

## Chapter 2.4

# Linking Information Technology, Knowledge Management, and Strategic Experimentation

**V. K. Narayanan**  
*Drexel University, USA*

### INTRODUCTION

Historically, the focus of IT infrastructure had been to capture the knowledge of experts in a centralized repository (Davenport & Prusak, 1998; Grover & Davenport, 2001; Nolan, 2001). The centralized databases contained knowledge that was explicit and historical (e.g., competitor pricing, market share), and the IT infrastructure served to facilitate functional decision making or to automate routine

tasks (as in reengineering). The users of technology approached the repository to obtain data in a narrowly defined domain (Broadbent, Weill, & St. Clair, 1999). Consequently, IT originally played a significant, yet ultimately limited role in the strategy creation process. Management information systems (MISs) arguably generated information that was less applicable to strategy creation, as noted in early writings on the linkage between MIS and strategic planning (e.g., Lientz & Chen, 1981; Shank, Boynton, & Zmud, 1985; Holmes, 1985).

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The active management of knowledge was similarly underdeveloped. Despite the fact that strategic decision makers had always emphasized the role of tacit knowledge, the actual importance of knowledge was not *explicitly* recognized. Formalized knowledge management (Davenport & Prusak, 1998; Dalkir, 2005), with its associated terminology and tools, is a recent development and as such did not inform the strategic planning process.

However, the shifts that have taken place in IT infrastructures over the last decade and the recent developments in knowledge management (KM) have brought them closer to the creators of strategy. Indeed, both IT and knowledge management are increasingly enablers in the contemporary strategic management practice:

1. IT infrastructure is transitioning in its focus from the functional work unit to a process orientation. Whereas computer systems were once the focal point, the new infrastructure is network centric, with an emphasis on business knowledge (Nolan, 2001). For example, traditional search engines utilized rule-based reasoning to identify elements matching specific search criteria; the “state-of-the-art” knowledge management systems employ case-based search techniques to identify all relevant knowledge components meeting the user’s request (Grover & Davenport, 2001).
2. IT now takes into account contexts that include cross-functional experts, knowledgeable on a wide variety of potentially relevant issues. Additionally, there is greater emphasis on the integration of infrastructure with structure, culture (Gold, Malhotra, & Segars, 2001), and organizational roles (Awad & Ghaziri, 2004). In many ways, the newer IT infrastructures have enabled the garnering of explicit knowledge throughout the organization to speed up strategy creation.

The objective of this article is to outline how the developments in IT and KM are facilitating the evolution of strategic management to strategic experimentation to create quantum improvements in strategy creation and unprecedented developmental opportunities for the field of IT.

## **BACKGROUND**

For the purposes of this article, *information technology* (IT) is defined as the physical equipment (hardware), software, and telecommunications technology, including data, image, and voice networks, employed to support business processes (Whitten & Bentley, 1998). The overarching plan for IT deployment within an organization is called the IT architecture. Technology infrastructure refers to the architecture—including the physical facilities, the services, and the management—that support all computing resources in an organization (Turban, McLean, & Wetherbe, 1996).

As used in this article, data are objective, explicit pieces or units, information is data with meaning attached, and knowledge is information with an implied element of action. According to Davenport and Prusak (1998):

*“Knowledge is the fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms.” (p. 5)*

*Knowledge management* is “a set of business practices and technologies used to assist an organization to obtain maximum advantage from one of its most important assets—knowledge” (Duffy, 2000, p. 62). In other words, it is actively capturing, sharing, and making use of what is known,

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