Chapter 1.20
Information Technology Assessment for Knowledge Management

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ABSTRACT

New technologies, increasingly demanding customers, new aggressive competitors, and innovations in products and value now characterize our current competitive environment. Organizations of the 21st century have no choice but to invest in new technologies, especially knowledge management tools to enhance their services and products in order to meet the demands of today's information-driven, globally competitive marketplace. Knowledge embedded in systems, brains and technology has always been the key to economic development. However, knowledge management is increasingly being viewed as a strategy to leverage a firm's knowledge and best practices to serve customers and to be competitive. Several organizations have already started experimenting with knowledge management initiatives to capture and capitalize on knowledge assets and thereby claim the enormous benefits afforded by such endeavors, including improved profitability and transformation of their businesses into new generation businesses. This chapter develops a technology assessment model for knowledge management indicating what kinds of computing and communication systems any organization needs in order for it to have a sound knowledge management approach.

INTRODUCTION

Any 21st century organization faces a dynamic, new competitive environment consisting of numerous opportunities, possibilities and challenges.

As economies are becoming more knowledge-based, consumers' expectations are rising day by day. While new technologies threaten to make present systems and networks obsolete, new competitors threaten to upset existing markets and infrastructures. Global deregulation, allowing new competitors to enter previously guarded national monopolies, and hyper-competition are forcing organizations to offer services and products as a one-stop solution to meet customers' increasingly demanding expectations (Housel & Bell, 2001). To tackle such a global competitive environment, organizations have to invest in new technologies such as knowledge management tools that can contribute to enhance services and products that are offered in information technology-driven marketplaces.

The rules of business are undergoing radical change and these impact the competitive strategies of many businesses. The old laws of production, distribution, and consumption are evolving into new theories of e-businesses. Many organizations have an abundance of data and information but they starve for knowledge (Dean, 2001). Global markets are expanding rapidly, thus capturing new customers and retaining existing ones are becoming daunting tasks for organizations. Organizations are becoming more knowledge intensive in order to learn from past experiences and from others to reshape themselves and to change in order to survive and prosper (Brown & Duguid, 2000). New Web-based technologies have the capabilities to prepare organizations for knowledge management. The recently published report Knowledge Management Software Market Forecast and Analysis 2000/2004 estimated that the total KM software market would reach $5.4 billion by 2004 (Duffy, 2000). While extensive literature exists to describe the developments in the knowledge management area, little work has been done on the assessment of IT for knowledge management. This chapter endeavors to address this void by developing an IT assessment model

for knowledge management. Concisely stated, IT assessment means focusing on the availability and capability of computing and communication resources. Specifically, our model will enable organizations to answer such questions as: What kinds of computing and communication systems does our organization need for knowledge management to be successful? Such questions are critical for organizations as they try to incorporate knowledge management and move to become knowledge-based enterprises.

KNOWLEDGE MANAGEMENT (KM)

Arguably, the most valuable resource available to any organization today is its knowledge that is stored in patents, copyrights, corporate data warehouses, employees' brains, processes and information systems (Duffy, 2001). Knowledge management focuses on how to identify, manage, share, and leverage all information assets, such as databases, policies and procedures, content, and staff and members' expertise and experience to serve the organization (Shepard, 2000). These knowledge assets or repositories are stored in unstructured data formats (i.e., document and content management, groupware, e-mail and other forms of interpersonal communication) and structured data formats (i.e., data warehousing, databases, etc.). KM is the process of creating value from an organization's intangible assets. Organizations are realizing that their human capital (people power) and structural capital (databases, patents, intellectual property and related items) are the distinguishing elements of their organizations (Liebowitz, 2000). KM consists of systems, information and processes that take information and turn it into structured knowledge to support specific and general business purposes. Early attempts at KM included the use of data warehouses and data marts to help to predict future patterns in form of data mining, but now the KM domain

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