

Managing knowledge in industrial markets: New dimensions and challenges

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ABSTRACT

Managing knowledge in industrial markets has become an increasingly important task in the last 10 years. Many industrial firms paid little attention to the topic, since it was felt that knowledge was easily handled internally and was a simple process. The growth of information technology that centered on the collection, analysis and dissemination of information during the 1990's and early 2000's has necessitated that managing knowledge be taken seriously by industrial marketing managers. By doing so industrial firms can make available increased knowledge content in the development and provision of products and services to industrial marketing managers on all levels of the firm, achieve shorter new product development cycles, and facilitate and manage organizational innovation and learning. This article outlines the new dimensions in knowledge management in industrial marketing that are important for industrial managers, academic researchers, and business firms to understand for the future.

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1. Introduction

Knowledge management is a relatively new field in the world of business, since it started in the mid 1990's with the growth of the Internet and the development of large data warehouses and data mining technologies in business firms. Defining knowledge management is not easy because it can refer to several different activities in an industrial firm, such as data collection, data analysis, data storage, data dissemination, and data utilization. Alberthal described knowledge management as being "Like water or a rising tide of data [that] can be viewed as an abundant, vital and necessary resource. With enough preparation, [a firm] should be able to tap into that reservoir – and ride the wave – by utilizing new ways to channel raw data into meaningful information. That information, in turn, can then become the knowledge that leads to wisdom." (Alberthal, 1995). Fleming views knowledge itself as a continuum. An industrial firm begins with data collection which is just information that is meaningless with respect to a point in space and time. "It is like an event out of context, a letter out of context, a word out of context. The key concept here, being 'out of context.' And, since it is out of context, it is without a meaningful relation to anything else." (Fleming, 1997) When an industrial firm collects a piece of data, and if it gets management's attention at all, the tendency is usually to attempt to find a way to attribute meaning to it and to determine if it can be used to improve management decision making. The information is then aggressively associated with other projects, events, or on-going research and development situations to try to establish its worth to the organization. More simply, if an

industrial marketing manager reviews data in a report that can be immediately associated with another data set regarding the status of a particular project that he or she is managing, there is a tendency to immediately form associations with other on-going or past projects within the firm. If the data has no context, there is little or no meaning. The industrial marketing manager then creates context which may be based on a solid relationship or conjecture, yet it provides meaning for the information (Fleming, 1997).

Fig. 1 shows that data transitions from just pure data to a set of relationships which then results into a set of understandable patterns and finally to a set of principles (Fleming, 1997).

2. The rationale for knowledge management in industrial firms

For industrial marketing firms organizational knowledge management is important for a number of reasons, including the need to,

1. Make available increased knowledge content in the development and provision of products and services to industrial marketing managers on all levels of the firm.
2. Achieving shorter new product development cycles.
3. Facilitating and managing organizational innovation and learning.
4. Leverage the expertise of people across the organization.
5. Increase the network connectivity between employees and external groups with the objective of improving information flow.
6. Manage the proliferation of data and information in complex business environments and allow employees to access appropriate information sources.
7. Manage intellectual capital and intellectual assets in the workforce (such as the expertise and know-how possessed by key individuals) as individuals retire and new workers are hired (Wikipedia, 2008a).

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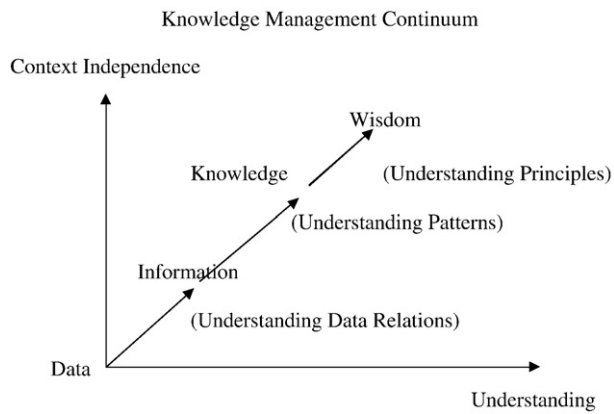


Fig. 1. Knowledge management continuum.

Enabling knowledge management systems requires that industrial firms understand and adopt new technologies to manage the flow of information into the firm. These new technologies have manifested themselves in a variety of forms including *expert systems*, *knowledge bases*, *information management systems*, *help desk tools*, and *document management technologies*. Expert systems, for example, analyze information (usually supplied by the user of the system) about a specific class of problems and recommend one or more courses of user action. Knowledge bases, on the other hand, are machine-readable knowledge bases that store knowledge in a computer-readable form, usually for the purpose of having automated deductive reasoning applied to them. They contain a set of data, often in the form of rules that describe the knowledge in a logically consistent manner (Wikipedia, 2008b). “There are also human-readable knowledge bases (that) are designed to allow people to retrieve and use the knowledge they contain, primarily for training purposes. They are commonly used to capture explicit knowledge of an organization, including troubleshooting, articles, white papers, user manuals and others. A primary benefit of this knowledge base is that it can help an (industrial manager) find an existing solution to his or her marketing problem” (Wikipedia, 2008b).

Another enabler of knowledge management in an industrial firm is the information management system. It generally is regarded as the collection and management of information from one or more sources and the distribution of that information to one or more management groups in the firm. This sometimes involves those who have a stake in, or a right to that information. Management refers to the organization of and control over the structure, processing and delivery of information in the firm (Wikipedia, 2008c).

3. Dimensions of knowledge management

There are different types of knowledge that must be understood by industrial managers, if a successful system to manage knowledge is to be established in a firm. The two major types include *tacit* and *explicit knowledge* (Wikipedia, 2008d). Tacit knowledge is often subconscious, internalized, and the individuals in an industrial firm may or may not be aware of what the other employees know or how to use the information to achieve the organization’s objectives (Wikipedia, 2008e). At the opposite end of the spectrum is conscious or explicit knowledge – knowledge that individuals in an industrial firm explicitly hold and is consciously in mental focus, and that they will communicate to others. In the popular form of the distinction, tacit knowledge is what is in our heads, and explicit knowledge is what we have codified and use to manage the firm (Wikipedia, 2008f). Nonaka and Takeuchi (1995) argued that successful knowledge management systems in industrial firms need to convert internalized tacit knowl-

edge into explicit codified knowledge in order for it to be shared. On the other hand, it also must permit employees and management groups to internalize the information and enable them to develop meaningful codified knowledge that they have retrieved from the knowledge management system (Nonaka & Takeuchi, 1995).

Another common framework for categorizing the dimensions of knowledge is between *embedded knowledge* and *embodied knowledge*. Embedded knowledge is knowledge that has been incorporated into an artifact of some type, such as a new product or in the research and development function of the firm. Embodied knowledge represents knowledge that is the learned capability of the firm’s management gained from past experience in running the industrial company. It is also common to distinguish between the creation of “new knowledge” (i.e., innovation) vs. the transfer of “established knowledge” within a firm or organization (Wikipedia, 2008g). Collaborative environments, such as, new product development groups or research and development teams can be used for both creation and transfer of this type of knowledge.

In this special issue the authors and researchers provide different views of knowledge management and knowledge transfer both from a national and international industrial perspective. They include:

1. The fact that relationship learning and absorptive capacity positively influence the innovation performances of industrial companies, and further, have positive effects on competitive advantages of industrial firms.
2. An understanding of the types of industrial firms and industries that benefit from knowledge management systems and investment, as well as insights into how such firms can benefit from knowledge protection systems.
3. The effect of market orientation on relationship learning and relationship performance in industrial firms in international markets.
4. An examination of knowledge management in franchising systems and how it is affected when franchisors, franchisees, and independent entities are linked together in a contractual relationship.
5. A study of how organizational structures can determine the effectiveness of knowledge management systems.
6. A study into how to establish a framework, whereby, the critical interfaces and the knowledge sharing benefits in industrial firms can be identified. In addition, the research examines how the strength of these relationships at those interfaces can become the basis for building organizational reputation and creating an environment more conducive to co-operation and knowledge sharing.
7. A study of the relationship between the customer relationship orientation of the firm and its use of CRM in its knowledge management system.
8. A study of the role of knowledge management in new product development by examining the factors associated with the use of different types of knowledge flows from various sources and product innovation performance (i.e., market success of new products) in multinational company subsidiaries in China.
9. An analysis of the effectiveness of outsourcing knowledge management and product development.

4. Industrial organizational relationships and absorptive capacity

If companies want to obtain sustainable competitive advantages, they can implement strategies that exploit their internal strengths and external opportunities and avoid their external threats and internal weaknesses (Porter, 1985). In the era of knowledge-based economies innovation becomes a key source of competitive advantage. The results of the study show that relationship learning and absorptive capacity positively influence the innovation performances of industrial companies, and further, have positive effects on the competitive advantage of firms. In addition, the researchers divided the sample group of companies into three groups according to the levels of learning and absorptive capacity in the firms. They found that there

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