

## Developing an Index for Medical Tourism

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**Abstract:** Currently, medical tourism is regarded as an important emerging tourism sector in the Malaysian economy. Despite its significant contribution to the country's GDP, the examination of the main factors that contribute to the success of the industry remain limited. Therefore, the objective of the study is three-fold. First is to propose the medical tourism index from the service point of view. Second is to examine the ranking of the identified index. Finally to investigate the index which holds most value for money. The survey is conducted with 400 medical tourists over a period of 4 months. Several important findings are reported. An index with 5 dimensions is identified as the most important factors in medical tourism. The findings also suggest that hospital reputation is the most influential factor among the index. The result also provides evidence that medical treatment is a factor that has the most excellent value for money. It is concluded that clear index categorisation will assist greatly in conceptualising empirical developments and improving the overall service experience for medical tourists. The implications are discussed, limitations are noted and possible areas in future research are proposed.

**Key words:** Medical tourism, index, service, GDP, Malaysia

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### INTRODUCTION

Tourism is the major sector in most of the countries' economy regardless of whether in developed or developing countries. World Tourism Organisation predicted that there will be 1.6 billion tourists arrival, spending over US2 trillions worldwide. Medical tourism is considerably an emerging tourism sector which has been gaining its popularity in the last decade. This is especially relevant to the South East Asian countries like Malaysia, Thailand, Indonesia, Philippines, Korea, India and Japan. Medical tourism simply refers to the tourists who travel to different countries with a purpose of seeking medical treatment in the visited country. The visited country is normally preferred because they are relatively cheaper and offer lower cost in medical services. According to Garcia-Altes (2005), medical tourism in Malaysia is good because the efforts are rewarding. Malaysia aims to be marketed as one of the top medical tourism destinations in term of its high quality but at a comparatively low price.

Medical tourism is defined as people travelling from their places of residence for health reason (Ross, 2001). According to Connell (2013), medical tourism is seen as relatively short distance, cross border and diasporic. As noted earlier, medical tourism is on the rise, especially in Asia (Connell, 2006).

Research in medical tourism is gaining its popularity and is a growing phenomenon, since the industry promises big contributions to the country. However, studies on the medical tourism are still in its infancy state and still remain limited. Previous research on medical tourism is mainly focused on general medical issue. For example Bies and Zacharia (2007), examine the ANP Model which looked at the benefits, opportunities, cost and risks of the industry. Connell (2013) provided conceptual overview on medical tourism and examined the role of the health sector in international tourism (Lee, 2010). Similarly, Goodrich and Goodrich (1987), explored a general concept of healthcare tourism.

Accordingly, more research in the context of medical tourism is necessary so that better understanding on the industry can be developed further. Connell (2013) argued that more analysis is required for studying medical tourist behaviour and its impact on social and economics. Among the important areas is the development of tourism index which is considered new in the tourism research. This is especially true for medical tourism. Moreover, despite its significant contribution to the country's GDP, the examination of the main factors that contribute to the success of the industry remain limited. Therefore, the objective of the study is three-fold. First is to propose the medical tourism index from the service point of view. Second is to examine the ranking of the identified index. Finally to investigate the factors which holds most value for money.

## MATERIALS AND METHODS

**The sample:** The index development in medical tourism is being measured with data collected from medical tourists in Klang Valley, Malacca and Penang, Malaysia. The data were collected among the international medical tourists from hospitals registered with MHTC, Malaysia. The hospitals were contacted to get approval for data collection. Once the permission was granted, the researcher went in to conduct the study. The survey was conducted with the medical tourists over a period of 4 months using a convenient sampling method. The medical tourists were approached to participate in the study. The sample size is 221 with a response rate of 75%.

## RESULTS

Descriptive statistic was used to analyse the sample of the study. In total, 221 participated in the study of which 66.5% were female respondents and only 33.5% were represented by male respondents. Concerning the age of respondents, 31.7% were 51 years and above, 24.9% were between 41-50 years old and 27.1% were between 21-30 years old. The 51.1% of the respondents were married and 44.8 were single respondents. Concerning the level of education 54.8% of the respondents have a Bachelor's degree and 22.2% had a Masters degree.

**Medical tourism Index (MDI):** The current study is an exploratory study in the sense that there are no other previous researches that actually determine the most important factors in medical tourism. Having said this the study intends to develop the factors or index which have influences in the provisions of medical tourism treatment to the tourist. The study began by considering the most essential characteristics of theoretically and practically sounding useful factors (De Freitas, 2003) in the provision of medical tourism services. Using De Freitas suggestion, we proposed 5 major factors which represent the most critical components that could be used by the medical service providers in ensuring a comprehensive and excellent medical service delivery.

A comprehensive medical service performance of medical tourism should cover and fulfil the following requirements:

- Integration of different aspects of tourism services
- Consideration of the involvement of service provider, medical tourists and destination

Since, there is no established index on medical tourism, a new integrated index based on the following

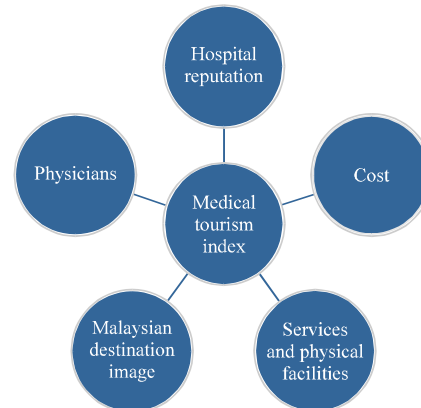


Fig. 1: Medical tourism index

Table 1: Frequencies for ranking of medical tourism index

Factors	Most important-----Not important			
Services and physical facilities	40	95	13	4
Cost	46	69	54	58
Physician (medical doctor)	44	40	29	44
Hospital reputation	96	59	11	43
Malaysian destination image	1	9	22	62

Table 2: Summary for ranking of medical tourism index

Index	Most important ranking
Hospital reputation	1
Services and physical facilities	2
Cost	3
Physician (medical doctor)	4
Malaysian destination image	5

factors is proposed. The Medical tourism Index (MDI) is an integrated index composed of indicators concerned with cost, services and physical facilities, physical or medical doctors, hospital reputation and Malaysian destination image. The selection of the index is based on the important factors which incorporate the three stakeholders, the tourist themselves, the service providers and the destination image. The selected index is illustrated in Fig. 1.

**The MDI ranking:** Table 1 provides the frequencies for medical tourism ranking. The respondents were asked to rate the factors/index based on the degree of importance. The scale for measuring the ranking of the indexes ranging from most important and not important at all. As indicated in Table 1, 96 respondents indicated that hospital reputation is the most important factor as compared to other factors. On the other hand, 69 respondents felt that services and facilities provided by the hospital are important. Among the factors investigated, it appears that the image of Malaysia as one of the medical tourism destinations was perceived as the least important by the medical tourists.

Based on the data provided in Table 1 and 2 summarises the ranking of most important index. As reported in Table 2, Among the five index of medical

Table 3: Ranking for value for money

Excellent value for money in	Percentage	Ranking
Medical treatment	57.5	1
Meals	55.0	2
Accommodation	52.5	3
Transportation	52.0	4
Tourism packages	35.0	5
Tourism activities	34.4	6

tourism investigated in the current study, most of the respondents preferred to have treatment in Malaysia due to the hospital reputation which is already established in both local and international which in then is followed by services and physical facilities, cost, physician and Malaysian image.

**Value for money:** The final objective of the study is to examine the factors that have the most value for money in medical service. The 6 major factors were examined further. Table 3 reported the ranking in terms of value for money for several factors during the medical treatment in Malaysia. As illustrated in Table 3, it was found that the cost of medical treatment ranked the highest in terms of value for money amongst the other factors. Meals are reported to be the second important factors for value for money. This is followed by the accommodation or lodging where the respondents ranked accommodation in third ranking for value for money. Transportation ranked the fourth in the hierarchy and followed by tourism packages and finally tourism activities.

## DISCUSSION

We have attempted to make several contributions to the knowledge and study of medical tourism phenomena. We have also provided the perspectives from several angles which incorporate the needs of medical tourists, service providers and governments.

Several important findings are reported. We have proposed and identified an index with 5 dimensions as the most important factors in medical tourism. This means that the practitioners, i.e., the hospital management must give full attention to the index identified in the study. This highlights that the hospital manager must make sure that these index are managed well and monitored regularly to make sure that it meets the standards and expectations of the medical tourists.

The study also aimed to examine the index ranking. As reported in the earlier study, the study has successfully ranked the index according to the degree of importance. The findings suggest that hospital reputation is the most influential factors among the index. This has

provided an important implication to the practitioners. This finding is important because the company's reputation or in the context of the current study: Hospital's reputation, describes the hospital's behaviour and image to the tourist. This states that medical tourist rate reputation is the most important index, providing an indication that the hospital management must ensure that all aspects of service delivery and management is managed well because it directly reflects the image and reputation of the hospital. Besides hospital reputation, other index also requires similar attention from the management.

## CONCLUSION

This study shows and provides evidence that medical treatment is a factor that has the most excellent value for money. This piece of interesting information suggests that destination marketers would be well advised to formulate a strategy to motivate the tourists and use this information to target the respective segments. Furthermore, the marketers can use this information and communicate it effectively in their promotional mix tools.

## LIMITATIONS

As with all research, this study has its share of limitations. The first limitation lies in the selection of the convenience sampling of medical tourists from the participating hospitals. The participated hospitals only allow the researcher to come in to the hospital based on their agreed time where during this time the sample is based on certain types of medical treatment which are not representative of all types of medical treatment received by the tourist. While the sample collected in this study appear to limit the generalisability of the study, future research should use stratified sampling to ensure the representativeness of the medical tourist.

A second limitation relates to the validity of the study where given to a considerably small sample size, the external validity of the study can not be established. Thus, future research should expand and increase the number of data, so that the validity of the research can be established. We hope, however, that this exploratory study will stimulate further studies on medical tourism.

It is evident that clear index categorisation will assist greatly in conceptualising empirical developments and improving the overall service experience for medical tourists. In summary, results of the current study indicate

that Medical Tourism Index (MTI) is reliable and contractually valid but certainly require further refinement, testing and validation.

#### **REFERENCES**

- Bies, W. and L. Zacharia, 2007. Medical tourism: Outsourcing surgery. *Mathe. Comput. Mod.*, 46: 1144-1159.
- Connell, J., 2006. Medical tourism: Sea, sun, sand and... surgery. *Tourism Manage.*, 27: 1093-1100.
- Connell, J., 2013. Contemporary medical tourism: Conceptualisation, culture and commodification. *Tourism Manage.*, 34: 1-13.
- De Freitas, C.R., 2003. Tourism climatology: Evaluating environmental information for decision making and business planning in the recreation and tourism sector. *Int. J. Biometeorol.*, 48: 45-54.
- Garcia-Altes, A., 2005. The development of health tourism services. *Ann. Tourism Res.*, 32: 262-266.
- Goodrich, J.N. and G.E. Goodrich, 1987. Health-care tourism-an exploratory study. *Tourism Manage.*, 8: 217-222.
- Lee, C.G., 2010. Health care and tourism: Evidence from Singapore. *Tourism Manage.*, 31: 486-488.
- Ross, K., 2001. Health tourism: An overview. *HSMIA Marketing Review*, December 27, 2001. <http://www.hospitalitynet.org/news/4010521.html>.