Chapter VI

Decisional DNA and the Smart Knowledge Management System: A Process of Transforming Information into Knowledge

Cesar Sanin, University of Newcastle, Australia
Edward Szczerbicki, University of Newcastle, Australia

Abstract

Some of the most complicated issues about knowledge are its acquisition and its conversion into explicit knowledge. Nevertheless, among all knowledge forms, storing formal decision events in a knowledge-explicit way becomes an important advance. The smart knowledge management system (SKMS) is a hybrid knowledge-based decision support system that takes information and sends it through four macro-processes: diagnosis, prognosis, solution, and knowledge, in order to build the Decisional DNA of an organization. The SKMS implements a model for transforming information into knowledge by using sets of experience knowledge structure. The purpose of this chapter is
to show how decisional DNA is constructed through the implementation of the SKMS. Fully developed, the SKMS certainly would improve the quality of decision-making, and could advance the notion of administering knowledge in the current decision-making environment.

Introduction

In a world plagued with competitiveness at all levels, any possible strategy or asset that could offer advantages would be, with no doubt, the aim to achieve. Knowledge seems to be one of these assets and it has been considered as the only true source of a nation’s economic and military strength (Becerra-Fernandez et al., 2004). Knowledge seems to be an especially strategic advantage (Drucker, 1995) that lately has been converted into the final aim. Consequently, humankind is now immersed in what is called the “knowledge society.” Businesses are not the exception, and managers have tried to turn knowledge into one of their assets. Thus, the focus of managers has turned to knowledge administration and many companies have invested huge quantities of money to explore technologies that facilitate control of all forms of knowledge, looking for it as the key that can make the difference between the success and failure of a company in the competitive environment of global economy and knowledge society (Sanin & Szczerbicki, 2004, 2005a).

Lin et al. (2002) explain knowledge as an organized mixture of data, integrated with a set of rules, operations, and procedures, which can be only acquired through experience and practice. How knowledge is acquired and how knowledge is transformed to explicit knowledge is determined by using representations [for explicit knowledge see Nonaka & Takeuchi (1995)]. Knowledge must be obtained and represented in an understandable and shareable form for the agents that experienced it, and once it is acquired, it can be reuse for different agents, therefore they can practice it. Subsequently, knowledge representation and acquisition are considered as the most complicated issues about knowledge.

However, the knowledge society arrived and brought with it all the difficulties that information faces. Characteristics such as unstructured, disintegrated, not shareable, incomplete, and uncertain information represent an enormous problem for information technologies (IT) (Ferruci & Lally, 2004; Deveau, 2002). Under these circumstances, the process of transforming information
Related Content

An Empirical Evaluation of the Assimilation of Industry-Specific Data Standards Using Firm-Level and Community-Level Constructs
[www.igi-global.com/article/empirical-evaluation-assimilation-industry-specific/43735?camid=4v1a](www.igi-global.com/article/empirical-evaluation-assimilation-industry-specific/43735?camid=4v1a)

An Exploratory Study on the Influencers of the Perceived Relevance of CIO’s Activities
[www.igi-global.com/article/an-exploratory-study-on-the-influencers-of-the-perceived-relevance-of-cios-activities/167633?camid=4v1a](www.igi-global.com/article/an-exploratory-study-on-the-influencers-of-the-perceived-relevance-of-cios-activities/167633?camid=4v1a)

A Qualitative Study of Green IT Adoption within the Philippines Business Process Outsourcing Industry: A Multi-Theory Perspective
[www.igi-global.com/article/a-qualitative-study-of-green-it-adoption-within-the-philippines-business-process-outsourcing-industry/143266?camid=4v1a](www.igi-global.com/article/a-qualitative-study-of-green-it-adoption-within-the-philippines-business-process-outsourcing-industry/143266?camid=4v1a)
Estimating the Impact of ERP Systems on Logistics System
[www.igi-global.com/article/estimating-impact-erp-systems-logistics/70012?camid=4v1a](www.igi-global.com/article/estimating-impact-erp-systems-logistics/70012?camid=4v1a)