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Service Quality, Value, Satisfaction and Future Intention in Medical Tourism

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Abstract

Medical tourism is a new and exciting industry due to its rapid growth and huge economic potential. Malaysia is joining the bandwagon with Thailand, Singapore, and India in being the main medical tourist destination countries in Asia. Medical tourism is a term that is loosely used to denote patients who travel abroad to another country for medical treatment, which may range from wellness services to invasive procedures such as a heart bypass or organ transplant. As a major medical tourism country, the study seeks to explore the impact of service quality on perceived value, patient satisfaction, and future intention of patients to seek medical services in the country again. This study also investigates the relationship between patient satisfaction and perceived value; and between future intention and perceived value. A structural model by using PLS-SEM was established from the research finding with data collected from 161 responses from medical tourists surveyed in major destination hospitals in Kuala Lumpur, Malacca, and Penang.

Keywords:

Medical tourism, Malaysia, healthcare management, patient satisfaction

1   Introduction

The significance of medical tourism as a main economic activity was first identified by the Malaysian government in its Economic Transformation Programme (ETP). Recognized as a New Key Economic Area (NKEA), medical tourism was targeted as a key driver of economic activity that has the potential to contribute significantly to the country's economic transformation plan. As part of the healthcare NKEA, the deal was for medical tourism to generate RM9.6 billion in revenue and RM4.3 billion in gross national income by 2020 while adding 5300 more medical professionals to the industry (PEMANDU, 2010). This was followed through in subsequent Malaysia Plans with the 10th Malaysia Plan setting the target for revenue to increase by 10 percent per annum and to make Malaysia the preferred healthcare destination in the region (EPU, 2011). This was to be achieved by fostering strategic alliances among local and foreign healthcare providers; encouraging international healthcare accreditation by participating hospitals, promoting investment in high-end medical technology; and intensifying promotional activities to strengthen the Malaysia Healthcare brand globally (Economic Planning Unit [EPU], 2011). While the number of medical tourists grew year on year, however, it was also alluded to in the 11th Malaysia Plan that the industry faces challenges in its high dependency on a few target markets, low revenue per patient, lack of private hospital capacity and insurance portability (Economic Planning Unit [EPU], 2016). Thus, there is a dire need to re-examine the industry, particularly concerning the patient experience and factors deem important to competitiveness which is value and future intention of purchase.

2   Literature Review

Medical tourism is a term that is loosely used to denote patients who travel abroad to another country for medical treatment, which may range from wellness services to invasive procedures such as a heart bypass or organ transplant. Travelling abroad for health services is not a completely novel concept as the rich and wealthy had often sought the spas and health resorts of Switzerland or Austria; or frequented Harley Street clinics in London, or sought treatment at John Hopkins Hospital or the Mayo Clinic. However, the recent traversing of patients across borders is taking another dimension altogether. First, the sheer volume of health travellers crisscrossing the globe is a phenomenon that had not gone unnoticed, and with it the economic fallout. Thailand, for example, claims to receive more than a million foreign patients a year, which in 2008 generates USD 1.5 billion to the country's economy (NaRanong & NaRanong, 2011). Singapore, which positions itself as a high quality, high-tech service provider generates USD 1.2 billion in 2007 from over half a million foreign patients (Pocock & Phua, 2011). Thus, the economic potential of medical tourism cannot be ignored altogether.

There are many reasons as to why patients would seek healthcare half-way around the globe; bearing in mind that healthcare is the most local of services as one would

prefer the comfort of home in times of sickness. Costs have often been cited in cases where patients seek a cheaper alternative to costlier treatment in their home country (Marlowe & Sullivan, 2007; Enderwick & Nagar, 2011). In countries where there is a long waiting list for elective surgery, the faster alternative is to seek treatment at one of the medical tourism hospitals abroad (Conell, 2006; Johnston, Crooks, Adams, Snyder & Kingsbury, 2011). As often the case, patients from less developed healthcare systems seek treatment for better quality of care. Thus, patients from Indonesia or Vietnam would go to either Malaysia or Singapore for their health services' needs (Manaf, Hussin, Kassim, Alavi & Dahari, 2013). But there is also a reversal in the flow of patients where those from developed countries seek treatment in less developed countries due to the convergence in the standard of care (Fried & Harris, 2007); meaning that the quality of medical treatment for a particular procedure in a hospital in Kuala Lumpur can be as good as any done at American or European hospitals. This level of assurance of care which is strengthened by accreditation, especially by Joint Commission International (JCI) has raised the profile of the industry. The internet revolution and exponential growth in air travel further augment the rise of the industry (Manaf, Ghazali & Marikar, 2011). Apart from these factors, advances in medicine itself augur well for the travelling patients where procedures that are less and less invasive but with better outcome are being developed, refined and transplanted in hospitals across the globe.

Although medical tourism has caught the attention of policymakers and researchers, nonetheless, research with empirical data obtained from actual medical tourist patients has been quite sparse (Manaf et al., 2015). This is understood given the difficulties in obtaining patients to participate as they are not in the best of health and, furthermore, away from their own home country. Given the dearth in the literature, a survey was undertaken with the objectives to explore the impact of service quality on perceived value, patient satisfaction, and future intention of patients to seek medical services in the country again. The study also investigates the relationship between patient satisfaction and perceived value; and between future intention and perceived value.

3   Research Framework

In order to test the relationship as spelled out in the research objectives, the following hypotheses were formulated.

H_1: Service quality has a significant positive impact on patients' perceived value in medical tourism.

H_2: Service quality has a significant positive impact on patient satisfaction in medical tourism.

H_3: Service quality has a significant positive impact on the future intention for healthcare services in medical tourism.

H₄: Perceived value has a significant positive impact on patient satisfaction in medical tourism.

H₅: Perceived value has a significant positive impact on the future intention for healthcare services in medical tourism.

H₆: Patient satisfaction has a significant positive impact on the future intention for healthcare services in medical tourism.

Thus, Figure 1 shows a framework for service quality, perceived value, patient satisfaction and future intention to seek medical services again is being established from the research findings. Service quality is the independent variable and conceptualized as a second order hierarchical reflective construct, which consists of three dimensions (medical staff quality, supporting services quality and administrative services quality). Perceived value, patient satisfaction, and future intention are the dependent variables and are conceptualized as first-order constructs. It is envisaged that the framework will assist both policy-makers and industry players to better understand pertinent variables in medical tourism from the perspectives of the patients themselves.
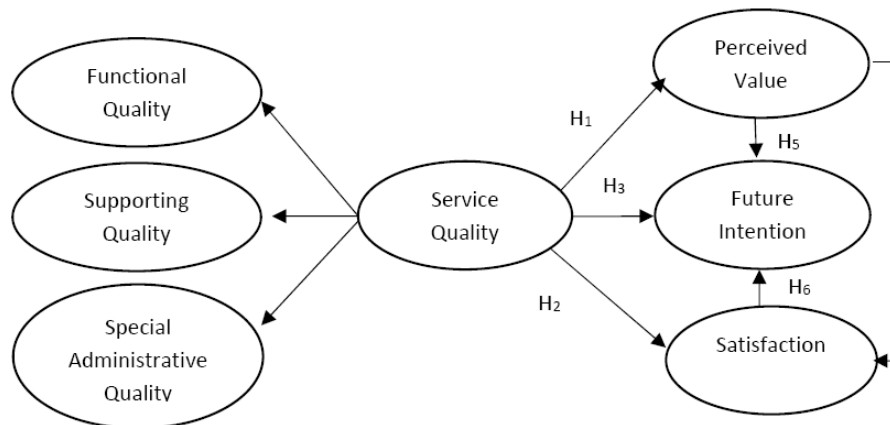

Figure 1: Research Framework

4   Methodology

4.1   Sampling and data collection

A self-administered questionnaire was the main method of data collection, and since empirical research on medical tourism is not widely published, development of items relied heavily on the work of Saiprasert (2011) on medical tourism in Thailand. Constructs covering service quality, perceived value, patient satisfaction, and future intention with Cronbach's alpha values between 0.70 and 0.90 were deemed appropriate for the study. The items were presented in a Likert-scale format response ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was also

translated into Arabic and Indonesian Malay from the original English. Native speakers of Arabic and Indonesian Malay were requested to translate the questionnaire into their respective languages. The translated questionnaire was then translated again into English to ensure that the message and meaning in each item were retained throughout the translation process. Twenty hospitals were randomly selected according to the region from the list of medical tourism hospitals registered with the Ministry of Health.

The survey covered main medical tourism cities in Peninsular Malaysia, which are Penang, Malacca, Johor Bahru, and the capital city of Kuala Lumpur. Respondents comprised international patients who come into the country as medical tourists. Expatriates and foreign nationals who are already residing in the country were excluded from the survey. A total of 1000 questionnaire were sent out, and of these, 173 responses were received and analysed. This gave a response rate of 17.3 percent. The low response rate was expected for reasons mentioned earlier in that patients are not in the best of their health and not in their own home country. Thus, data collection was done in close collaboration with participating hospitals and only patients who have given consent were approached. Data collection was done before patients exit the service encounter in line with the recommendation by Ford, Bach, and Fottler (1997) to ensure accurate feedback from the patients while it is still fresh in their minds. Convenience sampling was carried out as proposed by Manaf et al. (2012) for any patient satisfaction studies.

4.2 Demography of respondents

Almost half of the respondents (45%) travelled to Malaysia for the first time for medical services, and another 24% were here for the second time. More than half (53%) were male while the remaining 47% were female. In terms of age, 55% are between 26 and 45 years old, and another 33% are between 46 and 65 years old. Distribution by occupation showed that 34% are self-employed, executive 10%, education 8%, professional/technical 6.5% and retired 10%. Although most respondents are Indonesians (61%), however, the country profile is very diverse with patients from Libya, Somalia, South Korea, China, Cambodia, Djibouti, Bangladesh, Japan, Pakistan, Australia, Yemen, Thailand, New Zealand, Romania, Iraq, USA, Singapore, Iran, Maldives and Mongolia. As for types of services, 31.2% came for a comprehensive medical check-up, 14% for heart surgery, 8% for cosmetic surgery, 5% for lasik and sight treatment and another 5% for dental surgery and treatment. There were also those who came for in vitro fertilisation treatment, cancer, kidney, nerve and intestinal ailments. Almost half (48%) made their decision based on word-of-mouth information and 17% on the advice of their doctors. Most of the respondents (66%) made their arrangement directly with the hospitals.

4.3 Data analysis

Data were analyzed using PLS path modeling with SmartPLS Version 3.0 (Ringle, Wende & Becker, 2015). The PLS-SEM analysis involves a two-step approach, measurement modal and structural model evaluations. (Hair et al., 2014). However, during the evaluation of measurement model, service quality as the second order construct is estimated using the repeated indicators approach, also known as the hierarchical component model (Wetzel et al., 2009). After the reliability and validity of the constructs have been established, then only the analysis of the posited structural relationships was conducted.

5 Findings

5.1 Evaluation of the Measurement Model

In order to check the properties of the measurement scale, PLS algorithm was performed to assess the reliability, convergent validity and discriminant validity of the scales. To establish the constructs' validity, several items were deleted because they loaded much higher on other factors than their factors (SUP1, SUP2, SUP 3, ADMIN2, ADMIN5, ADMIN7, PV2, and SAT2). If own loadings were lower than cross-loadings, convergent validity could not be established (Hair et al., 2014). Thus, the final items for establishing reliability and convergent validity of the first order constructs are as shown in Table 1 below. All indicators are loading appropriately and show values greater the cut-off threshold value of 0.7 implying that more than 50 percent of the variance in the observed variables is shared with the constructs (Hair et al., 2014). All AVEs, CRs, and Alphas also exceeded the cutoff values of 0.5, 0.7 and 0.7 respectively (Hair et al., 2014).

Table 1: Reliability and Convergent Validity of the First-Order constructs

Construct	Items	Loadings	AVE	CR	Alpha
Medical staff Quality	The process for setting up the medical procedure appointment was simple and easy (MED1)	0.929	0.867	0.981	0.978
	Ease of assembled and transmitted of medical record/information (MED2)	0.934			
	Short waiting time for the medical examination from the physicians (MED3)	0.931			
	The physicians paid enough attention to my concerns in deciding on a medical procedure (MED4))	0.918			
	The physicians adequately explained my condition, examination results and medical process (MED5)	0.982			

	The physicians allowed me to ask many questions, enough to clarify everything (MED6)	0.982			
	The medical staff has good communication skill (MED7)	0.933			
	Medical staff was polite and friendly (MED8)	0.830			
Supporting Services Quality	The hospital provides free internet access (SUP4)	0.753	0.727	0.914	0.873
	The hospital has adequate grievance channel for patients (SUP5)	0.909			
	The hospital's attention to patient's privacy, confidentiality and disclosure (SUP6)	0.907			
	The hospital has acceptable protection against medical malpractice and liability (SUP7)	0.832			
Administrative Services Quality	The payment procedure was quick and simple (ADMIN1)	0.902	0.806	0.943	0.920
	Assistance with financial arrangements including advance estimates for fees, deposits, and payments (ADMIN3)	0.892			
	Convenient hospital transportation arrangement (ADMIN4)	0.890			
	Coordination of arrangements between the patient, hospital, third party insurance companies, embassies and other businesses (ADMIN6)	0.908			
Perceived Value	I received quality medical treatment at a reasonable price (PV1).	0.897	0.828	0.906	0.793
	This medical treatment was a good value for money (PV3)	0.922			
Satisfaction	Overall, I was satisfied with my medical treatment in Malaysia (SAT1)	0.926	0.857	0.923	0.834
	Overall, I was satisfied with my medical trip to Malaysia (SAT3)	0.960			
Future Intention		0.987	0.893	0.977	0.970
	I would be willing to recommend this medical treatment in Malaysia to my relatives and close friends (INT1)				
	I will continue to use this hospital service in Malaysia in the future (INT2)	0.941			
	I would be willing to do further medical treatment at this hospital in Malaysia (INT3)	0.863			
	I would consider Malaysia as my first choice for medical tourism (INT4)	0.943			
	I would continue to use this hospital	0.987			

service in Malaysia even if the cost was higher than other destination (INT5)

Further, Table 2 compares the square root of the AVE (diagonal values) with the correlations among the constructs. The result shows that the square root of AVE are all greater than the correlations values, which means that all constructs are more strongly correlated with their measures than with any other constructs. This Fornell-Lacker criterion assessment applied also confirms the construct's discriminant validity (Fornell & Lacker 1981).

Table 2: Discriminant Validity of the First-Order Constructs

	(1)	(2)	(3)	(4)	(5)	(6)
Medical Staff Quality (1)	0.931					
Supporting Services Quality (2)	0.789	0.853				
Administrative Services Quality (3)	0.693	0.816	0.898			
Perceived Value (4)	0.506	0.565	0.566	0.910		
Satisfaction (5)	0.595	0.579	0.572	0.686	0.926	
Future Intention (6)	0.585	0.563	0.592	0.695	0.827	0.945

Note: Diagonal figures represent the square root of the AVE, and the off-diagonal figures represent the correlations

Then the next step is to assess the second-order construct in the model. As mentioned, the study specifies service quality as a second order hierarchical reflective construct, which consists of three dimensions (medical staff quality, supporting services quality and administrative services quality). The results show that all indicators are above the cut off value 0.708 (Hair et al., 2014). Notably, Table 3 also demonstrate that each of the first-order factors has significant loading *(p<0.001)* on the service quality. The result reveals that the medical staff quality dimension has the highest loading (0.951) followed by supporting services quality dimension (0.915) and the administrative services quality dimension (0.864). Here, the AVE and CR of service quality are 0.682 and 0.968 respectively, which are well above the cut off values of 0.5 and 0.7 (Hair et al., 2014).

Table 3: Assessment of the Service Quality Model as a Second-Order Construct

Construct/Dimension	Indicator	Item Loading	Factor Loading	AVE	CR	Alpha
Service Quality				0.682	0.968	0.964
Medical Staff Quality	MED1	0.868	0.951*			
	MED2	0.918				
	MED3	0.906				

	MED4	0.856	
	MED5	0.927	
	MED6	0.928	
	MED7	0.872	
	MED8	0.798	
Supporting Services Quality	SUP4	0.753	0.915*
	SUP5	0.909	
	SUP6	0.907	
	SUP7	0.832	
Administrative Services Quality	ADMIN1	0.902	0.864*
	ADMIN3	0.892	
	ADMIN4	0.890	
	ADMIN6	0.908	

5.2 Evaluation of the Structural Model

Having established the appropriateness of the measures, the next step is to provide evidence supporting the theoretical model. The key criteria for assessing structural model in PLS-SEM are the significance of the path coefficients, β and the level of coefficient of determination, R^2 values. For this, bootstrapping (n=173, sample=1000, no sign changes) was applied. Table 4 shows the R^2 values for perceived value, satisfaction, and future intention are 0.336, 0.556, and 0.724 respectively. R^2 represents the amount of explaining variance of each endogenous variable in which the acceptable level depends on research context (Hair et al. 2014). Since research in medical tourism is relatively new, the R^2 values exceed 0.26 can be described as substantial (Cohen 1988).

Table 4: R-Square Values

Variables	R Square	R Square Adjusted
Perceived Value	0.336	0.332
Satisfaction	0.556	0.551
Future Intention	0.724	0.719

Finally, Table 5 reveals the hypothesis testing results. The analysis found support only for H1, H4, and H6. The highest path value shown is between satisfaction and future intention (β=0.605), followed by the relationship between service quality and perceived value (β=0.580) and perceived value and satisfaction (β=0.478). Meanwhile, H2, H3, and H5 are not supported.

Table 5: Hypotheses Testing Results

Hypotheses	Path Coeff.	S.E	t-stats	Sig.	Decision
H$_1$: Service Quality → Perceived Value	0.580	0.147	3.942	***	Supported
H$_2$: Service Quality → Satisfaction	0.359	0.18	1.997	n.s	Not supported
H$_3$: Service Quality → Future Intention	0.127	0.103	1.226	n.s	Not supported
H$_4$: Perceived Value → Satisfaction	0.478	0.180	2.657	**	Supported
H$_5$: Perceived Value → Future Intention	0.207	0.111	1.861	n.s	Not supported
H$_6$: Satisfaction → Future Intention	0.605	0.155	3.905	***	Supported

*Note: *** p < 0.01, ** p < 0.05, n.s - not significant*

6   Conclusion

From the hypothesis testing, service quality was found to have had a significant influence on perceived value. However, service quality was found not to affect patient satisfaction or future intention for repeat treatment. This could be possible because, within the medical tourism context, service quality alone may not be adequate to influence satisfaction and future intention. As noted by Tomes and Ng (1995), the patient experience is more than just a physical experience, which may hold true for another form of services. In a healthcare setting, during the service encounter, patients are also burdened with psychological concerns such as fears of physical disability, fears of dying and fears about the side effects of treatment. Thus, service quality alone is not enough to effect patient satisfaction and also future intention.

Similarly, perceived value has no significant influence on future intention. Malaysia healthcare is known for its value for money because treatment done in the country is cheaper in comparison to neighboring Singapore or Thailand. However, the majority of patients who seek treatment in the country are Indonesians, who are possibly from the wealthier echelon and are therefore more concerned with the standard of care rather than the cost factor. The same applies to patients from other countries such as Bangladesh and Yemen who are here for better healthcare quality. Thus, they are more concerned with the outcome of care, rather than the cost of treatment. Although perceived value shows no direct influence on future intention, the finding, however, shows that it does influence satisfaction.

Satisfaction on the other hand, significantly affects future intention, Therefore, for perceived value, even though it shows no direct influence on future intention, it significantly affects satisfaction and satisfaction significantly affects future intention. Thus, this significant link of service quality → perceived value → satisfaction → future intention shows that for medical tourists; service quality has an indirect effect on

future intention through perceived value and patient satisfaction. This relationship needs to be further explored as to whether the role of future intention and satisfaction is moderating or mediating.

The findings also provide empirical evidence that all the three dimensions are important components of medical tourism service quality. Thus, managers need to improve service quality of hospital services via medical staff quality, supporting services quality and administrative services quality. The role of cost of treatment as a motivating factor also needs further examination in light of these findings within the context of Malaysian healthcare services.

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