



## **Chapter I**

# **Knowledge-Based Strategies and Systems: A Systematic Review\***

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## **Abstract**

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*Knowledge management strategies and implementation of knowledge-based systems have gained importance over the last decade. However, many organizations are not able to develop “winning” knowledge-based strategies and others waste significant monies when the knowledge-based systems they invest in fail to produce the desired results. To address the challenges faced by these organizations, a recently developed framework for strategic dilemmas was proposed by Russ, Jones, and Fineman (2006) to aid in the development of knowledge-based (KB) strategies. The framework (C<sup>3</sup>EEP) identifies six dilemmas that organizations should balance when considering their knowledge management and business strategies. Examples of such dilemmas include the balance between concealment (secrecy) vs. transparency, complementary vs. destroying, and the balance between exploitation and ex-*

*ploration. The framework compliments the six stages in the life cycle of KB systems (KBS) as identified by the academic literature that discusses the development and implementation of KBS from the information systems (IS) perspective (e.g., Lytras, Pouloudi, & Poulymenakou, 2002; Nissen, Kamel, & Sengupta, 2000). This interaction/linkage between KB strategies and systems is crucial for the success of both. Academic research supports the complex relationship between the two. However, there is no conclusive formula for managing this relationship to achieve success. The purpose of this study will be to identify crossovers between the two streams (strategy and systems) of research by using a systematic literature review. For example, is the academic literature focusing mostly on the learning aspect (late stage in the life cycle) of the exploration strategy while largely ignoring the discussion about attracting the appropriate knowledge (early stage in the life cycle) for this kind of strategy? Or does the academic literature focus on populating a KBS with appropriate complementary knowledge while largely ignoring the dynamics of the transfer of destroying knowledge (learning aspect)? The authors hope to accomplish three goals in this study: (1) to continue the validation of the two (C<sup>3</sup>EEP and KBS life cycle) frameworks; (2) to identify new research opportunities; and (3) to focus managerial attention on areas of importance in KB strategies and systems that lack depth of academic discussion.*

## Introduction

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Academic research conducted in the last decade within the economic and accounting disciplines suggests that knowledge and intellectual capital account for a significantly unexplained wealth created within the economy and value created by firms (e.g., Blair & Wallman, 2001; Brooking, 1996; Lev, 2001; Nakamura, 2001). Therefore, to capture knowledge and intellectual capital, companies spend significant amounts of money on systems that are not necessarily effective, efficient, nor do they create value. Even though at the macro and cumulative level of analysis it is clear that such investments have a positive impact on the economy at large, and a specific company's performance (e.g., Brynjolfsson & Hitt, 2000), the ultimate investment results are inconsistent. Based on the inconsistent results of systems investments, a large number of practitioners and academics view knowledge management (KM) as a fad (e.g., Lev, 2000; Ryan & Hurley, 2004). First generation KM (at least in the U.S.) was propagated by information systems (IS) providers that over-promised and under-delivered, by suggesting that knowledge sharing and new knowledge development was as simple as installing appropriate IS (e.g., Groupware or data warehouse) or artificial intelligence (AI) software (e.g., expert systems or case-based reasoning). This failure was followed by the realization that knowledge that creates

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