Chapter 24

Designing Organizational Memory for Knowledge Management Support in Collaborative Learning

Kam Hou Vat

University of Macau

This chapter investigates the design of organizational memory (OM) which is targeted for knowledge management (KM) support tailored for collaboration among academic staff and students in a university environment. Specifically, we describe our KM initiatives to support organizational learning in terms of the knowledge processes evolving over selected knowledge domains for training and research purpose. The chapter also depicts our ideas on knowledge items regarding their meta-modeling, indexing, and ontological aspects. The overall design of our OM is then discussed in terms of its context for knowledge work. The paper concludes by re-iterating the challenges in knowledge sharing and depositing into the OM for its continuous growth and utilization.

INTRODUCTION

In the emerging knowledge economy, the recognition that knowledge is one of the organization's key assets, has fueled interest in researching into the various activities of knowledge management (KM): identification, collection, adaptation, preservation, application and sharing of the organization's knowledge (Dieng, 2000;

Van der Spek and Spijkervet). A university can be considered as a knowledge organization whose valuable assets come from her teams of knowledge workers, who have a strong formal education, have learned how to learn, and have a habit of continuing to learn throughout their lifetime. Yet, intellectual assets belong inherently to people, and are the organization's assets only through their application and reuse (Conklin, 1996). These are good reasons to capturing the intellectual knowledge of people, however implicit it may be, and making it explicit within an organization whose competitive advantage comes from having and effectively using knowledge. We believe that an organizational memory (OM) is a facility that could extend and amplify this knowledge asset by capturing, organizing, disseminating and reusing the knowledge created by our knowledge workers. It can be shared among individuals working alone, by teams needing a project memory, and by the organization as a whole for long-term and short-term goals. This paper investigates the design of such an OM together with the KM support necessitated by organizational learning (collaboration) (Argyris and Schon, 1978; Dodgson, 1993; Kim; 1993) among knowledge workers in an electronic university environment we call VU, representing our Virtual University model.

THE CURRENT STATUS OF KNOWLEDGE MANAGEMENT

According to O'Leary (1998, 1998), KM entails managing knowledge resources in order to facilitate access and reuse of knowledge, typically by using advanced information technologies (IT). It attempts to address such issues as: capitalizing on individual know-how in a collective knowledge; improving newcomer learning and integration; disseminating best practices; improving organizational work processes and productivity (Dieng, 2000). Essentially, knowledge is often classified according to some pre-specified (but evolving) categories into structured and semi-structured data and knowledge bases. Typically, KM systems represent knowledge in both human-readable and machine-readable forms. The former is accessed using browsers, whereas the latter is often designed as an expert system's knowledge base to support decision-making. Meanwhile, ontology specifications are generally endemic to KM systems because they refer to taxonomies of the tasks that define the knowledge for the systems (Chandrasekaran, Josephson and Benjamins, 1999; Swartout and Tate, 1999). Specifically, ontologies define the shared vocabulary used in the KM system to facilitate communication, search, storage, and representation of knowledge. According to Conklin (1996), there are generally two types of organizational knowledge: formal and informal. Formal knowledge refers to the stuff of books, manuals, documents, and training courses. It is the primary work product of the knowledge worker, cap-

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