hand (Mohamad & Awang, 2009; Awang, Mamat, Fauzi, & Yusof, 2006). Several items have been modified in order to suit the needs of the research. The 10 point scale ranging from 1 (strongly disagree) to 10 (strongly agree) with the statement were used to measure the responses. The respondents involved the whole population of HSNZKT patients at emergency unit so as to meet the objective in determining the patients' satisfaction and patients' loyalty of all HSNZKT patients.

To test the hypothesis, Structural Equation Modelling (SEM) were used through IBM-SPSS-AMOS 21.0. A pilot study was conducted known as Exploratory Factor Analysis (EFA) was conducted through pilot study data of 100 respondents. EFA also determine the consistency of all items and the related components of each construct of the study (Awang, 2015; Awang et al., 2006). To determine the validity of the measurement model, Confirmatory Factor Analysis (CFA) was used before the commencement of SEM (Awang, 2015; Awang et al., 2006; Awang, Afthanorhan, Mohamad, & Asri, 2015; Fazella, Awang, & Afthanorhan, 2017).

### ***Reliability and Validity of the Study***

In this study, reliability and validity were used to ascertain the fitness of the measurement models. Unidimensionality is achieved when factor loading value of the measuring items is 0.60 and above for both EFA and CFA of latent construct (Awang, 2015; Awang et al., 2006; Awang et al., 2015; Fazella et al., 2017). When the Cronbach's Alpha of each construct that comprises of every variables are 0.70 and above, then the internal reliability is achieved (Awang et al., 2015; Fazella et al., 2017).

Validity is accessed using convergent validity, construct validity, and discriminant validity (Awang, 2015; Awang et al., 2006; Awang et al., 2015; Fazella et al., 2017). When all items in the measurement models are statistically significant then achieved the convergent validity. By computing average variance extracted (AVE) and composite reliability (CR) and for each

construct, the convergent validity and reliability is verified. The recommended value of the AVE and CR are 0.50 and 0.60 above respectively (Awang, 2015; Awang et al., 2006; Awang et al., 2015; Fazella et al., 2017). When the measurement model is free from redundant items, then discriminant validity is achieved. Construct validity is achieved when at least one fitness index from each category achieved its regarded level (Awang, 2015; Awang et al., 2006; Awang et al., 2015; Fazella et al., 2017).

### Results of Factor Analysis

Measurement Model – The measurement model, comprises the factor loading of each item with R2. Figure 2 shows the fitness indexes of the measurement model of this study.

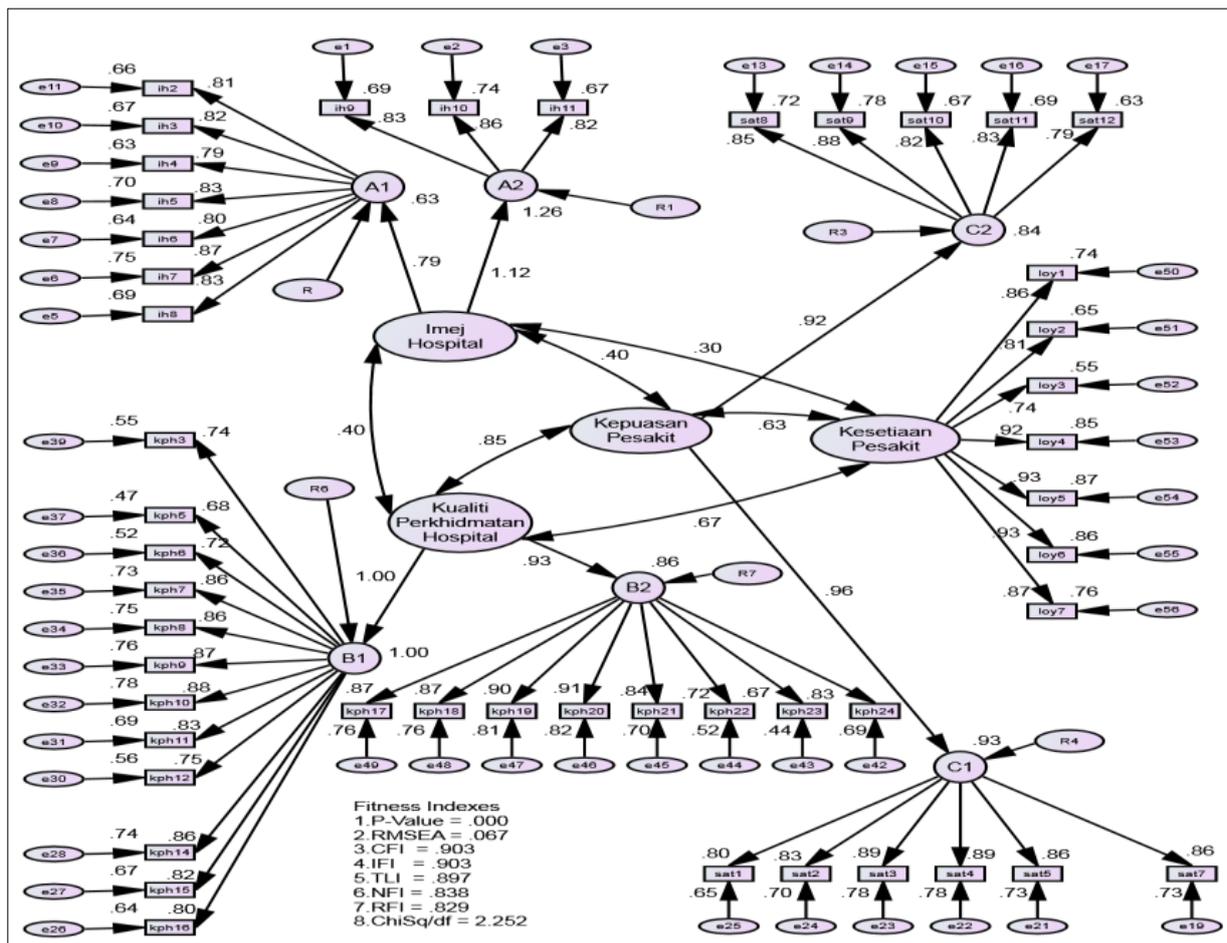


Figure 2: The Pooled CFA Results and the Output Showed All Fitness Indexes Achieved

**Table 1: Regression Weights**

			Est	S.E	C.R	p-V	R
SAT	<--	HI	.232	.059	3.928	.001	Sig
SAT	<--	SQ	.536	.067	8.053	.001	Sig
LOY	<--	SAT	.571	.098	5.850	.001	Sig
LOY	<--	SQ	.272	.083	3.277	.001	Sig
LOY	<--	HI	.094	.070	1.337	.181	Not Sig

Keys:

- SAT: Patients' Satisfaction
- LOY: Patients' Loyalty
- SQ: Services Quality
- HI: Hospital Image
- Est: Estimate
- R: Result

### *Achieved Fitness Indexes of the study*

**Table 2: Achieved Fitness Indexes of the study**

Category Name	Index Name	Index Value	Comment
Absolute fit	RMSEA	0.067	Fitness Level Achieved
Incremental fit	CFI	0.903	Fitness Level Achieved
Parsimonious fit	ChiSq/df	2.252	Fitness Level Achieved

Table 2 shows the fitness Indexes of the measurement model. All fitness Indexes (RMSEA = 0.067), CFI = 0.903, and ChiSq/df = 2.252) of the measurement model signifies a satisfactory fit to the data and result of all indexes was good. Hence, this study achieved the construct validity (Awang, 2015; Awang et al., 2006; Awang et al., 2015; Fazella et al., 2017).

### *CFA Results for the Measurement Model*

**Table 3: CFA Results for the Measurement Model**

Construct	Sub. Construct	Item F.L	CR (> 0.6)	AVE (> 0.5)	Cronbach's $\alpha$
Hospital Image	A1	0.99	0.934	0.877	0.917
	A2	0.88			0.909
Service Quality	B1	0.99	0.960	0.923	0.977
	B2	0.93			0.949
Patients' satisfaction	C1	0.97	0.939	0.885	0.955
	C2	0.91			0.910

Keys:

- Cons: Construct
- Sub. Con: Sub Construct
- F.L: Item Factor Loading

Table 3 displays that CR and AVE of the constructs are achieved, and their value are above the endorsed value 0.60 and 0.50 respectively. Hence, this study achieved the convergent validity and reliability and can proceed for further analysis as the measurement model is valid and fit. Hence, Table 4 depicted the discriminant validity index summary for a piece latent construct

included in this study (Awang, 2015; Awang et al., 2006; Fazella et al., 2017). The bold diagonal value is the square-root of the respective AVE explicitly the AVE for hospital image, AVE for service quality, AVE for patients' satisfaction and AVE for patients' loyalty. The discriminant validity of the construct is gained as the correlation value not exceeds 0.96 and the diagonal values are greater than the values in their rows and columns respectively.

**Discriminant Validity Index Summary**

**Table 4: Discriminant Validity Index Summary**

Construct	IH	KPH	SAT	LOY
<b>IH</b>	<b>0.94</b>			
<b>KPH</b>	0.40	<b>0.96</b>		
<b>SAT</b>	0.40	0.85	<b>0.94</b>	
<b>LOY</b>	0.30	0.67	0.63	<b>0.94</b>

**Structural Equation Modelling (SEM)**

Once the validity and reliability of the measurement model was achieved, the structural model was established to test the proposed hypotheses. The study used the parametric SEM in SPSS-AMOS 21.0. Figure presents the results from the analysis showing the path coefficient from and independent construct to its corresponding dependent construct, as stated in the research hypotheses.

The results in Table 1 indicate path coefficient together with its significance. The hypothesis testing results in Table 1 revealed the significance of five hypotheses. H1 which conveyed a positive relationship between hospital image and patients' loyalty was not empirically supported (H3:  $\beta = 0.094$ ,  $z = 1.337$ , significance  $< 0.181$ ). On the other hand, the relationship between quality of hospital service and patients' loyalty has been supported (H2:  $\beta = 0.25$ ,  $z = 3.277$ , significance  $< 0.001$ ). H3 conveyed that patients' satisfaction positively relates to patients' loyalty has also been supported by results (H3:  $\beta = 0.48$ ,  $z = 5.850$ , significance  $< 0.001$ ). H4 conveyed that hospital image positively influences patients' satisfaction has been supported by results (H4:  $\beta = 0.25$ ,  $z = 3.928$ , significance  $< 0.001$ ). Finally, H5 conveyed that service quality positively influences patients' satisfaction has also been supported by results (H5:  $\beta = 0.57$ ,  $z = 8.053$ , significance  $< 0.001$ ).

**Table 5: The AVE and CR for Latent Constructs in the Measurement model**

Item	A1	A2	B1	B2	C1	C2	D
1	0.81	0.83	0.74	0.87	0.80	0.85	0.86
2	0.82	0.86	0.68	0.87	0.83	0.88	0.81
3	0.79	0.82	0.72	0.90	0.89	0.82	0.74
4	0.83		0.86	0.91	0.89	0.83	0.92
5	0.80		0.86	0.84	0.86	0.79	0.93
6	0.87		0.87	0.72	0.86		0.93
7	0.83		0.88	0.67			0.87
8			0.83	0.83			
9				0.75			
10				0.86			
11				0.82			
12				0.80			
<b>AVE</b>	<b>0.675</b>	<b>0.654</b>	<b>0.700</b>	<b>0.654</b>	<b>0.689</b>	<b>0.731</b>	<b>0.955</b>
<b>CR</b>	<b>0.936</b>	<b>0.957</b>	<b>0.875</b>	<b>0.957</b>	<b>0.946</b>	<b>0.931</b>	<b>0.754</b>

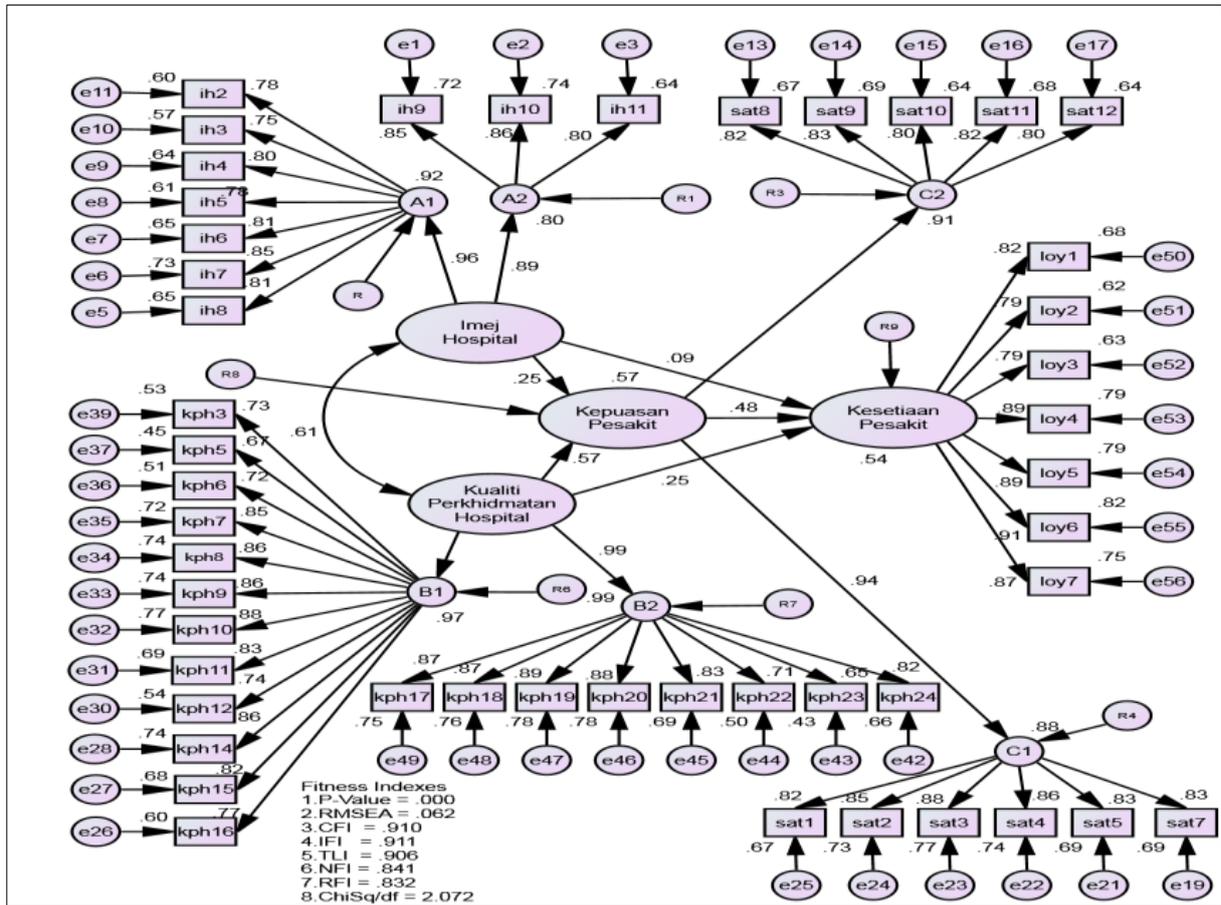


Figure 3: The Standardized Path Coefficient between Constructs in the model

*Test of Patients' Satisfaction as a Mediator*

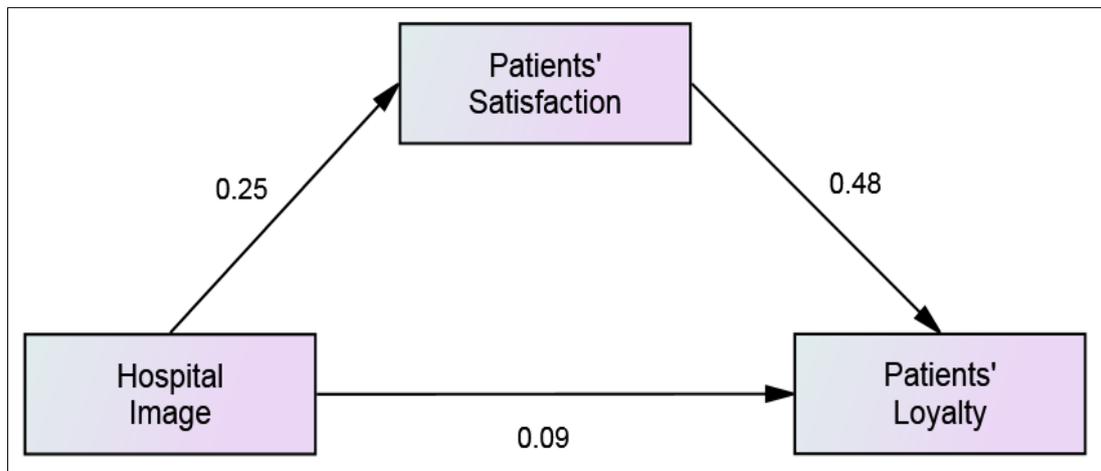


Figure 4: The procedure for testing mediator as outlined by (Awang, 2015; Mohamad, Mohammad, Mat Ali, & Awang, 2018)

- 1) The Indirect Effect =  $(0.25).(0.48) = 0.12$ .
- 2) The Direct Effect = 0.09.
- 3) Indirect Effect > Direct Effect, thus, the mediation occurs (Awang, 2015; Mohamad et al., 2018).
- 4) Since the Indirect path (Hospital Image to Patients' Loyalty) is not significant, the type of mediation is full mediation (Awang, 2015; Mohamad et al., 2018).

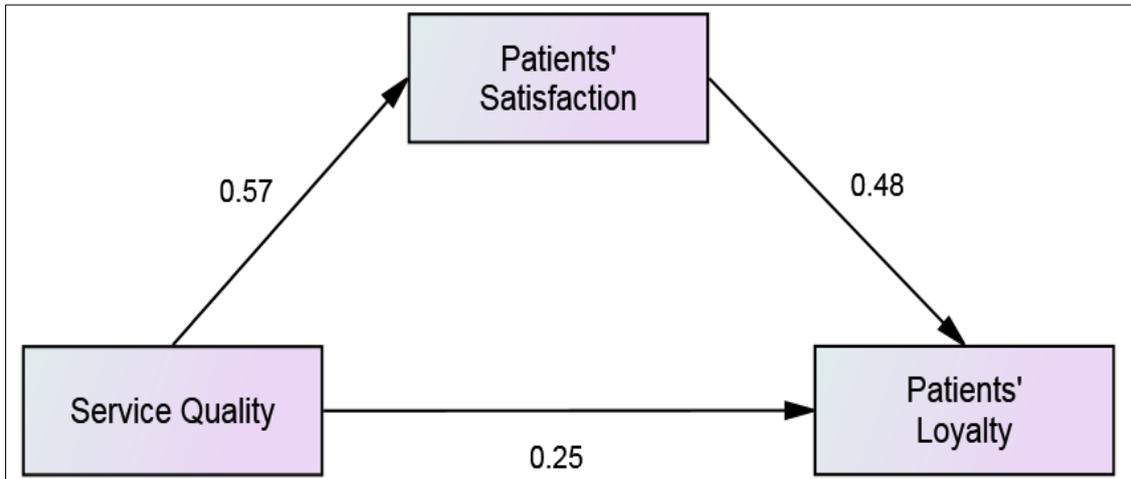


Figure 5: The procedure for testing mediator as outlined by (Awang, 2015; Mohamad et al., 2018)

- 1) The Indirect Effect =  $(0.57).(0.48) = 0.27$ .
- 2) The Direct Effect = 0.26.
- 3) The Indirect Effect > The Direct Effect, thus, thus, the mediation occurs (Awang, 2015; Mohamad et al., 2018).
- 4) Since the indirect effects path (Service Quality to Patients' Loyalty) is significant, the type of mediation is partial mediation (Awang, 2015; Mohamad et al., 2018).

### ***Confirming the Mediation Result through Bootstrapping***

It is imperative to reconfirm the result of the mediation test using the re-sampling procedure of bootstrapping for the purpose of testing the indirect effect. The process allows for sampling and replacement, where the algorithm is instructed to take the sample of size n from existing dataset. This, therefore, enables comparison of the mediation test results with the bootstrapping results as outlined by (Awang, 2015; Mohamad et al., 2018).

### ***Bootstrapping Result for Mediating Variable***

### ***Summary of Bootstrapping Result Hospital Image and Patients' Satisfaction***

Table 6: The results of bootstrapping procedure in testing the mediator patient satisfaction

	Indirect Effect	Direct Effect
Bootstrapping Result	0.121	0.086
Bootstrapping P-Value	0.001	0.208
Result	Significant	Not significant
Type of Mediation	Full Mediation since direct effect is not significant.	

### **Summary of Bootstrapping Result Service Quality and Patients' loyalty**

**Table 7: The results of bootstrapping procedure in testing the mediator patient satisfaction**

	<b>Indirect Effect</b>	<b>Direct Effect</b>
<b>Bootstrapping Result</b>	<b>0.275</b>	<b>0.245</b>
<b>Bootstrapping P-Value</b>	<b>0.001</b>	<b>0.05</b>
<b>Result</b>	<b>Significant</b>	<b>Significant</b>
<b>Type of Mediation</b>	<b>Partial Mediation</b> since direct is also significant.	

Here, the study used bootstrapping procedure to confirm the indirect effect and direct effect between the constructs as recommended by (Awang, 2015). Table 6 shows the beta estimate of both the indirect effect and direct effects of hospital image and patients' satisfaction ( $\beta$ ) = 0.121 and 0.086 respectively. Furthermore, it shows the P-Value of indirect and direct effects for the hospital image and patients' satisfaction (P-Value = 0.001 and 0.208 respectively). Based on the bootstrapping results of Table 6, it is evident that hospital image is full mediator for the relationship between hospital image on patients' satisfaction. Consequently, the H4, of this study which posited that hospital image mediate the relationship between hospital image and patients' satisfaction. Table 7 shows the beta estimate of both the indirect effect and direct effects of service quality and patients' loyalty ( $\beta$ ) = 0.275 and 0.245 respectively. It shows the P-Value of indirect and direct effects for the service quality and patients' satisfaction (P-Value = 0.001 and 0.05 respectively). Based on the bootstrapping results of Table 6, it is evident that service quality is partial mediator for the relationship between service quality on patients' satisfaction.

### **Conclusion**

The study has confirmed the validity and reliability of the research. Construct Validity, Convergent Validity and Discriminant Validity were confirmed with the procedure in both EFA and CFA. The Cronbach's  $\alpha$  value ranged from 0.909-0.977. Nomo logical validity was confirmed using Structural Equation Modelling (SEM) procedure. As posited, the study found significant relationships between patients' satisfaction and hospital image, patients' satisfaction and service quality, patients' loyalty and patients' satisfaction, and patients' loyalty and service quality.

Studying the satisfaction level of the healthcare services customers is an essential factor of the medical process. Knowing the level of the satisfaction apparent by the healthcare services consumers can be an advantage in the future by making more appropriate services or changing the way that the medical personnel communicates with the patients. The main factors that influence the satisfaction level are: doctors, nurses, medical equipment influence mostly the satisfaction perceived by the healthcare services consumers, followed by the level of cleanliness, the furniture and the equipment designed for the patients comfort.

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