The effect of product quality, medical price and staff skills on patient loyalty via cultural impact in medical tourism

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ABSTRACT

The aim of this research is to understand the effect of product quality, medical price and staff skill on patient’s loyalty through cultural impact in medical tourism. In this study, three exogenous constructs; namely product quality, medical price, and staff skill constructs were adopted to find their effects on patient’s loyalty. Meanwhile, the cultural impact is also adopted as a mediator construct. This study uses confirmatory approach as Covariance based Structural Equation Modeling (CBSEM) for testing the research hypotheses. The study explores inbound medical tourists loyalty from 324 respondents sampled comprised from different countries using stratified sampling. In terms of the direct effect, the method reveals that medical price and staff skill had positive significant effects on cultural impact and patient loyalty. In terms of indirect effect, the cultural impact mediates the relationships between product quality, medical price, and staff skills on patient’s loyalty.

1. Introduction

Medical tourism can be defined by customers go beyond the international border in order to seek for the treatment, improvement or change by using the medical services outside their country of origin (Munro, 2012; Johnston et al., 2010, 2012; Cook, 2008; Campón et al., 2013; Christian, 2014; Awang et al., 2015). According to Tourism Malaysia website, it has been reported that the number of tourists coming to visit Malaysia is increasing. In 2013, the total number of tourists visiting Malaysia was about 25.72 million with the total receipts of RM64.44 billion and for up to December 2014 it was reported that the number of the tourists coming to Malaysia was amounted to 27.43 million with the total growth of 6% from the previous year. A study regarding communication needs for medical tourists in Thailand found that patients like to have the information regarding the pre and post of the treatment out of the skepticism because when they are not satisfied with the treatment in their home countries, they will tend to be selective in gathering the information. So the hospitals service providers and the doctors need to address this concern as it will reflect the customers’ decision (Anothai, 2014). Afthanorhan et al. (2017a,b) stated that
high quality of medical services are more important consideration than the price of services. As such, Singapore prefers to compete with Malaysia, Thailand, and India on the high quality of its medical services by promoting their nation services through organizing the campaigns, symposiums, conferences, and courses in order to grab the attention of the potential investors (Law, 2014; Wong & Musa, 2012).

Since several countries have been taking steps to promote their medical tourism, Malaysia needs to sharpen the weapon and come out with cogent indicator to boost up the medical tourism industry, which is to booster the product quality and staff skill in medical that will somehow attract the attention of the potential customers and investors towards Malaysia. As aforementioned, this services can help government generate more nation income (Pawitra & Tan, 2003; Woodhead, 2013). The Malaysia Healthcare Travel Council (MHTC) as being initiated by the Ministry of Health Malaysia, reported that there was an increasing figure for the medical tourists coming to Malaysia for medical treatment. The increasing of 98,000 medical tourists that is about 15% increase from the previous year which is in 2012 has been reported. Upon the approval of the Malaysian cabinet, on 3rd July 2009, the Ministry of Health Malaysia established the MHTC which serves the purpose of promoting and positioning Malaysia as a unique destination for world-class healthcare services. It can be said that the medical tourism has slowly taken place in attracting the government’s attention and it will gradually promote Malaysia internationally. According to MHTC also, there are many participating medical providers registered with them so it shows that medical tourism are becoming a phenomenon in Malaysia.

It has been reported that about 75 companies registered as the medical provider under MHTC and several well-known hospitals such as Assunta Hospital, Columbia Asia Hospital, Gleneagles Kuala Lumpur, KPJ Specialist Hospitals, Prince Court Medical Centre, and also Sunway Medical Centre. This list of hospitals proved that Malaysia can provide the best medical treatment for the tourists with lower costs as compared with the healthcare center in developing countries like United Kingdom and United States. Specifically, this study has two objectives: a) to determine the relationship between product quality, medical price, staff skills, cultural impact on patient loyalty and b) to determine the effect of cultural impact in the relationship between product quality, medical price and staff skills on patient loyalty (Enderwick & Nagar, 2011; Rad et al., 2010).

2. Literature review

2.1 Product Quality

There is an increasing number of patients seeking treatment abroad, including the treatment that is believed to be complicated which are cardiac and orthopedic surgeries, and later the demand for the cosmetic and dental surgeries have risen. As for India, cardiac surgeries, cosmetic surgeries, plastic surgeries, gastrectomy, knee replacement, IVF, and surrogacy are the main treatments by the foreign patients (Kumar, 2009). Other study by Dawn and Pal (2011) adds on the eye treatment and the open transplant surgeries to the list. In Thailand, the treatments offered are quite similar with the treatments offered in India but somewhat different because they offer gender reassignment surgeries, ophthalmology, health checks prior to the patients’ needs, orthopedic, and general surgeries (Rerkrujipimol & Assenov, 2011). Apart from the health care services, the customers also seek for other services and that adds on to the decision to choose the medical providers for getting treatment. Anvekar (2012) in her study found that 24% out of 70 foreign patients came to India because of the insurance budget limits offered to them and 30% of them claimed that they had a pleasant experience while getting treatment in India. Other than that, the source of motivation for the chosen destinations for health care services is the adventure from the country they were visiting such as the cultural activities that is not available in their home country (Adams et al., 2015). Bristow et al. (2011) stated found that the respondents prefer Costa Roca as the first destination of getting the health care services, followed by Mexico and India. But the numbers might differ over the different regions of study. The hypotheses for this effect can be addressed as:
H₁: Product Quality has a significant effect on Patient Loyalty.
H₂: Product Quality has a significant effect on Cultural Impact.

2.2 Medical Price

Some of the uninsured individuals cannot afford paying for the medical treatment in the United States because the cost is high (Turner, 2007). Uninsured patients may decide to go abroad for medical treatment. This is because they need to pay out of their own pocket to pay their treatments, so they look for the inexpensive treatment as an alternative (Picazo, 2013). Some people choose the developing countries to get the health care treatment is because they want the cheaper procedures price (Karla & Milica, 2007). Anvekar (2012) found that the cost of the treatment is the main reason people may go abroad, apart from the unavailable procedures and long waiting time. The hypotheses for this effect can be addressed as:

H₃: Medical Price has a significant effect on Patient Loyalty.
H₄: Medical Price has a significant effect on Cultural Impact.

2.3 Staff Skills

Staff in the sense of medical tourism refers to the medical providers, doctors, and staffs who are responsible for attending the patients. The important thing for the medical provider to know is the expectations of the patients are different among those who experienced being a medical tourist with those who do not (Guiry et al., 2013). In order to sustain the competitiveness of the medical tourism in the country, medical providers should have the highly skilled professionals to attend the various needs of the patients, and also to find a way on how to retain them with the organization (Hsiu, 2012). Other study by Abd Manaf et al. (2015) revealed that perception of Malaysia and medical tourism in Malaysia had five dimensions and the most important items were the hospital and staff. Staff in this context means the one who served the patients, either as physician or nurses. The mean score in one study found the maximum difference between the accredited with the non-accredited medical providers in item related to the consistent courtesy and respectful by the employees of the hospital (Debata et al., 2015). The hypotheses for this effect can be addressed as:

H₅: Staff Skill has a significant effect on Patient Loyalty,
H₆: Staff Skill has a significant effect on Cultural Impact.

2.5 Cultural Impact

As for the Canadian tourists, cultural stability is the pull factors on their decision making to choose certain medical tourism destinations (Crooks et al., 2011). Experiencing the culture is one of the reasons tourists prefer to go to Quanzhou. This gives the chance to open up a great medical health care service center to attract medical tourists to go there (Honggen & Huyton, 1996). India is rich with the various cultural heritage sites where the past ruling dynasty, war, and religion are emphasized. It also attracts the people who love to visit the religious sites to come to India (Tripathi et al., 2010). Experiencing new culture can be a source of destination loyalty because some people are keen to try new things apart from place and meeting new people (Ladeiras et al., 2010) as it happens across countries including Malaysia. Malaysia was recognized as multiracial country which consisted various race and religion. Its uniqueness could attract the tourist continuously. The hypotheses for this effect can be addressed as:

H₇: Cultural Impact mediates the relationship between Product Quality and Patient Loyalty.
H₈: Cultural Impact mediates the relationship between Medical Price and Patient Loyalty.
H₉: Cultural Impact mediates the relationship between Staff Skills and Patient Loyalty.
2.6 Patient Loyalty

Trust does influence loyalty in a big way since service quality and customer perceived value have significant effects towards building customer loyalty. In order to increase single-brand loyalty, loyalty program can be a driver. To give a good impression to customers, high quality of the products and the availability of the assortment can be implemented in explaining the positive effects of the product quality dimension on customer loyalty. To measure on how likely, the customers will engage in relationship activities and also to repeat the purchase is to look for the customer loyalty, while the measurement on how well the needs and demands of the customers are met through cultural impact (Fig. 1).

![Theoretical Framework](image)

**Fig. 1. Theoretical Framework**

3. Methodology

This cross-sectional study employs the 10 point interval scale in measuring the constructs involved. The interval scale is used to meet the assumptions for parametric statistical analysis. The model in Fig. 1 consists of three constructs; namely Marketing Strategy, Cultural Aspect and Customer Loyalty. These three constructs are measured using 40 items in a questionnaire. The study employs stratified sampling method to distribute the questionnaire. According to stratified sampling, the sample drawn from the population should be homogenous so that the data collected is fair for the statistical inferential. Consequently, the foreign patients as the target sample are selected with the same type of gender (male and female). First, minimum sample size is required so that the sample obtained is adequate and sufficient to handle the parametric testing. Therefore, statistical power test is performed to obtain the minimum sample size for model structure especially for common factor based structural equation model. The calculation depends on anticipated effect size, desired statistical power level, number of latent variables and number of observed variables as proposed by Cohen (1988) and Soper (2015). Thus, the minimum sample size for this study is 162, and we double the sample size for printing the questionnaire (162 × 2 = 324 questionnaires). Since gender is indicated as a gauge for sample drawn from the population, 324 questionnaires are split into two groups where 162 are assigned for male and females, respectively. Our trained enumerators request the respondents based on the questionnaire developed because we want to make sure the respondents would really understand the item intentions. If they do not understand any item, they can quickly ask enumerators to explain what the meaning of statement intention is. A total of 15 enumerators were appointed and have been trained for one week to make sure they are familiar enough to handle this task.

3.1. Method

Covariance Based Structural Equation Modeling is one of the parametric techniques conducted to analyze the data with complex model. Awang et al. (2015) pointed out that SEM is capable of estimating a series of inter-relationship among latent constructs, simultaneously in a model. This method has become one of the prominent methods implemented over the past two decades (Zainudin, 2015). In addition, this particular method is not only implemented for cross-sectional study but also it is suitable for longitudinal studies. In this case, we have three independent constructs, one mediator and one endogenous construct.
All constructs were treated as reflective first order construct. In addition, we adapt Baron and Kenny (1986) approach to test the mediation effect. Nonetheless, we do not strictly follow their guideline, instead we determine the mediation effect by the strength of the direct effect before inclusion of mediator construct.

4. Confirmatory factor analysis (CFA)

The pooled confirmatory factor analysis was performed by inclusion of all constructs in the same analysis. In this case, five items were identified have poor loadings (below 0.60) and thus were removed to improve the fitness index such as RMSEA, CFI, GFI, IFI, TLI, and Chisquare/df. The RMSEA fitness was considered acceptable when the value is below than 0.08 (Hair et al., 2010; Aimran et al., 2017a; Dijkstra & Henseler, 2011, 2015), meanwhile, the CFI, GFI, IFI and TLI were excel when the value is higher than 0.90 (Aimran et al., 2017b). The fitness level for this study was achieved since RMSEA= 0.021 < 0.08; CFI= 0.993 > 0.90; IFI= 0.993 > 0.90; TLI= 0.992 > 0.90; and Chisq/df= 1.134 < 3.0 as suggested in the literature (e.g. Afthanorhan et al., 2014a, Awang, 2015; Bentler, 1990; Bollen, 1996; Bollen & Pearl, 2013) after deleting the lowest factor loading. Therefore, the range of factor loading for the whole measurement model is between 0.72 and 0.87. To determine the reliability and validity for this model, the reliability (Composite Reliability), discriminant and convergent validity (Average Variance Extracted) are performed. Thereby, discriminant validity is used as one of the criteria to explain the latent variable correlation and square root Average Variance Extracted (AVE) for respective construct. This criterion will enable the researchers to identify whether the constructs involved in the study are not redundant to each other. So, the acceptable range for construct correlation is below 0.85 (Awang, 2015; Afthanorhan et al., 2014b). As reported in Table 1.

**Table 1**

<table>
<thead>
<tr>
<th></th>
<th>CR</th>
<th>AVE</th>
<th>Cultural Impact</th>
<th>Product Quality</th>
<th>Medical Price</th>
<th>Staff Skills</th>
<th>Patient Loyalty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural Impact</td>
<td>0.871</td>
<td>0.629</td>
<td>0.793</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product Quality</td>
<td>0.876</td>
<td>0.641</td>
<td>0.391</td>
<td>0.800</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Price</td>
<td>0.865</td>
<td>0.616</td>
<td>0.504</td>
<td>0.402</td>
<td>0.785</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff Skills</td>
<td>0.848</td>
<td>0.583</td>
<td>0.470</td>
<td>0.474</td>
<td>0.537</td>
<td>0.764</td>
<td></td>
</tr>
<tr>
<td>Patient Loyalty</td>
<td>0.853</td>
<td>0.592</td>
<td>0.444</td>
<td>0.382</td>
<td>0.523</td>
<td>0.460</td>
<td>0.769</td>
</tr>
</tbody>
</table>

Convergent validity is represented by AVE criterion to determine how much variance has been explained by respective construct and it was suggested acceptable when the captured variance is above 0.50. In this case, all constructs are acceptable when the result of AVE is above 0.50 to meet the validity criteria. In addition, the CR was also satisfied when the results showed above 0.70. For the discriminant validity, the value of square root AVE must be higher than the value of construct correlation in all column and rows as is shown in Table 1.

![Fig. 2. The Standardized Path Coefficients between Constructs](image1)
![Fig. 3. Direct Effect without mediator](image2)
Table 2
Path Coefficients for Direct Effect

<table>
<thead>
<tr>
<th>Path</th>
<th>Estimate</th>
<th>S.E.</th>
<th>C.R.</th>
<th>P</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural Impact ← Product Quality</td>
<td>.114</td>
<td>.050</td>
<td>2.281</td>
<td>.023</td>
<td>Yes</td>
</tr>
<tr>
<td>Cultural Impact ← Medical Price</td>
<td>.265</td>
<td>.062</td>
<td>4.245</td>
<td>***</td>
<td>Yes</td>
</tr>
<tr>
<td>Cultural Impact ← Staff Skills</td>
<td>.187</td>
<td>.066</td>
<td>2.833</td>
<td>.005</td>
<td>Yes</td>
</tr>
<tr>
<td>Patient Loyalty ← Cultural Impact</td>
<td>.191</td>
<td>.083</td>
<td>2.317</td>
<td>.021</td>
<td>Yes</td>
</tr>
<tr>
<td>Patient Loyalty ← Product Quality</td>
<td>.097</td>
<td>.057</td>
<td>1.708</td>
<td>.088</td>
<td>No</td>
</tr>
<tr>
<td>Patient Loyalty ← Staff Skills</td>
<td>.154</td>
<td>.075</td>
<td>2.038</td>
<td>.042</td>
<td>Yes</td>
</tr>
<tr>
<td>Patient Loyalty ← Medical Price</td>
<td>.281</td>
<td>.074</td>
<td>3.808</td>
<td>***</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Table 2 shows the results of direct effect. It was revealed that Product Quality, Medical Price and Staff Skills had significant effect on Cultural Impact and eventually it has an effect on Patient Loyalty. Nonetheless, the Product Quality was the only construct that has significant effect on Patient Loyalty. Among exogenous construct, the Medical Price was estimated as the most important factor in contributing the Patient Loyalty. Subsequently, we adapt Baron and Kenny approach (1986) to test the mediation effect. At first step, we analyze the direct effect of product quality, medical price and staff skill on patient loyalty without the presence of cultural impact. The reason of this is to determine the size of the direct effect. According to Afthanorhan et al. (2014a,b), the mediation effect exists when the size of direct effect is reduced once the mediator construct is included. As a result, we find out that the size of direct effect among exogenous constructs increases as shown in Fig. 3. Therefore, the mediation effect is truly occurred in this model. To determine the type of mediation, the cultural impact was expected as full mediation for the relationship between Product Quality and Patient Loyalty. Meanwhile, the cultural impact seems to be identified as partial mediation for the relationship of Medical Price and Staff Skill on patient loyalty.

5. Conclusion

The proposed model was appeared to be reasonable for the medical tourism industry by focusing on the effects of product quality, medical price, staff skill and cultural impact on the patient loyalty. Based on the results, the product quality did not have a significant effect on patient loyalty. This is because the foreign patient was more interested in getting the fast treatment from the medical staff and they did not have to stay in queue for a long time, which motivated them to come again for other treatments. Other than that, cultural impact is essential in giving them more comfortable which can give values for introducing the culture even in the aspects of religious, customs, clothes, places and also the historical facts. As for the impacts of culture towards improving the patient loyalty, it gives value to the patient and even the potential patients about the uniqueness of the culture. If the patient perceived the culture as something beautiful, then they would have the tendency to revisit the country and also to spread the word-of-mouth about the subject matter.

References


Cook, P. S. (2008). What is health and medical tourism?


Munro, J. W. (2012). What is Medical Tourism?


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