Knowledge management
A model for organizational learning

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Abstract

This paper presents a model developed with the help of the Knowledge Management Special Interest Group (KM-SIG) of the Consortium for Advanced Manufacturing-International (CAM-I) with organizational implications for managing knowledge. The KM-SIG model rests on knowledge domains that exist in an organization’s environment. Firms engage in knowledge management practices for the purpose of filtering knowledge into its core, stable processes where that knowledge can be used to produce value for the firm. The model presented in this paper identifies the route knowledge takes in this filtering process. The filtration mechanisms that accomplish this process are project teams, knowledge communities, communities of practice and knowledge networks. © 2002 Elsevier Science Inc. All rights reserved.

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1. Introduction

Knowledge management, as Hansen et al. (1999, p. 106) pointed out, is nothing new, but instead is newly practiced. As our economy entered the industrial age in the latter part of the nineteenth century, firms required, in varying degrees according to industry and market, shifts to capital intensive technologies. In recent decades, as the developed economies of the world...
have entered an age in which firms rely more on intellectual capital and assert claims to intellectual property, efforts in the management of knowledge have commanded increasing levels of resources.

Knowledge management has captured the attention of firms as one of the most promising ways for organizations to succeed in the information age. At least two challenges present themselves in today’s economy causing firms to take an increased interest in knowledge management. First is an aging work force. As the “baby boom” generation makes its way into their 50s and 60s and approaches retirement, the cumulative experience and tacit knowledge of that generation threatens to retire with it. For example, one major defense contractor, that relies heavily on human capital estimates that 90% of its workforce will be eligible for retirement within the next 10 years. Such firms are engaging in strategic initiatives to capture critical tacit knowledge from its workforce with respect to critical processes.

Importance of knowledge residing within the human resources of firms seems to be underscored by perceptions of managers of those firms. Joyce and Stivers (2000) in a survey of U.S. and Canadian executives concluded that those individuals believe the key difference in operating their businesses in 2005 as compared to 1995 will be management of knowledge resources. They further concluded that the surveyed executives “view knowledge resources as critical to their success” (p. 10).

The second challenge is a rapid advance in technology. Information flows within organizations can occur so rapidly that human decision-makers are often left behind. Rapid technological advance, fortunately, presents an opportunity as well. What firms know (to borrow a title phrase from Davenport and Prusack, 2000) seems to be increasing at an increasing rate. First, communication media such as the Internet have enhanced individual capacity to find information pertinent to the performance of daily tasks. Second, the speed with which business is conducted today (and a corresponding number of decisions that have to be made) has increased. Thanks to B2B, B2C, ABC, JIT, CAD, ERP, etc., time to market has decreased, product development life cycles have shortened and consumer demands for new designs and better functionality of products have all contributed to an increased need for information. Fortunately, the same technology boom that has contributed to a more complex environment also offers potential solutions by extending our ability to exchange and archive information. For example, enterprise resource planning (ERP) models are becoming increasingly functional, allowing for more seamless exchange of data across and within organizational boundaries.

Davenport (1999) suggested that in response to challenges such as those above, attempts at knowledge management have, in many cases, become burdensome having become too broad in scope. The purpose of this paper is to present a model of knowledge management that is the result of work conducted over several years by the Knowledge Management Special Interest Group (KM-SIG) of the Consortium for Advanced Manufacturing-International (CAM-I). Members of the KM-SIG who consistently participated in the study of knowledge management and their affiliations, as well as firms, government agencies and universities that presented their ideas on knowledge management to the KM-SIG, are listed in Appendix A.
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