Chapter VI
Intentions to Use Information Technologies:
An Integrative Model

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ABSTRACT

An integrative model explaining intentions to use an information technology is proposed. The primary objective is to obtain a clearer picture of how intentions are formed, and draws on previous research such as the technology acceptance model (Davis, Bagozzi, & Warshaw, 1989) and the decomposed theory of planned behavior (Taylor & Todd, 1995a). The conceptual model was tested using questionnaire responses from 189 subjects, measured at two time periods approximately two months apart. The results generally supported the hypothesized relationships, and revealed strong influences of both personal innovativeness and computer self-efficacy.

INTRODUCTION

Understanding the process by which individuals adopt and use information technologies in the workplace and the factors that influence their decisions about what technologies to use to aid in the performance of their work tasks remains an important focus of IS research (Venkatesh, Morris, Davis, & Davis, 2003). While our ultimate interest is often in the achievement of organizational benefits from technology, the behavior of the individual represents a critical prerequisite for achieving these larger goals (Seddon, 1997).

Our review of current research on individual technology acceptance reveals, among other things, two overarching themes in the models. The first theme reflects the importance of pursuing parsimonious models. Parsimony is an important element in the development of theory and is one of the key contributions of the Technology Acceptance Model (TAM) (Davis, Bagozzi, & Warsaw, 1989). The second theme reflects the dominance of what we will refer to as an instrumental view of technology adoption decisions. Under this perspective, the dominant influences on intentions to use technologies are those involving beliefs about the degree to which using an information technology will result in objective improvements in performance.

The pursuit of parsimony and the focus on instrumental determinants have served the technology adoption stream well. The relative simplicity of TAM has made it a fertile ground for extensive study (Venkatesh & Davis, 2000). Similarly, the focus on an instrumental view of technology adoption has allowed us to explore this aspect of the influences on adoption in relatively deep fashion. On the other hand, both characteristics have had a limiting effect in other respects. Plouffe, Hulland, and Vandenbosch (2001) argue that an exclusive focus on parsimony, while sufficient if the research goal is prediction, may produce a narrower understanding of the phenomenon and perhaps limit our ability to influence it by not recognizing the myriad forces involved. Agarwal and Karahanna (2000) make a similar argument with respect to the focus on instrumental beliefs. They argue that a more holistic assessment of technology adoption is necessary, incorporating elements more related to intrinsic than extrinsic motivation. In part, they suggest this is necessary because of the nature of modern information technologies. What is also apparent, however, is the need to examine holistic perceptions in order to improve our understanding of the phenomenon of technology acceptance.

The purpose of this study, then, is to build on existing technology adoption theory in a more holistic and integrative fashion. Specifically, we seek to extend the Decomposed Theory of Planned Behavior (DTPB) (Taylor & Todd, 1995a). This theory was chosen as it represents a broader perspective, yet has enjoyed less ongoing development than TAM. Our extensions focus on three areas. First, we seek to explore the linkages among the independent variables proposed by Taylor and Todd (1995a). Second, we extend DTPB to be consistent with TAM. Third, we incorporate the trait of personal innovativeness with information technology (Agarwal & Prasad, 1998) into the model. This is a small step towards broadening our view from the more instrumental focus that has guided us to date. Finally, we seek, as have others (Agarwal, Sambamurthy, & Stair, 2000; Karahanna, Straub, & Chervany, 1999; Venkatesh & Davis, 2000) to understand the influence of experience within our model. While several previous authors have examined the role of experience within the context of TAM, to our knowledge, only one study (Taylor & Todd, 1995b) has done so within the TPB perspective. Before discussing the research design in more detail, we turn to the theoretical background and the research model to be tested.

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