

Mobile Commerce User Acceptance Study in China: A Revised UTAUT Model*

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Abstract: User acceptance is one of the key fundamentals for development and success of mobile commerce (m-commerce). Based on the revised unified theory of acceptance and use of technology (UTAUT) model, we described a theoretical framework that incorporates the unique characteristics of m-commerce to enhance our understanding of m-commerce acceptance and usage in China. The revised UTAUT includes the characteristics of m-commerce, inclusion and consideration of information system user satisfaction theory, and Chinese culture and context.

Key words: mobile commerce; user acceptance; unified theory of acceptance and use of technology

Introduction

Many believed that the 1980s was the era of personal computers, the 1990s was the decade of the Internet and e-commerce, and the beginning of the 21st century is symbolized by the emergence of mobile computing and mobile commerce (m-commerce)^[1]. Narrowly defined, m-commerce refers to various monetary transactions via mobile networks. Broadly defined, m-commerce refers to any applications and services supported by mobile networks and mobile devices^[2]. On one hand, m-commerce promises a tremendous market potential for businesses and consumers. On the other hand, the promised benefits have not yet to be realized. The number of m-commerce applications and services accepted by the market is still limited. This is particularly true in China. Although China ranks first in terms of the number of mobile phone users, the number of m-commerce consumers is still relatively small compared

with other countries and regions, i.e., Japan and Korea, where the sizes of m-commerce markets are much smaller^[3,4]. As a result, many people from both academics and businesses argue that m-commerce is not a simple extension of e-commerce. M-commerce has its own technological infrastructure, new business models and value chain, and new value for consumers. Hence, it requires new thinking for its dissemination and adoption. Consequently, research into m-commerce requires new perspectives and a new theoretical framework^[5-8].

Consumers' acceptance is the foundation of m-commerce success. Unlike traditional e-commerce, m-commerce consumers use mobile information systems (IS) and associated applications. Because of the unique characteristics of m-commerce, we believe that it is necessary to revise the classical IT adoption theories and develop a new theoretical framework and models that are more appropriate for m-commerce. The purpose of this paper is to explore a way to explain and understand the issues related to m-commerce user adoption by revising the unified theory of acceptance and use of technology (UTAUT) in the context of China.

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1 Development of IT Adoption Theories and UTAUT

The importance of researching the user adoption of information technology (IT) has been recognized since the mid-1980s because user adoption is a prerequisite for technology's utilization and realization of its potential value, regardless of the advancement of the technology^[9]. Many attempts and theories have been made to study IT adoption issues, i.e., innovation diffusion theory, the PC utilization model, and social cognitive theory. Among the IT adoption theories, the most important and influential theories are theory of reasoned action (TRA)^[10], technology acceptance model (TAM)^[11,12], extended technology acceptance model (TAM2)^[13], theory of planned behavior (TPB)^[14,15], and most recently, the UTAUT^[16].

The theories of TPB, TAM, and UTAUT are all originated from the TRA. Based on social psychology, Fishbein and Ajzen proposed the TRA in 1975^[10]. According to the TRA, the behavior of individuals can be predicted to a certain extent through behavioral intention (BI), which is the measurement of an individual's intent of doing something. Behavioral intention is determined by an individual's attitude and subjective norm concerning the behavior in question. Attitude, in turn, is determined by an individual's beliefs. Beliefs are defined as an individual's subjective probability that a given behavior will result in a given consequence. Subjective norm is defined as an individual's perceptions of whether or not other people who are important to him think he should or should not perform the behavior in question.

Based on the TRA, Davis proposed the TAM^[11,12], which argues that user's intent of use and behavior to use a new information system is determined by a user's perceived ease of use and perceived usefulness. Perceived ease of use is defined as the degree to which "a person believes that using the system will be free of effort."^[12] According to the TAM, usefulness and ease of use will have a significant impact on a user's attitude toward using the system, defined as feelings of favorableness or un-favorableness toward the system. Behavioral intention to use the system is defined as a function of attitude and usefulness. Behavioral intention then determines actual usage behavior. In 2000, Venkatesh and Davis^[13] introduced such social and

organizational factors as subjective norms, impression, quality of output, and work relevance into the TAM model and proposed the so-called extended TAM model, a.k.a., TAM2. In all, TAM is a simple and practical theoretical model. It has been tested extensively and widely accepted.

TRA does not consider the impact of control factors. TRA assumes a user is in full control of whether to adopt some kind of technology, and such adoption behavior will not be affected by a user's aptitude and external support. In reality, this is a rare situation. Realizing the limitation of the TRA, Ajzen and others^[14,15] modified TRA and proposed the TPB. TPB extends from TRA by incorporating an additional construct, namely perceived behavior control, to account for situations in which an individual lacks substantial control over the targeted behavior. According to TPB, an individual's behavior can be explained by his or her behavioral intention, which is jointly influenced by attitude, subjective norms, and perceived behavioral control. Attitude refers to an individual's positive or negative evaluation of the performance effect of a particular behavior. Subjective norms refer to an individual's perceptions of other people's opinions on whether or not he or she should perform a particular behavior. Perceived behavioral control refers to an individual's perceptions of the presence or absence of the requisite resources or opportunities necessary for performing a behavior. In 1995, Taylor and Todd added more constructs to measure subjective norms and perceived behavioral control^[17,18]. These constructs include some important concepts in information systems and efforts were made to make the model universally applicable in IS. The revised model is called decomposable theory of planned behavior (DTPB).

Researches on TRA, TPB, and TAM made significant contributions to the field of IT adoption theories and they generated a great deal of discussions and debates. However, problems still exist among these theories. First, although each theory uses different terminologies in their expression of acceptance factors, they are essentially the same concepts. Secondly, due to the complexity of behavior research and the limitation of the researchers, there is no single theory that covers all (or majority) of the factors. In other words, each theory has its own limitations and does not complement to each other. Therefore, efforts were made to integrate

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