Johor’s Potential as Medical Tourist Destination: Measurement of Service Quality used Medical Tourism (MT)-SERVQUAL

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Abstract

This paper examines and measures the quality of services provided by private hospitals in Johor, Malaysia and account on how Johor could become a destination to attract medical tourists from Indonesia. This issue is parallel with the development of the tourism industry from the effects of globalization; people in developing countries get medical services in others developing countries. A study was conducted on the patients’ expectations and perceptions of the quality of service and a comprehensive scale, Medical Tourism (MT)-SERVQUAL is empirically evaluated for its usefulness in the Malaysian medical tourism environment. Result based on testing manifest that there is a definite opportunity medical tourism in Johor among Indonesian tourists based on the testing mean perception. The result indicates that patients’ perceived value of the services exceed expectations for most of the variables measured. Johor is the perfect place to study Indonesian tourist and their potential desire in medical treatment, because it’s geographic strategic. Eventually, this will be the case in many more destinations and the results could be seen as predictive. A mismatch between the perceived values of the services has been discovered and needs to be remedied with more commitment of private hospital to maintain in of this emerging niche.

Keywords: component; medical tourism, service quality
I. INTRODUCTION

Malaysia is one of world medical tourism provider. This industry is become important to Malaysia and others Asean country after recession 1997. Medical tourism is estimated able to solve economic problem among developing countries due able to generate foreign exchange, new employment and creating diversify resources in a country. Since 1997, this industry has been developing in stages in Malaysia. The Malaysia government is the catalyst to the development of medical tourism. In 2009, Malaysia Health Tourism Council been establish and directly under Ministry of Health Malaysia. This agency is responsible to ensure the medical tourism industry in Malaysia can be developed at a maximum level and to ensure Malaysia able to become hub of medical service to Asia and world tourist. In reality, Malaysia is still behind for the number of tourist arrival and amount of income received from medical tourism. It is likely that internally debated reforms on how Malaysia can be at par or a step ahead in this business. Accordingly, it has the potential to gain more knowledge and understand about medical tourist to Malaysia, which study is rarely done at now and the demand issues from the tourist perspective were mainly considered. This article examines the possibility that Johor will be able to attract more medical tourist particularly from Indonesia and quality of service issues were considered in details.

II. LITERATURE REVIEW

Medical Tourism and Service Quality

2.1 Medical Tourism Concept

Medical tourism is a part of health tourism with having no universal agreed definition, some share conceptual similarity and agreed by some as interchangeable concepts (Lam, du Cros and Vong, 2011) and each researcher use own definition, same goes to the countries providing the service. To understand medical tourism one’s shall understand health tourism and wellness tourism (Hall, 2011). There are eleven (11) activities relate to health, medical and wellness tourism, some are combination of types of tourism as for surgery tourism, abortion tourism, dental tourism, spa tourism, transplant tourism, wellness tourism, medical tourism and some are stand alone as for fertility tourism, stem cell tourism and cosmetic surgery tourism. In other view, medical tourism in common accepted by scholar is a person that travels outside the boundaries with the purpose to have medical service from a hospital.
Initially at now, the definition is depending on the perspective and view of each person seeing the issue.

2.2 The Size of Medical Tourism Development

Among world wide tourist group, medical tourism is main group do travelling all over the world. In 2006, 150,000 tourists from US traveling for medical service and it are increasing to 750,000 in 2008. Cuba is the first country that commercialized the medical service and the tourist is mainly for the US. This activities been emerged and attracting others to involve as Argentina, Bolivia, Brazil, Columbia Dan Costa Rica. In Asia, the medical tourism been introduced after financial crisis 1997. At now, there are 21 countries listed as main provider of medical tourism worldwide. There are 13 main medical procedure provided to medical tourist that are cardiovascular, cosmetic and plastic surgery, dental surgery, fertility and reproductive, neurology and spinal, hip replacement, Birmingham hip resurfacing, oncology, stem cell research, cosmetic surgery, wellness and alternative treatment. World income from medical tourism is US$40 billion in 2008, forecast to increase to US$100 billion in 2012 and 188 billion in 2013. Forecast on industry development is at 20 percent year (Deloitte, 2008). This industry demand will be increase 10 times in next decade. In 2012, forecast on medical tourist arrival is still increasing; Singapore is forecast to receive 1 million medical tourist and Malaysia forecast to receive 689,000 tourists.

2.3 Factors Influencing The Development of Medical Tourism

Several factors influencing the development of MT and researchers have categorize and associate the factors with the relevant organization sources involve in medical tourism. In this study, the categories are created based on a review of the theory of firm resources and at the same time incorporate significant resources identified based on a review of medical related tourism activities. There are five main component identified in MT namely as resource specialist / technical skills, physical resources, human resources, resource practices and social resources / relationship (Jong, 2004).

2.4 Johor Medical Tourism Environment
Having identified a number of potential areas of research to be carried out the study, appropriate evaluation criteria to be considered and determined. Study selection criteria were as follows: (i) the location of the border between the cross-border travel is short (ii) the main entrance of foreign tourist arrivals, the inflow of tourists (iii) the potential of foreign investments, including investments related to medical tourism (iv) accessibility to the location of study by foreign travelers by land, air or water and many other facilities and attractions (v) the amount involved hospital medical tourism and medical tourism development in Johor. Selection of the study area based on specified criteria is strong justification allow researchers to carry out research and studies to achieve expected.

Johor Bahru City is the largest city in the state of Johor, with population reached 1.3 million people and is located in the southern country bordering Indonesia and Singapore. Johor into Singapore's major tourist gateway, travel through Singapore and Indonesia. Distance between Johor and Singapore border, from Woodlands, Singapore to Johor Bahru, Malaysia is 10.6 kilometers by land travel time about 15 to 30 minutes. While Johor Bahru to Singapur distance through the Malaysia-Singapore Second Link is 42 kilometers by 40 minutes travel time. The sea journey from Indonesia to the Malaysia border takes 90 minutes from Batam Island to Johor Bahru and 150 minutes from Tanjung Pinang to Johor Bahru. Based on various factors of attraction and repulsion, Johor Bahru City receives more foreign tourists every year. Number of foreign tourists coming to Johor Bahru around 3.5 million people in 2009, rising to 3.6 million in 2010 and 3.7 million in 2011.

2.5 Service Quality
Service is a process can be understood more clearly through a comparison between the products with services. Quality service detailing efforts have been undertaken by many researchers and creating two groups of thought (school of thought). The concept of service quality from the European perspective, Gronroos’s model Gronroos (1982) and the American perspective, SERVQUAL model Parasuraman, Zeithaml and Berry (1985). In Gronroos’s model perspective, service quality as what and how services are rendered to customers based on multiple dimensions. Quality of service refers to the role of the principal, facilitator and support services. In addition the relationship between employees and customers is an important factor affecting the quality of service. As for American perspective, this group devoted to the process of providing and evaluating the difference between expectations and perceptions to some of the factors that influence the quality of service. Parasuraman et. al.
(1988) has put forward five dimensions of service quality, evidence based SERVQUAL dimensions which are Tangible, Reliable, Responsiveness, Assurance and Empathy.

Dimensions and factors SQ study Parasuraman et al. (1988) questioned about the extent of the dimensions presented are generic or can be applied to all kinds of services. Based on the analysis performed separately on four different industries namely dental clinic, tire stores and placement center to test the generalize SERVQUAL instrument. The analysis shows that the amount produced has slightly different dimensions, some industries have six (6) dimensions and a permanent part has 5 (dimension). While these factors are found to be similar in dimensions for each industry studied. Dimensional differences occur due to the rise of 'interest' has been taken by the customer depends on the type of service. Retaliation of the criticisms put forward, Parasuraman has implemented a re-examination of SERVQUAL for improvement. As a result, Parasuraman SERVQUAL suggest that, to be applied to other service industries, researchers can to add / delete or change the question from the instrument 22 items to suit the study. SERVQUAL questions by Parasuraman et al. (1988) shall also changed and the questions presented should be appropriate to the assessed needs of the service industry. SERVQUAL questions can be a guide for researchers to evaluate the SQ but it is not a universal question; suitable for the evaluation of services in all industries.

III. METHODOLOGY

3.1 Conceptual Framework

Current literature explains the relationship between firm resources and quality service. Although many in-depth study on the resources of the firm and the quality of service has been performed, but previous studies have not linked elements based on the needs of the new industry, medical tourism. Thus, the framework of the conceptual framework is developed to show the relationship between the independent variables and the dependent variable in the study of firm resources as Figure 2.1, the conceptual model of service quality independent variables and service quality as the dependent variable.

Figure 2.1 : The Conceptual Model of SQ in Medical Tourism
3.2 Instrument Establishment Process

Instrument on MT-SERVUAL has been developed accord to the steps done by Victor (2001) and Wan Zahari (2008). Test Kaiser-Meyer-Olkin (KMOs) and Bartlett's test is a test carried out to test the adequacy of the sample size, were used. Others test performs are on the validity of the research instrument face (face validity) and content validity (content validity). Sakaran (2006) explains face validity tests conducted to reply to the question of the extent to which a measurement is made to measure the actual value (concept) that would like to be measured. Face validity was used to measure the validity of the MT-SERVQUAL instruments. The reliability measured by Cronbach Alpha value in this study. Cronbach Alpha value is at 0.7 to indicate the reliability of the instrument was good and appropriate use (Sekaran, 2006). Cronbach Alpha coefficient value of 0.6 below demonstrating a low degree of reliability and the items must be repaired Nunnally, 1978).

Instrument establishment is conducted as follow;

- **First Step :Defining Service Quality (SQ)**
  Defining Service Quality (SQ) for Medical Tourism with SQ is the ratio between perceptions and expectations of our clients on the level of service offered. Quality is identified as Expectation over

- **Second Step :Selection Factor based resource based view approach**

- **Third Step : Construction 60 statements characterize the concept of SQ**
Based MT-Framework

Parasuraman et al. (1988) statement to measure expectations and perceptions of another measure. The responses were recorded on a 5-point scale in which “1” indicated “strongly disagree” and “5” indicated “strongly agree

- **Fourth Stage**: Collection of data on the perceptions and expectations (survey 1)
  Data collected on the perceptions and expectations of the 100 samples. Respondents from the population that receives services

- **Fifth Stage**: Element Analysis for Determining Content MT-SERVQUAL.
  Purification scale implemented in the following manner

- **Sixth Step**: Construction Purification scale MT-SERVQUAL instrument
  The procedure of step 4 is repeated continuously with certain items are dropped.

- **Seventh Step**: Data collection instruments expectations and perceptions of 40 new items. (Survey 2)
  Data collected for the second time on the perceptions and expectations of their customers using 40 items of new instruments that have been modified

- **Ninth Step**: Assessment of the reliability of the MT-SERVQUAL instrument
  MT-evaluated SERVQUAL reliability

- **Tenth Step**: An assessment of the validity of the tenth MT-SERVQUAL.
  Construction SERVQUAL, face validity and content validity evaluated.
  MT-SERVQUAL saw the building and good content validity

There are representative sample total of 212 questionnaires have been collected from tourist coming from Indonesia. Tourist has been identified at a restricted target population, to avoid confusion between medical tourism and medical care for local. The first part of the survey use the multiple response question covered the knowledge on characteristic of the medical tourism refer to the details of despondence profile. The second parts cover the knowledge on the medical tourist needs and their service expectation which refer to the details of respondence service expectation. Questionnaires have been administered using convenience sampling. The final instrument used for this survey consisted of 40 items.

The final list of items used for the survey was as follows:

**Resource Specialist/ Expertise**

- The doctors is believing expertise in treating myself
- The doctors are having international certification is my preferences
- The doctors having skill in using the latest technologies
• The doctors perform the work in a professional manner
• The doctors understand my situation
• The doctors are clean and in appropriate dress
• The doctors always give me latest information about treatment outcomes
• I received update information on my health situation by the doctors.

Physical Resources
• Meals are prepared to meet the health needs
• The hospital having comfortable facilities
• The hospital facilities are clean
• The hospital facilities are available
• The hospital provide all the facilities I need
• The hospital having the best facilities
• The hospital well managed my traveling arrangement
• The hospital provides everything I need

Organization Practice
• I did not wait long to get services
• I was treated perfectly on the first day I was treated
• I have given careful treatment
• The hospital operating time in accordance with my
• After contracting, the hospital is keeping its promises
• I receive treatment without error
• I was told the exact time of the treatment will be done
• The complaints procedure is clear and simple
• Positive work culture exists among staffs
• The staff have neat and tidy appearance
• The staff treated me politely during

Human Resources
• The staff treated my confidence
• I feel safe in hospital
• The staff treated me with respect
• The staff very friendly
• I am happy to deal with hospital staff
  The staff is always ready when needed
• The staff provide friendly service

Relationship Resource

• In my perception, the hospital has the best image
• The hospital has many loyal patients
• The hospital has a good working relationship with others provider (hospital / treatment center / pharmacy) where I live
• The hospital has a good working relationship with my travel agent to manage
• The hospital is responsible for managing my trip although I assisted by agents
• The hospital has always reminded me of follow-up

The Alpha Cronbach coefficient has been used to a measure of internal consistency of the overall research. This was followed by the factors analysis and frequency analysis.

3.3 Data collection

An explanatory statement, a consent form, and a survey questionnaire were distributed to a sample of patient who had been discharged from as studied hospitals in Johor. This exercise was undertaken in the middle of 2012. A total of 245 responses were obtained from the survey from two phase of data collection. This response rates is considered reasonably adequate, given the low rate of responses associated with health related survey. Of the 245 responses, 33 were not useable due to insufficient and incomplete data. This resulted in a total of 212 questionnaires being used in the final analysis.

IV. ANALYSIS

4.1 Sample adequacy test

Before the factor analysis can be conducted to determine the components resulting from the study, sample adequacy test should be done. Test Kaiser-Meyer-Olkin (KMO) and Bartlett's test was conducted to test the adequacy of the test sample size is used. Expected value for this test is more financially from 0.5 for KMO test and generated significant value is 0.000 which is smaller than 0.05 (Table 6.31). KMO test conducted on 0.845 samples gave values are greater than 0.5. This shows total samples used as much as 112 is sufficient. The findings showed that the number of samples is sufficient and feasible to factor analysis.
4.2 Reliability

Appropriate reliability test was conducted to validate the test results of empirical studies. The ability of the study to obtain similar values when the same measurement is repeated meaningful research have reliability. Reliability measured by Cronbach Alpha value in this study. Cronbach alpha value was at 0.7 on the shows the reliability of the research instrument was at a good level and can be used (Sekaran, 2006). While according to Bryman and Cramer (2002) Cronbach Alpha value of 0.8 on the shows instrument has a good level of internal consistency. Cronbach Alpha coefficient value of 0.6 below shows the instrument has a low degree of reliability and must be repaired.

4.3 Validity

The survey instrument test validity test is done to ensure that the survey instruments can be used for measuring the quality of service. Tests performed are face validity (face validity) and content validity (content validity). Sakaran (2006) explains the face validity of the tests carried out to answer the question of the extent to which measurements can be made to measure the actual value (concept) to be measured This study also tested the instrument content validity, Sakaran (2006) explains the content validity refers to the question of whether the groups of experts in the field studied confirm measurements made by instruments constructed to determine the meaning of the items that was built on the point to be measured or studied.

4.4 Profile of the respondents

The demographic profile of the respondents findings from distributed surveys giving an overview of the background of medical tourists coming to Johor Bahru and Malaysia in general. The largest group of respondents(29%) were aged 31-40 years. The next largest group (25%) were aged 41-50 years. Smaller groups of respondents were aged 36–45 years (19.3%) and 46–55 years (14.7%). Male respondents represented a little more than 53% of the survey population. Majority of respondents were Muslims (89.5%), Christians (10.7%) and other religions (3.6%). When the duration of stay was examined, 55% of respondents are not stay in the hospital (outpatient) and majority of the respondent stayed in the hospital within a week (27%). In terms of occupation, the largest group of respondents were in ‘self employed/business owner’ made up 39%, whereas those in the category of ‘general worker’ represented 20.0% of the sample.
4.5 The Service Quality Performance

The mean scores of perceptions have exceeded expectations for all the measures examined except on two items of evaluation. 40 items presented in this study, 38 out of the 40 percent of items in the index scale is 3.00 and above and 2 items is below scale index at 2.99. Two items were (1) after the hospital promised, they are unable to fulfill his promise (mean : 2.55) and (2) The hospital well managed my traveling arrangement (mean : 2.85). Results showed significant similarity with the findings conducted by Sadiq (2003), the quality of services received from private hospitals generally satisfied the local patients.

On expertise factor, majority of the visitors have rated high expectation towards medical service that they will be received in Malaysia. This is contrary to common perception regarding this tourist group may expect due the weakness of health-care system in their home town. The patients require for expert doctors, suitable doctors, skill and knowledgeable doctor in latest technology. However, an expert doctor with international certification is rated lower (mean :3.40) and it is possible that may be because they have not ever considered a highly professional service which may increase the treatment cost. The cost consideration is the most priority compare the highly quality medical expert.

On physical factor shown that the respondent expectation is very high on all highlighted items as foods, internet and TV service, room, recreation facilities, parking area, location of the hospitals, latest facilities. However, it not a common notion that 25 percent from total respondent having low expectation towards physical service. Perhaps, these respondents whilst considering having medical service outside their home country would consider low cost medical service than a very high quality medical service.

They are require for staffs that are well educate, expert, able to gain patient confidence, professional and others qualities. The is well known that human is important and critical resources to organization. 90 percent from total respondent evaluate that expectation on organization practice is very important on three main element which are practice relate to operation activities, treatment process and hospital operation. New resource identified, the relation resource is also found important in medical tourism. It shows that hospital image, reputation, relationship with business partners in others countries, business alliance is also is part of important items considered by the medical tourist.

The high value perceptions over expectation recorded in the present study, indicate that Johor’s is a potential destination for medical tourist. However, the findings of the studied item must be treated with caution. The findings show that only 7 over 40 items are on
a scale of 4.00 to 5.00. Although item scale is more than 3.00 means perceptions have exceeded expectations, yet to reach the best quality of service on a scale of 5.00 that most of the index is trying to achieve by the organization.

4.6 Analysis of Factor

A principle component analysis is performed on all the items. Results from the analysis are presented as factors to be retained and loading for each factor to show the patient perception about the quality of service. Bryman & Cramer (2001) stated that there are three main purposes of factor analysis technique used in a research. That are, factor analysis can assess the degree of which items are tapping the same concept, and factor analysis can determine the degree to which they can be reduced to a smaller set and factor analysis was utilized is to make sense of the bewildering complexity of social behaviors by reducing it to a more limited number of factors.

From the data collected, an analysis of the scree plot revealed that nine items should be extracted. The nine factors have eigenvalues greater than one (See Figure 1).

![Scree Plot Diagram](image-url)  
**Figure 2. Scree Plot Diagram Showing The Eigenvalues of The Items**
Refer to the Kaiser’s criterion and a scree test, nine factors solution adopted account for 84.04% of cumulative variance. Thus, it is rather a good set of construct to deal with and allow for the best interpretation. As shown in Table I, there are nine factors which have the eigenvalues more than one hence it was understandable that these nine items could be extracted.

**Table 1. Initial Eigenvalues Of Factors And Their Variance**

<table>
<thead>
<tr>
<th>Component</th>
<th>Initial Eigenvalues</th>
<th>Rotation Sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% of Variance</td>
</tr>
<tr>
<td>1</td>
<td>13.049</td>
<td>32.623</td>
</tr>
<tr>
<td>2</td>
<td>5.759</td>
<td>14.398</td>
</tr>
<tr>
<td>3</td>
<td>3.978</td>
<td>9.945</td>
</tr>
<tr>
<td>4</td>
<td>3.198</td>
<td>7.995</td>
</tr>
<tr>
<td>5</td>
<td>2.222</td>
<td>5.554</td>
</tr>
<tr>
<td>6</td>
<td>1.793</td>
<td>4.483</td>
</tr>
<tr>
<td>7</td>
<td>1.444</td>
<td>3.610</td>
</tr>
<tr>
<td>8</td>
<td>1.165</td>
<td>2.913</td>
</tr>
<tr>
<td>9</td>
<td>1.010</td>
<td>2.524</td>
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<tr>
<td>10</td>
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<td>11</td>
<td>.655</td>
<td>1.637</td>
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<tr>
<td>12</td>
<td>.606</td>
<td>1.514</td>
</tr>
</tbody>
</table>

Generally, statistical loading analysis on each item in this nine-factor instrument will become a very helpful indicator in discussing the important element of patient perception about the quality of service and eventually will boost the impact on the effectiveness in measuring the quality of service.

**V. CONCLUSION**

The high value perceptions over expectation indicate that Johor’s is a potential destination for medical tourist among Indonesian. Therefore, findings from present study are of importance.
for private hospital administrators in Johor to not only look into clinical factor but also to focus on the non-clinical aspects of service quality. Next factor in choice of one over the other to be looked into that normally contradict to the quality is cost or the price of service offered to the patient. Overall, earnest effort should be executed to enable Johor grasp this opportunity and ensure current level of medical tourist perception can be maintained and improved.

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