Trust In Online Medical Tourism Information: Having Cosmetic Surgery In South Korea

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ABSTRACT
Medical tourism continues to expand globally. Many consumers have to rely heavily on online information, given geographical distances and unfamiliarity of a different healthcare system. Yet the quality of information is mixed at best. Few studies have examined factors that can impact trust in healthcare websites, organizations and doctors. In light of the popularity in having a cosmetic surgery in South Korea, we conducted lab experiments using 80 business school students in Bangkok, Thailand. Given the uncertainty of information accuracy and credibility, medical tourists are strongly influenced by social influence, especially by those close to them. Social influence also affects their trust in cosmetic surgery hospitals, doctors, and websites. Furthermore, certain website features and self-efficacy of online searching influence the trust in hospitals, doctors, and websites.

Keywords: Medical tourism, online information search, online decision-making, self-perception theory, least likelihood model (ELM), trust in online information.

INTRODUCTION
A 2011 OECD report [23] notes the worldwide emergence of so-called medical tourism. It notes the main characteristic of medical tourism as “the movement of patients across borders in the pursuit of medical treatment and health” driven by significant cost savings. SRI International estimates the global market size of medical tourism to be $50 billion in 2010 [18]. Enjoying the competitive price advantage, the Asian countries such as India, the Philippines, South Korea, and Thailand are emerging as popular destinations of medical tourism [45]. Having a medical treatment in Asia can save up to 33% of the costs over having it in the United States [29]. The medical tourism industry in Asia is expected to reach $8.5 billion by 2013 [17]. Having the highest per-capita cosmetic procedures in the world in 2010, South Korea is one of the leading destinations for cosmetic surgery from overseas [11]. According to the International Society of Aesthetic Plastic Surgery (ISAPS), people in those Asian nations are also top consumers of cosmetic surgeries [21].

Aside from cost advantages, medical tourism poses some unique challenges for consumers. There are healthcare regulatory and legal concerns across borders [39]. There are not only geographical but also psychological distances between consumers and healthcare-provider locations [46]. Given these challenges, consumers reply on information available on the web. In general, more than 80% of Internet users are turning to online health information forums for answers to their questions before taking any concrete actions [16]. Although online health forums are proliferating, it is uncertain about whether they are an effective medium for consumers and healthcare service providers. First, the identity of forum posters is often not fully disclosed. Second, the description of patient experience may not be comprehensive and may be missing some critical information. Third, the reviews on doctors and hospitals may be biased. The posters are often those who are either highly satisfied or dissatisfied with their experiences.

Faced with the popularity of overseas cosmetic surgery and the uncertainty of online information, this paper poses the following research questions in the context of medical tourism. First, what factors influence trust in cosmetic surgery information (CSI) websites? Second, do these factors enhance trust in doctors and hospitals? Third, how do these factors affect the intention to have a cosmetic surgery overseas?

This study was conducted at a major business school in Thailand, because certain cosmetic surgeries are popular among the local youths. There are some recent studies [22], [45] that focused on medical tourism in Asia. However, few studies examined what factors impact the trust in website, hospitals, and doctors as well as the intention to have a cosmetic surgery overseas. In the following sections, the paper first reviews relevant theoretical background. It then discusses hypotheses, method, and results, followed by implications and conclusion.

THEORETICAL BACKGROUND
Online healthcare information
In the past decade, the popularity of search engines and portable devices has been fueling the use of online information searches. In 2005, about two-thirds of adults were already seeking online some types of healthcare information for themselves or their peers [20]. Although consumers rely on the web, some healthcare professionals are seriously concerned about the quality of online information [28]. The problem with the internet is not necessarily a lack of information but the [13], [35]. However, “half of those who have sought health information online in the United States reported these materials affected their decisions about treatment and care” (ibid., p. 499).
The supply side of healthcare information should not bear all the blame. For example, despite the abundance of information, there is little consistency in how consumers expect, seek, find and use online healthcare information [8]. In addition, many consumers do not read beyond the first page of search results [28]. They are also “seldom diligent” in checking and validating information they obtained online [26]. Indeed, online information may be advertisement, fraudulent, outdated, and/or sourced by unqualified parties. Metzger [26] thus suggest 25 guidelines to assess the credibility of online healthcare information.

**Decision-making regarding cosmetic surgery overseas**

Consumers not only browse healthcare information online, but they also use the web to make healthcare decisions. The Pew Research Center reports in its recent survey that 59% of U.S. adults explore the internet to gather health diagnostic information [32]. About 35% of U.S. adults used the web even to diagnose themselves, although 70% indicate they seek professional help for a serious health concern (ibid.). However, there are some cultural differences regarding online healthcare information searches and subsequent decision-making. For example, only 17% of the Japanese look for information on the web only after their doctor’s suggestion, while adults in the U.S. and Germany may seek online healthcare information frequently by themselves.

Given the variation of information quality, consumer expectations and cultural differences, how can we model consumers’ healthcare decision making? A few studies propose generic models relevant to healthcare information trust and judgment over the web. The first model [5] shows that consumers’ probability of taking advice online is influenced by source credibility, advice personalization, and advice predictability. The second model [6] is based on the observation that consumers generally visit many websites to scan information with some heuristics. They then evaluate the website and information systematically to integrate all the information and to start having long-term, trusting relationships with a select few websites. The third model [26] divides the online information use into three phases. In the exposure phase, consumers’ motivation and ability to evaluate the website play critical roles. Next, the evaluation phase consists of either no evaluation, heuristic/peripheral evaluation, or systematic thorough evaluation. If the evaluation is positive, consumers then enter into the judgment phase to critically assess the credibility of the website and whether to trust its information or not.

**Trusting what you see online**

Trusting healthcare websites depends on several major factors. Numerous studies [1] [13] [31] note the importance of credibility. This is because the decision based on online information can lead to significant positive or negative health and financial implications. Judging whether information is credible or not, however, is the fundamental conundrum for consumers. The fact that they are not experts able to judge leads many healthcare experts to advise consumers to consult with them [41]. As an example, a study [19] had three experienced cosmetic surgeons assess the results of web searches using the term “breast augmentation.” Their evaluations found some websites offering limited but accurate procedural details. However, no websites were perfect. We have to wonder whether the average consumers can discern the accuracy and relevancy of website content as much as these three experts did.

Web site design and content significantly impact the trust level of a healthcare website [35][36]. For example, consumers have favorable impressions of a website if its layout is clear with adequate navigational aids. Interactive features such as assessment tools also enhance website trust. Site contents such as informativeness, illustration use, content biases and language clarity are important as well for website trust. Comparisons of 57 medical facilitator websites show that site content structures and emphasis are different between Asia, Europe, Central and South America, and North America [7]. Such differences are not surprising because consumer needs, regulations, and healthcare infrastructures vary between nations. As a result, healthcare providers adjust website contents accordingly.

The above review points us to a few critical issues. First, there are quality variations of online healthcare information. Second, consumers use some triangulation to obtain the sense of what websites are more trust worthy than others. Third, it is basically up to consumers what information to trust and how to use it. For those considering a cosmetic surgery overseas, how is their trust in websites, hospitals, and doctors influenced when they seek information online? How is the intension to have a surgery impacted from online searching? The next section proposes a conceptual model and hypotheses to address these questions.

**HYPOTHESES**

Faced with the abundant online information, how do consumers trust relevant websites, hospitals, and doctors? The literature reviews reveal that it is up to consumers how to navigate the web and to find and screen credible information. In relation to web-enabled decision-making on having a cosmetic surgery overseas, we identify three key variables influencing the trust in websites, hospitals, and doctors. We also investigate how these three variables impact the intention to have a cosmetic surgery overseas. The websites we focus on offer cosmetic surgery information (CSI) by doctors, hospitals, and past/prospective patients sharing their experiences and opinions in web forums. We call such websites CSI websites for short. These CSI websites are typically set up and run by a third party, however they usually use some sponsorship from doctors and hospitals.
The first variable we focus on is self-belief in the ability to search and find the relevant information over the web. Self-Perception Theory [2] posits that consumers can form their attitudes, beliefs, and feelings by seeing their own behaviors. That is, consumers who engage in online searching tend to believe in their ability to search and identify relevant CSI online. For example, a study shows that the height and attractiveness of an avatar in an online game predicted the performance of players and influenced their subsequent face-to-face interactions [43]. This is akin to self-fulfilling prophecy [4]. Those who believe in their confidence in obtaining CSI online do find relevant CSI online and trust a CSI website that they find relevant and useful. This aspect is critical because no one usually supervises or directs consumers how to look for relevant information over the web. In most cases, it is entirely up to consumers to self-direct online information seeking. Therefore, we hypothesize:

H1: Trust in CSI websites depends on consumes’ self-belief in their ability to obtain relevant information online.

Influence of one’s close peers

The second variable influences not only information trust but also decision-making of consumers. The basic dilemma for these consumers is that they can search online as much as they want, but they do not have complete information and professional expertise to decide what information is credible and trustworthy [3] [33]. According to the elaboration likelihood model, consumers tend to go with the “peripheral route” of being persuaded to make a purchase decision when they cannot approach the decision rationally due to incomplete, inaccurate and/or non-trustworthy information. A recent study [30] notes that the power of the traditional word-of-mouth (WOM) is still more influential than that of electronic WOM (eWOM or opinions, reviews and rumors by other consumers online who are strangers to the consumer) or even expert opinions. The reason behind such reliance is that online information is frequently anonymous and is uncertain as to its credibility and source(s). Consumers, however, feel assured by face-to-face communication with someone they know (e.g., WOM).

H2a: Trust in CSI websites depends on consumers’ expectation of their peer briefs on online information.

H2b: Trust in doctors and hospitals depends on consumers’ expectation of their peer briefs on online information.

H2c: The intention to have a surgery overseas depends on consumers’ expectation of their peer briefs on online information.

Website features

As we saw in the literature review, website features impact consumer trust on websites of healthcare providers and facilitators. Metzger [26] suggests that consumers should pay attention to information source citations, contact information, professional site designs, sponsorship by reputable organizations, interactive features, and relevancy and comprehensiveness of information. Beyond healthcare websites, past studies have reported that site designs affect trust and loyalty for e-commerce [15] [34] and m-commerce [9]. Thus:

H3a: Trust in CSI websites depends on the specific features of a CSI website.

H3b: Trust in doctors and hospitals depends on the specific features of a CSI website.

H3c: The intention to have a surgery overseas depends on the specific features of a CSI website.

METHOD

To test the hypotheses, we used the two-step lab experiments (3 hours each) followed by a survey questionnaire. We used ordinary linear regressions to analyze the data.
Lab experiments

We had 80 participants. They were all students at a major business school in Bangkok, Thailand. Their ages range within 20 to 29 years old. According to the Thai ICT national statistic, the age range of our participants ranks second for the Internet usage in Thailand whereas the age range of 30-39 ranks first.

As we have seen earlier, the quality of websites and their information varies. In addition, which websites offer “quality information” may be subject to one’s background and expertise. Thus, we wanted reasonable control on the quality of websites and individual background to test the hypotheses. For this purpose, we had designed the two-step lab experiments to minimize the variance of individual knowledge and to have the survey participants select what the majority of them consider the websites with “quality information.” Therefore, in the first step, the researchers asked the participants to spend the entire 3 hours to browse, review and identify three CSI websites in Thailand. We gave the following guidelines to the participants: 1) information completeness, 2) clear explanation of the procedures used in plastic surgery in South Korea, 3) perceived trustworthy information on Korean doctors and hospitals, and 4) discussion threads with the most informative shared experiences from past patients. Once the participants had identified the CSI websites with the most informative discussion threads, we collected and ranked them by the frequency of the three choices.

After the three best CSI websites were identified, the researchers conducted the second lab experiment. In this session, we divided all participants into a group of three (one male and two females). Such a grouping was formed to familiarize the participants with different perspectives for the next tasks. Then, each group spent 3 hours to thoroughly read the three selected forum threads and discuss amongst its group members how the information was presented and how they would make informed decisions regarding whether to have a cosmetic surgery in South Korea.

Once these two sessions were completed, they were asked to take an online survey questionnaire. We took great care during the lab experiments not to prime the participants for the particular survey questions in the second step. For regression, we had 65 valid and complete responses.

Variable definitions

There are three dependent variables (DVs): Trust in Website, Trust in Hospital and Doctor, and Intention to Have Surgery. Website features we identified were the following 16 items: activity room, ask questions about their concerns, discussion forums, exchanging knowledge room, FAQs, information about hospital, information about doctor, information about Korean cosmetic surgery in general, information about Korean cosmetic surgery procedure, information about Thai cosmetic surgery in general, information about tour package, promotion from clinic, review pictures before and after, room to sell cosmetic and clothing, the hot issues, and top 10 members. Each item was measured with 5-point Likert scale on the frequency of use (from never to every time). The control variables used were: gender, time willing to spend for surgery, budget willing spend for surgery, interest in having surgery in South Korea, and frequency of social media use. As we see in the next section, the only significant control variable was the interest in having surgery in South Korea. Table 1 lists the multi-item variables we used for the survey questionnaire.

Table 1. Key Variable Constructs

<table>
<thead>
<tr>
<th>Variable</th>
<th>Items and scale</th>
<th>Cronbach α</th>
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<tbody>
<tr>
<td>Trust in Website</td>
<td>3 items, 7-point Likert scale</td>
<td>0.724</td>
</tr>
<tr>
<td>(McKnight, Choudhury and Kacmar, 2002; Moorman, Deshpande and Zaltman, 1993)</td>
<td></td>
<td></td>
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<tr>
<td>Trust in Hospital &amp; Doctor</td>
<td>6 items, 7-point Likert scale</td>
<td>0.824</td>
</tr>
<tr>
<td>(Doney and Cannon, 1997; Sindeshmukh, Singh and Sabol, 2002)</td>
<td></td>
<td></td>
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<tr>
<td>Intention to Have Surgery</td>
<td>3 items, 7-point Likert scale</td>
<td>0.805</td>
</tr>
<tr>
<td>(Evens and Galletta, 2005)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Brief in Online Search</td>
<td>3 items, 5-point Likert scale</td>
<td>0.727</td>
</tr>
<tr>
<td>(Venkatesh, Morris, Davis and Davis, 2003)</td>
<td></td>
<td></td>
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<tr>
<td>Social Influence</td>
<td>3 items, 5-point Likert scale</td>
<td>0.807</td>
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<tr>
<td>(Venkatesh et al., 2003)</td>
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RESULTS

The summary of regression results is given in Table 2. The results of the first regression (DV: Trust in Website) indicate the standardized coefficient for Self-Brief in Online Search is 0.501 with p = 0.000. The 16 Website Features was not significant and not entered into the regression. Social Influence had the standardized coefficient of 0.344. Thus, H1 has very strong support. H2a was not supported, but H3a was. The second regression (DV: Trust in Hospital and Doctor) shows a strong Social Influence (β = .501), supporting H3b. Also a strong factor was Before/After Pictures (β = -0.546). The negative sign of the standardized coefficient indicates that the survey respondents trusted less when seeing the before/after pictures than when not seeing them. The Activity Room use did not enhance trust in the hospital and doctor (β = -0.216) whereas the promotion from a clinic actually did. Then H2b was supported. Finally, the third regression (DV: Intention to Have Surgery) had the control variable, Interest in Having Surgery in South Korea, as the strongest factor. This is quite understandable because one would not want to have surgery unless he or she is interested in it. Controlling this factor, the regression gave support for H2c and H3c. The website feature specific to giving information about surgery in South Korea had a medium-level positive impact (β = 0.352). Social Influence was significant, but rather a weak factor (β = 0.195).
patients want better results, but that they do not necessarily want to know the reality of cosmetic surgery. For example, many participants noted the details of information were important. Yet, they also expressed “discouragement” from seeing after-surgery pictures and reading about the post-op pains.

Concerning the trust in CSI websites, we find that the self-brief of consumers in the ability to obtain relevant information is reasonable and is generalizable to the healthcare consumers outside of Southeast Asia. Second, the results are based on what our survey participants consider credible and useful websites. Third, some cautions are due on how to generalize the above implications.

**Table 2. Summary of Regression Results**

<table>
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<tr>
<td>F(3, 63) = 23.80, P = .000</td>
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<tr>
<td>Social Influence</td>
</tr>
<tr>
<td>Trust in Hospital &amp; Doctor</td>
</tr>
<tr>
<td>Adj-R2 = .302</td>
</tr>
<tr>
<td>Website Feature: Activity Room</td>
</tr>
<tr>
<td>Website Feature: Before/After Pictures</td>
</tr>
<tr>
<td>Website Feature: Promotion from Clinic</td>
</tr>
<tr>
<td>Social Influence</td>
</tr>
<tr>
<td>Intention to Have Surgery</td>
</tr>
<tr>
<td>Adj-R2 = .361</td>
</tr>
<tr>
<td>Website Feature: Information about surgery in South Korea</td>
</tr>
<tr>
<td>Website Feature: Activity Room</td>
</tr>
<tr>
<td>Social Influence</td>
</tr>
<tr>
<td>Interest in having surgery in S. Korea</td>
</tr>
</tbody>
</table>

**IMPLICATIONS AND CONCLUSION**

There are several limitations of this study. First, the results reflect the perspective of those who are 20 to 29 years old and live in the Southeast Asia. Second, the results are based on what our survey participants consider credible and useful websites. Third, some cautions are due on how to generalize the above implications.

Concerning the trust in CSI websites, we find that the self-brief of consumers in the ability to obtain relevant information online has a strong influence. Given the findings of the IT self-efficacy literature [20] [40] [44] we believe that this finding is reasonable and is generalizable to the healthcare consumers outside of Southeast Asia. Another important implication is that consumers are still relying on the recommendations of someone they trust or on WOM. That is, peer influence is a significant factor. Furthermore, the specificity of CSI website features matters. One interesting finding of this study is that prospective patients want better results, but that they do not necessarily want to know the reality of cosmetic surgery. For example, many participants noted the details of information were important. Yet, they also expressed “discouragement” from seeing after-surgery pictures and reading about the post-op pains.

Future studies should test our model in different geographic regions and other types of medial/elective treatments.

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