Title: A Critical Review of " Strategies for Implementing Knowledge-Based Systems"-1

Course: EMGT 520/620A paper titled "Strategies for Implementing Knowledge-Based Systems" is critically reviewed in this individual report.
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Abstract:

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Strategies for Implementing
Knowledge-Based Systems

An Pham, EMGT 520

I. Introduction

What is the Knowledge-Based System? It is a smart engine database that stores any information about human resource, working environment, training material, and other advanced information technology solution of a company. It provides the most comfortable and fast way to help corporations manage their knowledge assets effectively.

The paper shows the entire picture of how the knowledge based-systems evolve in the business world from the 70's. During the 70's, the focus of computing shifted from data processing to information processing. While the emphasis in data processing was on storage and retrieval of raw data, information processing focused on management information systems to aggregate the raw data and provide the required information to management for decision support. Also the paper emphasizes that the Knowledge-Based Systems gradually become very important weapons for the competition between organizations in the last decade because the challenges in successfully implementing KBS's have moved from technical matters to organizational and strategic issues.

The paper describes important issues in managing organizational knowledge and explores the interaction between KBS's and the management of a firm's knowledge assets. They have an most effective impact on all levels of organizational knowledge: individual, group, organization, and knowledge links. The article gave a study about four generic knowledge processing strategies used to guide the implementation of KBS's within organizations. Finally, it describes the strategic implementation of the different strategies for implementing KBS's. These knowledge processing strategies can make a big difference from an organization to another, also can consequently influence the development of KBS within company.

II. The focus and methodology

The focus of this paper is on strategies for implementing KBS's in organization basing on the organizational and strategic issues. There are two referent research streams for this paper. First, there is a large body of literature within strategic management focusing on the competitiveness of a firm as derived from a resource-based view of the firm. It used the role of IT system to support effectively the management of knowledge assets. Second, there is a significant literature within information systems on KBS's, but the bulk of it focuses on technical concerns in the implementation of KBS's. Thus, its methodology which has been used to analyze the literature and the existing model of KBS's used by organizations. For example, the author referred to Hedlund and Nonaka [1] book which compares the group and knowledge links levels between Japanese and Western companies. They appear to be more critical in Japanese companies as compared

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to Western organizations where the individual and the organization levels appear to take precedence. Additionally, the paper uses these model to analyze how BKS can be implemented in different organization's culture. It translates the literature into the picture models to show how BKS can be adjusted along the following four dimensions: Individual, Group, Organization, and Knowledge links. The picture level is similar to the strategic management of knowledge proposed by other researchers in the literature. The Fig.1 reflects the essential components of the process of strategically managing knowledge. A company has to identify its knowledge assets, leverage them by sharing in a knowledge network, and learn from experience. All of this has to be done, of course, within the context of the strategic objectives of the organization. This simple model contains the three major aspects of knowledge management often mentioned in the literature: the storage, transfer, and transformation of knowledge.
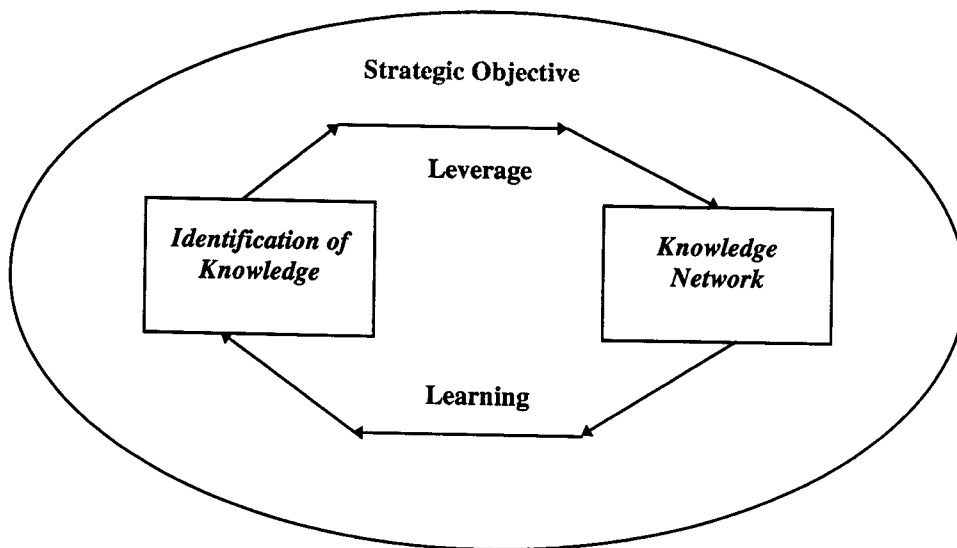

Fig. 1. The strategic management of knowledge [6]

III. The strengths and weakness

The paper was well organized in a standard structure of research paper. It really profoundly touched the topic that it focused on. It used a lot of literature to prove and to analyze the concept of the Knowledge-Based Systems. It knew how to apply the theory into the real life by using some models which have been developed to prove that the KBS's implementation has moved from technical matters to organizational and strategic issues. For example, Dupont, a good example for illustrating such the "Dispersed[1] Points" strategy. Since 1985, Dupont has been training its end users to develop their own KBS's. By 1990, they had approximately 600 different business unit [2] . This strategy is possible because DuPont had about 30000 Lotus-literate managers in 1990, and this number is expected to grow to 60000 by the end of the decade. As a direct result of this strategy, it is estimated that in 1990 about 1800 DuPont managers were able to use KBS

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[1] The term "Dispersed" has been used by Meador and Mahler [24] to describe the KBS strategy of Dupont

tools as readily as spreadsheets, electronic mail, and other office automation packages. The author used this example to prove that the knowledge processing strategy works well, also is almost diametrically opposite to the specialist strategy in that it pulls all (or most) of the burden of developing and managing KBS's on individual and end users. He really did a lot of homework to come up with the implications of different knowledge processing strategies. It really was a well done job. It provided the precious factors affecting the choice of strategy for any organization need to use as a guide line to develop the BKS or deploy the existing one. However, it just studied the first phase (*Knowledge Processing Strategy*) of KBS development which is the choice of an appropriate knowledge processing strategy. It mentioned in the conclusion section about the five phases of KBS development outlined in Section III-A of the paper. Since the paper emphasized that the KBS implementation depends on organizational management issue, it did not discuss much about how to implement KBS technically by using the existing technology such as Internet, Web browser, and Database servers.

VI. The conclusion

The paper concluded that the management of organizational knowledge is a relatively new and challenging concept for most organizations. KBS's can have an important role in the management of organizational knowledge at all levels: individual, group, organizational, and knowledge links. Personally, I think that its conclusions are well stated. It admitted that it has not been a completed paper yet. It mentioned that there are several concerns which are either beyond its scope of researching or serve as avenues for further research. Finally, these conclusions shows a general view of what the paper researched about. It just presented one classification of knowledge based, the first phase of an appropriate knowledge processing strategy. The other four phases (*Strategic Application Identification, Application Feasibility, Application Creation, and Deployment and Maintenance*) have not been included in this paper. It also opened another door for researchers to study about the different types of knowledge such as cognitive knowledge, skill-related knowledge, and knowledge embodied within product and services. These dimensions of knowledge can provide an additional avenue for further research.

After studying the paper and related literature I can apply the knowledge processing strategy of BKS into the "search engine" project that I have been worked on. The paper gave me a turning point to spend more time on researching the organizational management issues than on studying what high technology is available now for me to build a BKS for my department. I need to focus on the available organizational resources which place the additional constraints on the feasibility of building competitively desirable KBS applications. I should follow the foot steps of some researchers such as B. Braden, J. Kanter, and D. Kopcso [3], M. C. Maletz [4], B. Moulin [5]; They have approached the idea of strategic planning for developing expert systems. They focused on the importance of corporate strategies for developing expert systems, also concerned about the expert system should lead to a competitive edge for the company. They also mentioned that expert systems planning should address the creation, handling, and

dissemination of knowledge. I should be careful about the links between the proposed strategies to the management of my organization's knowledge assets. I believe that the Fig. 2 [6] below will be my future work to implement my expert system based on the different knowledge processing strategies.

Organizational	Dispersed Clusters	Specialist
Individual	Dispersed Points	Guide

Levels of Knowledge (left axis label)

Decentralized (Individual) — Centralized (Organizational)

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