AN EMPIRICAL INVESTIGATION INTO THE MODERATING RELATIONSHIP OF
COMPUTER SELF-EFFICACY ON PERFORMANCE IN A COMPUTER-SUPPORTED
TASK

MIGUEL I. AGUIRRE-URRETA
SCHOOL OF ACCOUNTANCY AND MIS
DEPAUL UNIVERSITY
MAGUIRR6@DEPAUL.EDU

GEORGE M. MARAKAS
SCHOOL OF BUSINESS
UNIVERSITY OF KANSAS
GMARAKAS@KU.EDU

2009 IS-CORE Workshop

Every year, organizations invest a significant amount of resources in training and
development programs, in the hope that these will have an important impact on employee growth
and ultimately on organizational performance. Among many other possibilities, computer skills
are the type of training most frequently provided by organizations. Rooted in Social Cognitive
Theory, computer self-efficacy has been repeatedly identified as a key outcome of training,
mediating the effects of a number of influences, such as training treatments, past experience and
demographic variables, or personality characteristics and other individual differences, on
performance, and affecting the latter both directly and through different motivational and
affective mechanisms. For example, individuals displaying high levels of computer self-efficacy
are expected to be more focused and persistent, put more effort into their endeavors and be more
committed to achieving their goals, be more able to cope with negative feedback, and be
generally less anxious about completing the task.

While the impacts of computer self-efficacy on computer task-performance are well
established, this important construct has not yet been incorporated into the nomological net
attempting to explain performance in tasks requiring the use of computer technologies. Doing so
would provide a clear link between training interventions and performance in organizational
tasks. Researchers in this area have repeatedly argued for the need to incorporate computer self-
efficacy into more complex and comprehensive models of performance that take into account
perceived capabilities in other domains of organizational action. It is thus important to look
beyond performance in computer-only tasks and accordingly position computer self-efficacy as a
determinant of performance in a richer task environment.

This research represents an improvement on extant work, most notably that conducted by
Looney and colleagues (Looney et al., 2006) in at least three important aspects. First, the
theoretical development of the proposed research model is more closely based on extant theory
and logic, and positions computer self-efficacy in a different light than Looney et al (2006) did.
In particular, rather than having a direct, even if mediated, effect on performance, computer self-
efficacy is argued to moderate the relationship between beliefs of efficacy in performing the task
and a joint self-efficacy mediator, which refers to beliefs of efficacy in performing the task with
the support of computer technology. Second, this research includes a performance measure,
while Looney et al (2006) only employed outcome expectations as the dependent variables of
interest. It is argued here that the use of a performance measure represents a more foundational
test of the posited influence of computer self-efficacy on task performance. The base research model is shown in the figure below.

Starting with the seminal work of Gist and colleagues and, later and within the information systems domain properly, that of Compeau and Higgins and Marakas and colleagues, computer self-efficacy has become a prominent construct in the information systems literature. Most of the this research, however, had up to now focused on a narrow conceptualization of performance that, while helpful in defining and understanding the effects and implications of computer self-efficacy, had somewhat constrained the inclusion of the construct in models of broader interest. At the same time, while it was rather evident that there was more to task performance than beliefs of capability about computer skills, the nature of the relationship between computer self-efficacy and this larger domain of interest remained largely unexplored. More recently, research by Looney et al (2006) was the first to empirically explore the position of self-efficacy versus task and task performance. Even then, there was no consideration of how this relationship could vary across tasks and contexts different than those already studied.

The research conducted here attempts to further our understanding of the structural role of computer self-efficacy and proposes a moderating relationship that builds upon earlier work by Looney et al (2006). In addition, this research provides a more comprehensive validation of the newly proposed research model including both a measure of task performance (whereas Looney et al, 2006, only focused on expectations of future performance), as well as other known determinants of performance in order to better ascertain the contribution of the joint task-computer self-efficacy construct. This study is by no means definitive nor without limitations, but it is hoped will provide a basic framework on which future research in this area can be supported.

References