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Foundations and Trends® in Information Systems

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The preferred citation for this publication is

G. M. Marakas *et al.*. *The Computer Self-Efficacy Construct: A History of Application in Information Systems Research*. Foundations and Trends® in Information Systems, vol. 6, no. 2, pp. 94–170, 2022.

ISBN: 978-1-63828-081-1

Foundations and Trends® in Information Systems
Volume 6, Issue 2, 2022

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Foundations and Trends® in Information Systems, 2022, Volume 6, 4 issues. ISSN paper version 2331-1231. ISSN online version 2331-124X. Also available as a combined paper and online subscription.

Contents

The Computer Self-Efficacy Construct: A History of Application in Information Systems Research

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ABSTRACT

This treatise intends to provide a comprehensive history of the computer self-efficacy (CSE) construct as it has been developed and applied within the field of information systems (IS) and within the broader academic communities that benefit from reference to IS research contributions. The authors intend to present the breadth and depth of understanding of the CSE construct. A framework of extant knowledge and comprehension and a clear picture of implications for future research within this knowledge domain are offered. In addition, a comprehensive literature review is provided in the Online Appendix.

We believe the principal contribution herein is the assemblage of the bulk of our understanding and knowledge regarding this construct and its associated streams of research into a single compendium. It is intended to facilitate future researchers to access the current thinking regarding the CSE construct and direct their efforts to the continued advancement of our understanding of computer self-efficacy.

George M. Marakas, Miguel Aguirre-Urreta, Amin Shoja, Eunyoung Kim and Shangjun Wang (2022), "The Computer Self-Efficacy Construct: A History of Application in Information Systems Research", Foundations and Trends® in Information Systems: Vol. 6, No. 2, pp 94–170. DOI: 10.1561/2900000023. Online Appendix is available at http://dx.doi.org/10.1561/2900000023_app

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Introduction

Computer self-efficacy (CSE) has captured the interest of researchers from widely diverse knowledge domains for over four decades. During that time, the realm of computer adoption and use has evolved and flourished. Along with this evolution, our understanding of computer self-efficacy, its utility in behavior modeling and training development, and its relationship to a diverse array of antecedents and precedents has continued to evolve.

This construct is a computer context-dependent theoretical derivation of Bandura's (1977a,b, 1986, 1997) concept of self-efficacy. Bandura defined self-efficacy as "an individual's belief in his or her capacity to execute behaviors necessary to produce specific performance attainments." In keeping with the definition of the root construct, computer self-efficacy 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. 127). The CSE construct goes beyond a simple ability assessment. It represents a dynamic merging of many factors, including perceived ability and motivational and adaptation aspects (Gist and Mitchell, 1992; Wood and Bandura, 1989a). While related to various behavioral constructs commonly found in IS research,

such as ease of use, computer anxiety, and outcome expectancy, the CSE construct is conceptually different and stands alone in understanding computer-related performance.

While CSE was initially conceptualized at the task-specific level, it has been determined to be far more complex than suggested by earlier studies (cf. Compeau and Higgins, 1995a,b). As researchers established the construct at the application-specific level (word processing, spreadsheet, etc.) and a more general computing level (Bandura, 1997; Marakas *et al.*, 1998), several developed measures of the construct that position CSE as the primary construct of interest or as an ancillary construct related to the direction of that particular research. A wide variety of disciplines have developed or deployed such measures, including *education* (Brown *et al.*, 1989; Delcourt and Kinzie, 1993), *healthcare* (Henderson *et al.*, 1995), *computer training* (Compeau and Higgins, 1995a; Johnson and Marakas, 2000), *computer use* (Burkhardt and Brass, 1990; Compeau and Higgins, 1995a), *technology adoption* (Hill *et al.*, 1986, 1987) and *computer-related task performance* (Gist *et al.*, 1989; Webster and Martocchio, 1995), among many others. An even more expansive and diverse range of disciplines has investigated the broader, root construct of self-efficacy as initially conceptualized by Bandura (1977a,b).

This treatise intends to provide a comprehensive history of the CSE construct as it has been developed and applied within the field of information systems (IS) and within the broader academic communities that benefit from reference to IS research contributions. The authors intend to present the breadth and depth of understanding of the CSE construct. A framework of extant knowledge and comprehension and a clear picture of implications for future research within this knowledge domain are offered.

Admittedly, a significant portion of the knowledge contained herein can be found in the published works of the authors of this monograph, along with many colleagues focused on the theoretical development and practical application of the computer self-efficacy construct. It is, therefore, appropriate that the collaboration in the development of this treatise contains representatives from several generations of information systems researchers. We believe the principal contribution

herein is the assemblage of the bulk of our understanding and knowledge regarding this construct and its associated streams of research into a single compendium. It is intended to facilitate future researchers to access the current thinking regarding the CSE construct and direct their efforts to the continued advancement of our understating of computer self-efficacy.

To that end, a comprehensive literature review was conducted to assemble extant literature focusing on the computer self-efficacy construct in various social science outlets. No disciplines or research outlets were explicitly excluded from the search. Inclusion was determined by the degree to which a study focused and contributed materially to a theoretical understanding of the construct. Those studies which simply used the construct as an independent variable or moderator with a focus on other than theoretical development of CSE were excluded from the final set of studies. The results of this comprehensive literature review can be found in the Online Appendix.

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