A Structurational Analysis of Users and Management in a Knowledge Management System Project Implementation

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ABSTRACT

This article applies the concepts of structuration theory to assess the interaction of corporate management with users of a knowledge management system (KMS). The study is based around China Motor Corporation (CMC), a major Taiwanese company faced with the challenge of deploying a knowledge management system. Over a period of 3 years (1999-2002) structured interviews were conducted to examine factors contributing to the success of KMS efforts in CMC. Our findings suggest that management and users must be engaged in a sustained and reciprocal communication method when implementing a KMS. The pattern of communication, power structure, sanction power, and degree of cooperation are dynamically changed during the interaction process. Therefore, it is important to maneuver these factors into a win-win situation for management and users in order to successfully implement a KMS. Practical implications of this article provide feasible real solutions to improve the relationship between users and management during a KMS implementation. Theoretically, this article contributes to the growing body of KM literatures from the structurational perspective.

Keywords: explicit knowledge; knowledge discovery; knowledge management; knowledge sharing; tacit knowledge

INTRODUCTION

Studies on knowledge management (KM) usually focus on the philosophical or practical perspective. The philosophical perspective illustrates the concepts and procedures used to manage organizational knowledge (Davenport, 1997; Nissen & Espino, 2000; Nonaka & Takeuchi, 1995; Polanyi, 1962; Quinn, Anderson, & Finkelstein, 1996; Seviby, 1997). The practical perspective suggests prescriptions for management of organizational knowledge (Davenport & Prusak, 1999; DeLong & Fahey, 2000; Ruppel & Harrington, 2001). Few KM studies have addressed the impacts of human-to-human
interaction on the implementation of knowledge management systems (KMS). This area of study is the primary focus of scholars interested in adopting a new information system (Lyytinen & Ngwenyama, 1992; Orlikowski, 1996; Spiegel, 2000). There is also a notable shortage of well-grounded theory and methodology on how to address the organizational aspects, social aspects, and issues relevant to a knowledge management system implementation.

Baskerville and Pries-Heje (1999) identified five general theories about KM: (1) intellectual capital theory; (2) knowledge economy theory; (3) core competence management; (4) dumbsizing; and (5) knowledge alliances. The first two theories view KM from the perspective of information economics; the other theories view KM from the perspective of strategic information system (IS) theory. This study adopts the latter view and regards knowledge as a resource for a firm’s competitive advantage. Employees’ tacit and explicit knowledge are important pieces of organizational knowledge. Unless employees create and share their knowledge, individual knowledge cannot be amplified and elevated into organizational knowledge. Without extracting, combining, and applying individual knowledge and other knowledge embedded in organizational culture, routines, policies, documents, and so forth, a firm cannot utilize intangible “know-how” to compete successfully in the market (Grant, 1996; Nelson & Winter 1982). KMSs are being integrated into organizations to facilitate the transformation process from individual to organizational knowledge. Many scholars assert that when a new IS is introduced, it is important to consider the organizational factors and to assess the interaction between the IS and users (Lyytinen & Ngwenyama, 1992; Poole & DeSanctis, 1994; Orlikowski, 1996, 2000; Shanks, 1997). The introduction of a new information system like a KMS can cause organizational changes, reflected in the usage behaviors of management and the users of the new system, and the interaction modalities between users and management and among users.

This study aims to explore the dynamic relationship between management and users when implementing a KMS. The KMS project was led by individuals including senior managers, project managers, and project champions. Through the life cycle of the KMS project, there were many changes in their relationships with the users, such as communication methods, power structure, retaliation, and other social and organizational behaviors. Many precious KM lessons can be learned by understanding these relationship changes.

The China Motor Corporation (CMC) has implemented several KMS projects since 1999. This study used an interpretive case study approach and applied structuration theory to examine the relationship between management and users at the CMC. The interpretive case study is an appropriate methodology for this research because the aim of the study was to understand of context of the KMS at CMC, and the processes whereby the use of the KMS influences and is influenced by users and management (Walsham, 1993). This article focuses on the full complexity and reality of the users-management relationship as the KMS was implemented (Kaplan & Maxwell, 1994). Another objective of this study was to assess the applicability of structuration theory to explain the social and organizational changes of the dynamic relationship between managers and users when implementing a KMS. To achieve these objectives, the research question addressed in this study is as follows:

How do key factors, such as the patterns of communication, power structure, and sanction power between management and users, affect the KMS implementation?

**THEORETICAL BACKGROUND**

To address the stated question, we first examined IS literature in the areas of structuration theory. IS literature encompasses KM concepts, KMS implementation issues, and the applicability of structuration theory to KMS.
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