

# Introduction to the Special Issue on Managing Knowledge in Organizations: Creating, Retaining, and Transferring Knowledge

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Interest in the issues of organizational learning and knowledge management on the part of academics and practitioners increased dramatically in recent years. On the practical side, changes in technology and modes of organizing work, globalization, and increased competition brought the issues of organizational learning and knowledge management to center stage for organizations. New developments in computing and information technology enabled the retention and transfer of information in organizations on a larger scale than was once possible. Shifts to more distributed modes of organizing work made knowledge transfer a priority for firms. The greater prevalence of the multiunit organizational form, such as a franchise or chain (Baum and Greve 2001), and the greater frequency of interorganizational relationships (Powell et al. 1996) also increased the importance of knowledge transfer for firms.

Parallel to the surge in interest among practitioners, academic interest in organizational learning and knowledge management also grew considerably, as evidenced by the proliferation of books and articles recently published on the subject.<sup>1</sup> In addition, a

<sup>1</sup> Examples of books and articles on organizational learning and knowledge management include: Argote (1999), Argyris (1992), Brown and Duguid (1991), Davenport and Prusak (1998), Kogut and Zander (1992), Leonard-Barton (1995), Levitt and March (1988), Levinthal and March (1993), March (1991), Miner and Mezias (1996), Nonaka and Takeuchi (1995), Winter and Szulanski (2000).

number of special issues on knowledge management appeared in leading academic journals.<sup>2</sup>

Several developments or shifts in the academic literature contributed to the dramatic increase in research on organizational learning and knowledge management. Research in the learning-curve tradition documented persistent differences across firms or units of firms in their performance (e.g., Dutton and Thomas 1984, Argote and Epple 1990, Pisano et al. 2001). These studies provided evidence that important performance variation occurred at the level of the organization or organizational subunit. Consistent with this evidence, resource-based and evolutionary views of the firm became influential in the fields of strategy and organizational theory (Barney 1991, Montgomery 1995, Nelson 1991, Peteraf 1993, Teece 1998, Winter 1995). These theoretical perspectives emphasize differences across firms and aim to understand factors contributing to those differences (Rumelt 1991).

The concept of “capabilities” was introduced to explain these persistent performance differences (Dosi et al. 2000, Eisenhardt and Martin 2000, Helfat and Raubitschek 2000, Henderson and Cockburn 1994, Iansiti and Clark 1994, Klepper and Simons 2000).

<sup>2</sup> Special issues of academic journals on organizational learning and knowledge management were published by: Argote et al. (2000), Cohen and Sproull (1991), Grandori and Kogut (2002), Helfat (2001), Spender and Grant (1996).

The concept of capabilities is so attractive because it puts content back into theories of organizations. While other theories emphasize the structure and process of organizational activities, knowledge-based theories emphasize the content of those activities (or what the organization comes to know) as an important explanatory variable of performance. Further, knowledge-based theories are inherently dynamic. The theories aim to capture and explain changes in the content and distribution of knowledge over time and the effect of those changes on organizational performance. Thus, knowledge-based approaches complement organizational theories that emphasize structure and process. Together, the different frameworks provide a more complete picture of organizational performance than each could accomplish alone.

Research on organizational learning and knowledge management focuses on a fundamental set of questions. How do organizations *create* knowledge and what factors influence that process? How do organizations *retain* the knowledge they create? Where is knowledge embedded in organizations and how do those repositories affect its retention and subsequent use? How is knowledge *transferred* within organizations and what factors facilitate (or inhibit) its transfer? Do the factors that facilitate transfer inside the organization promote transfer across organizational boundaries? Although early work in this tradition focused more on the processes of learning and knowledge transfer and their effects on organizational outcomes, more recent work added the element of managing a firm's stock of knowledge for competitive advantage (Argote and Ingram 2000, Helfat 2000, Kogut and Zander 1996).

The papers appearing in this *Management Science* special issue address various aspects of the fundamental questions about how organizations create, retain, and transfer knowledge. On the question of knowledge *creation*, papers in this special issue deal with knowledge creation issues include the following: Creative problem solving in technical support (Das); recombining old knowledge to produce new knowledge (Gittleman and Kogut); patenting, stemming from the mobility of human capital (Song, Almeida, and Wu); the generation of innovative financial instruments in interorganizational relations (Uzzi and

Lancaster); the emergence of idiosyncratic knowledge in organizations (Weber and Camerer). Papers appearing in the special issue also address the question of knowledge *retention* in terms of relational characteristics that affect knowing "who knows what" (Borgatti and Cross) and problem-solving moves that invoke the retrieval of solutions (Das).

Relative to knowledge creation and retention questions, however, a large number of papers in the special issue devote attention to knowledge *transfer*. One set of papers focuses on knowledge transfer between organizations, via interfirm networks (Uzzi and Lancaster) and personnel mobility (Song, Almeida, and Wu), and between communities of practice via boundary spanners (Gittleman and Kogut). Another group of papers examines how knowledge transfer is affected by the internalization of activities, whether by merger (Menon and Pfeffer, and Weber and Camerer) or vertical integration (Sorenson). Other papers investigate the effects of informal social structure and stratification, such as status (Thomas-Hunt, Ogden, and Neale) and prestige (Sine, Shane, and DiGregorio), on knowledge transfer. A fourth set of papers emphasizes various aspects of the process through which knowledge is transferred, including search and information seeking (Borgatti and Cross), training (Nadler, Thompson, and van Boven), the "organizing moves" used to solve problems (Das), and interruptions to team activities (Zellmer-Bruhn). A final set of papers explores how knowledge creation and transfer is affected by features of the external environment, including the intensity of competition (Chang and Harrington), the composition of customer market segments (Lee, Lee, and Lee), and the turbulence of the environment (Sorenson).

This special issue of *Management Science* builds on and complements previous research on knowledge management. Consistent with the mission of *Management Science*, the special issue provides an interdisciplinary treatment of knowledge management. Because the topic of knowledge management spans disciplines, we believe that an interdisciplinary approach is particularly fruitful for moving the field forward. The papers appearing in this special issue represent different disciplines, including organizational behavior and theory, information systems,

psychology, sociology, economics, and strategy. The papers describe work at different levels of analysis ranging from the small group to the organizational to the interorganizational levels.

In addition to being grounded in multiple disciplines, the special issue of *Management Science* is rooted in empirical work. Because we felt that conceptual papers had outpaced empirical evidence in the area of knowledge management, we were particularly interested in empirical papers that provided new evidence about the phenomenon. We are delighted with the quality of empirical papers and the diversity of methods and empirical contexts that are represented in the special issue. The papers are based on archival, survey, laboratory, qualitative, and simulation methods. Moreover, the field studies focus on firms in different industries, such as pharmaceuticals, semiconductors, computers, and financial services.

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The papers appearing in this special issue are representative of a large and impressive body of research on knowledge management currently underway. The vitality of this field of research is evidenced by the response to our Call for Papers for the special issue, which was extraordinary: We received over 100 submissions. Although we were able to accept only a small number of them, the quantity and quality of submissions are indicators of the significant interest in the topic of managing knowledge in organizations. We wish to thank all of the authors who allowed us to consider their research for the special issue.

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At the outset of this project we had several goals in mind. One was to disseminate important new research findings about knowledge management. A second goal was to identify current themes in research on organizational learning and knowledge management. Third, we wanted to identify gaps in our understanding of knowledge management and to suggest directions for future research that are likely to be fruitful. A fourth goal was to stimulate future research

about knowledge creation, retention, and transfer in organizations. Ultimately, the test of whether we have fulfilled these objectives is if the special issue stimulates future research on the important topic of managing knowledge in organizations. We hope that the special issue will be a valuable resource to individuals interested in knowledge management for many years to come.

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