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A Theoretical Model Proposal: Personal Innovativeness and User Involvement as Antecedents of Unified Theory of Acceptance and Use of Technology

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Abstract

An emerging stream of work on technology acceptance and innovation diffusion complements a large body of literature that points to users' technology acceptance behavior. In this paper, we argue theoretically that technology acceptance should be integrated into diffusion of innovation theory, so both concepts should be explained at the same framework. On the other hand, acceptance behavior is explained many other constructs, such as user satisfaction, user involvement. Unlike the previous research, we propose an overall framework to explain acceptance behavior and system implementation success. Hence we use unified theory of acceptance and use of technology. After that we try to create a linkage with this theory and personal innovativeness and user involvement as antecedents by providing some propositions. We will test these propositions in a field research for future research.

Keywords: Technology Acceptance Model, Innovation Diffusion Theory, Personal Innovativeness, User Satisfaction, User Involvement. Unified Theory of Acceptance and Use of Technology

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1. Introduction

Technology acceptance is becoming a vital part of information technology studies. In some researches, this concept is handled in terms of several models. Many authors try to relate technology acceptance with other concepts such as user satisfaction, diffusion of innovation, etc. There is an evolution about progress in technology acceptance model. In this paper, we consider unified theory of acceptance and use of technology (Venkatesh et al., 2003). This paper aims to clarify the concepts of technology acceptance model and personal innovativeness and user involvement by means of integrating these concepts to explain the technology usage behavior. We propose a model that includes technology

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acceptance, personal innovativeness and user involvement and put forward some propositions. The proposed model will be tested empirically in our future research.

2. Literature Review

2.1. Evaluation of Technology Acceptance Concept

2.1.1. Technology Acceptance Model

Technology acceptance is a construct put forward by Davis (1989) explaining the user behavior towards a technology or system having been implemented by institutions (Malhotra, Galetta, 1999). Employees use different kinds of systems to accomplish their tasks in their companies. Especially, changing the existing system induces employees to reject using new system. On that point, technology acceptance is an important concept to adopt employees' behavior towards new technologies or systems. In order to state technology acceptance model (TAM) and explain it, Davis (1989) focuses on perceived usefulness and perceived ease of use concepts as determinants of attitude towards using, intention to use and actual usage (see in Figure 1).

Following the model, people incline to use a system whether it gets their job performance improve that is entitled "perceived usefulness" and whether it is useful for their tasks entitled "perceived ease of use" (Pfeffer, 1982; Schein, 1980; Vroom, 1964; Radner, Rothschild, 1975). So perceived usefulness is defined as *"the degree to which a person believes that using a particular system would enhance his or her job performance"* and perceived ease of use *"the degree to which a person believes that using a particular system would be free of effort"* by Davis (1989).

Technology Acceptance Model is explained on the basis of Theory of Reasoned Action and Theory of Planned Behavior. Concepts in those three models have causal linkages from attitude to behavior, as seen in Figure 2 and Figure 3 in Table 1. In addition, perceived usefulness, one of the components of technology acceptance model has close meaning of subjective norms in Theory of Reasoned Action and Theory of Planned Behavior. Unlike others, Theory of Planned Behavior has perceived behavioral control dimension that means *"perceived ease or difficult of performing behavior"* (Ajzen 1991).

Growing body of researches assert that the success of a system implementation is measured by actual system usage (Delone, Mclean, 1992, Delone, 2003; Danet, 2006). In addition, there are many researches having been explained the implementation success through attitude towards the system (Malhotra, Galetta, 1999) or intention to use it (Malhotra, Galetta, 1999; Livari, 2005).

Extending theoretical perspective on technology acceptance model, we can found emerging stream of work that explained the acceptance behavior via psychological attachment (Malhotra, Galetta, 1999), diffusion of innovation (Carter, Belanger, 2005; Agarwal, Prasad, 1997), user involvement, user resistance, user self-efficacy (Danet, 2006), user satisfaction (Doll, Torkzadeh, 1988; Livari, 2005), trust (Carter, Belanger, 2005) and voluntarism (Agarwal, Prasad, 1997).

2.1.2. Innovation Diffusion Theory and Innovation Characteristics

Theory of Diffusion of Innovation refers to employees' adoption of a new system or technology implemented by companies. Diffusion of Innovation put forward by Rogers (1983) identified as *"the process by which an innovation is communicated through certain channels over time among the members of a social society"*. He also explains innovation diffusion through four dimensions, relative advantage, complexity, trialability, observability, as seen in Figure 4 in Table 1.

Furthermore, Moore and Benbasat (1991) take the theory of innovation diffusion step further and explain it by means of seven dimensions, relative advantage, ease of use, compatibility, image, result demonstrability, visibility, trialabiliy. Relative advantage refers to employees' perception that the innovation takes some advantages for their job performance. According to Moore and Benbasat (1991) relative advantage is analogous to perceived usefulness in technology acceptance model put forward by Davis (1989). The second dimension, complexity is defined as the system implemented by firms is easy to learn and free of effort for employees. As seen the definition, Moore and Benbasat (1991) propose that complexity is similar to perceived ease of use in technology acceptance model. In addition, compatibility is identified as *"the degree to which an innovation is perceived as being consistent with the existing values, needs, past experiences of potential adapters."* (Rogers, 1983, p. 195) The concept of image representes a status symbol for potential adopters. Moore and Benbasat (1991) separated the construct of observability,