

A new strategy for harnessing knowledge management in e-commerce

Stephen A. Oppong, David C. Yen*, Jeffrey W. Merhout

Department of DSC&MIS, RTF School of Business, Miami University, Oxford, OH 45056, USA

Abstract

Knowledge management has become increasingly critical for the success of companies in this emerging era of e-commerce. As business activities increasingly shift to the web, the challenge facing corporate management is maintaining competitive advantage by building strong relations with employees, customers, and upstream/downstream suppliers and partners. A good knowledge management strategy can help achieve this goal. Unfortunately, many companies use knowledge management technologies that do not suit today's new information era. Therefore, it is important to understand how companies can successfully implement knowledge management programs that will help them to gain competitive advantage. Most experts agree that the biggest challenges of knowledge management are not technological but human-based or behavioral challenges.

This paper addresses these problems by tracing the evolution of knowledge management in e-commerce and identifying strategies that are currently in use. We will demonstrate how companies can benefit by adopting strategies that harness the potential of knowledge management technologies to transform their e-business activities. We define knowledge management; then provide an overview of the driving and impeding forces that help and hinder proper deployment of knowledge management strategies in e-commerce. Then we describe approaches and implementation architectures currently in use by companies who are integrating knowledge management into their e-commerce activities. Finally, we suggest a strategic approach that can overcome the limitations in systems presently in use as well as implications for future knowledge management development.

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* Corresponding author. Tel.: +1 513 529 4826; fax: +1 513 529 9689.

E-mail address: yendc@muohio.edu (D.C. Yen).

1. Introduction

Corporate management today depends on the effective use of resources, elimination of redundancy, and aggressive automation of manufacturing processes in order to meet business goals. It is also clear that web-based electronic commerce (e-commerce) has become a key force in today's business operations. Indeed, one of the major challenges growing out of the popularity of e-commerce is competition in a just-in-time inventory environment that strives to react to customers' on-line demands and high expectations. This challenge has forced business executives to recognize that they must move in a timely manner to implement an effective e-business strategy that enhances customer satisfaction while improving enterprise efficiency and effectiveness. One key is effective utilization of timely information. But information is, by itself, rather meaningless unless it can be collected, sorted/categorized, organized, and then made available as knowledge.

The effective use of knowledge is a key component in every successful organization no matter what field or business function they may be in or what services the organization provides. As Wallace and Caldwell note, 'With the growing popularity of e-business, knowledge management is moving to the forefront of CEOs' agendas as a disciplined approach to enterprise transformation' [1]. Effective knowledge management (KM) enhances products, improves operational efficiency, speeds deployment, increases sales and profits, and creates customer satisfaction. But using knowledge correctly in an organization presupposes that management understands that the mere availability of disconnected or dispersed bits of information is not knowledge and that such bits can never adequately address these enterprise imperatives [2].

The KM market is highly competitive, and it has developed considerable uncertainty and risk because of the contradictory nature of its enabling technologies and the inherent organizational and cultural difficulties embedded in its applications. According to a recent Merrill Lynch report, the market for technologies that facilitate KM systems is expected to appreciate at a 30% compounded annual growth rate, having skyrocketed from \$97 million in 1999 to over \$500 million at the end of 2004 [3]. This clearly reinforces the fact that KM is perhaps 95% focused on people, processes, and culture, rather than on technology, since the majority of technology growth is in information management (i.e. business content management) and classification systems [3].

Since the biggest challenges of KM are not technological but human-based or behavioral, it is important to conduct extensive research into how companies can successfully implement knowledge management programs to realize competitive advantage. This paper addresses this challenge, first by tracing the evolution of KM in e-commerce, and then identifying various strategies currently in use. We will demonstrate how companies can benefit by adopting strategies that harness the potential of KM technologies to transform e-business activities.

The paper begins with a definition of KM, then discusses the need for effective KM practices, followed by an analysis of the driving and impeding forces that help and hinder proper deployment of KM strategies in e-commerce activities. The second portion of the paper describes current approaches and implementation architectures being used by

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