

Chapter 2.22

Knowledge Management System Success: Empirical Assessment of a Theoretical Model

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ABSTRACT

This article presents the empirical testing of a theoretical model of knowledge management system success. The Jennex and Olfman model of knowledge management system success was developed to reflect the DeLone and McLean model of information systems success in the knowledge management context. A structural equation model representing the Jennex and Olfman theoretical model is developed. Using data from a prior study aimed at knowledge management system use and individual learning, this model is tested. The overall fit of the model to the data is fair, although some interpretation of the estimated model parameters is problematic. The

results of the model test provide limited support for the Jennex and Olfman theoretical model, but indicate the value of continued investigation and refinement of it. Suggestions for future research are provided.

INTRODUCTION

Involvement with a knowledge management system (KMS) generally leads to the desire to determine how successful it is. Practically, the measurement of KMS success (or effectiveness) can be valuable in a number of ways, including the justification of knowledge management (KM) investments (Turban & Aronson, 2001). Academi-

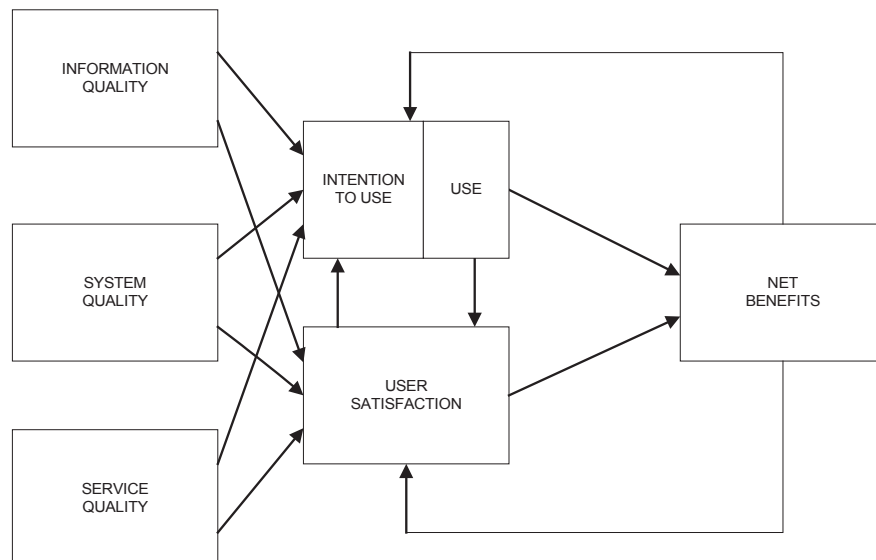
cally, the conceptualization of information system (IS) effectiveness is one of the most important research domains in the IS discipline (ISWorld, 2004a). A valid specific model of KMS success would have value for KM researchers in much the same way that a valid general model of IS success would have for the IS field.

The DeLone and McLean (D&M) model of IS success (1992, 2002, 2003) is currently the most widely accepted conceptualization of IS effectiveness among researchers (ISWorld, 2004b). The D&M model comprises six theoretical dimensions: Information Quality, System Quality, Service Quality, Intention to Use/Use, User Satisfaction, and Net Benefits (DeLone & McLean, 2003). Each of these dimensions constitutes a well-trodden research path in its own right, as indicated by the separate pages devoted to each on the ISWorld Web site (ISWorld, 2004a). Figure 1 illustrates the model.

The DeLone and McLean model is a general framework for understanding IS effectiveness and must be adapted to specific contexts. For example,

DeLone and McLean (2003) provide an adaptation of the most recent iteration of their model to e-commerce. Jennex, Olfman, and their colleagues have adapted the D&M model to the KM context (Jennex, Olfman, Pituma, & Park, 1998; Jennex, Olfman, & Addo, 2003; Jennex & Olfman, 2002, 2004). This adaptation—which can be labeled as the Jennex and Olfman (J&O) model—can claim both empirical and theoretical justification. The earliest version of the model (Jennex et al., 1998) was informed empirically by an ethnography concerning KMS use in an engineering setting and theoretically by the 1992 D&M model, along with thinking at that time about KM and organization memory (such as Stein & Zwass, 1995). A revision of the model was informed empirically by a longitudinal study of engineering use of a KMS over a five-year period and theoretically by the 2002 revised D&M model, along with thinking at that time about KM (such as Alavi & Leidner, 2001). The latest version of the J&O model reflects the reasoning given for the latest version of the D&M model (DeLone & McLean,

Figure 1. DeLone and McLean (2003) IS success model



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