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By: **V. Sambamurthy**
     Michigan State University
     Senior Editor, Special Issue

     Mani Subramani
     University of Minnesota
     Senior Editor, Special Issue

This is the second volume of the Special Issue on Knowledge Management and Information Technologies and contains six papers examining the complex issue from different perspectives. We draw on the framework of knowledge problems[1] to highlight the contributions of the papers in this issue. The framework suggests that knowledge problems in organizations can be viewed as a combination of the problems of knowledge coordination, knowledge transfer, and knowledge reuse. These knowledge problems reflect difficulties with respect to the access, application, and sharing of knowledge within firms and attempt to provide a systematic means to articulate an answer to the question: If knowledge management is the solution, then what is the problem? Knowledge coordination problems are linked to the difficulty of locating knowledge sources or identifying knowl-

edgeable individuals or groups for the knowledge required to diagnose or solve specific problems. Knowedge transfer problems are linked to the complexity of transferring or obtaining the knowledge required to solve specific problems. Knowledge reuse problems are linked to the difficulty of ensuring the application of preexisting knowledge to situations when redeployment of prior knowledge stocks rather than a fresh effort to develop novel knowledge is advisable.

Lihui Lin, Xianjun Geng, and Andrew B. Whinston ("A Sender–Receiver Framework for Knowledge Transfer") offer insights related to the knowledge transfer problem. The paper examines how the effectiveness of knowledge transfer is influenced by factors such as incomplete information and asymmetric information. Focusing on the dyadic level, the paper employs formal game-theoretic models to arrive at analytical results regarding the influence of incompleteness and asymmetry in the information sets involved in appropriately valuing knowledge that is transferred. The paper models the challenges posed when either sender or receiver has incomplete information to assess the value of knowledge being transferred and the situations when the level of knowledge possessed by the receiver and sender are asymmetric. The strength of the paper is the grounding of rigorous models of the phenomenon in real-life situations to highlight the implications for knowledge transfer in these contexts. The paper provides insights for practice and for further research in signaling and

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[1]See V. Sambamurthy and M. Subramani, "Special Issue on Information Technologies and Knowledge Management," *MIS Quarterly* (29:1), March 2005, pp. 1-7.

incentives for revealing of that can change information structures in which dyadic knowledge sharing occurs.

Robin Poston and Cheri Speier ("Effective Use of Knowledge Management Systems: A Process Model of Content Ratings and Credibility Indicators") provide a nuanced perspective on knowledge reuse problems in contexts where knowledge management systems mediate the storage and access of codified knowledge. In a series of four experiments, the paper examines the mediating influence of content credibility indicators such as the number of raters and rater on the relationship between the validity of content ratings and users' search and evaluation processes. The strengths of the paper lie in the systematic articulation of differences in the anchoring and adjustment processes attributable to rating validity and credibility indicators and the consequent influence on decision quality and decision times in knowledge intensive tasks.

Chungsuk Ryu, Yong Jin Kim, Abhijit Cahudhury, and H. Raghav Rao ("Knowledge Acquisition via Three Learning Processes in Enterprise Information Portals: Learning-by-Investment, Learning-by-Doing, and Learning-from-Others") address the knowledge transfer and reuse problems in terms of three individual level learning processes in enterprise collectives. They draw on activity theory to develop a mathematical model identifying potentially optimal decisions by individuals with respect to *learning by doing*, *learning from others*, and *learning by investments* when they attempt to maximize benefits under differing knowledge decay rates, differing costs of learning, and differing productivity of learning processes. The study has implications for the design of knowledge management systems and highlights a variety of issues that can be examined in future field studies.

Andrew N. K. Chen and Theresa M. Edgington ("Assessing Value in Organizational Knowledge Creation: Considerations for Knowledge Workers") focus on factors linked to knowledge creation. Using a simulation approach, the study examines the complex interaction of individual and con-

textual factors such as process frequency and knowledge depreciation rate in delivering organizational benefits. The study suggests implications for the complex decision making in organizations with regard to knowledge creation and opens up avenues for future research to validate the assumptions and results.

Hüseyin Tanriverdi ("Information Technology Relatedness, Knowledge Management Capability, and Performance of Multibusiness Firms") provides an interesting conceptualization of knowledge management capabilities of multibusiness firms, suggesting that this is influenced significantly by the IT relatedness, assessed in terms of the relatedness of information technology infrastructures, strategy processes, human resource management, and vendor management processes across multiple business units. The study uses data collected from 250 multibusiness firms and suggests that the link between the characteristics of IT investments by multibusiness firms across multiple units and firm-level performance is mediated by a set of complementary knowledge management processes.

Natalia Levina and Emmanuelle Vaast ("The Emergence of Boundary Spanning Competence in Practice: Implications for Implementation and Use of Information Systems") provide a practice-based account of the emergence of organizational competencies of boundary spanning that they view as occurring through the emergence of a new joint field that unites agents across boundaries. Through the conceptual device of boundary spanners and boundary objects in analyzing systems development processes in two organizations, the study provides a grounded view of the emergence of *boundary spanners in practice* and *boundary objects in use* that contributed to the successful conclusion of projects involving significant interactions across boundaries separating IS groups and their clients. The study highlights how information systems can be implemented to support knowledge management activities across organizational boundaries by focusing on the emergence of an organizational community spanning organizational units.

This volume also includes an invited piece by Andy Van de Ven on the development of innovative knowledge-intensive technologies where the knowledge and information necessary to develop them can transcend the borders of individual firms, industries, and economies. In an insightful portrait of the transformed role of institutional, social, and political factors in supporting or inhibiting such innovations that can be successful only if broadly accepted, Van de Ven highlights the need for complex coordination and collaboration among firms. The argument in the paper suggests that *running in packs* with other cooperating and competing firms is central to success in such contexts and highlights the need of firms to not only build sound technical and organizational skills but also develop complex socio-political skills and political savvy to gain competitive advantage. The analysis also highlights the important role of technical communities that span organizational boundaries and the complex problem inherent in gaining legitimacy for new technologies in the broader institutional context and that these are more likely to be fostered in firm collectives than within individual firms. This interesting conceptual analysis underscores the role of information technologies in leveraging intangible assets within organizations and across multiple organizations. The article recommends more studies of knowledge problems in the interorganizational context and through the integration of social, technical, and political perspectives.

Overall, we are happy to have had the opportunity to bring together scholars adopting a variety of perspectives to examine the role of information technologies in knowledge management and the leveraging of intangible assets. The set of papers in the two volumes makes a substantial contribution in enhancing our understanding of the complex challenges involved. These papers also open up a variety of avenues for research into knowledge management and the role of information technologies that we hope will spur further work in this important area.