

# Determinants of Users' Intention to Use Mobile Information Technologies

**Numtip Trakulmaykee**

*University of Sciences Malaysia, Malaysia*

**Parichard Benrit**

*Prince of Songkla University, Thailand*

## INTRODUCTION

Mobile information technology (IT) is the mobile application which provides information on mobile devices such as smartphones and tablets. Nowadays mobile IT is growing rapidly in a variety of contexts; such as m-banking, m-commerce, m-learning, and m-health. The most advantage of mobile IT is the mobility which is easy to gain information anywhere and anytime. Many businesses emphasize to adopted mobile applications in their marketing, as a result of the high growth rate of mobile application in the worldwide. In the last few years, the growth rates of mobile applications are more than 100% in several countries such as China, Argentina, Philippines, Russia, Belgium, India, Israel, and Saudi Arabia (Flurry Analytic, 2012). Therefore, the study of mobile IT has been taken an interest in terms of users' intention to use mobile IT by researchers and businesses. As a result, the users' intention to use mobile IT is a key of information system success (DeLone & McLean, 1992) and technology acceptance (Davis, 1989; Venkatesh et al., 2003).

However, most researchers and businesses have faced the problem about which are the considerable factors of mobile IT in their contexts. The features and characteristics are different in each mobile IT context, thus the key factors of users' intention to use mobile IT in each context are also different. Therefore, this article aims to be a principal guideline for researchers and businesses to clear the understanding the innovation characteristics as determinants of users' intention to use mobile IT in several contexts. The comparison is employed to present together with review of previous studies.

## BACKGROUND

Intention to use IT is important for the firms to implement new technology in businesses. A basic intention elaborates in terms of "How to increase users' intention to use technology?" and "What are the determinants of users' intention to use technology?" Intention to use mobile IT is defined as a person's perceived likelihood or individual probability that he or she will engage to use mobile IT in a given behavioral intention. Most studies trend to focus on the innovation characteristics as the determinants of intention to use mobile IT. In examining the determinants of intention, many previous academic studies have applied three famous theories and model as the following:

- The Technology Acceptance Model:** TAM (Davis, 1989) is the most popular theory which is applied to explain user acceptance and behavior intention related to new technology. The TAM provides two determinants of user intention to use technology such as the perceived usefulness and the perceived ease-of-use. The *perceived usefulness* is defined as the degree to which a person believes that using a particular system will enhance his or her job performance. The *perceived ease-of-use* is defined as the degree to which a person believes that using a particular system will be free of effort.
- The Innovation Diffusion of Theory:** IDT (Rogers, 2003) proposes the set of innovation characteristics which possibly impact on the technological adoption rate. The set of innova-

tion characteristics consists of relative advantage, compatibility, complexity, observability, and trialability. These innovation characteristics usually are employed in the mobile IT studies as the determinants of users' intention. The *relative advantage* is defined as the degree to which an innovation is perceived as better than the idea it supersedes; that often expressed in economic profitability, in status giving, or in other ways. The *compatibility* is defined the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters. The *complexity* is defined as the degree to which an innovation is perceived as relatively difficult to understand and use. The *observability* is defined as the degree to which the result of an innovation is visible to others. And the *trialability* is defined as the degree to which an innovation may be experimented with on a limited basis.

- **The Unified Theory of Acceptance and Use of Technology:** UTAUT (Venkatesh, et al., 2003) is one of the general technology acceptance models. The theory demonstrates the four factors that play the significant role on user acceptance and usage behavior. In addition, Venkatesh et al. (2003) proposed the important profiles of respondent as moderating variables such as gender, age, experience, and voluntariness of use. The core four factors are performance expectancy, effort expectancy, social influence, and facilitating conditions. The *performance expectancy* is defined as the degree to which an individual believes that using the system will help him or her to attain gains in job performance. The *effort expectancy* is defined as the degree of ease associated with the use the system. The *social influence* is defined as the degree to which an individual perceives that important others believe he or she should use the new system. The *facilitating condition* is defined as the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system.

In reviewing these three theories and model, there are a few differences in the purposes of usage. As a result of a few variables in the model, it is easy to conduct the research model with the other theories or the extended variables. Meanwhile, the IDT is regarded and applied for explaining the innovation characteristics of technology which impact on individuals' acceptance and intention to uses. For the use of UTAUT, it usually is used by the researcher who considers the profiles of respondent as the moderating variables in the intention model.

Even though these three theories and model are a few differences in the purposes of usage, they are similar in terms of innovation characteristics. They have two similar factors which impact on users' intention to use technology. The first factor is the *relative advantage* in IDT which is similar to *perceived usefulness* in TAM and the *performance expectancy* in UTAUT. The second factor is the *complexity* construct in IDT which is obviously close to the *perceived ease-of-use* in TAM and the *effort expectancy* in UTAUT. Thus, these two factors may be the main innovation characteristics of mobile IT which are the determinants influence on users' intention in the several contexts.

In order to evidence this assumption and propose the other characteristics as the determinants of users' intention to use mobile IT, this article is provided the reviews and discussions.

## DETERMINANTS OF USERS' INTENTION TO USE MOBILE IT

The existing literature concerning mobile IT adoption by individuals has investigated the importance of many factors in various contexts. This article provides the four popular mobile IT contexts to demonstrate the similarity and difference of innovation characteristics in each context. There are mobile banking (m-banking), mobile commerce (m-commerce), mobile learning (m-learning), and mobile health (m-health).

### Focus: Specific Determinants in the Context of M-Banking

Nowadays, the banking services are available on m-banking such as funds transfer, immediate payment, balance enquiry, bill pay, and top up. The usefulness of

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