Chapter 2

Conceptual Model for Examining Consumer Broadband Adoption, Usage, and Impact

Abstract

An examination of previous literature in the information systems (IS) area illustrates that researchers have not yet undertaken research on broadband in the area of consumer diffusion, including the adoption, usage, and impact in the household (Crabtree, 2003; Oh et al., 2003; Stanton, 2004). Instead, most of the research associated with broadband has mainly focused on examining the macro level factors leading to adoption in a country (Crabtree, 2003; Oh et al., 2003; Stanton, 2004). Recently conducted studies highlight the need to understand adoption and diffusion of broadband from the household consumer perspective (Crabtree, 2003; Oh et al., 2003; Stanton, 2004). The limitation to studying adoption at a micro level has resulted in a lack of appropriate conceptual models specific to broadband. As pursued in previous adoption studies (Davis, 1989; Oh et al., 2003; Venkatesh & Brown, 2001), constructing a conceptual model specific to broadband diffusion at the household consumer level necessitates the review, identification, and integra-
tion of the relevant factors related with adoption, usage, and impact of technology previously examined in IS studies. Therefore, this chapter reviews and assesses the appropriateness of previous technology adoption models and constructs to study broadband diffusion. Then, this chapter provides further theoretical justification for selecting the constructs that are used to study broadband diffusion, formulate the hypotheses and finally draw a conceptual model of broadband diffusion. The chapter is structured as follows. The following section provides a review of the theoretical models of technology diffusion and adoption. This section also provides a brief discussion of the models applied to investigate broadband-related issues from the consumer perspective. Progressing upon this, the section thereafter briefly discusses the foundations of the proposed model and also provides an overall description of the proposed conceptual model. This is followed by an elaboration of the broadband diffusion model and the justification of the inclusion of the attitudinal, normative, control, behavioural intention, adoption behaviour, usage behaviour and impact constructs, and formulates the hypotheses by presenting theoretical explanations, past empirical findings, and practical examples. Finally, a summary of the chapter is provided.

Technology Diffusion and Adoption Theories

The study of adoption/acceptance, adaptations, and usage of information technology (IT) is considered to be one of the most mature areas of research within the IS discipline (Benbasat & Zmud, 1999; Hu et al., 1999; Venkatesh et al., 2003). Consequently, over time, a number of theories and models have been adopted from diverse disciplines such as social psychology, sociology, and marketing, and have been modified, developed, and validated by IS researchers in order to understand and predict technology adoption and usage (Benbasat & Zmud, 1999; Venkatesh et al., 2003). Theories and models that have been taken from other disciplines and developed by IS researchers include the theory of reasoned action (TRA) (Fishbein & Ajzen, 1975); the theory of planned behaviour (TPB) (Ajzen, 1991; 1988; 1985; Ajzen & Fishbein, 1980; Ajzen & Madden, 1986); the technology acceptance model (TAM) (Davis, 1989; Davis et al., 1989); and the diffusion of innovations (DI) theory (Rogers, 1995). According to the needs of IS research, these theories were further modified, extended and integrated. For instance, in order to understand various factors in detail, Taylor and Todd (1995) proposed the decomposed TPB by modifying TPB and integrating the diffusion of innovation constructs within it. Similarly, in order to understand the role of gender and social influence in technology adoption, Venkatesh and Morris (2000) extended TAM by integrating gender and subjective norm constructs with the original TAM model.
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