

Chapter 7

User Behavioral Intention toward Using Mobile Healthcare System

Pantea Keikhosrokiani

*School of Computer Sciences, Universiti Sains
Malaysia, Malaysia*

Norlia Mustaffa

*School of Computer Sciences, Universiti Sains
Malaysia, Malaysia*

Nasriah Zakaria

*Medical Education Department, College of
Medicine, King Saud University, Saudi Arabia
& School of Computer Sciences, Universiti
Sains Malaysia*

Ahmad Suhaimi Baharudin

*School of Computer Sciences, Universiti Sains
Malaysia, Malaysia*

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.

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 monitor-

ing 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

DOI: 10.4018/978-1-4666-6316-9.ch007

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 and so on. We searched using the terms "mobile healthcare system", "acceptance of mobile technology in healthcare", "behavioral intention to use of mobile device in healthcare." In the next step, we have combined the search results and shortlisted the most recent and relevant papers with the aim to evaluate user behavioral intention to use of mobile device in healthcare.

MOBILE HEALTHCARE SYSTEM (MHS)

With growth of mobile device penetration as well as worldwide enhancement of wireless networks, the wireless infrastructure can support many healthcare systems. This can provide ubiquitous healthcare, which means healthcare services available at anytime at anywhere. The wireless technologies offer various services such as reliable access along with transmission of medical

14 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/user-behavioral-intention-toward-using-mobile-healthcare-system/115111

Related Content

Exploring Faculty and Student iPad Integration in Higher Education

Victoria M. Cardullo and LeNessa Clark (2019). *International Journal of Reliable and Quality E-Healthcare* (pp. 50-69).

www.irma-international.org/article/exploring-faculty-and-student-ipad-integration-in-higher-education/223199

Critical Success Factors in Health Information Technology Implementation: The Perspective of Finnish IT Managers

Nguyen Thi Thanh Hai, Tommi Tapanainen and Diana Ishmatova (2015). *International Journal of Healthcare Information Systems and Informatics* (pp. 1-16).

www.irma-international.org/article/critical-success-factors-in-health-information-technology-implementation/125671

G-NO-TECS: Generic Non-Technical Skills in Healthcare

Deborah J. Rosenorn-Lanng (2014). *Handbook of Research on Patient Safety and Quality Care through Health Informatics* (pp. 33-40).

www.irma-international.org/chapter/g-no-tecs/104071

Evaluating the Quality of Mobile Medical Speech Translators Based on ISO/IEC 9126 Series: Definition, Weighted Quality Model and Metrics

Nikos Tsourakis and Paula Estrella (2013). *International Journal of Reliable and Quality E-Healthcare* (pp. 1-20).

www.irma-international.org/article/evaluating-the-quality-of-mobile-medical-speech-translators-based-on-isoiec-9126-series/84033

Health Professional 'Web Based Conversational Learning' on Unusual Forms of Lupus

David Elpern and Henry Foong (2013). *Clinical Solutions and Medical Progress through User-Driven Healthcare* (pp. 79-84).

www.irma-international.org/chapter/health-professional-web-based-conversational/67738