Predicting Computer Task Performance: Personal Goal and Self-Efficacy

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ABSTRACT

Computer task performance is an essential driver of end user productivity. Recent research indicates that computer self-efficacy (CSE) is an important determinant of computer task performance. Contrary to the significant interest in understanding the role of CSE in predicting computer task performance, little attention has been given to understanding the role of personal goal (PG), which can be as powerful as or more powerful than CSE in predicting and determining computer task performance. Employing CSE and PG, the present research develops and validates a theoretical model that predicts individual computer task performance. The model was tested using PLS on data from an intensive software (Microsoft Excel) training program, in which 41 MBA students participated. Results largely support the theorized relationships of the proposed model and provide important insights on how individual motivational beliefs influence computer skill acquisition and task performance. Implications are drawn for future research and practice.

Keywords: end-user training, computer self-efficacy, personal goal, computer task performance, PLS

INTRODUCTION

Computer task performance is a major contributor to end-user productivity. Most organizational activities are becoming increasingly dependent on computers and computer-based information systems (IS). The expected productivity gains from the use of IS cannot be realized unless users are equipped with the requisite computer skills. Many people experience substantial difficulty in learning to use computers (Carroll & Rosson, 1987; Landauer, 1995; Wildstrom, 1998), and often abandon or underuse multimillion-dollar computer-based systems due to their lack of ability to use the systems effectively (Ganzel, 1998; McCarroll, 1991). IS researchers have long recognized computer training as one of the critical factors responsible for ensuring the success of end-user computing (Bohlen & Ferratt, 1997; Cheney, Mann, & Amoroso, 1986; McLean, Kappelman, & Thompson, 1993; Nelson & Cheney, 1987). A recent industry survey shows that 99% of U.S. organizations
teach their employees how to use computer applications (Industry Report, 2001). Understanding the key mechanisms that govern computer skill acquisition and task performance is a critical issue that has a significant impact on daily employee functions, return on IS investment, and ultimate organizational success.

Prior research examined a number of individual variables by which computer learning and task performance could be predicted. (e.g., Bostrom, Olfman, & Sein, 1990; Evans & Simkin, 1989; Marcolin, Munro, & Campbell, 1997; Martocchio & Judge, 1997; Webster & Martocchio, 1992). Of late, an increased focus on the variables related to computer learning and task performance has included a construct called computer self-efficacy (CSE), perception of one’s capability to use a computer. In addition to being an important variable that influences an individual’s decision to accept or use information technology (Compeau & Higgins, 1995b; Hill, Smith, & Mann, 1987; Taylor & Todd, 1995; Venkatesh 2000), CSE has been found to significantly influence task performance in various training settings (e.g., Compeau & Higgins, 1995a; Gist, Schwoerer, & Rosen, 1989; Johnson & Marakas, 2000; Martocchio & Dulebohn, 1994).

Contrary to the significant interest in understanding the role of CSE in predicting computer learning and task performance, little attention has been given to understanding the role of personal goal (PG), which is defined as the performance standard an individual is trying to accomplish on a given task (Locke & Latham, 1990). Goal setting theory (Locke & Latham, 1984, 1990) views the constructs of both PG and self-efficacy as key determinants of task performance that have powerful direct and independent effects. In various studies conducted outside of the computer training domain, PG has been found as powerful as, and in many cases, more powerful than self-efficacy in predicting task performance (Bandura & Cervone, 1986; Earley & Lituchy, 1991; Locke & Latham, 1990; Mitchell, Hopper, Daniels, George-Falvy, & James, 1994; Wood & Locke, 1987). The joint effects of self-efficacy and PG on performance indicates that performance is determined not only by how confident one is of being able to do the task at hand, but by how much one is trying to achieve. Goal setting theory also theorizes that self-efficacy can indirectly influence task performance through its effect on PG. Within the computer training domain, it is unknown how powerful PG is in predicting trainee performance or how significantly CSE is linked to PG. Very few studies, if any, have examined either the relative predictive power of CSE and PG with regard to computer task performance or the relationship between CSE and PG.

In an overview of past research on computer training, Gattiker (1992) pointed out that many reports were based on studies of very short duration (less than four hours), while literature suggested more extended hours of training and skill practice for relatively complex tasks (Ackerman, 1992). In fact, most IS training studies have focused on understanding the underlying mechanisms behind only an initial skill set of a computer application. In sum, employing CSE and PG, the present research develops a theoretical model that predicts individual computer task performance, and empirically validates the model in an intensive computer software training program that lasted more than a month.

The rest of the paper is organized as follows. The next section develops the proposed theoretical model and then the study method employed for this research is de-
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