Measuring the Influence of Expertise and Epistemic Engagement to the Practice of Knowledge Management

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ABSTRACT

This study describes the investigation of two factors that researchers have argued can significantly influence knowledge management, namely user expertise and the epistemic nature of the problem. It is surprising that while researchers consider these factors essential to successful KM, they have not, heretofore, been tested and evaluated. In order to test these two factors, the well accepted and widely referenced F&M model was employed as a benchmark framework. Building upon this framework and using both qualitative and quantitative research methods, data from the New York State Office of State Comptroller’s Local Government Services division was collected and analyzed. Based on the data collected from the agency, two modifications to a key knowledge management model, the Firestone and McElroy (2003) Model are proposed, as well as four recommendations for chief the knowledge officer in this organization.

Keywords: Epistemic Engagement, Expertise, F&M Model, Knowledge Management, Knowledge Workers

INTRODUCTION

Knowledge management has been shown to significantly enhance the performance of organizations (Asoh, Belardo, & Crnkovic, 2007; Barney, 1991, 2001; Choi & Lee, 2003; Davenport & Prusak, 1998; Decarolis & Deeds, 1999; Grant, 1996; Hendriks & Vriens, 1999; Nelson & Cooprider, 1996; Nonaka & Takeuchi, 1995; Pfeffer, 1994; Quinn, 1992; Spender, 1996a; Spender, 1996b, Stewart, 1997; Wiig, 2004). Accordingly, these as well as other studies have empirically tested and validated key factors that researchers have incorporated in the various knowledge management models. However, two factors that researchers seem to agree on being important, expertise of user and epistemic engagement, have never been tested and validated. These two are important because it is assumed that knowledge management practitioners will behave differently, that is, they will employ different knowledge management practices, depending upon their level of proficiency and the type of problem they encounter.

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Ballou, Belardo, and Pazer (2010) have argued that the tacit knowledge of experienced decision makers, which enables them to look at problems differently than novices, can significantly enhance their ability to solve problems. Unfortunately they did not test this hypothesis. Similarly, it has been argued that the type of problem encountered by decision makers will influence the various stages of the decision making process. In their recent comprehensive study of factors that influence the success of knowledge management practices in Federal Agencies, Rhoads, O’Sullivan, and Stankosky (2007) examined a number of factors including, e.g., the size of the agency, primary responsibility for KM practices, practitioner bias, etc. While, they intimated that problem type might be an important factor in influencing KM practices they did not effectively address its role.

This paper then seeks to add to our understanding of KM by exploring the role that expertise and problem type play in KM. In this study two of the more widely referenced knowledge management models, the Firestone and McElroy (2003) model and Wiig’s model (1993), are used as benchmarks to help frame the discussion and help determine what effect these two factors could have on the behavior of knowledge management practitioners.

This study investigates two questions: (1) whether expertise influences the behaviors of knowledge management practitioners, and (2) whether the type of problem influences the approach knowledge management workers employ. Based on the results of this study, modifications to the Firestone and McElroy (2003) Model of knowledge management are proposed that can improve its explanatory power.

THEORETICAL BACKGROUND

In this section, key knowledge management concepts are reviewed. Specifically, the concepts of knowledge, knowledge management are discussed, as well as the factors, expertise of user, and nature of the problem are discussed.

Knowledge

Researchers provide various definitions of knowledge based on their own perspectives consistent with their focal domain (e.g., decision and action, casual relations, experiential learning, communication). Wiig (1993) provides three definitions of knowledge. The first definition is that knowledge can be thought of as the body of understandings, generalizations, and abstractions that we carry with us on a permanent or semi-permanent basis and apply to interpret and manage the world around us (Wiig, 1993, p.82). Secondly, he defines knowledge as organized information, general understanding and insight that may not be focused on application (Wiig, 1993, p. 78). Third, he further defines knowledge as a major driver for an organization to act intelligently. In this context, ‘act intelligently’ means working with expertise, experience, and knowledge.

Firestone and McElroy (2003) argue that organizational knowledge is a subset of information that has been extracted, filtered, and formatted—that is, processed, in a very special way. It has been subjected to and has passed tests and evaluations aimed at eliminating errors and seeking the truth (Firestone & McElroy, 2003, p.18). Their framework recognizes three types of knowledge based on Karl Popper’s formulation of three knowledge worlds. World 1 knowledge are the encoded structures in physical systems that allow those objects to adapt to an environment (Firestone & McElroy, 2003, p. 5). World 2 knowledge are beliefs and belief predispositions (in minds) about the world, the beautiful, and the right that we believe have survived our tests, evaluations, and experience (Firestone & McElroy, 2003, p. 6). World 3 knowledge refers to the sharable linguistic formulations, knowledge claims about the world, the beautiful, and the right, that have survived testing and evaluation by the agent (individual, group, community, team, organization, society, etc.) acquiring, formulating, and testing and evaluating the knowledge claims (Firestone & McElroy, 2003, p. 6).
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