How Corporate Portals Support Innovation

Steven Gordon
Babson College, USA

Monideepa Tarafdar
University of Toledo, USA

INTRODUCTION

The ability of a company to be innovative depends on many factors, such as a culture amenable to risk taking (Kontoghiorghes, Awbre, & Feurig, 2005), a managerial attitude favorable toward change (Damanpour, 1991), a market orientation (Hult, Hurley, & Knight, 2004), committed champions (Howell, 2005), and an adequate supply of physical and financial resources for research (Delbecq & Mills, 1985). In addition, the innovation process requires organizational and technical competences in knowledge management, collaboration, and communication (Carneiro, 2000; McAdam, 2000; Zakaria, Amelinckx, & Wilemon, 2004,). Corporate portals are central to achieving these competences. This article describes how corporate portals can support innovation in organizations through the enhancement of knowledge management, communication, and collaboration.

BACKGROUND

Innovation is one of the primary drivers of corporate growth and profitability. Research shows that innovations generate supernormal profits for the companies that create them, but that these profits erode over time in response to competitive imitation (Geroski, Machin, & Van Reenan, 1993). Yet, some firms have the ability to innovate constantly, generating multiple innovations to maintain supernormal profits in the face of competitive responses (Cho & Pucik, 2005). Because

the ability to innovate constantly is so desirable, researchers have sought to understand the antecedents of innovation, that is, the characteristics that underlie and support an innovation competency for individuals and organizations (for example, Hult et al., 2004; Scott & Bruce, 1994).

The modern resource-based view of the firm posits that a company can achieve a competitive advantage by coordinating and combining the resources under its control to achieve competences or capabilities that align with its strategic vision (Freiling, 2004). From this perspective, a firm's competence in innovation depends on its other competences, and on the resources it can marshal toward the innovation objective (Pitt & Clarke, 1999). Specifically, as described next, three competences, knowledge management, communication, and collaboration, are particularly important and necessary for supporting the innovation process. We show that portal technologies help build and maintain these competencies, contributing indirectly to a sustained innovation capability (see Figure 1).

Knowledge Management

A competence in knowledge management is critical to successful innovation because innovation is a knowledge-intensive process (Gloet & Terziovski, 2004). A good working definition of knowledge is: "a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information" (Davenport & Prusak, 2000). The goal of knowledge management is to capture knowledge

Figure 1. Portal technologies are necessary to maintain the competences that support sustained innovation
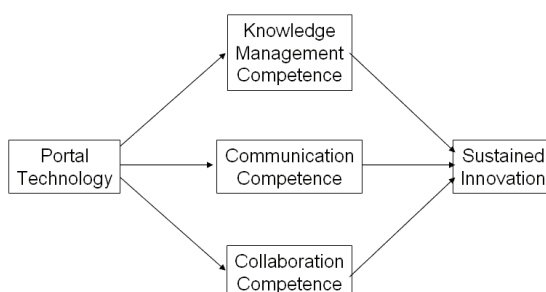
wherever it exists in an organization, and make it accessible to those who can derive value from it. Knowledge management tools help diffuse knowledge relatively quickly and cheaply to help connect related, but isolated, "pockets of innovation" (Tuomi, 2002). As illustrated by Santos, Doz, and Williamson (2004), companies can generate more innovations of higher value when they draw from a knowledge pool that is diverse both conceptually and geographically. A knowledge management capability also contributes to innovation by speeding the professional development of the knowledge worker (Carneiro, 2000). Empirical research shows that innovative companies usually have a strong knowledge management competence (McAdam, 2000).

Communication

A prerequisite to a competence in knowledge management is a competence in communication, which allows knowledge to be captured and used in different locations. A communication competence ensures that members of an organization can exchange plans and ideas and work in teams. A communication competence also promotes the development of social networks that span team and project boundaries, allowing individuals to seek the help and expertise they need to innovate, even if that expertise resides outside their local teams (Tsai & Goshal, 1998). Increasing the number and width of communication channels facilitates the transfer of information and knowledge essential to the innovation process (Hoegl, Parboteeah, & Munson, 2003).

Collaboration

Although new ideas or concepts often occur to individuals in isolation, the development of these ideas into innovative products, services, or processes that can create value for an organization almost always requires the work of a team of people. For innovation to take place, it is not enough that individuals communicate with one another. They also need to collaborate, that is, to share ideas, opinions, and hunches, and progressively and actively build upon each other's understanding. In particular, they need to establish appropriate associations and teams in the context of the innovation task. Because a team's creativity is greater than the sum of its individual members' creativity (Pirola-Merlo & Mann, 2004), a competency in collaboration ensures that an organization can mine the full creative powers of its innovators. Hargadon (2003) found that innovation rarely involves the creation of completely new thoughts, processes, products, or services. Rather, innovative ideas stem from the recombination of ideas or components that are already in use. An organization can best support innovation by acting as a "broker" to connect, through collaborative networks, previously unrelated ideas, and combine and develop them into useful applications.

THE ROLE OF PORTALS

Creating an intranet portal is an effective strategy for improving an organization's innovation competence by improving its competences in knowledge management, communication, and collaboration.

Knowledge Management

Portals can be used to provide a single point of access to knowledge that might reside in different departments and different locations. One type of portal, the "knowledge portal," is an intranet Web site dedicated to the storage and reuse of explicit knowledge and the exchange of tacit knowledge (Kesner, 2003). The knowledge portal is an important element of the knowledge management toolset, and greatly enhances an organization's knowledge management capability (Park & Kim, 2005). As such, it contributes to the innovation process in two ways:

1. by making it unnecessary for a knowledge creator and knowledge user to have a direct connection with one another, thereby closing the "structural holes" in innovation project exchange; and
2. by helping to create networks of practice, in which knowledge sharing becomes the norm (Van Baalen, Bloemhof-Ruwaard, & van Heck, 2005).

While portals help create a norm of information sharing, they unfortunately cannot solve the greatest challenge to knowledge management, the elicitation of tacit knowledge. No matter how willing an employee might be to explain certain instinctive knowledge, for example, why a particular molecule is likely to be an effective catalyst in a reaction, the employee might not be able to explain his or her insight. Furthermore, even in organizations where knowledge sharing is the norm, some employees will hide knowledge for their own benefit, despite the benefit they receive from what others share. If innovation leaders want their portals to support their innovation initiatives, they must also provide incentives for sharing knowledge, penalties for hoarding it, and procedures that simplify and encourage contributions to their portal's knowledge repository.

Boeing-Rocketdyne employed a knowledge portal to help a virtual team develop a radically new product (Malhotra, Majchrzak, Carman, & Lott, 2001). The team was charged with designing a rocket engine that would reduce cost by a factor of 100, be brought to market 10-times faster than the company's Space Shuttle main engine, and have a useful life three times as long. Practically none of the company's employees thought it could be done. But with the help of a portal called "Notebook," the team completed the project successfully in only 10 months, within budget, and with

Related Content

Service Oriented Architecture Conceptual Landscape PART I
Ed Young (2011). *New Generation of Portal Software and Engineering: Emerging Technologies (pp. 131-141).*
www.irma-international.org/chapter/service-oriented-architecture-conceptual-landscape/53735

Learning Geography with the G-Portal Digital Library
Dion Hoe-Lian Goh (2007). *Encyclopedia of Portal Technologies and Applications (pp. 547-553).*
www.irma-international.org/chapter/learning-geography-portal-digital-library/17927

Toward Introducing Semantic Capabilities for WSRP
Kevin Wilkinsonand Jana Polgar (2009). *International Journal of Web Portals (pp. 25-43).*
www.irma-international.org/article/toward-introducing-semantic-capabilities-wsrp/3031

Interrogation Based on Semantic Annotations: Context-Based Construction of Formal Queries from Keywords
Latreche Abdelkrim, Lehireche Ahmedand Kadda Benyahia (2017). *International Journal of Web Portals (pp. 47-67).*
www.irma-international.org/article/interrogation-based-on-semantic-annotations/189212

A Reference Ontology Based Approach for Service Oriented Semantic Interoperability
Shuying Wang, Kevin P. Brown, Jinghui Luand Miriam Capretz (2011). *International Journal of Web Portals (pp. 1-16).*
www.irma-international.org/article/reference-ontology-based-approach-service/53033