



IN SEARCH OF KNOWLEDGE MANAGEMENT

PURSuing PRIMARY PRINCIPLES

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The Use of Organizational Knowledge in Professional Settings: A Case Study Analysis

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Abstract

In the last 20 years, debate concerning knowledge management (KM) initiatives in professional settings has become prominent in both academic and practitioners literature. In spite of an increased incidence of KM initiatives in organizational contexts, very few studies were conducted to better understand how individuals used the knowledge they retrieved to deal with present issues. Consequently, research that investigates the ways individuals use the knowledge to accomplish a work task and research that seeks to understand which factors are likely to influence the use of the retrieved knowledge have value. The purpose of this research is to address the following research question: “How do individuals in professional settings use the knowledge they retrieve to deal with present issues”? In this qualitative case study analysis, the process of knowledge retrieval was defined as “the process by which individuals retrieve knowledge from organizational memory with the purpose of making decisions on present issues” (Mariano & Casey, 2007, p. 315).

Findings showed that participants used both tacit and explicit knowledge. Participants used knowledge in several ways. The use of knowledge was influenced by the type of work to accomplish and the experience with such a knowledge. The relationship between type of decision to make and type of knowledge to use was highlighted. It was also found that employees generally had an attitude to ask other coworkers to get a validation of their work when using the retrieved knowledge.

17.1. Introduction

Sometimes what I will do, I will check with my personal network ... I will make a decision and come up with a solution and ... sometimes, not always, I will review that decision with somebody in my personal network, I will say 'what do you guys think?' (Employee of one organization practice)

According to Davenport and Prusak (2000), the first phase of the knowledge management (KM) debate dates back to 1998 with a chaotic and nonlinear growth. Seminal contribution to the KM debate was the work of Nonaka (1994). He was the first academic who referred to the knowledge creation process as "an upward spiral process, starting at the individual level, moving up to the collective (group) level, and then to the organizational level, sometimes reaching out to the inter organizational level" (Nonaka, 1994, p. 20). It is a common understanding that the KM debate defines the practical approach to the content of knowledge (Easterby-Smith & Lyles, 2003). "Much of the literature is practice, rather than theory driven, with many articles appearing in practitioner-oriented journals" (Scarbrough & Swan, 2003, p. 500). Within the literature, KM was defined and classified in different ways. A strong prescriptive element that, however, was recognized in all definitions was the concept of "managed learning" (Vera & Crossan, 2003, p. 124) and its positive impact on organizational performance (Barney, 1991; Stankosky & Baldanza, 2001). The critical role of knowledge in business performance was also documented by Scarbrough and Swan (2003). They stressed two main themes to relate to KM: (i) the management of knowledge for the pursuit of competitive advantage; and (ii) the importance of KM to store organizational knowledge. On the last theme, recent research — expanded upon the work of Nonaka (1994) — especially focused on information technology (IT) (Hayes & Walsham, 2003; Zack, 1999) by exploring the impact of those systems on organizational learning and memory (Olivera, 2000; Stein & Zwass, 1995; Franco & Mariano, 2007). Stankosky (2005) also recognized technology as one of the "four pillars" of his KM framework, which also included leadership, organization, and learning.

In the literature, the attention of researchers has been focused on KM initiatives such as knowledge acquisition (Shrivastava & Schneider, 1984; Stein, 1992), knowledge retention (Gioia & Poole, 1984; Nelson & Winter, 1982; Spender, 1996), and knowledge retrieval (Mariano & Casey, 2007). Moreover, research has investigated how social networks impact knowledge gathering and sharing (Cross, Parker, Prusak, & Borgatti, 2001; Cross & Sproull, 2004; Huber, 1982; Von Krogh, 1998).

17.2. Research Methods and Data Collection

A case study of a single diversified high-technology research, engineering, and consulting company is analyzed (Creswell, 1998; Lincoln & Guba, 1985;

Stake, 1995, 2000; Yin, 2003). The research involved more than one subunit of analysis and thus it was considered as "embedded" (Yin, 2003). We used a constructivist perspective to explore the individuals' use of knowledge in a professional setting. The process was largely social and inductive (Creswell, 2003). Data were collected through individual semistructured interviews (Merriam, 2001), on-site observations (Creswell, 2003) and document analysis (Creswell, 2003; Merriam, 2001). Using these three data gathering methods provided data triangulation (Creswell, 2003; Yin, 2003) and accomplished the validity of the study.

The sample consisted of 15 consultants from five sections of one organization's division. We chose a sample of consultants who had to make day-to-day problem-solving decisions to accomplish their tasks. Participants were chosen on the recommendation of a "key informant", which in this study was the manager of each section. Sixty percent of the participants were males; 40 percent were females.

We also conducted on-site observations. An observation protocol (Creswell, 2003) was used to record descriptive field notes of the setting, behavior and activities of individuals at the research site, and reflective notes (Creswell, 2003) of the researcher's role in the observation process.

During the research process, data were also collected from public and private documents. We prepared researcher-generated documents (Merriam, 2001), i.e. statistical data from interviews and photos took during the on-site observations. We used a summary form to record data (Miles & Huberman, 1994).

17.3. Data Analysis

Data were analyzed through the use of Atlas.ti®, a qualitative data analysis software package. Data were open coded using key units of thoughts based on research questions, assumptions, and relevant literature on the topic. The coding scheme was updated on a continual basis. Comparative analysis was made to note emerging patterns and themes (Miles & Huberman, 1994). The analysis processes produced detailed descriptions about the type of knowledge retrieved and used, factors influencing the use of knowledge, the relationships between decisions to make and knowledge to use and the employee's attitude to ask other coworkers to get a validation of their work when using the retrieved knowledge.

We used member checks (Lincoln & Guba, 1985; Stake, 1995), peer debriefings (Creswell, 2003), and triangulation methods (Creswell, 1998, 2003; Stake, 1995, 2000; Yin, 2003) to cross-check data consistencies (Patton, 1987), improve the credibility of the study (Lincoln & Guba, 1985), and to enhance the accuracy of data analysis.

17.4. Findings

The case study analysis revealed that participants used both tacit and explicit knowledge in their day-to-day work. Type of work to accomplish, i.e. routine work

or new work and the experience with the source of knowledge in terms of expertise and willingness to help influenced the processes of knowledge retrieval and usage:

Probably I'll go to someone who has the most experience with it... I have also from my experience what people are easy to work with, what people are going to give me an answer that I can actually do something with ...

In this qualitative study it was found that the "experts" were those who have been within the organization longer, as a participant claimed:

I can ask the senior people, so if I have a question about how we have dealt with similar projects in the past I can go to one of the more experienced people and I can say: 'well previously we had a similar experience and we did it in this way so help me to draw upon it.'

In the process of gathering knowledge, desire to learn (as a personal attitude) and desire to help (as other people's own attitude) were both critical factors (Figure 17.1). A participant claimed:

The most important thing for my role is to make sure I ask questions. All the time. And asking the right questions ... so tacit knowledge is cool ... but you have to be able to extract it efficiently and quickly from these people 'cause they are really busy, and they don't want to sit down and explain it to you for two hours, what they are doing. You have to go and ask them very targeting questions, so you will get rapidly what you need to know so you are not bothering them more than you need to ...

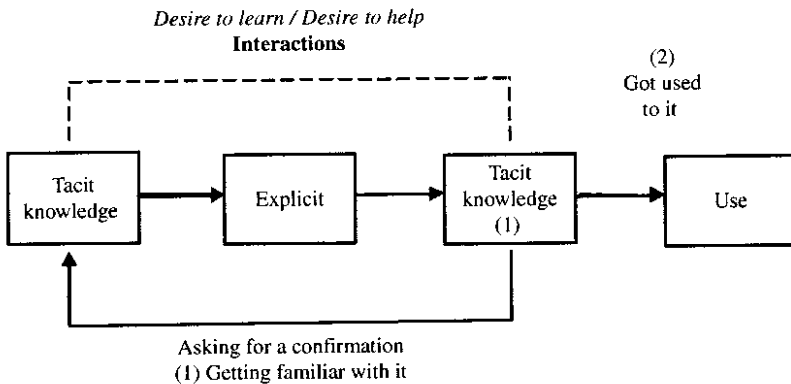


Figure 17.1: Using knowledge and asking for a confirmation.

In general, getting other people's tacit knowledge involved a process in which the interactions between two people allowed the conversion of tacit knowledge (of the person who originally had it) in explicit knowledge (in order to transfer it) and then in tacit knowledge again (of the person who got it).

Figure 17.2 shows a decision tree model (Miles & Huberman, 1994) to describe the task validation process that occurred when using the retrieved knowledge. This model was built considering participants' answers to interview questions about their day-to-day decisions, finding a source of knowledge and the number of people to contact to find the knowledge to use. From data analysis, it turned out that participants used and/or validated the knowledge they retrieved in four ways according to the following scheme: (1) retrieve it and use it; (2) use it and ask for a confirmation; (3) ask for it and use it; and (4) ask for it, use it and ask for a confirmation.

Asking coworkers to get a validation of the work to accomplish was essential when the knowledge was either not well known or not adequate to accomplish a certain task. In such a case participants would have asked someone either to get some

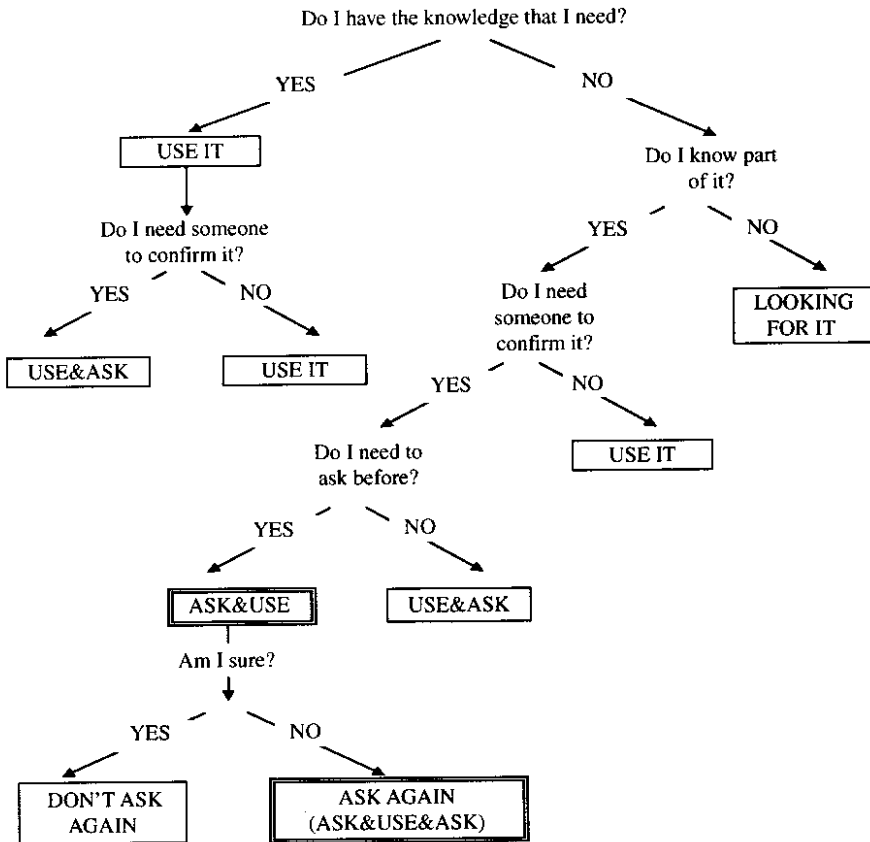


Figure 17.2: The use of knowledge and the need of a task validation.

knowledge (ask for it and use it): "...they are somebody reliable that you can go to and ask for...helping me to make the decision" or to confirm a decision already made (use it and ask for it): "I will use my personal network to confirm my decision".

In some cases, they would have asked someone to get it, then they would have used it, and finally they would have asked again to have the final confirmation of it (ask for it, use it, ask for a confirmation): "sometimes what I will do, I will check with my personal network ... I will make a decision and come up with a solution and...sometimes, not always, I will review that decision with somebody in my personal network, I will say: what do you guys think?" Otherwise, it would have meant participants already had the knowledge they needed: "I will probably have some knowledge stored in my head. I will think!" In such a case they would have used their own knowledge (use it) and, just if they needed it "if I need to, if it's part of the adjustment", they would have asked someone for a final confirmation (use it and ask for it): "if I need to know something about a project that I have never done before I can go to whoever and say: 'Can you have a look at this?', and there is no problem." Depending on what participants already knew about the knowledge they needed, the sequence of actions would have been: "use it — use and ask — ask and use --- ask and use and ask."

If participants were looking for tacit knowledge of other people, the only two options would have been "ask for it and use it" or "ask for it, use it, and ask for a confirmation". Indeed, in the case of other people's tacit knowledge, the only way to get that knowledge would have been to ask directly someone who had such a knowledge.

Depending of the type of knowledge that is to be used, i.e. personal tacit knowledge, other people's own tacit knowledge, or explicit knowledge retrieved from information and communication technologies (ICTs) (e.g. Intranet, hard drives, and shared points), the need of a task validation was variable. A participant claimed:

Usually I use my head, corporate Intranet if necessary and then personal network after I formed my initial decision. So I will use my personal network to confirm my decision.

Table 17.1 summarizes the relationship between type of used knowledge and type of decisions to make in terms of using and validating the work.

From data analysis, two types of learning processes were found: self-learning and learning from other people. Self-learning could be defined as learning by doing, learning from past projects, learning by reading, learning from past jobs, and learning from college. Learning from others implied interactions among people and was a process that involved senior employees most of the time, as a participant claimed:

There are a lot of things that you have learned from other people, you know, from the more senior people.

Table 17.1: Relationship between type of decision to make and type of knowledge to use.

Type of decisions	Type of knowledge		
	My own tacit knowledge	Tacit knowledge of others	Explicit knowledge from ICT
Use it	✓		✓
Use and ask	✓		✓
Ask and use	✓	✓	✓
Ask and use and ask	✓	✓	✓
Total	4	2	4

Table 17.2: Learning style.

Learning style	How did I learn?
	Number of respondents mentioning item (N = 15)
Learning from other people	10
Learning by doing	13
Learning from past projects	8
Learning by reading	6
Learning from past jobs	5
Learning from college	1
Total	43

Table 17.2 summarizes the learning styles of participants of this study. Participants showed an attitude to learn in numerous ways. Learning by doing (87%) and learning from other people (67%) were the most mentioned learning types. By opposite, learning from college (7%) was the less mentioned learning type.

17.5. Discussion and Implications for Future Research

In this case study analysis (Yin, 2003) we discussed the use of knowledge in a professional setting. We collected qualitative data in the field (Crotty, 1998) and we provided empirical evidence on the process of knowledge usage.

Findings showed that the gap between what was known and what needed to be known affected the way to use the just acquired knowledge and influenced the need of a task validation (Cross & Sproull, 2004) from another person or coworker. Such a task validation also depended on the type of knowledge that was retrieved and the experience with the source of knowledge.

To retrieve other people's tacit knowledge, employees first asked for knowledge, then used it, and just in some cases they validated their own work by asking a confirmation from other people.

For individuals' own tacit and explicit knowledge the use of knowledge ranged from the simple use of it to the three step process "asking-using-validating."

In general, the validation process helped to get familiar with the knowledge just acquired in order to remove such a step when the individual became familiar with that knowledge. The desire to help and desire to learn motivated the interactions between knowledge source and knowledge recipient. These results offered additional ideas about the use of knowledge in the decision-making process and provided new insights on the relationship between knowledge seeker and knowledge source.

Getting familiar with such a knowledge involved two learning processes: self-learning (Simon, 1991), and learning from other people (Alavi, 2000) confirming that learning was a process of relating new information to previously learned information (Ormond, 1999) and that future learning was the result of cumulative learning and capabilities, often constrained and not easily malleable (DeFillippi & OrNSTein, 2003).

Self-learning was involved when explicit knowledge needed to be acquired by informants. Usually such a process occurred either from the experience accumulated by doing the job (Kolb, 1984) or when the content of a repositories needed to be used to accomplish a task. In that case the individual had to interpret the explicit stored knowledge to get familiar with it order to best use it (Huber, 1991).

Finally learning from others meant to convert other people's tacit knowledge into explicit knowledge — through a process of interactions (Nonaka & Takeuchi, 1995). In turn, such a tacit knowledge would become tacit knowledge when acquired by the knowledge receiver. This result confirmed the spiral by Nonaka and Takeuchi (1995) about the learning conversion process and helped to better understand the process of knowledge creation (Alavi, 2000; Von Krogh, 1998; Von Krogh, Roos, & Klein, 1998) confirming that the process generally took place: (a) at the individual level through cognitive processes such as reflection and learning; and (2) at the group level through collaborative interactions within teams (Alavi & Tiwana, 2003).

This empirical study also offered additional ideas for consideration on the individual process of learning. Unlike most studies which affirmed that organizations learned by ingesting new members who had knowledge the organizations did not previously have (Simon, 1991; Vera & Crossan, 2003), in this research it was instead found that the process of learning generally took place through the learning of new employees from those who had been within the organization for a long time, the "experts." Such a process might be understood as a consequence of both the employee's professional position within the organization, and the type of work to accomplish (Allen, 1977), which in turn influenced the type of knowledge to need. These results confirmed the thesis of Allen (1977) who stated that the knowledge source selection was influenced by the characteristics of the task and contributed to the body of research on learning since it provided a means to better understand the influence of job position on the knowledge access.

This study had some limitations. First, this study did not focus on the process of knowledge storage but only on the process of knowledge retrieval and usage. Second, this study looked at the process of knowledge retrieval and usage during decision-making or problem-solving activities. Finally, this study collected data through individual interviews at the consultant level. It did not focus on other hierarchical levels, e.g. managerial level, which would have probably given different perspectives or results.

Future research should be conducted in other organizational settings to determine if similar factors influence the use of knowledge. Also, future studies should investigate the extent to which a better experience with the knowledge to use might influence the employees' preference to seek out their colleagues to validate their work.

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