



## **Chapter X**

# **The Hidden Deception of Knowledge Management Systems: Search, Rigidity, and Declining Radical Innovation**

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### **Abstract**

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*Drawing on the Carnegie tradition of bounded rationality, knowledge theory, and research on core rigidities, this research examines the potential unintended consequences of knowledge management systems on organizational routines. Although knowledge management systems promote interpersonal knowledge transfer, individual cognitive biases toward satisficing rather than optimal search are exaggerated by knowledge management systems that create a convenient proximal search environment of existing organizational knowledge that biases individuals against broader search. This behavioral bias toward proximal search then leads to the rigid persistence of organizations in existing knowledge traditions and declining radical innovation. To help address these concerns, the chapter concludes with an analysis of how this rigidity can potentially be overcome through the strategic management of knowledge management infrastructure.*

## Introduction

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At First Choice Communications<sup>1</sup>, a small but rapidly growing telecommunications and Internet company, a consistent challenge for competing effectively was successful management of knowledge in the organization. New people with diverse knowledge were being hired into the organization, experienced people often hoarded their knowledge, and ambiguity about where knowledge resided was slowing creative endeavors. First Choice thought that it had solved these innovation barriers by implementing a state-of-the-art knowledge management system. However, after only a few months, it was clear that the new system was changing the business in unexpected ways. In addition to the expected changes increases in employee knowledge transfer, unexpected changes to underlying individual routines and processes were also occurring. With new competitors aggressively entering their markets every day, First Choice needed to find the root of these problems and fix them fast.

An important development in the ongoing development of information technologies for contemporary organizations is the emergence of knowledge management systems. These systems hold much promise for organizations, particularly knowledge-intensive firms (Starbuck, 1992), in part due to their ability to allow organizations to make major steps forward in their efforts to create “learning organizations” (Senge, 1990) that can better store, access, and navigate their existing knowledge bases to gain competitive advantage over their rivals.

Despite the great promise knowledge management systems hold for organizations, the hidden side effects of many information technology (IT) “revolutions” are their influence on internal organizational processes and routines, which can be dramatic, unplanned, and dangerous (Willemssen, 2002). Although much may be understood about the technical merits of such IT innovations, much less is understood about how these new systems change the dynamic organizational routines and processes that guide organizational action (Pentland, 1995). Similar to the way that architectural innovations are recognized as the most deceptively disruptive to incumbent firms in an industry because they change the underlying processes and components through which organizations develop products (Henderson & Clark, 1990), IT revolutions can similarly disrupt routines that support innovation inside organizations. In fact, enterprise-wide adoption of new IT solutions such as knowledge management systems not only change the way an organization process information, they change the underlying routines for the way knowledge is combined, used, and shared in organizations. These changes require dramatic adjustments to existing organizational routines, but these changes in routines receive much less attention than other factors of technology implementation and management. Thus, understanding and controlling these changes are an important task for the strategic management of firms, and for the realization of potential benefits from information technology.

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