

Chapter 6

A Value–Satisfaction Taxonomy of IS Effectiveness (VSTISE): A Case Study of User Satisfaction with IS and User–Perceived Value of IS

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ABSTRACT

Information Systems (IS) effectiveness has been studied over the past three decades, with user satisfaction utilized as a key measure. However, very little attention has been given to the role of user-perceived cognitive value of IS in measuring the effectiveness of such systems. Therefore, this article defines and articulates user-perceived value of IS as an important construct for IS research, not from the financial or ‘net benefit’ perspective to the organization, rather from the cognitive perspective. Following literature review, a new taxonomy of IS effectiveness, Value-Satisfaction Taxonomy of IS Effectiveness (VSTISE), is presented. The VSTISE posits four quadrants to indicate level of user-perceived IS effectiveness: improvement, effective, misleading, and ineffective. A case study using the proposed VSTISE is discussed. Results based on the 192 responses identify several problematic system characteristics that warrant additional investigation for their limited IS effectiveness. Finally, recommendations for research and practice are provided.

INTRODUCTION

Nearly three decades scholars have suggested that effectiveness of Information Systems (IS) is

“an important phenomenon for researchers and practitioners” (Scott, 1995, p. 43). Simultaneously, numerous scholars have noted the challenges for IS research in measuring IS effectiveness (Arnold, 1995; DeLone & McLean, 1992; Doll & Torkzadeh, 1988; Grover, Seung, & Segars,

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1996; Ives, Olson, & Baroudi, 1983; Kim, 1989; Stone, 1990; Yuthas & Eining, 1995). Grover et al. suggested that IS effectiveness depends on the unit of analysis, i.e., individual or organizational perspective. Although the organizational perspective is valid and critical, the focus of this article is on the individual (i.e., the user) perspective. There has been extensive investigation in the past three decades to assess IS effectiveness using *user satisfaction* as a surrogate measure (Bailey & Pearson, 1983; Baroudi & Orlikowski, 1988; Doll & Torkzadeh, 1988; 1991; 1994; Galletta & Lederer, 1989; Gelderman, 1998; Ives et al., 1983; Kettinger & Lee, 1994; Lee, Kim, & Lee, 1995; Torkzadeh & Doll, 1991). However, some IS scholars have voiced a concern about measures of user satisfaction with IS that do not take into account the “silent beliefs” of IS users (Etezadi-Amoli & Farhoomand, 1991, p. 1). Additionally, marketing scholars such as Chiou (2004) as well as Yang and Peterson (2004) also indicated the limitations of user satisfaction as a sole measure of effectiveness of customer loyalty. Chiou (2004) indicated that “more than half of the satisfied customers will defect eventually” (p. 686). According to Yang and Peterson (2004), “high value is one primary motivation for customer patronage” (p. 803). Moreover, IS scholars have noted that IS effectiveness is a multidimensional construct, and yet have used only user satisfaction as a surrogate predictor of that construct. Additionally, the significance of user-perceived value as a cognitive construct affecting human attitudes (and in turn affecting the construct of satisfaction) has been recognized by numerous scholars in a broad variety of fields (Rafaeli & Raban, 2003). Nevertheless, very little attention has been given in IS research to antecedent constructs such as the user’s personal beliefs or perceived value. In this article, we attempt to fill this void by defining, articulating, and suggesting a specific measure, the *user-perceived value* construct. Moreover, we attempt to contribute to IS literature by providing

the theoretical foundations to stimulate future research to use the perceived value construct in other models. We propose a new taxonomy of IS effectiveness that can be used as a benchmarking tool by practitioners and IS decision makers, especially in the service sector.

The majority of the work conducted in IS literature about the *value* construct has dealt with the economical or financial perspective of value (i.e., net benefit, return on investment, etc.; see (DeLone & McLean, 1992; 2003; Gefen & Ragowsky, 2005; Ragowsky, 1995; Ragowsky, Somers, & Adams, 2005; Ragowsky, Stern, & Adams, 2000)) as a dependent variable in IS models. The approach we advocate is to incorporate the user-perceived cognitive value construct as another variable in the measure of IS effectiveness. We define *user-perceived value* as a belief about the level of importance that users hold for IS characteristics. Figure 1 illustrates the conceptual model we propose. Interestingly enough, it was originally recognized in the IS literature that *user-perceived value* is relevant in understanding *user satisfaction* and *user-perceived IS effectiveness* with respect to a system’s characteristics (Bailey & Pearson, 1983). However, much of the subsequent work on evaluating levels of user satisfaction concentrated primarily on attitudes towards IS (Doll & Torkzadeh, 1988; 1991; Ives et al., 1983; Torkzadeh & Doll, 1991). In part, this is because some scholars found that measuring user-perceived value (i.e., user-perceived importance level of system characteristics) provides very little additional information to the overall understanding of user satisfaction (Ives et al., 1983). However, some disagreement exists in the literature about such an approach, as measurement of user-perceived value can lead to a deeper understanding of the user-perceived IS effectiveness (Etezadi-Amoli & Farhoomand, 1991). Therefore, our primary objective in this article is to bring the attention of IS researchers to a new construct in the measurement of IS effectiveness. We present

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