Chapter 13
Is "Usefulness" or "Use" the Superior Metric When Assessing Web-Based Information System Success?

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ABSTRACT

Managers are increasingly confronting the question of how to convey electronic information to e-commerce users in a manner that permits individuals to resolve information search related problems more easily. Information service quality and the associated performance outcomes are challenging to manage during Web-based interactions, primarily because such settings involve several features (i.e., less tangible contact, more uncertainty, differing feedback loops between business and consumers) not found in more traditional exchanges. To capture a broader view of the quality of information offerings in ecommerce settings, the model tested in this study compares the DeLone and McLean (2003) framework, one that includes use as an outcome measure, with a model suggested by Landrum and Prybutok (2004), one that features usefulness as its outcome measure. A random sample of Army Corp of Engineers library customers was performed at two library sites with the Corps. Theoretical and applied implications are developed and discussed.

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INTRODUCTION

A major objective of Web-based environments is to deliver required information in a timely fashion to Web-linked constituents. Both information overload and selective attention are commonly associated with Web-based interactions (Berthon et al. 1999). Prudent selection of information and high quality presentation of that informatin is important to creating a competitive web site because web-based consumers do not or cannot devote the time necessary to process all available information. In addition, organizations are only beginning to address individual preferences and the associated perceptions of the Web environment (Beatty, Shim, & Jones 2001; Zviran 2008). Consequently, insight is needed into the factors that create situations where problematic information system interactions are likely (Liu et al. 1997; Tang 2007). For practical and theoretical reasons alike it is important to conceptualize the processes and procedures associated with **Web-based information service**. An information service based conceptualization permits drawing useful distinctions between different levels of information service (Barnes & Vidgen 2001). **Information service quality (ISQ)** is relevant to those distinctions and is defined as how well the information provided meets or exceeds the user's expectations (Barnes & Vidgen 2001; Miller, et. al. 2008; Pitt et al. 1997).

While several variables that affect **information system success** have been identified (DeLone & McLean 1992), the role that **information service** plays in the success of information systems has not been widely investigated. Numerous researchers contend that **ISQ** and the associated information service performance is an important factor that affects the success of information systems (Rands 1992; Ferguson & Zawacki 1993). However, the nature of that role is not clearly understood. Although numerous studies examine **IS success factors**, few studies incorporate **service quality** into an IS success model. In addition, although Rai et al. (2002) compare DeLone and McLean's (1992) model with Seddon's (1997) model, these two models do not consider service quality as one of the success factors in the model. Because **service quality** is becoming increasingly important in the IT industry, this study was designed to address the impact of service quality impact on two IS success models and contribute to the literature in the following ways. First, it examines the effects of service quality in IS success models. Second, the study empirically validates DeLone and McLean's (2003) model. Third, it compares and contrasts DeLone and McLean's (2003) the model developed by Landrum and Prybutok's (2004). Finally, the study assesses the effect of an objective measure – **"use"** versus subjective **"usefulness"** in IS success models - by examining the predictive validity of various independent variables on use versus usefulness.

Consistent with this conceptual foundation, the following research questions are addressed in this paper:

- What is the identity of the factors that influence the relationship between **information service** and **information systems success** in Web-based interactions?
- Is **"usefulness"** or **"use"** the better construct when measuring information success?

RESEARCH MODEL

The most popular instrument available to measure service quality is **SERVQUAL** (Parasuraman et al. 1988). SERVQUAL was designed as a generic measure of service quality and is applied in a variety of organizations and research settings. It has been used to measure service quality in information service industries (Pitt et al. 1997; Coleman et al. 1997; Boudreau et al. 1997).

Web-based information systems are defined as information systems that require the usage