Chapter 4
From Research to Practice: Promising Insights from Computer Self-Efficacy

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ABSTRACT

Computer Self-Efficacy (CSE) has been an important construct in information systems research for more than two decades. The authors review a recent study that meta-analyzed 102 empirical CSE studies and quantitatively affirmed significant correlations with 7 variables of frequent research interest, as well as several potential moderators of these CSE-correlate relationships. This chapter discusses the relationship between CSE and the technology acceptance model, and the authors suggest that the CSE construct merits continued research and practitioner attention for a variety of reasons. The findings also yield managerial and organizational implications and suggestions for future CSE research and practice.

INTRODUCTION

In an ideal world, all employees would view computer systems positively and embrace their use as a key to enhanced job performance. However, while computer use is pervasive in today’s society, many individuals continue to dislike computers, suffer from computer anxiety, and exhibit a variety of other characteristics and behaviors that inhibit effective computer use in the workplace (Compeau et al., 2006; Karsten et al., 2012; Marakas et al., 2007). Accordingly, there is considerable practical and research interest in seeking a better understanding of the determinants of computer systems use.

Two of the most popular research approaches in this regard have been the technology acceptance model (TAM) and the computer self-efficacy (CSE) construct. TAM (Davis, 1989) has emerged as a well-regarded and parsimonious framework...
to study and explain users’ behavioral intentions to use computer systems. TAM postulates that two primary predictors determine behavioral intentions: perceived usefulness and perceived ease of use. While TAM remains one of the most influential frameworks, its initial focus on the perceived characteristics of computer systems seemed to limit its usefulness to practitioners concerned about the role individual characteristics play in systems use. Realizing this as a significant concern, some scholars have attempted to modify TAM to include various individual difference factors (King & He, 2006; Venkatesh, 2000).

One such factor is computer self-efficacy. Over the last two decades, a growing body of research literature has supported the critical role CSE plays in influencing a variety of user-system outcomes (Compeau et al., 2006; Karsten et al., 2012; Marakas et al., 2007). CSE is defined as “an individual’s perception of efficacy in performing specific computer-related tasks within the domain of general computing” (Marakas et al., 1998, p. 128). CSE has its basis in the broader, well-researched concept of self-efficacy (Bandura, 1986, 1997). As defined by Wood and Bandura (1989, p. 408), “self-efficacy refers to beliefs in one’s capabilities to mobilize the motivation, cognitive resources, and courses of action needed to meet given situational demands.”

Correspondingly, CSE reflects individuals’ beliefs in their abilities to organize and execute the courses of action needed to complete computer specific tasks successfully in a variety of contexts (Compeau et al., 2006). For instance, researchers have consistently reported that CSE is significantly correlated with perceptions about computers, such as whether individuals see computers as being useful (e.g., Thompson et al., 2006) or easy to use (e.g., Hasan, 2006). CSE also is positively correlated to users’ attitudes toward computers (e.g., Compeau et al., 1999), intention to use computers (e.g., Klein, 2007), actual computer use (e.g., Ball & Levy, 2008), and computer skills (e.g., Marakas et al., 2007). On the other hand, CSE is negatively correlated with computer anxiety (e.g., Johnson & Marakas, 2000; Thatcher et al., 2008). CSE appears to have a significant and pervasive impact on a range of important, organizationally relevant factors that managers who are concerned about effective computer systems use would not want to ignore.

We contend that while the CSE construct may contribute to the explanatory power of TAM, it offers valuable, practical insights into computer systems use on its own. While qualitative reviews of CSE research appear to confirm our contention (Compeau et al., 2006; Marakas et al., 2007), we recently performed a quantitative, meta-analytic review of the relationship between CSE and several important variables (see Karsten et al., 2012). The results of our meta-analysis confirmed the relationships found in past CSE research, and we believe it offers many practical insights for information technology (IT) managers. Consequently, our main objectives in this paper are to provide details of the meta-analysis, summarize critical findings of that study, and identify specific organizational and managerial implications of CSE research.

We organize this paper as follows. We first provide an overview of the current state of knowledge about CSE. A description of the meta-analysis regarding the relationships between CSE and several variables follows. We then discuss the implications of the study’s findings for practice and suggest how IT managers might use the complementary relationship of CSE and TAM to gain insight into user and system characteristics to understand system use better. The paper concludes with a discussion of study findings and suggestions for future research.

**UNDERSTANDING COMPUTER SELF-EFFICACY**

As briefly describe above, CSE is a special adaptation of the more general construct of self-efficacy (Bandura, 1986, 1997), a domain-specific, dy-
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