Factors influencing Chinese tourists' intentions to use the Taiwan Medical Travel App

I-Chiu Chang [a], Pei-Chin Chou [a], Ralph Keng-Jung Yeh [a,*], Hsiao-Ting Tseng [b]

[a] Department of Information Management, National Chung Cheng University, No. 168, Sec. 1, University Rd., Min-Hsiung Township, Chia-yi County 621, Taiwan, ROC
[b] Department of Information Management, National Chiao Tung University, Management Building 2, 1001 Ta Hsueh Road, Hsinchu City 300, Taiwan, ROC

A R T I C L E   I N F O

A B S T R A C T

Global economic progress has resulted in the rapid development of transportation, finance, and tourism. Consequently, medical tourism has emerged as a new and booming market. Hospitals in Taiwan have excellent medical quality and highly-ranked information technology. The geographical, cultural, and linguistic proximity between Taiwan and Mainland China further enhances the appeal of medical tourism in Taiwan as an option for patients from China. Thus, the Taiwanese government has actively modified and improved various aspects of its tourism infrastructure, such as visa regulations, marketing policies, and technologies, to attract medical tourists. One important technology marketing method in its arsenal is the Taiwan Medical Travel App (TMT App), which can be downloaded to mobile devices. The TMT App focuses on promoting Taiwan's medical tourism. Nevertheless, the effectiveness of the TMT App and the usage intention of Chinese patients have not been evaluated. This study proposes a research model based on a literature review to explore the factors that influence Chinese patients' intention to use the TMT App. The research model is then validated using questionnaires and statistical analyses. The results can be used as a reference to enhance customers' intention to use the TMT App and to improve this and other similar Apps.

1. Introduction

As healthcare management has currently become a popular concept, medical tourism has emerged as a new and booming market. Coupled with the geographical, cultural, and linguistic proximity between Taiwan and Mainland China, the excellent medical quality and high-ranking information technology of Taiwanese hospitals have highlighted the advantages of Taiwan's medical tourism, particularly to the patients from China. Therefore, the Taiwanese government has actively modified and improved various aspects of its tourism infrastructure, such as visa regulations, marketing policies, and technologies, to attract medical tourists. According to Taiwan Tourism Bureau reports, the number of Chinese tourists visiting Taiwan increased by 64.79% after the Taiwanese government began to issue healthcare tourist visas. Such an increase reflects the high demand for Taiwanese healthcare services.

Many Asian countries are actively promoting their international healthcare services. Chung and Koo (2015) suggested that employing new technology as a tool for tourists is becoming a trend. Online services provided by the Taiwanese

government to the public are world-renowned and have been ranked in the top ten e-Government services in the world seven times between 2005 and 2014 (Waseda, 2014). One of these e-services is the international healthcare portal website established by the Taiwan Ministry of Health and Welfare (TMHW) in 2007 to promote Taiwan's healthcare services. The healthcare portal website was intended as an alternative to traditional marketing channels. When the concepts of "smart city" and "mobile trends" became popular (Walravens, 2015), the TMHW established the Taiwan Medical Travel application software (TMT App) at the end of 2011 to better serve medical tourists.

The App is an important platform for the future marketing of medical tourism. Various Asian countries have introduced their own medical Apps as well. However, despite the recognition of China as one of the main target countries for Taiwan's medical tourism marketing, the effectiveness of the App and the usage intention of Chinese tourists have not yet been evaluated. Therefore, this study proposes a research model based on a literature review to explore the factors that influence Chinese tourists' intention to use the TMT App. The research model is then validated using questionnaires and statistical analyses. The results can be used to improve App services to enhance customer intentions to use the TMT App. Moreover, the results could serve as a reference for other similar Apps.

2. Literature review

2.1. Medical tourism

The World Tourism Organization (WTO) defines medical tourism as services based on the themes of healthcare, illness and health, rehabilitation, and recuperation. Bishop and Litch (2000) stated that healthcare tourism focuses on tourism while medical travel focuses on healthcare. Owing to the common usage and broader scope of "medical tourism", the term has been used to include "healthcare tourism" in this study. Medical tourism has become one of the fastest growing industries in Asian countries with growth rates that are generally higher than 20% (Yap et al., 2008). Countries that have a medical travel industry in place, including Thailand, Singapore, India, Malaysia, South Korea, and Taiwan, have been actively promoting their international healthcare services. For example, the Thai government and tourism industry have been actively promoting medical tourism-related programs (Cohen, 2008), and made Thailand the leader in medical tourism holding more than 40% share of Asia's medical tourist arrivals in 2011 (Renub Research, 2012). Leng (2010) predicted that the number of medical tourists visiting Singapore would reach one million in 2012. British patients availing themselves of medical tourism services in India has been a common phenomenon (Gupta, 2007), and star-rating standards have been set up for hospitals to enhance the trust of foreigners in the quality of India's healthcare system (Jose and Sachdeva, 2010). Since the selection of 35 hospitals as official medical tourism hospitals in 2009 (Chee, 2007), licensed doctors and institutions in Malaysia have been allowed to promote their services using advertisements, and the medical tourism market has grown more than eight times in 2011 compared to that in 2003 (Renub Research, 2012). Korea has been aggressively promoting medical tourism by setting up branch offices in New York, Beijing, and Singapore to achieve the goal of 110,000 foreign visiting patients (Connell, 2010). The Executive Yuan of Taiwan started issuing individual tourist visas to Chinese citizens in June 2011 and healthcare checkups in February 2012. These actions ended the "Cold War between Taiwan and China," allowing Taiwan's medical travel to bear fruit. The TMHW even designated 39 hospitals to facilitate visa applications for Chinese citizens who desire to visit Taiwan for esthetic healthcare checkups.

2.2. App usability and the TMT App

The executing platforms of an App are hand-held devices, such as tablet PCs and smartphones. As infrastructure of mobile networks has become increasingly mature, mobile applications, or Apps, have emerged as a new industry with business opportunities (Hoehle and Venkatesh, 2015). Mobile Apps facilitate free/almost free-to-play designs. Android users can choose among 1.5 million Apps and Apple users can avail themselves of any of the 1.4 million available Apps (The statistics portal, 2015a). Among these Apps, game Apps have been the most popular category (21.45%), followed by business (10.14%) and education (9.95%) ones; the most popular healthcare-related Apps have been health and fitness (2.77%) and medical (2.06%) Apps (The statistics portal, 2015b). However, not all Apps are highly accepted and used (Deloitte, 2012). The top 10% Apps account for 80% of the downloads; moreover, only 25% of downloaded Apps are used a second time (Dredge, 2011). Thus, App usability is an important topic for modern App users and developers. Nevertheless, minimal systematic help has been offered to evaluate existing mobile applications or to design new mobile applications (Hoehle and Venkatesh, 2015). Therefore, the present study attempts to provide relevant ideas on App usability, especially in the area of medical tourism.

Many countries in Asia have introduced their own medical tourism Apps. Evidently, a medical tourism App is an important platform for future marketing. With the aim of better serving medical tourists, the Taiwanese government introduced the TMT App to integrate medical tourism information, such as the strengths of the participating hospitals, news on medical travel services, and information on local attractions. Some TMT App screenshots are shown in Fig. 1.

A comparison of Asian medical tourism official Apps is shown in Table 1.

The TMT App was designed to enable medical tourists visiting Taiwan to obtain instantaneous healthcare information. While the functions and contents of the TMT App are generally comparable to those of the medical Apps from other