



# The Influence of Attitude on the Acceptance and Use of Information Systems

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## ABSTRACT

*The nomological network of the technology acceptance model is expanded through the addition of affective and task-preparation variables as antecedents to traditional predictors of technology acceptance: output quality, result demonstrability, and ease of use. An empirical study involving a visual/simulation information system, set in the domain of retail merchandise planning, finds that negative affectivity (NA) is a consistent and strong negative antecedent to perceptions of output quality, result demonstrability, and ease of use. In contrast, positive affectivity (PA) is a significant and positive antecedent to ease of use, but not necessarily a significant antecedent to either output quality or result demonstrability. A new construct developed from the job characteristics literature—perceived task preparation—measured the subject's perceptions of the pre-system usage training, which included task design and modeling instruction, scenarios of activities within the prospective information system, discussions and review of the system documentation, and highly structured, pre-task system use activities. Perceived task preparation was found to be a significant and strong positive indicator of computer self-efficacy. [Article copies are available for purchase from InfoSci-on-Demand.com]*

**Keywords:** *Affective Response; Computer Self-efficacy; Negative Affect; Positive Affect; Retail Design; Retail Merchandise; Task Preparation; Technology Acceptance; Training; Visualization*

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## INTRODUCTION

Imagine yourself in a situation where you are asked to perform an unfamiliar, time-consuming, and complex computer task by a colleague, friend, spouse, or supervisor. You will be evaluated on your performance. You have never performed a task like this, in fact,

you have never seen or experienced a user interface or application like the system you are about to use. You have received training in how to perform the task and you have paper and electronic versions of the user's manual for reference. What is your attitude? How attentive were you during the training sessions and what are your perceptions of the training received?

What is your expected level of performance or success? Do you think you would do better than most others in this situation?

Research has shown that individuals approach computer tasks and accept technology with various levels of enthusiasm and preparation (Bhattacharjee & Premkumar, 2004; Gattiker & Hlavka, 1992; Venkatesh & Speier, 1999). Studies have investigated such issues as training, attitude, and anxiety on motivation and self-efficacy (Mathieu, Martineau, & Tannenbaum, 1993; Venkatesh, 2000), performance (Lewis, Agarwal, & Sambamurthy, 2003; Liu & Ma, 2006), teamwork (Easley, Devaraj, & Crant, 2003), and technology acceptance and usage (Fagan, Neill, & Wooldridge, 2003; Fang & Neufeld, 2006) within different problem domains and technological environments in an effort to understand how to design and build systems that are easier to use and are more likely to be accepted by users.

Unfortunately, information system (IS)/information technology (IT) studies have used different approaches and reported diverse findings regarding the influence of attitude and anxiety on technology usage and acceptance (Marakas, Yi, & Johnson, 1998; Thatcher, McKnight, Gundlach, & Srite, 2007). Specifically, the studies have varied in terms of when and how user perceptions were assessed. For example, Schewe (1976), Compeau, Higgins, and Huff (1999), Chau (2001), Venkatesh (2004), Nah, Tan, and Teh (2004), and Dawkins and Frass (2005) investigated perceptions prior to system usage; Jackson, Chow, and Leitch (1997), Agarwal and Prasad (1999), Karahanna, Straub, and Chervany (1999), and Wixom and Todd (2005) studied attitude and/or anxiety after system usage; and Venkatesh and Speier (1999), Johnson and Marakas (2000), and Bhattacharjee and Premkumar (2004) studied attitude and/or anxiety before as well as after system usage.

It is interesting to note that within the many attitude and anxiety studies for pre- and post-system usage, the investigations have varied with regard to the antecedents, outcomes, and relationships tested, especially with regard to studies involving the technology acceptance

model (TAM) (Davis, 1986, 1989). For example, attitude and/or anxiety have been studied in the context of TAM as antecedents of ease of use or perceived usefulness (Bhattacharjee & Premkumar, 2004; Davis, Bagozzi, & Warshaw, 1989; Dawkins & Frass, 2005; Venkatesh, 2000; Wu & Liu, 2007), outcomes of TAM (Gao & Koufaris, 2006; Glassberg, Grover, & Teng, 2006; Nah et al., 2004), or as indicators of some (e.g., ease-of-use) and outcomes of other (e.g., perceived usefulness) TAM variables (Agarwal & Prasad, 1999; Jackson et al., 1997; Karahanna et al., 1999; Wixom & Todd, 2005). Lee, Kozar, and Larsen (2003, p. 760) indicate that attitude and anxiety have been tested separately as well as together as variables that influence ease-of-use or perceived usefulness (two of the central variables within the technology acceptance model). Given the preponderance and diversity of this and other research, it is not unusual to conclude that there has been broad interest in the research approaches to investigating the relationships among attitude, intentions, behaviors, and aspects of the technology acceptance/adoption theories and models (Melone, 1990).

Meta-analytic efforts, some outside the IT domain, have sought to understand and explain issues surrounding the attitude–engagement/behavior relationship (Gallivan, 2004; Harrison, Newman, & Roth, 2006; Melone, 1990; Paule, 1990). Most notable to the present study is the contribution of Melone (1990: p80) in which she called for research to explore both perspectives of the attitude–behavior relationship, stating “it seems inevitable that we become interested in understanding the conditions under which attitudes and behaviors are related, the influence attitudes have on behavior, and the influence behavior has on attitudes.” With respect to this perspective, the primary goal of the current study is to investigate the influence of attitude on the use and acceptance of an information system. Second, this study seeks to expand the nomological network of the technology acceptance model by investigating affectivity as a precursor to computer self-efficacy (Agarwal, Sambamurthy, & Stair, 2000; Compeau

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