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Internet self-efficacy and electronic service acceptance

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Abstract

Internet self-efficacy (ISE), or the beliefs in one's capabilities to organize and execute courses of Internet actions required to produce given attainments, is a potentially important factor to explain the consumers' decisions in e-commerce use, such as e-service. In this study, we introduce two types of ISE (i.e., general Internet self-efficacy and Web-specific self-efficacy) as new factors that reflect the user's behavioral control beliefs in e-service acceptance. Using these two constructs as behavioral control factors, we extend and empirically validate the Theory of Planned Behavior (TPB) for the World Wide Web (WWW) context.
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1. Introduction

World Wide Web (WWW) has been the fast growing area of Internet technology in recent years. The explosive growth of WWW has made it a popular platform for electronic services (e-service). Most organizations are migrating to e-services and provide incentives of that over the offline services. Although positive outcomes, such as reducing product search and transaction cost, were the basis for the theories of electronic market [43] and separated online shopper from offline shopper, prior researchers [32,22] found that the desire to use e-service is not sufficient to carry it out. One must also have the perceived ability to complete it. These include establishing and maintaining a stable Internet connection, learning how to navigate on the WWW, and searching it for relevant information.

Internet self-efficacy (ISE), or the belief in one's capabilities to organize and execute courses of Internet actions required to produce given attainments, is a potentially important factor in efforts to use the e-services. This is perhaps not an important issue in offline service environments, where consumers learn how to make purchase at an early stage. However, complexity, knowledge barriers to initial e-service adoption, and comfort and satisfaction issues faced by new users may be construed as Internet self-efficacy deficits [23]. Understanding the acceptance pattern and the role of Internet self-efficacy in e-service adoption constitutes an important research issue.

Recently, Ajzen [3] further extends the Theory of Planned Behavior (TPB) [1,2] by including self-efficacy as a behavioral control variable to deal with situations in which people may lack complete capability to exercise control over the behavior of interest. For researching e-service adoption, this addition is significant because it relates the causal link between Internet self-efficacy and e-service adoption. The theory of

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planned behavior is well tested in a variety of decision-making area such as marketing-consumer behavior [11], leisure behavior [4], and information technology (IT) ethics [13]. TPB has also been applied to explain an individual's adoption and usage of a new technology (e.g., Refs. [12,35,44,48]). As the TPB [1,2] was conceived to explain and predict the individual's acceptance of IT, its extended model is very well suited to further our understanding of e-service acceptance due to its strong theoretical anchors and its inclusion of self-efficacy.

The goal of the present research is to apply the extended TPB model to the study of e-service (filing income tax through the WWW) acceptance. The contribution of the present study is threefold. First, this study identifies factors that determine users' acceptance of e-service. Second, we examine the nature of ISE and then divide it into two constructs: general ISE (GISE) and Web-specific self-efficacy (WSE). Finally, we examine the causal relationships between the ISE constructs and TPB constructs by using data from a field survey of e-service use.

2. Theoretical background and the research model

2.1. Self-efficacy in information systems

According to Bandura [10], self-efficacy is the belief "in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 3). Within social cognitive theory [8,10], self-efficacy is a form of self-evaluation that influences decisions about what behaviors to undertake, the amount of effort and persistence put forth when faced with obstacles, and finally, the mastery of the behavior. Thus, people who have low self-efficacy should be less likely to perform related behavior in the future [8], in this case, adopt and use the e-service, than those with high degree of self-efficacy.

Many studies have been conducted to research the impact of self-efficacy on computer-related use. One example of this research stream is the research concentration on the construct of computer self-efficacy (CSE), which was defined as an individual judgment of one's capability to use a computer [17]. An important theoretical property of self-efficacy is that it is concerned not the skills a person has; rather, it reflects what individuals believe they can do with the skills they possess. For example, in discussing CSE, Compeau and Higgins [17] distinguished between component skills such as formatting disks and booting up the computer and behaviors individuals can accomplish with such skills, such as using software to analyze data. Similarly, in discussing Internet self-efficacy (ISE), Eastin and LaRose [23] distinguished between a person's skill at performing specific Internet-related tasks, such as writing HTML, using a browser, or transferring files and his or her ability to apply skill in a more encompassing mode, such as finding information or troubleshooting search problems. Thus, Internet self-efficacy may be distinguished from CSE as the beliefs that one can successfully perform a distinct set of behaviors required to establish, maintain and utilize effectively the Internet and the above basic personal computer skills [23].

Further, self-efficacy researchers emphasized that self-efficacy beliefs should be assessed in such a way that the beliefs correspond to the targeted performance and domain of interest. Recent work in the MIS literature has assessed the level of measure of efficacy construct. By surveying concepts and empirical work related to the concept of self-efficacy, Marakas et al. [33] provided a comprehensive summary of the relevant literature of CSE and draw a distinction between general CSE and task-specific CSE. General CSE represents "an individual's judgment of efficacy across multiple computer application domains... and is more a product of a lifetime of related experiences" (p.129), whereas task-specific CSE refers to "an individual's perception of efficacy in performing specific computer-related tasks within the domain of general computing" (p. 128). Agarwal et al. [6] extended current understanding of self-efficacy in the context of computer software. They made a distinction between general CSE and software-specific self-efficacy (SSE). SSE refers to "individual's feeling of self-efficacy relative to a specific software package" [6].

Similarly, this study distinguishes between the general ISE and Web-specific self-efficacy. General ISE (GISE) refers to "an individual's judgment of efficacy across multiple Internet application domains", whereas Web-specific self-efficacy (WSE) refers to "an individual's perception of efficacy in using a specific WWW application (service) within the domain of general Internet computing". Although the two effica-