Chapter 15
Innovation Driven Knowledge Management

ABSTRACT

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 addresses both topics to help make IT managers become IT innovators.

INTRODUCTION

As described in chapter 13, 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, et al., 2006). A survey by Adams et al. (2006) shows that three areas of knowledge management 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, 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."

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THE KNOWLEDGE-STRATEGY LINK

Organizations should strive to use their learning experiences to build on or complement knowledge positions that provide a current or future competitive advantage. Systematically mapping, categorizing, and benchmarking organizational knowledge not only can help make knowledge more accessible throughout an organization, but by using a knowledge map to prioritize and focus its learning experiences, an organization can create greater leverage for its learning efforts. It can combine its learning experiences into a critical learning mass around particular strategic areas of knowledge (Zack, 1999).

While a knowledge advantage may be sustainable, building a defensible competitive knowledge position internally is a long-term effort, requiring foresight and planning as well as luck. Long lead-time explains the attraction of strategic alliances and other forms of external ventures as potentially quicker means for gaining access to knowledge. It also explains why the strategic threat from technological discontinuity tends to come from firms outside of or peripheral to an industry. New entrants often enjoy a knowledge base different than that of incumbents (see for example Christensen & Overdorf, 2000), one that can be applied to the products and services of the industry under attack. This has been especially evident in industries where analog products are giving way to digital equivalents (Zack, 1999).

Knowledge has a strategic role if unique firm knowledge can successfully be applied to value-creating tasks and if it can be used to capitalize on existing business opportunities. Since competitors, in developing their own survival strategies, are likely to benchmark themselves against the industry leader to level out performance, knowledge must be difficult to imitate (Krogh, et al., 2000). Distinctions can also be made between core, advanced, and innovative knowledge. These knowledge categories indicate different levels of knowledge sophistication.

Core knowledge is the basic knowledge required to stay in business (Tiwana, 2002). Core knowledge can create efficiency barriers for entry of new companies, as new competitors are not up to speed in basic business processes. Since core knowledge is present at all existing competitors, the firm must have this knowledge even though it will provide the firm with no advantage that distinguishes it from its competitors (Zack, 1999).

Advanced knowledge is what makes the firm competitively viable and active (Tiwana, 2002). Such knowledge allows the firm to differentiate its products and services from that of a competitor through the application of superior knowledge in certain areas. The firm may have generally the same level, scope, or quality of knowledge as its competitors although the specific knowledge content will often vary among competitors, enabling knowledge differentiation. The firm may compete for the strategic position by differentiating their knowledge (Zack, 1999). Firms, hence, must least possess advanced knowledge to become innovative.

Innovative knowledge allows a firm to lead its entire industry to an extent that clearly differentiates it from competition (Tiwana, 2002). Such knowledge allows a firm to change the rules of the game by introducing new business practices. It derives from the firm's new business concept innovation (Hamel, 2000) or disruptive innovation (Christensen & Overdorf, 2000). Such knowledge enables a firm to expand its market share by winning new customers and by increasing service levels to existing customers. Innovative knowl-

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