

## Chapter 7.9

# A Theoretical Model and Framework for Understanding Knowledge Management System Implementation

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### ABSTRACT

The study's objective is to arrive at a theoretical model and framework to guide research into the implementation of KMS, while also seeking to inform practice. In order to achieve this, the paper applies the critical success factors (CSF) method in a field study of successful KMS implementations across 12 large multinational organisations operating in a range of sectors. The paper first generates a 'collective set' of CSFs from extant research to construct an a priori model and framework: this is then empirically validated and extended using the field study findings to arrive at a 'collective set' of CSFs for all 12 organisations. These are then employed to refine and extend the theoretic-

cal model using insights from the literature on capability theory. It is hoped that the model and framework will aid theory building and future empirical research on this highly important and relevant topic.

### INTRODUCTION

KM initiatives fail more often than they succeed (McDermott & O'Dell, 2001). Massey, Montoya-Weiss, and O'Driscoll (2002) argue "that there has been very little research on how to successfully develop and implement KM solutions to enhance performance, particularly in core business processes" (p. 271). The dearth of such research gave

rise to calls by practitioners for practical guidelines on how to build and implement KMS, and how to facilitate organizational change to promote knowledge sharing (Alavi & Leidner, 2002; cf. Moffett, McAdam, & Parkinson, 2003). Accordingly, Wong (2005) argues that there is a “need for a more systematic and deliberate study on the critical success factors (CSFs) for implementing KM... [as] Organisations need to be cognizant and aware of the factors that will influence the success of a KM initiative” (p. 261): This study seeks to address such concerns.

It is with these points in mind that this study seeks to arrive at a theoretical model and framework of critical success factors to guide research into the implementation of KMS. It also aims to inform practice, as practitioners in organisations remain unsure as to how to go about planning and deploying KMS (Moffett et al., 2003). In order to achieve its objective, the article adopts a qualitative research approach and applies Rockart’s (1976) CSF method in a field study of KMS implementations across 12 large multinational organisations operating in a range of sectors. Drawing on Rockart (1979), CSFs may be defined for KM as “the few key areas where “things must go right” for the [KMS implementation] to flourish. If the results in these areas are not adequate, the organisation’s efforts [at KM] will be less than desired” (p. 217). In order to attain its stated objective, this study first identifies a collective set of CSFs from

the KM literature, which are used to construct a theoretical model and associated framework. Both the framework and the CSFs that constitute it are then empirically validated in the organisations studied; practitioners in these organisations also helped identify additional factors as being of importance. The outcome of this endeavour is a refined and extended model and framework for KMS implementation. In order to undertake the study with the required degree of rigour, the concepts of IS implementation and KMSs, as applied in this study, are first delineated.

## **IS Implementation Defined**

In an early article on IS implementation, Zmud and Cox (1979) argued that “MIS implementation is commonly viewed as involving a series of related activities” (p. 35). Inter alia, these stages are defined by Zmud and Cox as the initiation, strategic design, technical design, development, conversion, and evaluation stages. However, researchers subsequently adopted the convention of referring to the “conversion” stage as the implementation stage and using the term IS development to refer to planning, analysis, design, design, implementation, and use. In essence, IS implementation takes place when the technology dimension is integrated with the people and process dimensions (within particular organisational and institutional contexts and environments) in order to arrive at

*Table 1. Knowledge management processes and IT artefacts*

<b>KM Processes</b>	<b>IT Artefacts</b>	<b>IT Platforms</b>
Knowledge creation	Data mining and learning tools	Groupware and communication technologies
Knowledge storage and retrieval	Electronic bulletin boards, knowledge repositories, Databases	
Knowledge transfer	Electronic bulletin boards, Discussion forums, Knowledge directories (e.g. “Yellow Pages” of subject matter experts)	
Knowledge application	Expert systems, Workflow systems	Intranets

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