

## Chapter 3.14

# Web-Based Knowledge Management Model

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### INTRODUCTION

Knowledge is a limitless resource in the knowledge-based economy; therefore, organizations should learn, store, transfer and apply knowledge to add value or gain competitive advantage (Sveiby, 1997). Knowledge management (KM) refers to identifying and leveraging the collective knowledge within the organization for competitive advantage (von Krogh, 1998). However, it is usually discussed and implemented in high-tech industries (e.g., TI, TSMC and Winbond) and the software industry (e.g., Microsoft and Oracle). In Taiwan, the upstream firms or suppliers of the electronics industry (e.g., Winbond and UMC) implement KM in their organizations. As well as the suppliers, the downstream firms or manufacturers (e.g., Quanta and ASUS) also put KM into practice. However, in the intermediaries or distributors, only a meager number of firms really

implement KM in their companies. Therefore, we have neglected whether KM is still suitable to implement in the distribution industry.

The IC distributors in Taiwan evolved from partnerships or intra-family enterprises into the overall arrangement in Asia, with output value in 2004 beyond \$38.7 billion (United States dollars). IC distribution industry outsiders may consider that distributors just transact business, but don't have their own products, even though the scale of IC distributors has expanded. So an inaccurate notion exists that it isn't necessary to innovate or put KM into practice therein. In fact, IC distributors have to face not only the rapidly changing upstream firms, but also the variable requirements of downstream customers. Therefore, distributors have to adapt and learn even faster than their suppliers and customers to face the drastically changing and intensely competitive environment.

## LITERATURE REVIEW

### Knowledge Management

KM consists of the creation, storage, arrangement, retrieval and distribution of an organization's knowledge (Demarest, 1997; Saffady, 2000). Alavi and Leidner (2001) classified the processes of KM into four steps: knowledge creation, knowledge storage/retrieval, knowledge transfer and knowledge application, representing a detailed process view of organizational KM with a focus on the role of information technology. This systematic framework is shown as Figure 1, and each process will be illustrated in the following subsections.

### Knowledge Creation

Organizational knowledge creation involves developing new content or replacing existing content within the organization's tacit and explicit knowledge (Pentland, 1995). New knowledge is a necessary raw material for innovation and the creation of knowledge, both closely tied to new products and services (Hauschild, Licht, & Stein, 2001). When a firm starts to develop new products or services, or when organizational knowledge is antiquated or insufficient, a firm should create new knowledge through organizational learning activities.

### Knowledge Storage/Retrieval

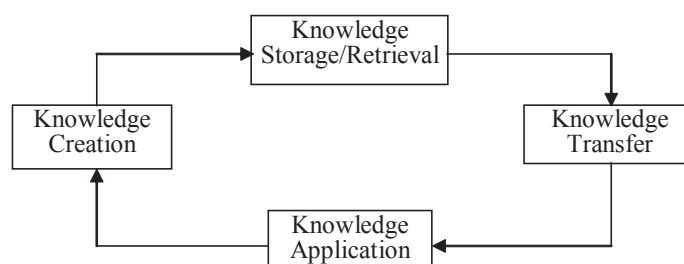
While new knowledge is developed by individuals, organizations play a critical role in articulating and amplifying that knowledge (Nonaka, 1994). Actually, the storage, organization and retrieval of organizational knowledge are referred to as organizational memory (Stein & Zwass, 1995; Malhotra, 2000). An organizational memory includes knowledge residing in various component forms, including structured information stored in electronic databases, written documentation, expert systems, documented organizational procedures and processes, and tacit knowledge acquired by individuals and networks of individuals (Tan, Teo, Tan, & Wei, 1999).

### Knowledge Transfer

The distribution and transfer of knowledge is an important process in knowledge management (Alavi & Leidner, 2001; Huber, 1991). Knowledge should be shared and generalized within the organization; generalization occurs not only when single ideas are moved, but also when the entire process of moving ideas becomes institutionalized within an organization (Yeung, Ulrich, Nason, & von Glinow, 1999).

For shared knowledge to be meaningfully used, it needs to be coupled with mechanisms

Figure 1. Four processes of KM (modified from Alavi & Leidner, 2001)



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