Chapter XV
The Technology Acceptance Model and Other User Acceptance Theories

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ABSTRACT

As global business markets become increasingly competitive, firms look to information technology to manage and improve their performance. Timely and accurate information is a key to gaining performance efficiency. Yet, firms may invest in technology only to find that their users are not willing to accept and use the new technology. This chapter explores the technology acceptance model and other theories of user acceptance.

INTRODUCTION

There is nothing more difficult to plan, more doubtful of success, nor more dangerous to manage than the creation of a new order of things… Whenever his enemies have the ability to attack the innovator, they do so with the passion of partisans, while others defend him sluggishly, so that the innovator and his party alike are vulnerable. (Machiavelli, 1513, from Rogers, E. M., Diffusion of Innovations, 2003)

The above quote from the 16th Century demonstrates that resistance to innovation is not unique to information systems, but has been with us for a long time with any type of innovation. Industry has turned to information systems technology to become more competitive in controlling resource use and costs to face increased global competition. The successful implementation of information systems ranging from simple applications, such as word processing and spreadsheets, to more complicated applications, such as enterprise resource planning systems, requires user acceptance. Yet, users are

not always willing to accept the new technology. Academics and practitioners will benefit from a better understanding user acceptance. With this knowledge, user response can be predicted and systems modified to improve acceptance. Davis et al. (1989) propose a model of how users deal with the adoption of new technologies.

Davis et al (1989) developed the Technology Acceptance Model (TAM) based on the Theory of Reasoned Action (Ajzen and Fishbein, 1980). The TAM uses two variables, perceived usefulness (PU) and perceived ease of use (PEOU), as determinants of user acceptance. A key element of the TAM is behavioral intent which leads to the desired action, use of the system.

This article will first look at the theoretical development of the TAM beginning with the Expectancy-Value Theory and the Theory of Reasoned Actions. The TAM is introduced and described. A discussion of the impact of TAM on information systems research follows together with the limitations of the model. Extensions of TAM and alternative theories of user acceptance are then discussed. Lastly, a current discussion of the future of TAM is presented.

BACKGROUND

The theoretical roots of TAM can be found in the expectancy-value model and the theory of reasoned action.

Expectancy-Value Theory

The expectancy value theory was developed to understand motivations underlying the behavior of individuals. Behavioral intent is posited as the immediate precursor of a particular behavior. If we understand the elements that influence intention, we can better predict the likelihood of an individual engaging in a behavior. "Individuals choose behaviors based on the outcomes they expect and the values they ascribe to those expected outcomes" (Borders, Earleywine & Huey, 2004, p. 539). Expectancy is "the measurement of the likelihood that positive or negative outcomes will be associated with or follow from a particular act" (Mazis, Ahtola & Kippel, 1975, p. 38). The strength of the expectancy and the value attributed to the outcome will determine the strength of the tendency to act (Mazis et al., 1975, p.38). A simple example demonstrated by Geiger and Cooper (1996) is that college students who valued increasing their grades were more willing to increase their effort in the course.

Theory of Reasoned Action

The theory of reasoned action (TRA), found in social psychology literature, improves the predictive and explanatory nature of the Expectancy Value Theory. The TRA explains the determinants of consciously intended behaviors (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980). TRA is a general model which posits that an "a person's performance of a specific behavior is determined by his or her behavioral intention (BI) to perform the behavior" (Davis et al., 1989). Eveland (1986) observes that "ultimately, technology transfer is a function of what individuals *think* – because what they *do* depends on those thoughts, feelings and interests" (p. 310).

TRA, shown in Figure 1, posits that a person's beliefs and evaluations lead to their attitude (A) toward the behavior, which in turn leads to behavioral intention (BI). Normative beliefs and motivation affect the subjective norm (SN) which also influences BI. The subjective norm is defined as the influence others will have on the acceptance decision. Beliefs in the model are defined as "the individual's subjective probability that performing the target behavior will result in consequence *i*" (Davis et al., 1989, p. 984). Behavioral intention is determined by the person's attitude (A) and subjective norm (SN) concerning the behavior in question (Davis et al., 1989). Attitude toward behavior is a function of individual's "salient