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Three dimensional perceptions of medical/health travelers and destination brand choices: cases of Thailand

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Abstract

This research investigates the relationships between the three dimensions of medical travelers’ perceptions; ‘Perceived Congruence of Demand-Supply Medical Facilities’, ‘Perceived Quality of Demand-Supply Medical Facilities’, and ‘Brand Image of Hospitality Facilities’, and the dependent construct; ‘Destination Brand Choices’. This study found the statistically significant impacts of the medical travelers’ three dimensional perceptions on medical tourism brand choice. In specific, this research contributes the theory development as the confirmation for the aspects that the medical travelers would select the medical/health service provider(s) by the perceived congruence between demand and supply of medical facilities, the perceived quality for the congruence of demand and supply of medical facilities, and the image of destination brand in terms of prompted hospitality facilities. Market practitioners can employ the research results to adjust the market strategies and programs, especially for developing and improving the medical travelers’ perceptions toward hospitals and/or doctors, and especially for the country image of Thailand. Similarly, the policy makers or relevant government agents should be concerned the importance of the perceptions of medical travelers’ on the positive congruence and quality of demand and supply in terms of medical facilities, and Thailand’s brand image. Although the quantitative method could not provide the tests of moderating impacts of ‘Agency’s Roles’, ‘Roles of Internet/Online Contact’, and ‘Perceived Consistence of Health Insurance System’, the exploratory qualitative data present the important implications for these variables. Contemporary medical tourism markets, the medical travelers search information or contact the medical service providers through internet/online. The medical tourism agency is important for the medical travelers. Taking the medical tourism services away from hometown, the medical tourism agents can facilitate the travelers to search destinations; country, hospital, and doctors. The roles of insurance system on the destination selection, especially for the Western medical travelers, are important. Moreover, from the exploratory data, a customer’s ‘Brand Trust’ toward the country or hospital destination can be a suspected mediating construct of the examined relationships between the three dimensional perceptions and destination brand choice. This mediating construct’s roles should be investigated in the further study.

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1. Introduction

Travelling to seek medical services is inferred to be global trends. India, Malaysia, Singapore, and Thailand attracted more than 2.5 million travelers (United Nations Economic and Social Commission for Asia and the Pacific [UNESCAP], 2008 cited in Heung, Kucukusta & Song, 2010). As a record, for example, Thailand shared the major part of $2 billion in 2009 since Thailand’s medical or health service providers proposed the approximate one-fifth costs compared to U.S. with the equal standard of U.S.-trained doctors (McLymont, 2007). With respect to an important role of Thailand as the major service provider, there is a necessity to investigate what and how medical or health travelers choose Thailand to be their destination brand of the medical or health tourism. In specific, a prior study pointed out that a congruence between demand and supply of a medical or health tourism destination’s medical facilities is an important factor on a destination selection (Heung, Kucukusta & Song, 2010). Furthermore, Tengilimoglu et al. (2007) proposes that a perceived quality of hospital is a key factor of hospital-choice decision. Thus, it can be inferred that the perceived quality of medical facilities is crucial for destination selection. Balakrishnan, Nekhili and Lewis (2011) point out that a tourist’s interpretation about the destination brand’s components or the destination brand image, particularly for hospitality facilities, can have an impact on the destination choice. Therefore, this research set a research question as ‘how are the destination brand choices of the medical or health tourism affected by the perceived congruence and perceived quality of demand-supply of medical facilities, and the brand image of the destination about hospitality facilities?’

2. Literature review

This section presents the relevant literature review in which the authors discuss important aspects of perceived congruence and perceived quality, destination brand image, and destination-brand-choice selection. The hypotheses also were developed for empirical tests.

2.1 Medical or health tourism

Medical tourism is defined as a tourist takes a travel across international borders from which medical services and facilities are consumed (e.g. Song, 2010). However, Cohen (2010) argues that medical tourism should be redefined as medical travel. The important reason is that medical treatment is serious or a risky life concern whereas the tourism is a vacation. However, Heung, Kucukusta and Song (2010) point out that preventive medical services such as health check-ups and screening ought to be considered as one dimension of medical tourism. In particular, Thai government announced that Thailand planned to be a medical hub of Asia by focusing on three important service areas; medical treatment, health prevention, and health promotion (Office of Small and Medium Enterprises Promotion, 2010). To cover all important medical services and be consistent with the Thailand’s mentioned government policy, this research used the terminologies of ‘medical or health tourism’ interchangeably. Moreover, this study occupied the two words, tourist and traveler, as the same meaning.

2.2 Destination brand choices

Boga and Weiernair (2011) provide that a buying decision especially for medical tourism facilities has a high risk since an uncertainty from the combination of medical and tourism services. The brand choice for this research, is called ‘destination brand choice’, for which it is one major element of the brand equity (Keller 2003). It can be inferred that any country or hospital inquires to be the destination brand choice for medical traveler, the service providers need to manage and control their country/hospital brand reputation.
2.3 Perceived congruence and perceived quality of demand-supply medical or health facilities

Heung, Kucukusta and Song (2010) convincingly propose that destination brand selection of medical travelers is affected by a congruence of demand-supply medical tourism facilities. Furthermore, the researchers discussed that the traveler’s destination selection in terms of country, hospital, and doctor may have an impact from an interaction between or among them. In other words, these supply-side players by which their services compose of medical and/or hospitality facilities; infrastructure, state-of-the-art medical facilities and service, can affect the medical traveler’s destination choices. Additionally, Tengilimoglu, et al. (2007) points out that perceived quality toward medical facilities is important for a hospital choice decision. Balakrishnan (2009) found that destination brand acted as umbrella brand covering various tourism and hospitality facilities including medical services. Therefore, it can be inferred that the country and hospital brand selection are associated with traveler’s evaluation of destination attributes and perceived quality. This research proposed the hypotheses as

Hypothesis 1: Medical traveler’s perceived congruence of demand-supply medical facilities leads to a decision of destination brand choice for medical tourism.

Hypothesis 2: Medical traveler’s perceived quality of demand-supply medical facilities leads to a decision of destination brand choice for medical tourism.

2.4 Brand image of hospitality facilities

In destination marketing, an identification what element of brand equity has an impact on destination brand selection is interesting (Balakrishnan 2009; Hosany, Ekinci & Uysal, 2007). Particularly, ‘brand image’ is a crucial element of strong brand or brand equity (Gertner 2010; Ghose 2010). Hosany, Ekinci and Uysal (2007) point out that brand image is perceived cognitive and affective brand in customer’s memory. Balakrishnan, Nekhili and Lewis (2011) define the brand image as traveler’s interpretation toward the components of destination brand of which there are three parts; functional, emotional, and experiential. In specific, this research applied the definition of brand image proposed by Balakrishnan, Nekhili and Lewis (2011), especially focusing on the brand image toward hospitality facilities, recommended by Huong Bui’s (2011) study, beyond the functional benefits of medical facilities. A hypothesis, therefore, was recommended as

Hypothesis 3: Medical traveler’s brand image of hospitality facilities leads to a decision of destination brand choice for medical tourism.

3. Methodology

For this empirical study, researchers conducted both qualitative and quantitative research methods. In an exploratory phase by qualitative approach, in-depth interviews were occupied. To gain insight from respondent’s perspectives relevant to medical-tourism destination selection and its relevant variables, it is important to conduct a free flow communication and information exchange. A laddering interview technique was pursued. The inclusion of probing questions that link perceptions across a range of attributes, consequences and values to gain a deep understanding of the interviewee’s thoughts, feelings, and motivations are expected as main results (Patton 1990).

For quantitative method, this study used questionnaire to be an instrument for data collection. Particularly, Likert scale for which a popular itemizing rating scale was applied (Aaker & Day 1990). The Likert scale needs a respondent to specify the degree of agreement or disagreement with each of a series of statements. Respondents were asked to assess each statement on a number of items bounded at each end by one of two bipolar meaning words, strongly disagree and strongly agree as the rating scale from 1 to 7. In specific, the process of measurement scale development; specify a theoretical construct, generate items for the construct, collect data, purify the measure, and assess validity was pursued (Aaker, Kumar & Day 1988). An exploratory factor analysis (EFA) and coefficient
alpha were occupied to purify measures. Confirmatory factor analysis (CFA) was applied to justify the specific theoretical constructs of the measurement items (Hoyle 1995).

3.1 samples and data collection

In the qualitative phase, this study conducted fifteen interviews for which the interviewees mostly represent the supply side of medical tourism. Six managerial-level and two medical-doctor interviewees from medical treatment and health prevention sector participated. Two managerial-level interviewees from health promotion sector and two tourism agents also joined the interviews. Moreover, two representatives from policy makers, Ministry of Health Affair of Thailand, and one academic professor, participated in the interviews.

For quantitative research, key informants from the demand side are foreigner who are tourist and expatriate in Thailand. The former group include tourists or visitors intentionally seeking for treatment requirement and travelers with accidental medical problem. Regarding sample size, Hair, et al. (2010) recommend minimum 15 respondents for each parameter for multivariate normality assurance whereas this research had 12 parameters. Thus, the minimum sample size is 180 units. Data collection for this research, however, had high limitation since a hospital’s data collection permission with its patients was difficult in terms of patient’s privacy concerns. This research was allowed to collect questionnaire with patients of one hospital in Pattaya, at which it is the famous tourism place of Thailand.

3.2 data analysis

For qualitative method, descriptive transcripts were prepared regarding relevant constant comparison and negative cases. Data reduction is a continuous process aiming to categorize and condense the meaning of data into the appropriate format of data analysis (Kvale 1996). In order for a conclusion drawing and verification, data were formulated by which the verifying tests present the plausibility, robustness, and confirmability of the discovered data meanings. Specifically, this research conducted counting, clustering, subsuming specific into general, noting relations between variables, building a logical chains of evidence, and making conceptual coherence (Miles & Huberman 1984).

In quantitative data analysis, this research developed the model specification: measurement model and structural model; estimation; evaluation of fit: testing of Chi-square goodness of fit, absolute fit indices (i.e. GFI, AGFI, and RMSEA), incremental fit indices (i.e. NFI and CFI); and model modification. Then, the interpretation, discussion, and conclusion were provided with comparison to the previous research and the conceptual framework of medical tourism. Confirmatory factor analysis was used to identify the variables indicating each construct in the measurement model. Cronbach’s alpha coefficient with the cut-off level at 0.7 recommended by previous research (e.g. Noble & Mokwa 1999). Models were specified by proposed hypotheses under the scope of research question and theoretical justification. As the acceptable fitted models were determined, the interpretation of model estimates was undertaking with the consideration of convergent tests with the proposed hypotheses. Standardized coefficients were pursued for the interpretation of research results.

4. Results

4.1 Important Characteristics of Respondents

As limited spaces for this publication, the qualitative research results as implications were concluded for the specifically relevant and important issues and added into each relevant aspect for discussion only. For quantitative method, this research achieved 117 sets of completed questionnaire or 65% of planned sample size. Descriptive findings show that the data compose of 26.5% female and 73.5% male. The largest age groups of respondents are in 45-54 years old at 22.2% and 55-64 years old at 21.4%. Concerning nationality, it is found that British is the largest group at 22.2% and the second group is Middle East at 19.4%. Meanwhile, Australian is the third rank at 17.9%.
Interestingly, retired people are the major element of the respondents at 29.1%, while the second and third ranks are working as company employee and business owner at 17.9% and 17.1% respectively. With respect to income levels, it is found that two major groups are in the ranges of US$3,000-6,000 and US$ 6,001-9,000 per month at equal percentage of 20.5. Specifically, a payment behavior of respondents has a majority in a self-pay at 63.2% and the payment by private health insurance at 22.2%. Furthermore, the most of respondents have plan to stay in Thailand longer than 30 days at 43.6% and during 10-30 days at 32.5%. Also, the most of respondents have plan to travel after taking treatment at 36.8%.

Z score was conducted for each scale item to test the outliers of the 117 complete questionnaires. The cut-off level of the standard score is 4.0 or greater for the cases defined as the outlier (Hair et al. 2010). This research found 4 data points that were identified as outliers. Therefore, these samples were dropped and then the rests of 113 samples were proceeded further in the analysis process. After the outliers were dropped, the questionnaire respondents’ profiles did not change significantly. Thus, the descriptive research findings still have been valid.

4.2 Scale Development of Measurement Model Results

Scales were developed from theory. Exploratory factor analysis (EFA) was used to determine the number and content of constructs as recommended by Bollen (1989). Eigenvalue criterion adopted for each component was greater than 1.0 (Bryant & Yarnold 1997). This research employed the criteria and Cronbach coefficient alpha for testing scale reliability was examined using >0.7 as an acceptable criterion (Noble & Mokwa 1999). In addition, to determine unidimensionality, various indicators were conducted. Confirmatory Factor Analysis (CFA) was used to verify the final scale items before hypothesis tests. Goodness of fit indexes are recommended to test for the fit of measurement model (Hair et al. 2010). Schumacker and Lomax (2004) pointed out that Goodness of fit indexes; Chi-square ($\chi^2$), Goodness-of-Fit (GFI), Adjusted Goodness of Fit (AGFI), Comparative Fit index (CFI), Normed Fit Index (NFI), and Root Mean Square Error of Approximation (RMSEA) are occupied to evaluate the CFA results.

With respect to Absolute Fit Indexes, the $p$-value of the Chi-square test was cut off at the greater than 0.05 for the fit model (Hoyle 1995). GFI and AGFI are equal to or greater than 0.90 for model acceptance and above 0.95 for a good fit of the model (Schumacker & Lomax, 2004). For the indication of Relative Fit Indexes, CFI and NFI are equal to or greater than 0.90 to accept the model (Hair et al., 2010). RMSEA at 0.05 or less is considered to indicate the good fit of the model, meanwhile between 0.05 and 0.08 indicates the adequate fit, and above 0.08 interpreted as the poor fit. All relevant constructs were proved to qualify for hypothesis tests.

4.3 Hypothesis Tests

The previous section tested the measurement models by CFA and found that all final scale items were good measurement for each construct. For this section, the hypothesis tests displayed the major proposed relationships between the independent constructs; ‘Perceived Congruence of Demand-Supply Medical Facilities’ (PCDSMF), ‘Perceived Quality of Demand-Supply Medical Facilities’ (PQDSMF), and ‘Brand Image of Hospitality Facilities’ (BIHF), and the dependent construct, Destination Brand Choices (DBC).

**Goodness of Fit**

With respect to the tests of Goodness of Fit, this research found that the ‘Model’, Figure 1, reached the criteria of the fit model as follows: $p$-value = 0.073, GFI = 0.958, AGFI = 0.932, CFI =0.980, NFI = 0.953, and RMSEA = 0.057 (Table 1). It could be concluded that the Model could be interpreted further from the criteria achievement for the Goodness of Fit.

<table>
<thead>
<tr>
<th>Table 1 Goodness-of-Fit tests</th>
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<tr>
<td><strong>Model</strong></td>
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<td></td>
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<tr>
<td>Tested</td>
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This research found that there were significantly statistical associations; between ‘Perceived Congruence of Demand-Supply Medical Facilities’ (PCDSMF) and ‘Destination Brand Choices’ (DBC) at $p$-value = 0.01 and estimated coefficient = 0.534, between ‘Perceived Quality of Demand-Supply Medical Facilities’ (PQDSMF) and ‘Destination Brand Choices’ (DBC) at $p$-value = 0.01 and estimated coefficient = 0.581, and between ‘Brand Image of Hospitality Facilities’ (BIHF) and ‘Destination Brand Choices’ (DBC) at $p$-value = 0.001 and estimated coefficient = 0.692, R-square = 0.215. (Table 2 and Figure 1).

Table 2 Hypothesis Test, Dependent Construct = DBC

<table>
<thead>
<tr>
<th>Independent Constructs</th>
<th>Estimated Coefficients</th>
<th>Significant at $p$-value</th>
<th>R-square</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCDSMF</td>
<td>0.534</td>
<td>0.01</td>
<td>0.215</td>
</tr>
<tr>
<td>PQDSMF</td>
<td>0.581</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>BIHF</td>
<td>0.692</td>
<td>0.001</td>
<td></td>
</tr>
</tbody>
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Fig. 1. Hypothesis test results

In the other words, the tests of three hypotheses; Hypothesis 1: The positive perceived congruence of demand-supply medical/health facilities leads to a choose of destination brand choice for medical tourism, Hypothesis 2: The positive perceived quality of demand-supply medical/health facilities leads to a choose of destination brand choice for medical tourism, Hypothesis 3: The positive brand image of hospitality facilities leads to a choose of destination brand choice for medical tourism, were supported.

As a result, it can be inferred that medical travelers would select a country and/or an hospital for their medical services in accordance with their perceptions about the ‘Demand-Supply Congruence of Medical/Health Facilities of the Country/ the Hospital’, the Demand-Supply Quality of Medical/Health Facilities of the Country/ the Hospital’, and the ‘Brand Image of Hospitality Facilities of the Country/ the Hospital’.

5. Conclusions

From the hypothesis tests, this research found the findings supporting all proposed hypotheses. In the other words, this research obtained the results as theoretically proposed that the ‘Perceived Congruence of Demand-Supply Medical Facilities’ (PCDSMF) had the significantly statistical impact on the Destination Brand Choices (DBC) of the medical/health tourists or travelers. This finding is consistent with the research of Heung, Kucukusta, and Song (2010) in terms of the perceived congruence of the medical facilities and Huong Bui (2011) in terms of the details of facilities with the estimated coefficient at 0.534 and $p$-value at 0.01. Therefore, the market practitioners need to develop the perception of congruence between demand and supply of the medical facilities for the medical/health tourist or travelers. If these target markets perceived that they can receive whatever they demand or need...
especially for the medical facilities from the medical service provider, it can be expected that the target markets would select that provider to be their medical tourism destination.

Similarly, for the impact of ‘Perceived Quality of Demand-Supply Medical Facilities’ (PQDSMF) on the ‘Destination Brand Choices’ (DBC), this research found that the empirical data support the hypothesis. This finding is consistent with the previous research (Tengilimoglu, et al. 2007). As a result, if the market practitioners of the medical/health tourism or travelling would recruit customers to choose the destination, they need to develop the perceived quality regarding the consistent demand-supply of medical facilities. In the other words, if the tourists or travelers believe that the provider has high quality of medical facilities, e.g. advanced technology and equipment, high international standard of treatment, high performance of medical experts or doctors, they would visit that provider as the destination.

According to the hypothesis 3, the expected effect of ‘Brand Image of Hospitality Facilities’ (BIHF) on the ‘Destination Brand Choices’ (DBC) was supported by this research with the estimated coefficient at 0.692 and the p-value at 0.001. This finding is consistent with the Balakrishnan, Nekhili and Lewis (2011). It can be concluded that if the market practitioners want to persuade the medical/health tourists or travelers to visit their country or the hospital for medical services, they need to develop the good image of country or hospital brand in terms of hospitality facilities. It means that the medical-tourism providers must be ready for medical/health tourists or travelers for their facilities in treatment, healthcare, and hospitality.

In addition, the qualitative findings of this research indicate that the ‘Brand Trust’ possibly is the mediating variable between the relationships between the independent constructs; ‘Perceived Congruence of Demand-Supply Medical Facilities’, ‘Perceived Quality of Demand-Supply Medical Facilities’, ‘Brand Image of Hospitality Facilities’ and the dependent construct, ‘Destination Brand Choices’. Theory developers can employ the findings of this research to investigate further the effects of brand trust under the statistical empirical proofs of future research.

Managerial/Practitioner Implications. Details from qualitative phase, it can be inferred that hospitals are inquired to develop various good brand images; one-stop service provider, quality of services, and hospitality. Hospitals should focus on the factors and processes how to develop medical/health tourists’ or travelers’ word of mouth. Furthermore, the hospitals should establish agency networks particularly in the prospective country markets. Internet/Online communication of the hospital including excellent profiles of both hospital and medical doctors must be provided. The hospital management should contact and arrange to establish contracts with the insurance companies in the prospective country markets.

Policy Maker Implications. Government agencies specifically for the relevant government departments should be concerned the importance of this medical tourism industry in terms of significant income sources of the country. In particular from qualitative results, Thailand government system which is a fragmented operations needs to develop the cooperation between/among diverse departments to focus on the nation’s goals of medical tourism hub. Private organization, e.g. hospitals, requires support from the government policies. For example, the immigration application and approval processes should be improved. The long period or long stay approval should be considered. Joining international exhibitions and events should be initiated and supported for the private hospitals. Furthermore, government to government contract arrangements for supporting the private hospitals should be extended and established.

Implications for Future Research. Findings from this research are related to only Thailand’s medical/health tourism or travelling scopes. Also, the hospitals or medical/health service providers are located in Thailand by which there may be specific characteristics and cultures. Moreover, the questionnaire respondents are the only service users of one hospital in Pattaya for which this research could not collect questionnaire from the travelers intentionally seeking tertiary treatment because of their privacy right and serious treatment concerns. Therefore, to achieve the resolutions and generalization for the research question focusing on medical travelers rather than expatriates, similar research needs to be pursued in various hospitals or service providers and in other countries. Also, future research may be conducted with longitudinal data set to assure that the findings of the perception and brand image effects on the destination brand choices have emerged and can be examined.
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