Research Agenda on Developing a Technology Acceptance Model in the Context of Ubiquitous Health Tourism

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I. Research Background and the Aims

The purpose of this research is to propose a research agenda in order to develop the acceptance model of ubiquitous technology applied to health tourism. The concept of technology acceptance model (TAM) is to explain user's behavioural intention toward new information technology (IT) and this study focuses on ubiquitous technology. This study will be performed by application of the TAM as a theoretical background (Davis, 1989). The studies related to the acceptance of information technology have been conducted (Davis, 1989; Davis, Bagozzi, and

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Warshaw, 1992), based on the theory of reasoned action (TRA) (Ajzen and Fishbein, 1980), to explain the acceptance process using the Technology Acceptance Model (TAM). Although there has been a number of studies on IT, TAM, which was introduced by Davis (1989), has been regarded as one of the most useful model to explain new IT usage and acceptance behaviour (Bruner and Kumar, 2005; Lee, Kim, and Lee, 2006). Furthermore, Unified Theory of Acceptance and Use of Technology (UTAUT) was introduced as a united form of acceptance model. The UTAUT was proposed by Venkatesh (2003) to unify legacy theories into one comprehensive model, in which the constructs of PU (Perceived usefulness) and PEOU (Perceived ease of use) in TAM were replaced with four new constructs: Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions.

Ubiquitous technology means the telecommunication environment where the user can freely access to the network no matter where the user is located and without being conscious to the network or the computer (Weiser, 1993). In other words, it is the environment where the user is not aware of the computer or the network regardless of the place and can freely access to the network. The concept of ubiquitous technology in health area is considered as personal healthcare system and it means a generalised lifelong health information system to check the personal health automatically and simultaneously transmit the health information to hospital for a cure and diagnosis through the personal mobile device at anytime & anywhere, including home (Yoo, 2006). Thus, the ubiquitous health (u-health) technology that promotes one's healthcare and manages any disease at anytime & anywhere, is expected as the strategic drive in health tourism. For this reason, whether customers (patients; future health tourists) are willing to use ubiquitous technology as new service is very important before they adopt new technology in health tourism, and the results will be beneficial to many industries including information technology, health, tourism, and more.

Under current IT trend, recently, health tourism has grown dramatically due to its advantages including low costs and high quality treatment (Hall, 2011). Goodrich (1993) defined health tourism as tourism facilities or destination attracting tourists by planned promotion with health-related services or facilities through their exploratory study. The health tourism has linked hot springs, spa, seawater treatment, and medical examination and surgery to tourism. The growth of health tourism has been accelerated by the increase of health care expenses of advanced countries and the increased number of highly specialised hospitals in the developing countries (Galloway, 2008). This high demand and the lack of supply has accelerated health tourism; a long waiting period for treatment, increased interests in health and beauty care, increased numbers of aging population, and medical services in less expense and with leisure and recreation components. In addition, health tourism has grown in a number of countries, especially in Asia because of many advantages through establishing and promoting health tourism in their own countries (Singh, 2008).

Currently, the development and expansion of health tourism has enabled many countries to design their own health tourism using the existing infrastructures and resources (Carrera & Bridges, 2006). Due to advanced technology and its applications to health tourism directly or indirectly, health tourists have been able to experience health tourism more easily and efficiently. In this regard, the information technology for the health tourists can provide a better opportunity as competitive advantage (Porter & Millar, 1985).

Nowadays, South Korea has many potential advantages in health tourism aspect: competitive price and product, easy accessibility, and high quality medical service. Central and local government in Korea have been trying to build a strategy to link healthcare service to tourism. They are also attempting to foster the healthcare service industry using the existing resources and revitalising tourism. Particularly, the medical practice in cosmetic surgery has retained and maintained a high and

world-known reputation (Thanh Nien Weekly, 2011). This study will focus on the health tourism of Jeju Special Self-Governing Province, South Korea. As one of the famous travel destinations in the world, Jeju Special Self-Governing Province has a plan to develop itself as health tourism through the project called 'The Development of Jeju-Style Health Tourism Model' (Kim et al., 2011).

Despite its popularity and demand of health tourism in the South Korea, little research has been conducted on information technology adoption of health tourists. Therefore, it will be well-timed research to develop the acceptance model of ubiquitous technology by Health Tourists using TAM.

Based on above research background, the following aims was established as research objectives.

Aim 1. To critically review the theoretical contribution of technology acceptance models in tourism industry.

Aim 2. To establish the concepts of ubiquitous technology and health tourism.

Aim 3. To identify and evaluate external factors affecting technology acceptance in the context of ubiquitous health tourism.

Aim 4. To validate a proposed technology acceptance model in the context of ubiquitous health tourism.

II. Proposed Methodology

In order to achieve aim 1, various models related to user's technology acceptance will be reviewed and examined. This aim focuses on review of technology acceptance models applicable to health tourism. Thus, there will be the detailed evaluation of existing theories and models related to technology acceptance by employing checklist

method (Pritchard, 2005).

Ubiquitous health, new IT trend, is a method of enhancing or maintaining health level by making many devices (services) available throughout the physical environment, but making them effectively invisible to the patients (Park, 2003). Until now, diverse concepts of ubiquitous health service have been developed in hospital information system. With reference to this, recently, ubiquitous health care centre in Vladivostok, Russia, has been opened for health tourist visiting South Korea (Korea.net, 2011). Aim 2 will explore and examine the concept of ubiquitous health technology for health tourists. While a variety of ubiquitous health technologies are now being introduced and applied in health industry, this study will search and establish the proper concept through review of existing researches. Also, this study will review the studies published in tourism journal and establish the concept of health tourism suitable to this research considering the definition of medical tourism and wellness tourism.

In order to achieve aim 3, factors which were identified in the literature will be examined and verified through Delphi survey. This study will adopt the Delphi technique which can validate the result of experts' interview through the assessment of the suitability and content validity (Dajani, 1979). Other qualitative methodological approaches including interviewing are considered, but Delphi method is selected as this method is superior to other methods in terms of obtaining most reliable consensus of opinion of a group of experts with the controlled opinion feedback (Helmer, 1983). More than 30 health and tourism industry experts in this study will be participated in Delphi survey in order to identify unknown factors from literature review (Robert et al., 2009).

After determining the independent factors in aim 3, acceptance model of ubiquitous technology by health tourists will be developed (aim 4). The sample will be collected at Jeju city, South Korea with potential market place as health tourism.

Departing health tourists, who are over 21 years old, will be randomly selected and data collection will be conducted over 2 week's period. About five hundred data will be collected from health tourists visiting Jeju city, South Korea. The Structural Equation Modelling (SEM) will be utilised to test the hypotheses with two-step approach (Anderson & Gerbing, 1988): the model fit will be examined through exploratory factor analysis (EFA) & confirmatory factor analysis (CFA) and then the significance of the coefficient will be tested. To evaluate the structural equation modelling (SEM), AMOS (Arbuckle, 2006) and SmartPLS (Ringle et al, 2005) will be used.

Ⅲ. Research Contributions

The results of this study are expected to provide both theoretical and practical implications. Theoretically, it will be meaningful research to develop the acceptance model of ubiquitous technology by Health Tourists using extended TAM. This will be done through identification of influential factors on heal tourists' intention to use ubiquitous technology and testing of the fitting level of the proposed model. Practically, the outcome of this study will provide useful guidance or recommendations on the strategic application of ubiquitous technology to various stakeholders in health tourism industry.

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