Chapter 4
Exploring System Use as a Measure of Knowledge Management Success

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ABSTRACT

This article discusses system use as a measure of knowledge management success. It is proposed that for knowledge management systems (KMS) it is not the amount of use that is important, but rather the quality of that use and the intention to use the KMS when appropriate. Evidence is provided to support this proposition and a knowledge management system success model incorporating this proposition is discussed. Additionally, findings are provided that show that new users to an organization use the KMS differently than experienced users and implications of this difference are discussed.

INTRODUCTION

A premise of information systems (IS) is that for an IS to be successful, the intended system users must “use” the system. In this case, Rai, Lang, and Welker (2001) consider “use” to be the consumption of the outputs of the IS by the users as measured in terms such as frequency of use, amount of time of use, numbers of access to the IS, usage pattern, and so forth. General thinking is that the more an IS is used, the more successful the IS. This leads to the common use of quantity of “use,” as previously defined, as a measure of IS success. For example, two of the more widely accepted IS models, the DeLone and McLean (1992, 2003) IS Success Model and the Davis (1989) Technology Acceptance Model (TAM), incorporate “use” as a measure of success (DeLone & McLean, 1992, 2003) or successful adoption (TAM). But is quantity of “use” a good measure of success for all systems, particularly a knowledge management system (KMS)?

Jennex (2005, p. iv) defines knowledge management (KM) as the practice of selectively ap-
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plying knowledge from previous experiences of decision-making to current and future decision making activities with the express purpose of improving the organization’s effectiveness. KMS are those systems designed to support KM. Alavi and Leidner (2001) describe the KMS as an IT-based system developed to support/enhance the KM processes of knowledge creation, storage/retrieval, transfer, and application. KM is an action discipline; knowledge needs to be used and applied for KM to have an impact. This implies that KM and KMS success, like IS success, can use quantity of “use” measures for determining KM success.

However, Jennex and Olfman (2005, 2006), while exploring KM/KMS success, make the assertion that as long as knowledge is used at some point, it is the quality of “use” and intent to use when appropriate that are better measures of KM/KMS success than quantity of “use” measures. While this may seem counter intuitive, that successful KM/KMS is not based on frequent use of knowledge, it is a defendable position although, neither Jennex and Olfman (2005) nor Jennex and Olfman (2006) provide support for this assertion. This article addresses this key issue and provides support for using quality of “use” and intent to use as appropriate measures for KM/KMS success.

This article will make a case for using “intent to use” as a measure of KM/KMS success rather than quantity of “use.” To make this case, data gathered from a review of published research plus data gathered from a longitudinal study of KM/KMS in an engineering organization will be presented that illustrates that quantity of “use” measures fail to predict success and that “intent to use” measures may predict success. Additionally, the article will present an overview of quantity of “use” measures in predicting success by discussing the DeLone and McLean (1992, 2003) IS Success and the Technology Acceptance Models, and an overview of KM/KMS success models.

The value and contribution of this article is in helping researchers and practitioners understand the impact of “use” on KM/KMS success. This is an important contribution as research into identifying key KM/KMS success measures need to identify the right measures in their KM/KMS success models so that organizations implementing KM/KMS will understand what to monitor and measure.

BACKGROUND OF USE MEASURES

Information System Success and Use

DeLone and McLean (1992) is a seminal work proposing a taxonomy and interactive model for conceptualizing and operationalizing IS Success. The DeLone and McLean (1992) IS Success Model is based on a review and integration of 180 research studies that used some form of system success as a dependent variable. The model identifies six interrelated dimensions of success as shown in Figure 1. Each dimension can have measures for determining their impact on success and each other.

The key focus of the model is the relationships showing that system and information quality aspects of a system (information quality reflects having the correct data and system quality refers to the technical infrastructure and interface) lead to system use and user satisfaction. User satisfaction tends to increase use and use tends to lead to some level of user satisfaction, making these dimensions difficult to separate. System use then leads to system success. This relation has been accepted and demonstrated to be correct although Seddon (1997) has suggested that use is not an appropriate variable for a causal model as it is a behavior.

DeLone and McLean (2003) revisited the IS Success Model by incorporating subsequent IS