






## Shaping Malaysia's medical tourism image: Matters most to patients and strategic implications

 **Norhaslin Abu Hassan<sup>1</sup>**

 **Mazni Saad<sup>2+</sup>**

 **Siti Hajar Zakariah<sup>3</sup>**

 **Mohd Hanafi Azman Ong<sup>4</sup>**

<sup>1</sup>Department of Tourism & Hospitality, Politeknik Muadzam Shah, Malaysia.

Email: [Norhaslin@pms.edu.my](mailto:Norhaslin@pms.edu.my)

<sup>2</sup>Kulliyah of Sustainable Tourism and Contemporary Languages, International University Malaysia.

Email: [maznisaad@iium.edu.my](mailto:maznisaad@iium.edu.my)

<sup>3</sup>Faculty of Technical and Vocational Education, Universiti Tun Hussein Onn Malaysia.

Email: [hajarz@uthm.edu.my](mailto:hajarz@uthm.edu.my)

<sup>4</sup>Faculty of Computer and Mathematical Sciences, Universiti Teknologi MARA Johor Kampus Segamat, Johor, Malaysia.

Email: [napieong@uitm.edu.my](mailto:napieong@uitm.edu.my)



(+ Corresponding author)

### Article History

Received: 19 May 2025

Revised: 27 June 2025

Accepted: 14 July 2025

Published: 29 July 2025

### Keywords

Destination image  
Healthcare attractions  
Malaysia  
Medical tourism.

### ABSTRACT

Medical tourists now demand affordable yet high-quality medical care beyond their home countries, and Malaysia is one of their best choices. However, some studies address the inconsistency of service quality, disjointed patient experiences, and poor coordination between the tourism and healthcare sectors. These issues hinder the potential for sustaining the medical tourism industry. Therefore, this comprehensive study examines how medical healthcare attractions within Malaysian hospitals impact destination image perceptions. Focusing on private hospitals accredited by the Malaysian Healthcare Travel Council, our research employed a combination of face-to-face interviews and Structural Equation Modeling techniques to analyze the influence of independent variables on destination image formation. Our empirical findings revealed that attributes such as cost, quality, accessibility, and treatment availability positively influence destination image, thereby enhancing the destination's appeal for medical tourism endeavors. Theoretically, we emphasize the importance of prioritizing the enhancement of medical healthcare attractions and destination image, aligning with the principles of Ajzen's Theory of Planned Behavior. Practically, our study highlights the need for stakeholders to strengthen existing attractions and develop a robust online presence, particularly through social media platforms, to facilitate the formulation of effective marketing strategies and promote sustainable industry growth within medical tourism hubs like Malaysia.

**Contribution/Originality:** This study is the first in the Malaysian context to empirically integrate tourism attractions and medical healthcare attributes within a unified framework to predict destination image and future behavioral intentions of medical tourists, offering a novel theoretical extension grounded in the Theory of Planned Behavior.

## 1. INTRODUCTION

Medical tourism is expanding rapidly due to the growing demand for cost-effective, quality medical care beyond national borders. Countries offering affordable healthcare without compromising service standards have successfully positioned themselves as key players in this sector, gaining economic and reputational benefits (Ediansyah, Arief, Hamsal, & Abdinagoro, 2023). Malaysia has emerged as a leading destination in Southeast Asia, offering internationally recognized medical facilities, highly qualified specialists, and a wide range of treatments comparable to those in more developed nations (Thoo et al., 2020). Notably, the Malaysian government's proactive

involvement, through strategic collaborations and targeted incentives, has further accelerated the industry's growth (Chandran, Mohamed, Zainuddin, Puteh, & Azmi, 2017).

Over the past decade, studies have examined the factors influencing a country's image in the medical tourism industry, revealing some gaps. For instance, it was shown that Mongolians seeking plastic surgery, skincare, and general healthcare in Korea have increased significantly due to geographic proximity and the Korean Wave (Hallyu) of Korean media. However, the study indicated that while medical technology, cost-effectiveness, medical services, and tourism services had a significant impact, accessibility did not. In another study, the medical tourism image of Turkey was examined. It was found that service quality, safety and security, cost, accessibility, hygiene, and tourism opportunities were related to the country's image. However, the study was limited from the perspective of healthcare professionals, not medical tourists.

Medical tourism experiences are shaped not only by clinical outcomes but also by the destination's overall image. The current healthcare facilities influence patients' perceptions of a destination. Advanced hospitals, specialized clinics, and integrated wellness centers can significantly affect medical tourists' travel choices and their overall experience, influencing future decisions such as returning for additional treatment or recommending the destination to others (Asa, Fauk, McLean, & Ward, 2024). A pleasant image encourages tourists to perceive greater value in receiving treatment at the hospital. Ajzen (1991), in the Theory of Planned Behaviour, explained the influence of attitudes, subjective norms, and perceived behavioral control on individuals' intentions and actual behavior. Applying the theory of planned behavior to medical tourism provides a valuable perspective for understanding potential patients' considerations when seeking treatment outside their home country. For Malaysia, it is important to cultivate a positive reputation regarding its attitudes toward healthcare and treatment processes. Psychological factors play a crucial role in establishing the country's reputation as a preferred destination for medical tourism.

Considering these factors, this study addresses the factors influencing medical tourists' decisions in Malaysia. Specifically, it aims to examine the factors that shape Malaysia's image as a preferred medical tourism destination, focusing on treatment cost, quality, accessibility, and availability.

## 2. LITERATURE REVIEW

### 2.1. Determinants of Destination Image in Medical Tourism

Medical tourism encompasses the phenomenon of seeking medical care in foreign countries. The medical travel sector is growing primarily due to various aspects of globalization and advancements in the healthcare sector. This sector has a substantial impact on the world tourism market and healthcare delivery systems. Many researchers have examined what medical tourists prefer, including price, accessibility of treatments, quality of care, and availability of treatments (medical procedures). In the healthcare industry, many factors influence an individual's decision regarding which country to choose for medical needs. This literature review will explore these variables in depth. Moreover, the importance of the perception of the destination image will be analyzed. This is particularly relevant in the case of a country like Malaysia, which has developed into a major destination for medical tourism.

### 2.2. Cost Competitiveness and Destination Image

The importance of cost in this sector has increased flexibility in medical tourism. People often travel for medical treatment due to expensive procedures or the unavailability of certain treatments in their home countries. According to Chandran et al. (2017) and Turai, Caniago, and Sari (2023), many countries such as Malaysia, Thailand, and India are experiencing growth in medical tourism. This is primarily because these countries can provide similar healthcare services at a lower cost than Western nations. It enables medical tourists to receive high-quality care at a more affordable price compared to the United Kingdom or the United States.

Cost competitiveness is an important contributor to the destination image in medical tourism. People seeking healthcare tend to flock to countries known for providing health services at low prices. Malaysia, for example, has capitalized on this trait by establishing affordability as one of the key features of its identity as a medical tourism hub. Notably, Malaysia offers much cheaper healthcare treatments such as surgery, dentistry, reproductive health, and other medical procedures compared to Western countries (Abdullah, Cheah, Mulia, & Abdul Fatah, 2019). Because of its lower prices, Malaysia is able to compete with other countries that can provide the same medical services, especially in Southeast Asian countries. Another salient dimension of medical tourism affected by cost considerations is the perceived value of medical treatments. As Guru, Sinha, and Kautish (2023) suggest, medical tourists seek optimal value, i.e., affordable yet superior medical services, rather than just low prices. With regard to cost and quality, this balance has become significant in shaping the image of a medical tourism destination. People who travel for medical care tend to believe that medical destinations are not solely defined by low costs and good services. Indonesian patients prefer Malaysian healthcare services for interventions such as cardiology and chemotherapy due to substantial cost savings achieved by receiving treatment in Malaysia (Abd Manaf, Hussin, Jahn Kassim, Alavi, & Dahari, 2015; Cham, Lim, Sia, Cheah, & Ting, 2021).

Patients are satisfied when they are able to save money. This indicates that the particular place has a good reputation and a positive image. Satisfied medical tourists share their experiences with others, which enhances the reputation of the nation. According to Shoukat, Elgammal, Aziz, Olya, and Selem (2023), a positive word-of-mouth can help establish a favorable image of medical tourism. In the sphere of global medical tourism, Malaysia's competitiveness continues to thrive due to the high quality of treatment at affordable prices and high patient satisfaction.

Malaysia's medical tourism is successful due to low-cost, high-quality healthcare resulting in satisfied patients. Consistent with Shoukat et al. (2023), satisfaction generates positive perceptions and word-of-mouth among tourists about the destination, which is significant for image-building. If patients are satisfied, it enhances Malaysia's reputation as an important destination for medical tourism.

To ensure the competitiveness of pricing and a positive destination image, the government, through the Malaysia Healthcare Travel Council (MHTC), must play a pivotal role. The MHTC offers assistance and tax incentives to promote medical travel (Chandran et al., 2017). As a result of the aforementioned programmes, Malaysia is becoming increasingly beneficial economically, establishing itself as an inexpensive and easily accessible medical tourism destination. This assistance will greatly improve and strengthen Malaysia's position in medical tourism.

### *2.3. Quality of Healthcare and Destination Image*

Along with cost, the quality of care is a significant factor in determining a destination's image. The quality of medical services is essential for medical tourists. Quality also involves numerous aspects, such as the medical staff's expertise, the level of medical technology, accessibility to specific procedures and treatments, and the patient's overall experience. Countries providing quality healthcare services are more likely to be rated positively by medical tourists.

Thailand has established itself as a leading destination for medical tourism, offering affordable medical services. The country's healthcare system is renowned worldwide for providing very high standards sometimes surpassing those of many Western countries in medical treatments at a low cost. According to Sirivadhanawaravachara (2024), Thailand offers some of the best healthcare at affordable prices, which is why it is considered a top medical tourism destination. Similarly, India is recognized for its high standards of healthcare, particularly for procedures such as heart surgery, organ transplants, and fertility treatments. Although India has an excellent pool of doctors, the quality of medical facilities and infrastructure varies across different regions, with some areas not meeting international standards (Sharma, 2024).

In Malaysia, health service standards are also a significant factor contributing to its success in medical tourism. According to [Turai et al. \(2023\)](#), the reputation of hospitals and other healthcare services is their responsibility to maintain the destination image. Malaysia has internationally standard hospitals and is well-equipped with advanced medical technology, which significantly attracts patients worldwide for high-quality medical services. The high brand equity of Malaysian hospitals is also crucial in attracting health tourists to the country. Patients trust the quality they will receive in a hospital, and people are likely to trust hospitals with a good reputation.

Thus, it is essential that patients consider the skills and experience of medical professionals when choosing a destination. Therefore, a country with highly skilled staff and specialists will attract international medical tourists. Malaysia is one of the medical tourism hubs because it is strategically located in Asia and offers remarkable healthcare and advanced medical technology.

#### *2.4. Accessibility of Treatment and Destination Image*

Next, in medical tourism, the accessibility of treatment is another factor influencing the destination's image. Medical tourists usually prefer the availability of medical services, the convenience of public transportation, and the ability to communicate effectively with medical providers. Destinations that offer easy access and high-quality medical care are more preferred by medical tourists.

India has undergone considerable advancements in the enhancement of its transportation systems, thereby facilitating the ease with which patients can travel to prominent medical tourism centers such as New Delhi and Mumbai ([Sharma, 2024](#)). According to [Yusof and Rosnan \(2020\)](#), Malaysia also has advantages from its geographic location, which is near Southeast Asia, and provides additional appeal as a destination for regional medical tourists. Furthermore, Malaysia has a sophisticated international airport, along with its well-developed transportation infrastructure, which ensures that medical tourists can conveniently access the country for medical treatment and return safely to their places of origin.

In conjunction with transportation, the accessibility of medical services significantly affects the perception of a destination. Medical tourists tend to select destinations where they can easily locate and obtain the required treatments. Malaysia is recognized as a leading medical tourism destination because it offers comprehensive medical services, including specialized therapies such as cardiology, oncology, and aesthetic surgery. Therefore, medical tourists are more likely to choose places with different treatment procedures than their own countries, especially for specialized and niche therapies ([Md Zain, Hanafiah, Asyraff, Ismail, & Wan Mohd Zain, 2023](#)).

In addition, initiatives designed to reduce linguistic and cultural obstacles have been enhanced among healthcare providers to adequately support international patients. Therefore, to increase accessibility, Malaysia expanded patient-centered services, such as providing assistance with travel arrangements, accommodations, and language support. Consequently, the connection between healthcare professionals and medical services helps develop the perception of the medical destination's image.

#### *2.5. Treatment Availability and Destination Image*

Access to specific medical interventions is a key factor in medical tourism decisions. Due to a lack of availability in their home countries, patients often travel abroad for healthcare and medical treatment. High-quality medical equipment, specialist treatment, and the expertise of professionals help attract medical tourists.

Malaysia is popular for its many health services, from cardiology to orthopedics, fertility, and cancer treatments. Due to the affordable costs and availability of treatments, it has gained a reputation as a medical tourism destination. In the case of Malaysia, it was identified that medical tourists, particularly from Indonesia and Middle Eastern countries, often undergo procedures that are either unavailable or too expensive in their home countries ([Ediansyah et al., 2023](#)).

The laws regulating treatments impact the availability of those treatments. Tighter rules may prevent certain procedures, such as organ transplants or fertility treatments, in some countries. This often leads patients to travel to nations with fewer restrictions to receive these treatments. Many couples are now traveling to Malaysia due to the limited availability of fertility services like surrogacy, sperm, and egg donation in Indonesia. These procedures are offered freely and legally in Malaysia (Bennett & Pangestu, 2017). Thus, healthcare services that respond to international patients' requirements are important for making medical tourism hubs such as Malaysia appealing. Medical tourists often choose destinations that offer access to medical treatments that are more difficult to obtain elsewhere.

In summary, the availability of treatment alternatives, ease of travel and access, financial considerations, and apprehensions regarding the quality of healthcare constitute the primary factors propelling medical tourism. These components significantly influence patients' decision-making processes as they seek medical care internationally. Therefore, four hypotheses for this study are listed as follows:

*H<sub>1</sub>: There is a significant influence of Cost on Destination Image.*

*H<sub>2</sub>: There is a significant influence of Quality on Destination Image.*

*H<sub>3</sub>: There is a significant influence of Accessibility to Treatment on Destination Image.*

*H<sub>4</sub>: There is a significant influence of the Availability of Treatment on the Destination Image.*

Based on the literature review, Figure 1 shows the suggested theoretical framework for this study. There are four independent variables, namely cost, quality, accessibility to treatment, and availability of treatment, which are all directed towards the dependent variable, destination image.

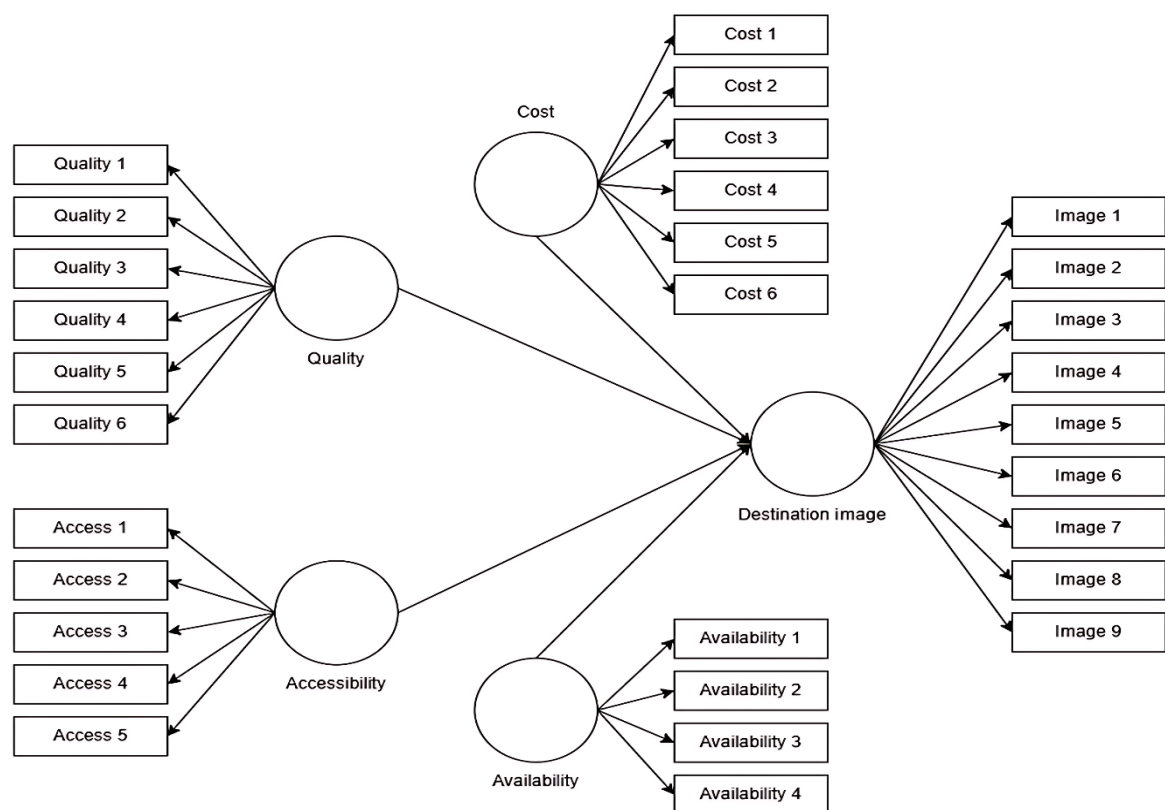


Figure 1. Theoretical framework.

### 3. METHODOLOGY

#### 3.1. Research Design and Instruments Development

The survey was conducted in hospitals registered under the Malaysia Healthcare Travel Council (MHTC) at major tourist attractions in Malaysia. The three locations selected Penang, Malacca, and Kuala Lumpur are



significant within Malaysia's health tourism industry. According to Abdullah et al. (2019), Penang accounted for the highest proportion of health tourists in 2011 (61%), followed by Malacca at 19% and Kuala Lumpur at 11%. These statistics highlight the strategic importance of these locations within Malaysia's medical tourism sector.

This research adopted a quantitative methodological framework, utilizing a cross-sectional survey strategy to acquire empirical data at a single point in time. This approach was deemed practical, utilizing structured questionnaires to measure the targeted variables (Creswell, 2014). To ensure the reliability and consistency of data collection, a structured questionnaire was prepared as the main instrument. To establish the face and content validity of the instrument, it was subjected to pre-testing on a pilot sample of thirty international medical tourists. Minor changes to words and phrases were made based on feedback from the pilot study. The final survey was in English but simplified for non-native speakers as needed.

Following Saunders, Lewis, and Thornhill (2009), this study increased the response rate and reduced the possibility of missing data by engaging research assistants during data collection at participating hospitals. The study sought approval from a relevant institutional review board to obtain ethical clearance. This step is important for ensuring data confidentiality and participant protection. Participants also provided their consent for voluntary participation. Due to the lack of an adequate sampling frame, a non-probability sampling method, specifically judgmental sampling, was employed to reach respondents (Creswell, 2014). Using this approach, participants could be selected based on specific criteria that focused on international tourists who had previously received medical treatment in Malaysia.

This research employed structural equation modeling with the partial least squares (PLS-SEM) method to assess the influence of independent variables on the expected dependent variables. The PLS-SEM technique was chosen because the main interest of the present study is to investigate the relationships among the targeted variables simultaneously (Hair, Hult, Ringle, & Sarstedt, 2017). To assess the significant influence of variables, 5,000 replications of samples (i.e., bootstrapping) were performed. This process involved calculating the 95% confidence interval using Bootstrap-t, Percentile Bootstrap, and t-statistics methods.

The instruments utilized in this study gathered information regarding the respondents' demographic backgrounds and items pertinent to the study's targeted variables. Specifically, nine items were adopted from Echtner and Ritchie (2003) study to gauge the respondents' perceptions of the destination image. Additionally, twenty-one items were employed to measure four independent variables derived from previous research. Specifically, six items each related to Cost and Quality independent variables were selected from prior studies conducted by Wongkit and McKercher (2013) and Mishra and Sharma (2021). Research items from Abd Manaf et al. (2015) study were incorporated to measure accessibility to treatment and availability of treatment. All study variables were assessed using 5-point Likert scales ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

## 4. RESULTS

### 4.1. Respondents' Profile

A survey involving 441 respondents was conducted, resulting in a response rate of 51.1%. However, after discarding invalid responses, only 419 data points were usable. The descriptive analysis revealed that the proportion of male (51.8%) and female (48.2%) respondents was approximately balanced. Most respondents were Indonesian citizens (66.1%), followed by those from Thailand (20.3%), Singapore (9.3%), and Brunei (4.3%).

### 4.2. Measurement Model Analysis

Convergent validity analysis and cross-loading analysis for the measurement model were conducted and presented in Table 1. Following Hair et al. (2017), the results indicated that all indicators met the minimum threshold value of .70 for factor loadings, except for one indicator, which was included in the analysis due to loading values above .6. Furthermore, the Average Variance Extracted (AVE) for each construct exceeded .50, and both

reliability tests (Composite Reliability and Cronbach's Alpha) for each targeted construct were above .70. These findings confirm the good unidimensional validity of each variable.

**Table 1.** Assessment of convergent validity and cross-loading analysis.

Items	(1)	(2)	(3)	(4)	(5)	AVE	CR	CA
Cost1	<b>0.795*</b>	0.476	0.529	0.535	0.449	0.688	0.929	0.908
Cost2	<b>0.894*</b>	0.475	0.557	0.525	0.447			
Cost3	<b>0.815*</b>	0.594	0.550	0.600	0.491			
Cost4	<b>0.807*</b>	0.494	0.520	0.566	0.455			
Cost5	<b>0.758*</b>	0.493	0.514	0.527	0.453			
Cost6	<b>0.897*</b>	0.525	0.584	0.576	0.476			
Quality1	0.550	<b>0.801*</b>	0.500	0.530	0.500	0.647	0.916	0.890
Quality2	0.401	<b>0.722*</b>	0.482	0.507	0.448			
Quality3	0.545	<b>0.821*</b>	0.529	0.593	0.535			
Quality4	0.462	<b>0.787*</b>	0.549	0.551	0.493			
Quality5	0.515	<b>0.830</b>	0.472	0.493	0.487			
Quality6	0.491	<b>0.856*</b>	0.473	0.504	0.477			
Access1	0.513	0.509	<b>0.769*</b>	0.494	0.432	0.642	0.900	0.860
Access2	0.533	0.527	<b>0.822*</b>	0.499	0.473			
Access3	0.533	0.515	<b>0.828*</b>	0.525	0.446			
Access4	0.548	0.481	<b>0.822*</b>	0.487	0.455			
Access5	0.499	0.466	<b>0.762*</b>	0.583	0.426			
Availability1	0.569	0.518	<b>0.544</b>	0.798*	0.453			
Availability2	0.480	0.512	<b>0.493</b>	0.783*	0.453			
Availability3	0.538	0.570	<b>0.518</b>	0.845*	0.448			
Availability4	0.602	0.559	<b>0.550</b>	0.842*	0.499			
Image1	0.459	0.477	<b>0.422</b>	0.487	0.703*			
Image2	0.380	0.446	<b>0.360</b>	0.377	0.694*			
Image3	0.441	0.504	<b>0.442</b>	0.415	0.801*			
Image4	0.432	0.503	<b>0.459</b>	0.474	0.859*			
Image5	0.453	0.514	<b>0.457</b>	0.441	0.805*			
Image6	0.423	0.421	<b>0.440</b>	0.465	0.749*			
Image7	0.452	0.477	<b>0.454</b>	0.454	0.798*			
Image8	0.447	0.501	<b>0.447</b>	0.453	0.862*			
Image9	0.463	0.479	<b>0.461</b>	0.449	0.802*			

**Note:** (1) = Cost; (2) = Quality; (3) = Accessibility to treatment; (4) = Availability to treatment; (5) = Destination image. The bold values reflect the loading values of the respective items: AVE = Average variance explained; CR = Composite reliability; CA = Cronbach's alpha reliability; \*p < 0.05.

**Table 2** confirms discriminant validity, with diagonal values surpassing off-diagonal values, as indicated by Fornell-Larcker discriminant analysis (Fornell & Larcker, 1981; Hair et al., 2017). This ensures the appropriate application of indicators to their respective constructs. Cross-loading assessment (**Table 2**) further supports this, demonstrating clear discrimination among latent constructs, where indicators effectively load onto their designated constructs (Hair et al., 2017). Thus, indicators for measuring the targeted construct are appropriately utilized.

**Table 2.** Fornell-Larcker discriminant analysis for the measurement model.

	(1)	(2)	(3)	(4)	(5)
(1)	<b>0.829</b>				
(2)	0.617	<b>0.804</b>			
(3)	0.656	0.624	<b>0.801</b>		
(4)	0.671	0.660	0.645	<b>0.817</b>	
(5)	0.559	0.611	0.558	0.568	<b>0.788</b>

**Note:** (1) = Cost; (2) = Quality; (3) = Accessibility to treatment; (4) = Availability to treatment; (5) = Destination image; the value in the diagonal (bold) is a square root of the AVE of each latent variable and the element off-diagonal value is the inter-correlation value between latent variable.

### 4.3. Structural Model Analysis

The structural analysis (Table 3) indicates that these independent variables explain approximately 45.5% ( $R^2 = 0.455$ ) of the variance in the Destination Image. Additionally, all these sets of independent variables are considered to have a moderate to large effect size on the Destination Image (Range  $f^2$ : 0.197 to 0.468).

The same applies to predictive relevance, where all independent variables are considered to have a moderate to high predictive relevance effect on the Destination Image (range  $q^2$ : 0.154 to 0.397) (Hair et al., 2017; Ong & Puteh, 2017).

**Table 3.** Structural model assessment.

Path	$\beta$	t-statistic	95% CI	95% Bootstrap-t CI	$f^2$	$q^2$
CS → DI	0.158	2.483*	(0.031, 0.282)	(0.033, 0.284)	0.206	0.193
QL → DI	0.313	5.381*	(0.187, 0.425)	(0.199, 0.427)	0.468	0.397
AC → DI	0.161	2.841*	(0.052, 0.275)	(0.050, 0.272)	0.367	0.306
AV → DI	0.151	2.405*	(0.026, 0.276)	(0.028, 0.273)	0.197	0.154

**Note:** CS = Cost; QL = Quality; AC = Accessibility to treatment; AV = Availability to treatment; DI = Destination image;  $\beta$  = Standardized beta coefficient;  $f^2$  = Effect size;  $q^2$  = Predictive relevance; the bootstrap samples were 5000 samples; \* $p < 0.05$ .

The structural model analysis confirms that cost, quality, accessibility to treatment, and availability of treatment each have a significant positive effect on Malaysia's medical tourism destination image, as evidenced by statistically significant path coefficients and t-values ( $p < .05$ ).

Bootstrapping further supports the robustness of these relationships, with 95% confidence intervals excluding zero for all variables. Among these, quality ( $\beta = 0.313$ ,  $t = 5.381$ ) emerged as the most influential factor, supported by the highest effect sizes ( $f^2 = 0.468$ ,  $q^2 = 0.397$ ). The results reveal the importance of hospital image through advanced medical technology and the high quality of healthcare services in leading the preferred medical tourism destination, consistent with previous studies. Accessibility to treatment ( $\beta = 0.161$ ,  $t = 2.841$ ) also shows a strong, statistically significant influence. With moderate effect sizes ( $f^2 = 0.367$ ,  $q^2 = 0.306$ ), the ease of navigating healthcare services, transportation, and support infrastructure enhances Malaysia's image as a convenient and patient-friendly medical tourism destination.

Cost ( $\beta = 0.158$ ,  $t = 2.483$ ) contributes moderately to the destination image, supported by  $f^2 = 0.206$  and  $q^2 = 0.193$ . While not the most dominant factor, Malaysia's affordability remains a compelling aspect, especially for patients seeking high-quality care at lower costs. This cost advantage is particularly appealing to regional markets like Indonesia, where medical tourists are drawn to Malaysia's balance of price and quality. Finally, the availability of treatment ( $\beta = 0.151$ ,  $t = 2.405$ ) has the smallest, yet still significant, effect on the destination image ( $f^2 = 0.197$ ,  $q^2 = 0.154$ ). Variations and specialized treatments, such as cardiology and oncology, highlight Malaysia's medical tourism ability to address various healthcare needs. The findings also demonstrate that accessibility remains vital in building confidence among potential medical tourists.

Overall, the results indicate that medical tourists in this study viewed Malaysia more positively due to greater cost-effectiveness, professional service quality, accessibility, and treatment availability as a medical tourism destination. Although service quality has the strongest influence, all four factors work together to enhance Malaysia's image and reinforce its standing in the global medical tourism industry. Based on the theoretical model, the following Figure 2 demonstrates the assessment of the PLS-SEM for loading, path coefficient, and  $R^2$ .



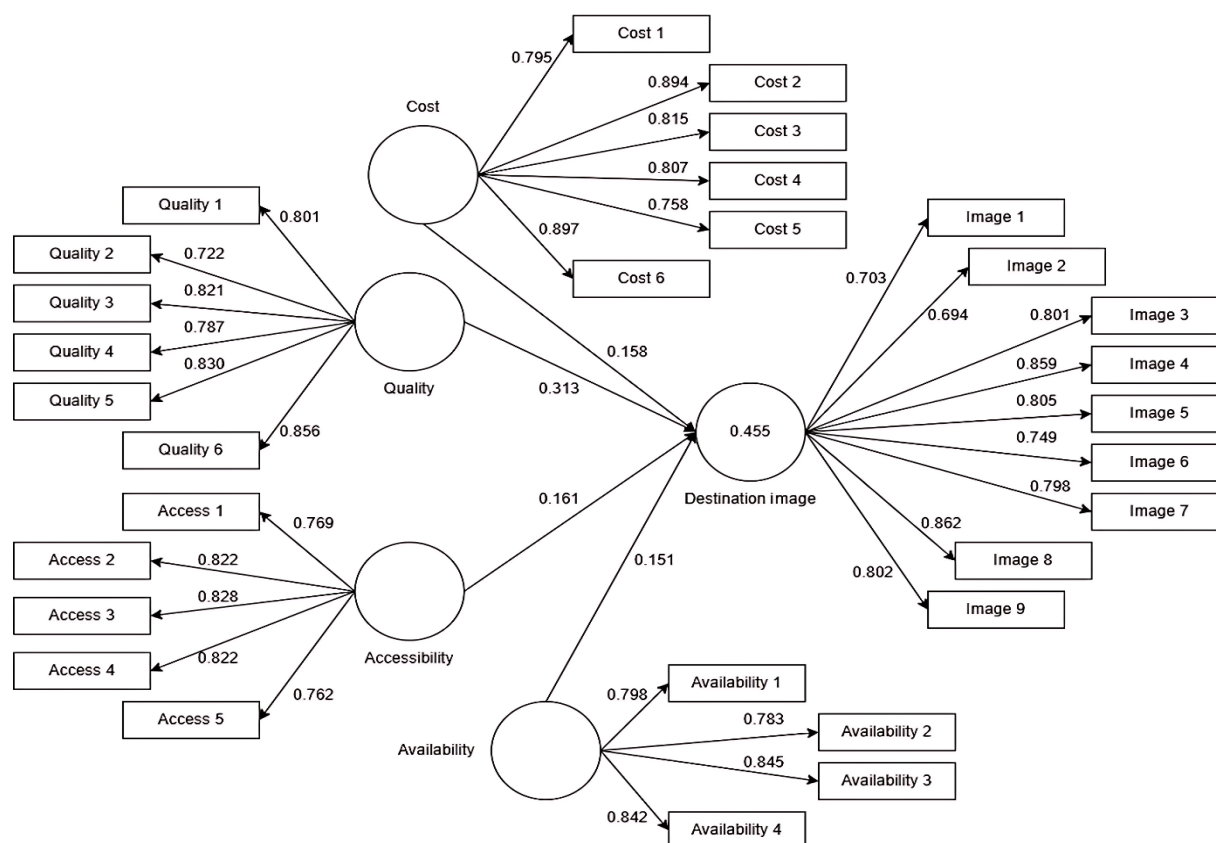


Figure 2. Analysis of loading, path coefficient, and R<sup>2</sup> assessment.

## 5. DISCUSSION

The insights from the investigation results help clarify some considerations that influence medical tourists' choices. While all studied factors play a significant role in shaping a positive image of medical tourism, the quality of care is the most important factor influencing the perception of Malaysia as a medical tourism destination. In line with earlier studies, [Asa et al. \(2024\)](#) and [Turai et al. \(2023\)](#), hospital reputation, the expertise of medical staff, and the use of modern medical technologies play decisive roles in shaping the medical tourist's perception. This notion supports previous findings (e.g., [Abdullah et al., 2019](#); [Cham et al., 2021](#)) that emphasize the importance of a strong healthcare reputation in gaining international patients' trust.

Treatment accessibility to medical care is a key factor that enhances Malaysia's reputation as a destination for medical tourism. International medical tourists prefer reliable transportation and streamlined patient services, as evidenced by studies conducted by [Dogra, Gautam, and Dogra \(2024\)](#) and [Md Zain et al. \(2023\)](#). Particularly in Indonesia and Thailand, a well-integrated system helps reduce travel and service barriers, fostering a sense of ease and trust among medical tourists. In this context, cost is secondary to quality and accessibility. Affordable treatment costs are also essential for Malaysia's medical tourism image, which aligns with previous studies such as [Pagán and Horsfall \(2020\)](#) and [Mishra and Sharma \(2021\)](#). This study shows that international medical patients seek quality healthcare at lower prices in Malaysia, supporting the earlier notion ([Chandran et al., 2017](#)) that Malaysia's competitive pricing, especially when compared to Western countries. Moreover, the specialized areas led by Malaysia in oncology, cardiology, and neurology are a key draw for international patients, as highlighted by [Çapar and Aslan \(2020\)](#). Such treatments attract medical tourists to feel confident and secure. As [Ajzen's \(1991\)](#) Theory of Planned Behavior mentions, these factors shape tourist attitudes and intentions. To remain competitive, stakeholders should prioritize service excellence, enhance access, and sustain cost-effective care.

Despite the importance of these results, the demographic composition led by Indonesians (66.1%) with additional input from Thailand, Singapore, and Brunei indicates that Malaysia's medical tourism market remains primarily regional in scope. It is crucial to understand whether the motivations of these Southeast Asian tourists

differ significantly from those of patients from Western or Middle Eastern countries. For Indonesian tourists, the influence of cost and accessibility may represent both a benefit and a necessity, while patients from Singapore and Thailand may place greater importance on service efficiency or advanced facilities. In such cases, Malaysia's perceived balance of affordability and quality may attract Indonesians away from lower-quality domestic services or from Singapore, where high costs are a deterrent due to currency differences.

Malaysia's advantage in accessibility is a regional competitive edge, particularly for Indonesian and Bruneian tourists. Factors such as geographic proximity, language familiarity, and cultural similarity make Malaysia an attractive, low-barrier destination. These soft elements should be emphasized more clearly in policy and promotional strategies. For these populations, ease of travel, visa flexibility, and transportation connectivity may outweigh incremental improvements in clinical excellence. For Singaporean medical tourists, Malaysia's value lies not just in lower costs but also in the availability of specialist services. The strong impact of quality ( $\beta = 0.313$ ,  $t^2 = 0.468$ ) indicates that Malaysia is closing the perceived gap in service excellence, a trend that could redirect outbound medical flows from Singapore for non-urgent or elective procedures. For Bruneian patients, Malaysia offers access to niche treatments that are unavailable locally, making service availability a key attraction.

## 6. CONCLUSION

Based on these findings, this study concludes that Malaysia's medical tourism strategy should be more regionally nuanced. Marketing messages should emphasize affordability, quality, and cultural compatibility for Indonesians; system efficiency and convenience for Thais and Singaporeans; and service diversity for Bruneians. Investments in accessibility infrastructure, such as regional transport packages and patient navigation services, will further improve the overall destination image. Rather than being seen solely as a budget-friendly option, Malaysia should be positioned as a trusted and capable regional healthcare partner. Segmenting marketing and policy strategies by nationality enhances relevance and strengthens Malaysia's competitiveness as a medical tourism hub within Southeast Asia. This study, however, has several limitations. First, the sample is limited to tourists from nearby countries—Indonesia, Thailand, Singapore, and Brunei—which may not fully capture patients' views from other international regions. Future research should broaden the sample to include Western and Middle Eastern medical tourists to better understand Malaysia's global appeal. Second, the study is based on cross-sectional data, so it does not allow for analysis of perception changes over time. Longitudinal studies could provide insights into how the importance of quality, accessibility, and cost evolves. Since this study captures only the perspectives of medical tourists, the viewpoints of healthcare providers, policymakers, and industry stakeholders in future research would offer a more holistic understanding of Malaysia's medical tourism ecosystem. Future research may also examine the role of digital health innovations, such as post-treatment care and telemedicine, and whether they have shaped the destination image and patient behavior. Additionally, future research could explore the sustainability of Malaysia's medical tourism through online reviews of its medical tourism offerings.

**Funding:** The authors received no financial support for the research. The APC for this article was funded by International Islamic University Malaysia.

**Institutional Review Board Statement:** The study involved minimal risk and followed ethical guidelines for social science fieldwork. Formal approval from an Institutional Review Board was not required under the policies of Universiti Teknologi Mara, Malaysia. Informed verbal consent was obtained from all participants, and all data were anonymized to protect participant confidentiality.

**Transparency:** The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.

**Competing Interests:** The authors declare that they have no competing interests.

**Authors' Contributions:** Conceptualization, methodology, writing original draft, Norhaslin Abu Hassan (NAH); supervision, project administration, writing review and editing, corresponding author, Mazni Saad (MS); literature review, data curation, writing review and editing, Siti Hajar Zakariah (SHZ); formal analysis, visualization, data interpretation, Mohd Hanafi Azman Ong (MHAO). All authors have read and agreed to the published version of the manuscript.

## REFERENCES

- Abd Manaf, N. H., Hussin, H., Jahn Kassim, P. N., Alavi, R., & Dahari, Z. (2015). Country perspective on medical tourism: The Malaysian experience. *Leadership in Health Services*, 28(1), 43-56. <https://doi.org/10.1108/LHS-11-2013-0038>
- Abdullah, A. R., Cheah, S., Mulia, V. B., & Abdul Fatah, I. (2019). Factors attracting Indonesian medical tourists to Penang. *African Journal of Hospitality, Tourism and Leisure*, GCBSS Special Edition, 1-10.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Asa, G. A., Fauk, N. K., McLean, C., & Ward, P. R. (2024). Medical tourism among Indonesians: A scoping review. *BMC Health Services Research*, 24, 49. <https://doi.org/10.1186/s12913-023-10528-1>
- Bennett, L., & Pangestu, M. (2017). Regional reproductive quests: Cross-border reproductive travel among infertile Indonesian couples. *Asia Pacific Viewpoint*, 58(2), 162-174.
- Çapar, H., & Aslan, Ö. (2020). Factors affecting destination choice in medical tourism. *International Journal of Travel Medicine and Global Health*, 8(2), 80-88. <https://doi.org/10.34172/ijtmgh.2020.13>
- Cham, T.-H., Lim, Y.-M., Sia, B.-C., Cheah, J.-H., & Ting, H. (2021). Medical tourism destination image and its relationship with the intention to revisit: A study of Chinese medical tourists in Malaysia. *Journal of China Tourism Research*, 17(2), 163-191.
- Chandran, S. D., Mohamed, A. S. P., Zainuddin, A., Puteh, F., & Azmi, N. A. (2017). Medical tourism: Why Malaysia is a preferred destination? *Advanced Science Letters*, 23(8), 7861-7864. <https://doi.org/10.1166/asl.2017.9595>
- Creswell, J. W. (2014). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). London: Pearson New International Edition.
- Dogra, A. K., Gautam, P., & Dogra, P. (2024). Medical tourist's perception of service quality and its impact on patient satisfaction: A study of Chandigarh Tricity. *Educational Administration: Theory and Practice*, 30(5), 6523-6530. <https://doi.org/10.53555/kuey.v30i5.3974>
- Echtner, C., & Ritchie, J. R. B. (2003). The meaning and measurement of destination image. *The Journal of Tourism Studies*, 14(1), 37-48.
- Ediansyah, Arief, M., Hamsal, M., & Abdinagoro, S. B. (2023). A decade of medical tourism research: Looking back to moving forward. *Journal of Hospitality and Tourism Insights*, 6(5), 2158-2172. <https://doi.org/10.1108/JHTI-06-2022-0250>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.
- Guru, S., Sinha, A., & Kautish, P. (2023). Determinants of medical tourism: application of Fuzzy Analytical Hierarchical Process. *International Journal of Emerging Markets*, 18(11), 4819-4842.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling. (PLS-SEM)* (2nd ed.). Thousand Oaks: Sage Publications.
- Md Zain, N. A., Hanafiah, M. H., Asyraff, M. A., Ismail, H., & Wan Mohd Zain, W. M. A. (2023). Exploring medical tourism competitiveness in Malaysia, Thailand, and Singapore: The Indonesian tourists' perspectives. *Planning Malaysia*, 21(30), 313-328. <https://doi.org/10.21837/pm.v21i30.1403>
- Mishra, V., & Sharma, M. G. (2021). Framework for promotion of medical tourism: A case of India. *International Journal of Global Business and Competitiveness*, 16, 103-111. <https://doi.org/10.1007/s42943-021-00027-7>
- Ong, M. H. A., & Puteh, F. (2017). Quantitative data analysis: Choosing between SPSS, PLS, and AMOS in social science research. *International Interdisciplinary Journal of Scientific Research*, 3(1), 14-25.
- Pagán, R., & Horsfall, D. (2020). Medical tourism trends in the United Kingdom 2000-2016: Global economic crisis, migration and UK expats under consideration. *Journal of Tourism Analysis: Revista de Análisis Turístico*, 27(1), 20-40.
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research method for business students* (5th ed.). New York: Prentice Hall Publications.
- Sharma, E. (2024). Medical tourism in India. *Advances in Hospitality, Tourism and the Services Industry*, 10, 379-404.

- Shoukat, M. H., Elgammal, I., Aziz, S. S., Olya, H., & Selem, K. M. (2023). Medical tourism index and travel willingness via travel anxiety: PLS-NCA approach. *Tourism Recreation Research*, 48(2), 1–16.
- Sirivadhanawaravachara, A. (2024). Medical tourism and healthcare trends in Thailand. *World Journal of Advanced Research and Reviews*, 24(1), 1627–1637.
- Thoo, A. C., Khairuddin, A. I. N., Tat, H. H., Sulaiman, Z., Lai, L. Y., & Mas' od, A. (2020). Why medical tourists must go to Malaysia! *International Journal of Business Continuity and Risk Management*, 10(2-3), 224–240.
- Turai, T., Caniago, R. S. R., & Sari, P. E. (2023). The factors that support the success of medical tourism in Malaysia. *Jurnal Ekonomi dan Bisnis Dharma Andalas*, 25(2), 501–510. <https://doi.org/10.47233/jebd.v25i2.991>
- Wongkit, M., & McKercher, B. (2013). Toward a typology of medical tourists: A case study of Thailand. *Tourism Management*, 38, 4–12. <http://doi.org/10.1016/j.tourman.2013.02.003>
- Yusof, N., & Rosnan, H. (2020). *Serving the medical tourists in Malaysia: Are local patients being put the second?* Retrieved from <https://ir.uitm.edu.my/id/eprint/29898/>