

Chapter 75

Knowledge Management System Success Factors

Murray E. Jennex
San Diego State University, USA

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INTRODUCTION

What does it take to build a successful knowledge management system (KMS)? Knowing the essential success factors is useful as it provides researchers and practitioners with the basic requirements for building a successful KMS. Also, if we take a Churchman (1979) view of systems, it can be argued that determining KMS success factors will also help us determine KM initiative success factors as Churchman found it difficult to separate the system from the process requiring the system. However, what is KM or KMS success? The literature does not provide a consensus on this, although two concepts of success can be identified. The first considers KM or KMS a success if knowledge use through the initiative or system improves the organization's ability to compete. The second considers KM or KMS a success if the KM processes implemented through the KMS (discussed later) are implemented effectively. Both success concepts imply that the KMS has to be

used. Therefore, KM and KMS success factors are those factors that encourage or help users to use the KMS to effectively perform KM functions.

What is a KMS? Alavi and Leidner (2001, p. 114) define KMSs as "IT-based systems developed to support and enhance the organizational processes of knowledge creation, storage/retrieval, transfer, and application." They observed that not all KM initiatives will implement an IT solution, but they support IT as an enabler of KM. Maier (2002) expanded on the IT concept for the KMS by calling it an ICT system that supports the functions of knowledge creation, construction, identification, capturing, acquisition, selection, valuation, organization, linking, structuring, formalization, visualization, distribution, retention, maintenance, refinement, evolution, access, search, and application. Stein and Zwass (1995) define an organizational memory information system (OMIS) as the processes and IT components necessary to capture, store, and bring to bear knowledge created in the past on decisions currently being made. Jennex and Olfman (2004) expanded this definition by incorporating the OMIS into the KMS and adding strategy and service components to the KMS.

This article uses a literature review to identify these success factors. Studies looking at KM, KMS, OM, and OMS or OMIS were reviewed and the success factors extracted. KM studies were included as a Churchman (1979) view of a KMS can be defined to include the KM initiative driving the implementation of a KMS (also, the same logic can be applied for including OM with OMS studies). OM and OMS studies are included with KM and KMS as Jennex and Olfman (2002) found that KM and OM are essentially the same with the difference being the players. End users tend to use KM where KM is concerned with the identification and capture of key knowledge. Information systems personnel tend to be concerned with OM where OM is the storage, search, retrieval, manipulation, and presentation of knowledge. KMS and OMS are the systems built to support KM and OM, and are essentially systems designed to manage organizational knowledge.

The literature review identified many KMS success factors that are summarized below. To make sense of these factors, they were analyzed for key words and concepts and combined into generic success factors. Definitions for the generic success factors were generated by combining and simplifying the concepts included in the base success factors. The generic success factors are also presented and discussed. The generic success factors were ranked based on the number of articles the base success factors appeared in. The article concludes with a ranked list of KMS success factors.

KMS SUCCESS FACTORS

A successful KMS should perform well the functions of knowledge creation, storage and retrieval, transfer, and application. However, other factors can influence KMS success. Mandviwalla, Eulgem, Mould, and Rao (1998) summarized the state of the research and described several strategy issues affecting the design of a KMS.

These include the focus of the KMS (who are the users), the quantity of knowledge to be captured and in what formats, who filters what is captured, and what reliance and/or limitations are placed on the use of individual memories. Additional technical issues affecting KMS design include knowledge storage and repository considerations, how information and knowledge is organized so that it can be searched and linked to appropriate events and use, and processes for integrating the various repositories and for reintegrating information and knowledge extracted from specific events. Some management issues include how long the knowledge is useful, access locations as users rarely access the KMS from a single location (leads to network needs and security concerns), and the work activities and processes that utilize the KMS.

Ackerman (1994) studied six organizations that had implemented his Answer Garden system. Answer Garden is a system designed to grow organizational memory in the context of help-desk situations. Only one organization had a successful implementation because expectations of the capabilities of the system exceeded the actual capabilities. Ackerman and Mandel (1996) found that a smaller task-based system was more effective on the suborganization level because of its narrower expectations. They refer to this narrower system as “memory in the small.”

Jennex and Olfman (2000) studied three KM projects to identify design recommendations for building a successful KMS. These recommendations include the following:

- Develop a good technical infrastructure by using a common network structure, adding KM skills to the technology support skill set, using high-end PCs (personal computers), integrating databases, and standardizing hardware and software across the organization.
- Incorporate the KMS into everyday processes and IS by automating knowledge capture.

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