

# Chapter XI

## Innovation Driven Knowledge Management

### INTRODUCTION: KNOWLEDGE DRIVES INNOVATION

As described in Chapter X, fundamental to the company's innovation capabilities is the level of collaboration and knowledge management capabilities available to support the innovation process. The ability of an organization to identify, acquire, and utilize external knowledge, known as knowledge absorption, can be critical to the firm's operational success (Adams, Bessant, & Phelps, 2006). A survey by Adams et al. (2006) shows that three areas of knowledge management are critical for innovation management: idea generation, knowledge repository (including the management of tacit and explicit knowledge), and information flows (including information gathering and networking). Further they note that several researchers have found that the firm's ability to "absorb and put to use new knowledge," known as knowledge "*absorptive capacity*," has direct impact on the firm's innovation and performance (Chen, 2004; Tsai, 2001). Popadiuk and Choo (2006) have further shown that innovation and knowledge creation are related. Innovation is a result of knowledge creation. Innovation is related to the firm's ability to combine new knowledge with existing knowledge to create new knowledge that is unique to the firm. It is also related to the firm's ability to diffuse knowledge throughout the organization so that the organization as a whole increases its absorptive capacity. Knowledge diffusion can be facilitated by IT infrastructure and knowledge management system. Knowledge management is aimed at leveraging internal and external knowledge to create value from the firm's intangible assets. According to Metaxiotis and Psarras (2006), knowledge management contributes to value creation by enhancing: intellectual asset management, operational efficiency,

customer and competitor intelligence, continuous improvement, organizational learning, innovation in products and services, and time to market. They report of findings from American Productivity and Quality Center that greater emphasis should be made by firms on “using knowledge management to become more efficient innovators.”

To leverage knowledge management for business innovation, IT managers must first understand the basic principles, theories, and practices of knowledge management. Next, they must understand how knowledge management will contribute to innovation. This chapter aims to address both topics to help make IT managers become the IT innovators.

## **KNOWLEDGE AS A STRATEGIC RESOURCE**

The knowledge-based view of the firm stems from the resource-based theory of firm. The resource-based theory asserts that long-run superior performance is associated with the possession of scarce, valuable, and inimitable firm-specific resources. The tenet is that knowledge as a focal resource creates unique advantages for governing economic activities through a logic that is very different from a market. The knowledge-based view argues that the success of firms is not only based on the economics of the contracts it implements (property rights, incentives), but also on its heterogeneous stocks and flows of knowledge. Further work from this perspective has examined different models of organizational design and development of organizational capabilities. The latter view conceptualizes the firm as an institution for integrating knowledge and examines how the mechanisms for integration establish flexible response capabilities in hypercompetitive markets (Grover & Davenport, 2001).

The knowledge-based view of the firm argues that the products and services produced by tangible resources depend on how they are combined and applied, which is a function of the firm’s know-how. This knowledge is embedded in and carried through individual employees as well as entities such as organization culture and identity, routines, policies, systems, and documents. The knowledge-based view of the firm posits that these knowledge assets may produce long-term sustainable competitive advantage for the organization because knowledge-based resources are socially complex to understand and difficult to imitate by another organization (Alavi & Leidner, 2001).

According to Alavi and Leidner (2001), it is less the knowledge existing at any given time per se than the firm’s ability to effectively apply the existing knowledge to create new knowledge and to take action that forms the basis for achieving competitive advantage from knowledge-based assets. It is here that information technologies may play an important role in effectuating the knowledge-based view of the firm. Advanced information technologies (e.g., the Internet, intranets, extranets, browsers, data warehouses, data mining techniques, and software agents) can be used to systematize, enhance, and expedite large-scale intra and interfirm knowledge management. While having unique access to valuable resources is one way to create competitive advantage, in some cases either this may not be possible, or competitors may imitate or develop substitutes for those resources. Companies having superior knowledge, however, are able to coordinate and combine their traditional resources and capabilities in new and distinctive ways, providing more value for their customers than can their competitors. That is, by having superior intellectual resources, an organization can understand how to exploit and develop their traditional resources better than competitors, even if some or all of those traditional resources are not unique. Therefore, knowledge can be

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