Chapter 22
User Behavioral Intention Toward Using Mobile Healthcare System

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ABSTRACT

This chapter introduces Mobile Healthcare Systems (MHS) and employs some theories to explore the behavioral intention of Smartphone users in Penang, Malaysia to use MHS. A survey was conducted in the form of questionnaire to Smartphone users in Penang, Malaysia for the duration of three weeks starting in September 2013. A total number of 123 valid surveys out of 150 were returned, which is equivalent to a response rate of 82%. The authors use Partial Least Squares (PLS) for analyzing the proposed measurement model. The factors that are tested are self-efficacy, anxiety, effort expectancy, performance expectancy, attitude, and behavioral intention to use. The results indicate which factors have a significant effect on Smartphone users' behavioral intention and which factors are not significant. The results assist in assessing whether MHS is highly demanded by users or not, and will assist in development of the system in the future.

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INTRODUCTION

Patient monitoring and intelligent health care system can prevent chronic diseases on time. With the advancement of wireless technology and mobile-based systems, the process of monitoring patients becomes ubiquitous. Mobile Health System (MHS) provides the facility of constant monitoring of patients in case of emergency. Medical professionals are concerned about risk and uncertainty of new technologies in healthcare. Thus, they usually tend to adapt new technologies first until those technologies become mature. Introduction of information technology (IT) in healthcare has a deep effect on the performance of the healthcare systems. Many researchers have studied IT adoption and diffusion recently. Adoption is defined as the decision to accept, or invest in a new technology (Masrom & Hussein, 2008). Accessing to the value of the IT to the projects or organization is one of the main objectives for those IT researchers. IT resources can improve overall effectiveness of the organizations. IT adoption and usage by individual users is another key objective considered by researchers.

The main goal of this article is to conduct a survey in order to evaluate user behavioral intention toward using MHS. In consideration of user's behavior toward using MHS, we will conduct a survey among Smartphone users in Penang, Malaysia. The main construct of this study will be user behavioral intention to use the MHS. Behavioral intention to use is a measure of the strength of individual intention to perform a specified behavior which is use of a new technology or system (Davis, Bagozzi, & Warshaw, 1989). For this study, we proposed to use a research model based on three models i.e. Unified Theory of Acceptance and Use of Technology (UTAUT), Theory of Planned Behavior (TPB) and Theory of Acceptance Model (TAM). We will use Partial Least Squares (PLS) for analyzing the proposed measurement model. Firstly, construct validity that comprises convergent and discriminant validities will be used for this purpose. In addition, the structural equation modeling technique will be performed to evaluate the causal model. The factors that will be tested are self-efficacy, anxiety, effort expectancy, performance expectancy, attitude, and behavioral intention to use. The results will indicate which factors have significant effect on Smartphone user's behavioral intention and which factors are not significant. The results will assist in assessing whether MHS is highly demanded by users or not, as well as assist us in development of the system in the future.

LITERATURE REVIEW

This section discusses briefly the literature review approach and background of the study. In the background section, theoretical bases along with development of appropriate hypothesis will be mentioned. Based on the previous researches, research framework for this study is designed which includes formulating conceptual model, research hypotheses, and methodology.

Several literature reviews cover the usage of mobile technologies in healthcare. Moreover, many researchers have studied acceptance of mobile technology in healthcare or user behavioral intention to use of new technologies in healthcare. However, those studies have been conducted with different aims, and it is not easy to compare their results. In order to find important factors of user acceptance or user behavioral intention to use of mobile technology in healthcare, we have done a systematic literature search in several databases such as MEDLINE, PubMed, ScienceDirect, SpringerLINK, IEEE Xplore