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David Law

Lee-Partridge Eng

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SENSE-MAKING OF EMPIRICAL KNOWLEDGE MANAGEMENT THROUGH FRAMES OF REFERENCE

David Yuh Foong Law

Department of Decision Sciences
National University of Singapore
fbalawyf@nus.edu.sg

Joo Eng Lee-Partridge

Department of Decision Sciences
National University of Singapore
fbaleeje@nus.edu.sg

Abstract

This research aims to make sense of empirical perceptions of multidimensional complex KM (knowledge management) issues, through the construction of social cognitive structures such as frames of references. The objective of this study is to derive a set of empirically induced KM frames which may serve three purposes: to establish a set of frameworks for future research in perception congruency or misalignment of KM-related issues; to offer empirical insights to existing KM-related theoretical research models; and to bridge research gaps and inter-link cross-functional, cross-disciplinary perspectives. Our research fits broadly into four phases, with current progression halfway through the second phase. Focus group research, in the context of grounded theory approach, will be used as the main research strategy to induce and refine KM frames.

Keywords: Knowledge management, frames of reference, sense-making, perceptions.

INTRODUCTION AND RESEARCH CONTEXT

Knowledge management (KM) is a fast emerging area of focus where researchers and practitioners of varied background and disciplines approach it from diverse angles and perspectives. From the KM literature, there is no lack of related concepts, guidelines, or approaches. For instance, practice-oriented literature compiled by Cortada and Woods (1999) and by Liebowitz (1999) covers comprehensive overviews of major KM-related concepts, principles, and practical guidelines. Yet, given its multidisciplinary and cross-functional nature, as well as its ambiguous definitions and boundaries, the field of KM has yet to achieve stability in theoretical foundation; instead, it has manifested its own cloud of confusion. As KM emerges and evolves, it remains a new and elusive concept to many organizations. Practitioners have encountered difficulties and uncertainties in the adoption and implementation of KM despite their religious attempts to follow the prescribed approaches and guidelines. Some of these difficulties can be attributed to specific social, organizational, and contextual factors, while others could be due to mis-conceptualization of the actual KM problem, resulting in the deployment of an inappropriate KM solution. Therefore, despite the increasing volume of publications generated about the subject, including the practical know-how commonly recommended by consulting firms and the increasing KM awareness and interest, a certain degree of ambiguity still exists. It is unclear, in various organizational contexts, how KM projects can be initiated and implemented and exactly how KM fits into existing workflow or can be aligned with organization objectives. The multidisciplinary nature of KM and the current lack of a commonly accepted view of the subject have motivated this study.

We attempt to make sense of empirical perceptions among practitioners of diverse backgrounds across a variety of KM issues using frames of reference (FORs). FORs can be used to represent a variety of KM issues. Such frames are extremely useful, as foundational empirically driven conceptual structures, for researchers to explore KM-related issues from a social cognitive perspective, which may arise due to misalignment of empirical perceptions among cross-functional managerial groups involved in KM in some manner (e.g., IS, business operations, human resource, content and resources). At the same time, FORs could serve as a common platform for further induction of empirically driven research models and cross-disciplinary research. Focus group study was used as an effective method for collecting rich and broad-based qualitative data. Various KM frames were

induced through grounded theory approach, framing empirical KM issues along several dimensions with associated constructs. These frames could be triangulated and refined along with empirical surveys conducted by other researchers.

RESEARCH QUESTIONS AND OBJECTIVES

This research aims to make sense of empirical perceptions of multidimensional KM issues, through the construction of social cognitive structures such as FORs. The objective of this study is to derive a set of empirically induced KM frames which may serve three purposes: to establish a set of frameworks for future research in perception congruency or misalignment of KM-related issues; to offer empirical insights to existing KM-related theoretical research models; and to bridge research gaps and inter-link cross-functional, cross-disciplinary perspectives.

THEORETICAL FOUNDATIONS

Due to the complexity and multidisciplinary nature of KM, a mix of theoretical concepts and foundations underpins our research.

Knowledge Management Concepts and Related Empirical Research

The field of KM is a fast emerging area of interdisciplinary research and practice. KM is the formalization of and access to experience, knowledge, and expertise that creates new capabilities, enables superior performance, encourages innovation, and enhances customer value (Beckman 1997). The key objectives of KM can be summarized as: (1) to make the enterprise act as intelligently as possible to secure its viability and overall success, and (2) to otherwise realize the best value of its knowledge assets (Wiig 1997). In essence, KM involves the creation of the environment and opportunities to enhance the potential for coordination and synergism between networks and pools of knowledge. Beckman proposes an eight-stage process for KM: *identify, capture, select, store, share, apply, create, and sell*. Alongside these KM processes, which guide and drive the construction of corporate memory repositories, a whole spectrum of advanced information technologies and techniques may be used for supporting the activities in a KM cycle (Wiig et al. 1997). KM can be examined at different levels and explored along a wide range of perspectives. This reveals the diversity and complexity of KM in research and practice, with converging contributions from various disciplines and perspectives such as organization and management (HBR 1998), economy and policy-making (OECD 1996), and advanced information technologies (Shariq 1998). The ambiguity and the lack of a commonly accepted definition for KM are perhaps part of the reason for the confusion surrounding this field, which accounts for the diverse research disciplines it attracts and its slow diffusion to and acceptance by industry. Although some surveys have been conducted over the last few years (e.g., Alavi and Leidner 1999; KPMG 1998), empirical KM-related research issues remains largely unexplored.

Focus Group Research in the Context of Grounded Theory Approach

As the field of KM burgeons but remains in a state of elusiveness, an exploratory qualitative research strategy is required in order to gain deeper empirical insights. Focus group research is a useful and effective approach in this context for the study of emerging trends and issues. It is a qualitative research technique in which a group of eight to ten participants of similar demographics, attitudes, or behavioral patterns are led through a (usually) two hour discussion of a particular topic by a moderator (Greenbaum 1998). This technique has been popularly used in marketing research for gathering consumers' reactions toward certain products and services. In our study of KM issues and perceptions, we adapted the focus group methodology as part of an overall grounded theory approach (Strauss and Corbin 1998) to obtain rich and qualitative insights from participants. Large and rich amounts of data in the participants' own words can be readily obtained, thereby enabling us to obtain deeper levels of meaning, make important connections, and identify subtle nuances in expression of meaning. In our current research, we began with three separate focus group sessions, each comprising an average of seven to eight participants, in their mid-forties, each with close to 20 years of industry experience. They were mainly CIOs or very senior IS executives from 18 large organizations, across various industries including government bodies, academic institutions, consulting firms, and multinational corporations. Each session was audio and video taped for subsequent coding and analysis.

Frames of Reference

Our decision to use FORs or cognitive structures was largely inspired from prior social cognitive research in IS (Davidson 1997, Orlikowski and Gash 1994; Shaw et al. 1997). The FORs concept has been applied in technological contexts to explore empirical IS issues. For instance, the technology frames used by Orlikowski and Gash and by Shaw et al. focus on dimensions such as nature of technology, technology strategy, technology in use, and ownership of technology. These frames were used to investigate problems of perception congruency between IS (MIS, technologists) and non-IS (end-users, management) groups, which underlie the success or failure of technology adoption and implementation in organizations. In our current research, drawing motivation parallel to those in technological frames, we attempt to address, through the induction of KM frames, a set of empirical problems associated with KM that are more complex and wider in scope.

RESEARCH METHODOLOGY

The research framework is broadly examined in four phases, using a mix of techniques and approaches (focus groups, grounded theory, frames of reference, triangulation) as appropriate.

Phase One. In this phase, a series of focus group sessions were conducted and the results were extracted, categorized, and inductively analyzed to generate KM frames (preliminary results discussed in the next section). The study was carried out with CIOs and senior IS executives from various organizations based in Singapore. IS professionals were selected as the first group for our research by virtue of the perceived importance of MIS/IT support for KM. Focus group research was used to collect rich and broad-based qualitative data, which was appropriate for the study of complex issues in KM. Such a group setting proved to be ideal for peer interaction, sharing, and exchange of opinions and perceptions. References to existing KM literature during the process of conducting the focus groups and results analysis were refrained or kept to a minimum at this juncture of our research as we wish to solicit true empirical issues and perceptions largely from the participants' own work contexts and experiences. The data from Phase One were carefully analyzed. Commonly occurring issues were identified, with similar issues grouped together. Main categories of issues were formed and sets of associated factors (constructs) identified. This resulted in empirically induced KM frames.

Phase Two. More focus group sessions will be conducted, involving practitioners from diverse non-IS functional areas such as business/operations management and human resource in other organizations. This phase will be more extensive than Phase One in terms of duration and scope. Again, references to existing KM literature will be refrained during the construction of KM frames in this phase. The data from this phase alone are expected to produce some interesting results when compared and contrasted with those from Phase One. This is possible, given the fact that focus group participants will come from various functional or professional groups, and hence will bring their own insights, experience, mindsets, and business concerns to bear.

Phase Three. In this phase, triangulation of results will take place at two levels. First, results from Phase One will be progressively refined with those from Phase Two. Second, findings from Phases One and Two will be further compared and contrasted with other quantitative or qualitative surveys/studies (e.g., Alavi and Leidner 1999; KPMG 1998) that have been carried out in other countries involving participants from all over the world. KM frames constructed up to this stage may be further refined or new frames induced. References to existing KM literature will be restricted to selected publications and reports on empirical field work related to KM. Sense-making work up to this phase are largely empirically grounded.

Phase Four. This phase will involve further sense-making of KM frames or reconciliation of empirical results with KM-related concepts, principles, and claims in the existing literature. The grounded and refined KM frames may be used for various future studies including perception congruency between functional groups in organizations or establishing new research causal models.

PRELIMINARY RESULTS AND EXPECTED CONTRIBUTION

Currently, Phase One has been completed and Phase Two is in progress. Using FORs, the collective views and perceptions on KM contributed by the focus group participants are conceptualized. Preliminary results from Phase One are broadly grouped along themes/dimensions, with some of these findings represented as KM frames in Figures 1 through 5.

Figure 1 illustrates that the ultimate value of a KM effort in an organisation is associated with the perceived usefulness of the knowledge itself, which is assessed by its applicability to different areas of work, its ability to support a task at hand (e.g., in

decision making or problem resolution), and its obsolescence in the face of changing organizational requirements and business nature.

Figure 2 highlights major factors associated with knowledge sharing at both the individual and organizational levels. The factors include the quality of shared or documented knowledge (which depends on the degree of biases, clarity of expression, correctness and completeness); the willingness to share (which can be influenced by the sharing culture, the passion to share, and the presence or effectiveness of motivators); supporting sharing mechanisms (including organizational and technological aspects); and confidentiality/security concerns.

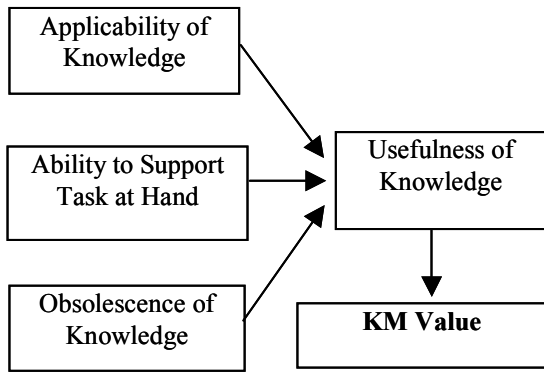


Figure 1. KM Value

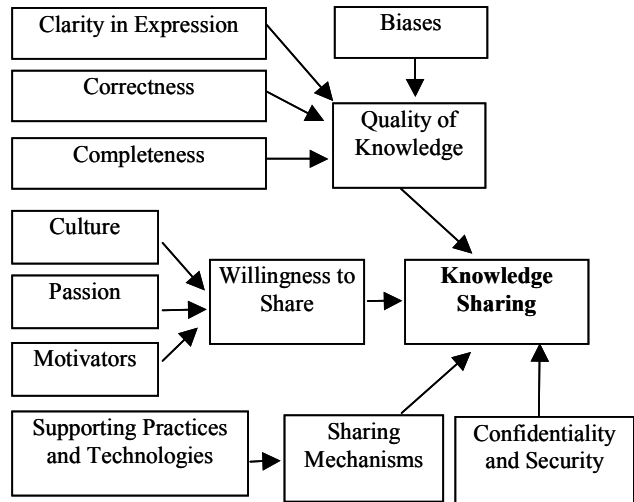


Figure 2. Knowledge Sharing

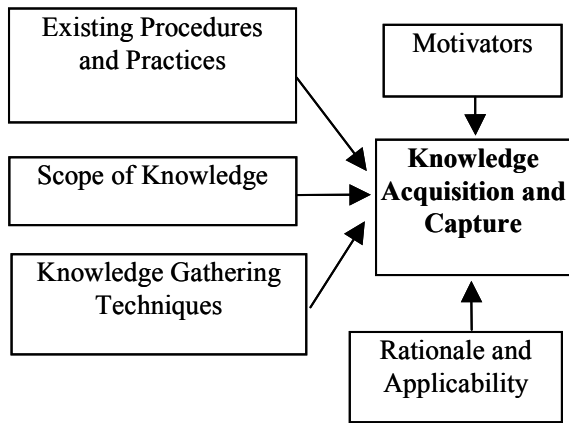


Figure 3. Knowledge Acquisition and Capture

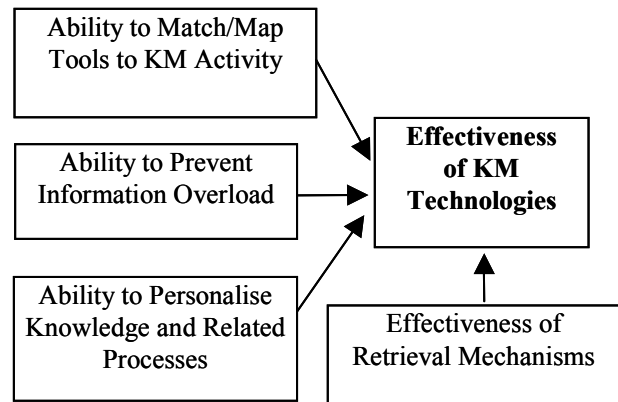


Figure 4. Effectiveness of KM Technologies

Figure 3 suggests that the effectiveness and efficiency of the knowledge acquisition and capturing process is associated with factors such as the objectives and motivations for knowledge capturing; the scope of the targeted knowledge; the availability and sophistication of the technique(s) required; and associated rationale and application context.

Figure 4 proposes that the perceived effectiveness of KM technologies is dependent on factors such as the effectiveness of knowledge retrieval mechanisms; the ability to prevent information overload; ability to personalize knowledge and related

processes; and, more importantly, the organization's ability to match/map suitable KM tools to support appropriate KM activities, needs, and requirements.

Figure 5 suggests that in selecting an ideal KM practitioner, some considerations should be made, including background knowledge/proficiency (in areas of the business domains, IT, and cross-functional training); basic skill sets (such as general communications, team-working, and specialized KM skills); degree of familiarity and biases with respect to specific knowledge associated with a particular work task or business domain selected for KM; and the presence of some basic understanding of the psychological and educational aspects relating to the cognitive processes in people such as learning and thinking.

It is hoped that these frameworks will collectively serve as a good starting point in our journey to explore KM perceptions and concerns of CIOs and IS managers, in the first instance, and subsequently non-IS managers and professionals in a diverse range of business functions and work contexts.

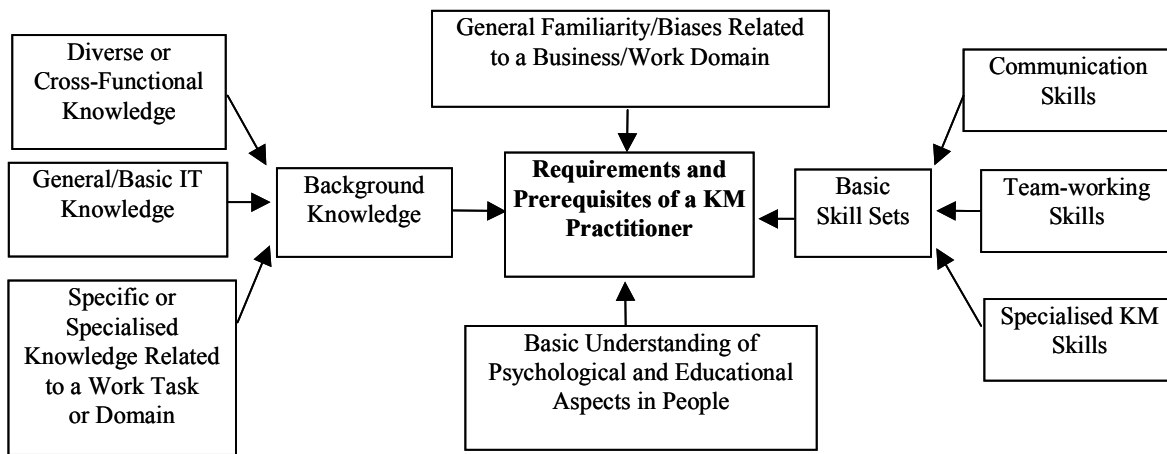


Figure 5. Requirements and Prerequisites of a KM Practitioner

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