

FROM WORKPLACE LEARNING TO KNOWLEDGE MANAGEMENT:  
IMPLICATIONS FOR ORGANIZATIONAL ADVANCEMENT

PROCEEDINGS FOR REFEREED PRESENTATION  
22<sup>ND</sup> ANNUAL RESEARCH CONFERENCE  
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## **From Workplace Learning to Knowledge Management: Implications for Organizational Advancement**

### **Introduction**

Since the 1990s, knowledge management has attracted much attention as a means to advancing organizational competitiveness (Davenport & Prusak, 1998; Nonaka & Takeuchi, 1995; O'Dell & Grayson, 1998; Stewart, 1997). The appeal of knowledge management to managers and info-enthusiasts alike is apparent: it is assumed that within the power of knowledge management lies the promise of capturing and leveraging the expert know-how of an enterprise, which is the hallmark of many innovative and successful companies. In addition, managing knowledge with pervasive information technology seems to be a natural extension to what many organizations have been practicing: analyzing information to determine the best course of action, be it more realistic sales forecasts or more accurate production planning.

Undoubtedly, information technology plays a critical role in helping organizations manage intellectual property. However, it is necessary to differentiate information from knowledge. The distinction is important because it determines the approach to managing corporate intellectual assets and the role of information technology in knowledge management.

As John Seely Brown and Paul Duguid (2000) point out, it is relatively easy to capture, search for, and retrieve information. Knowledge, on the other hand, is associated with the knower. The question "where is that information?" is commonplace but to ask "where is the knowledge" would sound awkward; instead, we should ask: "who possesses that knowledge?" Detaching knowledge from the knower and attaching that knowledge to others is far more complex than information accumulation. Acquiring the know-how possessed by seasoned practitioners goes far beyond gathering information (or the "know that"). Acquiring professional knowledge, or more precisely constructing that knowledge, involves a dynamic and social learning process.

### **Purpose of Study**

Researchers have made great strides in the studies of adult learning and professional development (Baskett & Marsick, 1992; Jarvis, 1987, 1992; Marsick & Watkins, 1990; Mezirow, 1985, 1991; Schon; 1983, 1987). However, to guide an effective knowledge management strategy based on a thorough understanding of the nature of learning and knowing in the workplace, further research is needed to clarify the process of transforming each learning experience to working knowledge and to better understand the relationship between various organizational forces and such transformation.

This study focused on the workplace learning experience of a group of newly hired management consultants who were selected based on their outstanding performances as employees of a major consulting firm. Particular attention was paid to the process through which knowledge was constructed and shared among these practitioners. Since

the learning-to-knowing transformation was embedded in the “ambient community of practice” (Lave & Wenger, 1991), the consulting firm’s personnel policies, dominant cultures, tacit norms, and key resources (including its knowledge management infrastructure) were also examined in this study to understand the dynamic interaction between the consultants’ learning and organizational realities.

Most best practice studies on knowledge management focus on expert-level practitioners, especially middle to upper managers. This group of newly hired consultants, who proved to be best performers among their peers, added to the best practice literature the unique perspectives of up-and-coming young professionals. As newcomers at a professional services firm, their participation was considered legitimate but peripheral (Lave & Wenger, 1991; Wenger, 1998). The process in which the consultants evolved through participation in the community of consulting practice, and gradually assumed more active roles in knowledge transfer and innovation was highlighted in this study also.

In summary, the purpose of this study was to promote a better understanding of the highly context-dependent, and often tacit, learning-to-knowing process in the workplace among end-user information technology practitioners. The findings of this study have significant implications for the advancement of organizational learning via better knowledge management. The study hopes to shed some lights on the dynamic relationship between the development of expert know-how, organizational influences, and the role of information technology in the knowledge management endeavor.

### **Review of Literature**

Literature on professional learning and development shows that learning in the workplace is largely experience-based and social in nature. The workplace provides a myriad of learning opportunities in the forms of new assignments and meaningful exchanges among peers. Experience gained from working through non-routine situations leads to modification of frames of reference and enrichment of the "repertoires of examples, images, understandings, and actions" which practitioners draw upon in new situations (Schon, 1983, p. 138). The development of professional artistry through experience and reflection is an important aspect of workplace learning.

Another important source of learning in the workplace is the social relationships within the work environment. As Jarvis (1987) points out, learning in the workplace rarely happens in isolation. Learning in the workplace involves more than cognitive processes; the socio-cultural environment affects what and how one learns, and determines access to learning opportunities (Merriam, 1993). Studies on how managers develop found that work relationships are essential for the managers' development (Hill, 1992; Kotter, 1986; Kram, 1988; Mink, Owen, & Mink, 1993; Mumford, 1983). From leveraging their superiors and colleagues' knowledge and skills through mentoring and coaching, managers develop their own professional competencies.

The social dimension of workplace learning in the literature also focuses on the dynamic relationship between an individual learner and his or her participation in a community of

practice (Brown & Duguid, 1991; Lave & Wenger, 1991; Wenger, 1998). The concept of communities of practice emphasizes the social-cultural conditions specific to the work environment and the situational nature of working and learning. The immersion of the whole person in the community of practice and the collective knowing process that can be characterized as interdependent and mutually shaping are what differentiate this perspective from the narrow and more individualistic focus of mentoring and coaching.

### **Research Questions**

To gain better insight into the life cycle of learning-to-knowing (which includes knowledge construction, innovation, and transfer), the study focused on the learning contents, processes and knowledge construction experience of a group of organizational newcomers. These were the specific research questions:

1. What do new management consultants learn on external client projects and on internal assignments?
2. How do consultants learn on both internal and external assignments (what processes, approaches, resources, etc.)?
3. What are some organizational factors that facilitate or impede consultants' learning?

### **Methodology**

Twenty-five consultants of a major management consulting firm were included in the study. They were selected based on either one of the two criteria: received a performance rating of 4 or 5 (on a scale of 1 through 5) in the previous year's performance appraisal, or received a promotion in the previous year. Each of these consultants was interviewed and the interview was recorded and transcribed verbatim. An interview guide containing open-ended questions was developed for the study. Since the interviews were semi-structured, each interview followed the interviewee's lead in direction and flow of discussions.

In addition to the interviews, this study also included other information sources. To understand the study context, internal documents relating to organizational practices and policies of the consulting firm were reviewed, and observations of training programs were made. Furthermore, following Lincoln and Guba's (1985) advice on maintaining field journals to build trustworthiness of the study, during data collection, a reflective journal was kept to document thoughts, comments, insights, new issues, and emerging questions. Entries in the journal were used as a guide in the interview process (e.g., use previous interviewees' statements to elicit further comments in the following interviews).

This study was guided by the naturalistic inquiry paradigm and used the qualitative case study method. Lincoln and Guba (1985) suggest that an inquiry be carried out in a natural setting "because phenomena of study ... take their meaning as much from their contexts as they do from themselves" (p. 189). The study of how this group of 25 new management consultants constructed meaning in their work cannot be understood

independent of its context, the workplace. Contextual factors? organizational practices, resources, values, beliefs, and social networks? provided a meaningful base for understanding and interpreting the consultants' learning. The case study method was selected for the present study because the study focused on a holistic understanding of the particular. In the study, both individual experience and organizational context were examined to gain comprehensive knowledge of the process of workplace learning and insights into the learning of the high performers.

## **Research Findings**

### **Workplace Learning: Contents and Processes**

The consultants credited much of their professional development to their project experience and to their working relationships on projects. This section examines what consultants learned on the job and how project experience and workplace relationships contributed to their effectiveness.

#### ***Project Experience***

Project assignments were great environments for new consultants to experience what it was like to be on a client engagement. Through task assignments and observations, the consultants learned what it was like to perform under time pressure or to learn new technologies and/or analysis and measurement techniques on their own.

Oftentimes the consultants were put in project situations where they had to go beyond what's familiar and comfortable and really extend or "stretch" themselves to get the job done. These challenges helped them identify knowledge gaps. Consultants interviewed in this study identified something of a technical nature that they learned entirely on their own while on the job. The technical skills ranged from learning a new operating system (Unix) or database (Oracle), to coding in a new language, to preparing test scripts. Even on programming languages and information systems that they had some familiarity, such as Visual Basic and SAP, there was still considerable learning on their own time after hours, playing with the software, and going through manuals. Consultants also learned technical systems from working with other consultants, technical staff from the software vendor, or someone from the client's information system department.

Instead of learning new technologies, consultants whose areas of expertise were in business performance improvement had a different set of learning challenges. Some had to teach themselves various analysis and measurement techniques, such as Earned Value Analysis and Balanced Scorecard, to measure the financial and operational efficiency of the clients' businesses. While for those consultants who focused on the change management side of consulting, the learning included communication strategies, change management methodologies, as well as software applications such as ABC flow charter and Microsoft Project.

In addition to developing specific technical competencies, consultants also identified a variety of soft skills they learned from their project experience. From their very first client engagement, these consultants quickly came to the realization that gaining business/industry knowledge and technical competencies was only part of the battle. The real challenge lay in developing a wide range of soft skills, such as listening and communication skills, and understanding and managing client expectations, in order to be effective on the job. Development of these skills took place over time through first-hand experience interacting with the client and from observing more senior people who were good at communicating with the customers. Consultants also reported the benefit of working with project managers who gave them pointers on specific tasks such as conducting a facilitated session, and coached them on interacting with the client.

### ***Workplace Relationships***

Project managers played a key role in helping new consultants understand both their tasks on the projects, and how the consultants and their responsibilities fit into the overall project activities. These project managers had different levels of involvement, and therefore different levels of influence, on new consultants' learning. Their involvement ranged from coaching and providing feedback to the consultants on specific project tasks, to helping the consultants identify career paths, to encouraging and recommending consultants for certain project opportunities, to acting as the consultants' advocates during performance review.

In addition to learning from their project managers, consultants also learned from their peers. Different consultants had different relationships with their peers. Many consultants formed friendship with other consultants whom they met in training programs or on projects. These were the people the consultants called upon, not necessarily for consultation, but as friends and buddies whom they could talk to. Consultants also networked with peers to find out about opportunities on upcoming projects, or on existing ones. Consultants interviewed in this study also had peers the consultants called upon when they needed answers on specific issues that they were dealing with. Finally, the consultants recognized the benefits of talking with someone at their staff level, not necessarily to address specific issues, but to gain a different perspective on things happening on projects.

The interactions and dialogues with their project managers and peers promoted deeper understanding and shared meaning of their work. The consultants were able to expand their capacity to create desirable results in their practice and transfer their knowledge beyond their local community with the help of information technology.

### **Knowledge Creation and Transfer**

#### ***Knowledge as Practice***

Individually but more often in groups, consultants created knowledge in their handling of challenging assignments. In the interviews, each consultant described a variety of project

assignments, and each project was different from the previous one. The consultants had to come up with solutions that were not readily available. Whether it was preparing a test plan to verify if an information system was configured according to the client's requirements, writing a project proposal based on a thorough research of the prospective client's unique business needs and general industry trends, or conducting a facilitated session to document current business processes and to identify issues, each of these activities required considerable knowledge and skills on the part of the consultants and new knowledge was created in the process of managing these challenging tasks. In other words, consultants created new knowledge from their work experience. This knowledge creation process can be described as a dynamic process of information collection, evaluation, integration, and meaning negotiation, all in the context of the consulting practice.

From the perspective of "knowledge as practice", knowledge creation was embedded in practice. Given the intangible and highly context-dependent nature of such knowledge, knowledge transfer, often driven by project demands, was a part of the practice also. Working together to accomplish a task, consultants shared war stories and articulated prior experience in discussions and brainstorming sessions. In addition, new consultants also learned from observing seasoned consultants, such as watching how a senior consultant handled a hostile client and diffused an explosive confrontation and later on having a conversation with the senior consultant about the event. It was in these collaborative work experiences where tacit knowledge was verbalized and shared.

### ***Knowledge as Object***

Another pattern of knowledge transfer observed in this study was steps the consulting firm had taken to capture, organize, and disseminate various knowledge objects. In this study, knowledge objects included project deliverables such as project plans, test scripts, communication plans; project management tools such as an issues database; and other documents such as project proposals and white papers. These codified and tangible knowledge assets were products of "knowledge as practice" and to increase the values of these assets, the consulting firm created databases and established procedures for consultants to submit project deliverables. After they had been categorized and indexed, various knowledge objects were made available on Lotus Notes for all consultants in the firm to "leverage" on their projects. Many consultants attributed the knowledge objects for their ability to speed up their efforts in creating project deliverables.

Despite its usefulness, these knowledge objects served certain information needs better than others. Some consultants commented that the knowledge objects were most useful when someone was looking for samples of deliverables and was not too concerned about the process of preparing the documents. In other words, the deliverables were most useful when all a consultant needed was good samples of the final products, since the deliverables typically did not contain any documentation that explained the process that the project team went through to get to that end result.

The lack of detailed information in the deliverables on the problem-solving and decision-making processes may explain the reason why consultants would still rather have a conversation with a fellow consultant when given the choice. Sometimes they used both means to obtain information: they used old project deliverables as a springboard to identify a knowledge source. For example, in their research, consultants came across a project that used a similar methodology. Using the contact information on the deliverables, they identified consultants who had worked on that particular project and began a dialogue.

### **Conclusions**

From this study, it is evident that knowledge creation and transfer occur on different levels. The consultants' accounts of their learning experience on project teams show that knowledge creation is a process deeply embedded in practice. Through active experimentation, dialogues with team members and clients, and collective sense making to understand and overcome challenges, consultants refined their knowledge and skills and developed novel ways to improve their productivity. Also, knowledge is embedded in teamwork; working on the same project that lasted from six months to a couple of years, project teams developed a common understanding of how to tackle a problem and to keep the project on track. The synergy among team members was how creative solutions were generated and how the job was accomplished.

Information technology plays a key role in an organization's effort to achieve an important goal: to capture and store valuable knowledge assets so that employees in the organization can have easy access. The study clearly shows that information technology can facilitate knowledge dissemination and transfer; however, an organizational knowledge management strategy that relies solely on technology is likely to fail.

To implement an effective knowledge management strategy, an organization should begin by taking a close look at its people in practice and how information travels in the organization, and then work to eliminate or minimize barriers and boundaries within and among divisions, and to foster a culture that rewards knowledge sharing. Information technology is perhaps the most visible evidence of a knowledge management strategy, but for knowledge management to take root in an organization, it has to be embedded in the organizational processes and culture.

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