Uncovering cultural perceptions and barriers during knowledge audit

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Abstract
Purpose – The purpose of this paper is to introduce and illustrate the importance of uncovering tacit perceptions during knowledge management (KM) audit, in order to identify cultural barriers that may interfere with KM initiatives. The goal of such KM initiatives is to leverage a firm’s capacity to efficiently produce value from knowledge held by employees and embedded in processes. Current audit practices analyze the explicit information gained through interviews and questionnaires, focusing on the organization's culture, existing KM processes and the improved KM processes it wishes to implement. The paper seeks to suggest an approach for uncovering and analyzing tacit perceptions identified through interviews and discussions as an inherent part of KM audit.

Design/methodology/approach – The research was conducted during a KM audit in a large international software development organization. The research methodology was composed of two disciplines. The first, used for data collection, was a knowledge-engineering and management methodology – the CommonKADS. The second, used for qualitative data analysis, was the grounded theory approach.

Findings – The KM activities currently taking place in the organization include creation, sharing, access, usage, and maintenance. In interviews and discussions, access was the most emphasized activity. The cultural barriers that were identified relate to the KM roles and responsibilities that occur in daily work. A business process analysis revealed different perspectives of KM from different stakeholders.

Research limitations/implications – The findings of this study are based on a large, multi-located and highly distributed, yet single organization. Additional research needs to be conducted in order to further validate and generalize the findings.

Practical implications – The principle of identifying tacit perceptions and cultural barriers illustrated in the study may be beneficial in any organization. Identifying the issues that need to be addressed before implementing a KM solution is critical for a successful implementation.

Originality/value – The paper introduces the concept of uncovering tacit perceptions in order to identify cultural barriers that may interfere with a KM initiative. For this purpose, an analysis method was developed and used during a KM audit. Using this audit practice prior to a KM project will enable a better understanding of the risks and challenges that need to be managed to ensure success.

Keywords Knowledge management, Culture (sociology), Auditing, Perception

Paper type Case study

1. Introduction

Knowledge audits are considered as the first critical step for implementing knowledge management (KM) practices in organizations. The audit includes business needs and cultural assessments, and an examination of what knowledge is needed, available, missing, applied, and contained within the organization (Joseph, 1991; Debenham and Clark, 1995; Liebowitz et al., 2000; Tiwana, 2001; Jamieson and Handzic, 2003):

Pioneering practitioners are coming to realize that embarking into knowledge management is far more complicated than they originally believed. It is not simply a matter of picking the right technology. Even approaching the problem with a proven system design effort can be ineffective. What is needed is a roadmap that reduces the inherent ambiguity and risk of knowledge management implementation (Frappado and Kouloupolos, 2000, p. 418).
Most of the current KM audit practices focus on knowledge in terms such as potential stores of knowledge, the kind of knowledge people possess, structural overviews of the knowledge, knowledge creation, the sources for knowledge that contribute to innovation, knowledge flows and taxonomy, knowledge accuracy and quality, and knowledge infrastructure (Liebowitz et al., 2000). Liebowitz et al. (2000) addressed the need to capture tacit knowledge, but only as a metadata of the knowledge itself (data about an explicit knowledge asset). Their audit instrument included two questionnaires. One questionnaire was focused on identifying what knowledge currently exists in a targeted area, while the other questionnaire was used for identifying what knowledge is missing in a targeted area.

In the current research, the audit incorporated a knowledge engineering methodology, CommonKADS (Schreiber et al., 1999), as an analytic framework. The knowledge engineering discipline aims at converting KM into a systematic methodology, like any other scientific discipline that converts “craft” into methodology, with the following specific goals:

- identify knowledge challenges;
- recommend tools for corporate KM;
- obtain knowledge structures and processes applied by knowledge workers; and
- build better knowledge systems (Schreiber et al., 1999).

The CommonKADS organizational model enables knowledge engineers to analyze, within an organizational context, problems and opportunities, processes breakdowns and knowledge assets (e.g. product specifications, business processes’ standards, reviews and wikis). While knowledge engineering techniques are often used for developing knowledge-based systems (KBS), we utilized the CommonKADS worksheets for addressing organizational aspects that affect or are affected by KM solution.

A culture audit is part of the overall organizational KM audit. The common practice is to use interviews and surveys to examine the organizational culture (Hooff et al., 2003, Biloslavo and Trnavčevic, 2007, Burnett et al., 2004). This paper introduces the concept of uncovering tacit cultural perceptions in order to identify cultural barriers that may be encountered by a new KM initiative. The methodology used in this study is based on the grounded theory approach for analyzing qualitative data (Strauss and Corbin, 1994). Using its inductive methodology, the KM statements that participants expressed in open discussions and interviews were mapped to the KM life cycle activities. This analysis provides a basis for developing an effective KM strategy and practical roadmap, while highlighting the main challenges of the KM implementation.

The objective of the current research was to identify tacit perceptions and barriers regarding a KM initiative in a large software development organization. In order to fulfill this objective, the research questions are:

1. What are the KM activities currently taking place in the organization?
2. Are these KM activities currently embedded within the business processes?
3. What are the perceptions people have regarding these activities?
4. What are the cultural barriers that stem from these perceptions?

The paper is organized as follows: Section 2 reviews the relevant research literature, Section 3 describes the empirical study and Section 4 presents its findings, Section 5 discusses these findings in a broader context, and Section 6 concludes.

2. Theoretical background

2.1 Existing frameworks for KM

There are many frameworks for describing KM, varying in scope and goals. For the sake of brevity, only several major examples of such frameworks are presented here.
Holsapple and Singh (2003) describe potential sources of a firm’s competitive advantage. They present a knowledge chain model identifying primary knowledge manipulation activities (e.g. knowledge acquisition and knowledge selection), and secondary managerial activities (e.g. knowledge leadership and knowledge coordination). Hooff et al. (2003) identify processes that KM should focus upon, i.e. determining what knowledge is needed and how that knowledge is developed, accessed, shared, applied, and evaluated.

O’Dell and Grayson (2003) illustrate a comprehensive framework that includes the knowledge life cycle and the cultural and structural environment necessary for effective and successful KM processes. As part of this framework, they identify the following processes:

- using;
- creating;
- identifying;
- collecting;
- organizing;
- sharing; and
- adapting knowledge.

In an alternative framework, Biloslavo and Trnavčević (2007) propose the following processes:

- knowledge generation;
- storage;
- transfer; and
- usage.

In a third framework, Burnett et al. (2004) suggest:

- knowledge acquisition and learning;
- storage and maintenance;
- application and exploitation;
- dissemination and transfer;
- knowledge creation; and
- performance measurement.

The above examples represent different terminologies, and at times somewhat diverse perspectives. The authors proposed these categories of KM as a result of analyzing data elicited in open discussions and interviews, and omitted those that were not mentioned by the research participants.

### 2.2 KM audit review of current practices

KM audits provide insights into current KM practices, by means of a “snapshot”. This includes crucial processes and preconditions, as well as strategies and tactics for further KM development (Hooff et al., 2003). During the audit, participants respond to statements using a five-point Likert scale that ranges from “strongly disagree” to “strongly agree”. The audit results are statistically calculated and presented according to the following categories:

- knowledge needs;
- knowledge development;
- knowledge access;
- knowledge sharing (within and between departments);
- knowledge application; and
- knowledge evaluation.
The audit also includes cultural aspects (e.g. openness, respect and autonomy). Finally, the audit examines the usage and satisfaction with using the KM infrastructure.

Bilosliavo and Trnavčevic (2007) applied an audit instrument to a higher education institution. The audit instrument was a questionnaire containing two parts:

1. questions designed to collect some general data about the individual characteristics of the respondent; and
2. questions concerning the nature and characteristics of KM processes as perceived by the employees.

Burnett et al. (2004) describe a KM audit that took place in a multinational oil exploration and production company. Their audit was conducted according to the researchers’ KM conceptual model, which was based on theoretical models of knowledge processes. They used questionnaires and interviews to provide a critical first step in introducing KM into the department, and establishing a plan of action. In addition, they used a knowledge map that provided a visual representation of the previous steps, representing knowledge flows, bottlenecks and sources within the organization. This map encompasses both quantitative and qualitative analyses of the data. Burnett et al. (2004) comment that using different methodologies helps to identify inconsistencies in employees’ responses.

In this paper we suggest a new audit method, specifically designated for identifying, iteratively developing and refining employees’ culture-related perceptions model.

2.3 Knowledge engineering for KM

Knowledge engineering was traditionally concerned with the development of information systems that manage knowledge and reasoning. These systems were often referred to as knowledge-based systems (KBS) or expert systems. However, in recent years, knowledge engineering and KM have become linked, because knowledge engineering provides value during KM systems development, requirements elicitation, enterprise modeling and business process reengineering (Schreiber et al., 1999). Tsui et al. (2000) claim that knowledge engineering is a collection of “micro” knowledge strategies (e.g. representation and organization), while KM is considered as a collection of “macro” knowledge strategies (e.g. capturing and sharing). Therefore, KM projects should embrace some knowledge engineering expertise in order to provide value-added services. Abdullah et al. (2006) discuss experts’ knowledge and distinguish between explicit knowledge that can be codified and managed through KBS, and tacit knowledge that is more difficult to handle and involves human-related processes. According to Gill (1995), the successful adoption of knowledge systems is not primarily dependent on either technical or economic reasons, but is mainly due to organizational and managerial issues. In this spirit, we utilized the CommonKADS knowledge engineering methodology (Schreiber et al., 1999), and in particular its organizational model, for capturing tacit perceptions towards the KM initiative. Our interviews were aligned with the model worksheets that address organizational issues such as structure, process, resources, knowledge, culture and power.

2.4 Cultural constraints in implementing KM

An organization’s culture must be understood before a KM solution can be implemented successfully. To be successful, the KM solution must support and be supported by the cultural norms, expectations and practices of the organization (Watson, 1998; Ruggles, 1998; Delong and Fahey, 2000; Leidner and Kayworth, 2008).
Gold et al. (2001) identify culture as an important infrastructure component that positively influences organizational effectiveness. A knowledge-friendly organizational culture is one of the most important conditions leading to successful KM initiatives in organizations (Davenport and Prusak, 1998). Alavi and Leidner (2001) claim that there are cultural barriers with regard to KM that prevent employees from sharing knowledge through artifacts, teaching and mentoring others, using their expertise to innovate, and improving productivity. In many organizations, employees feel that their promotion depends upon the expertise they have, and not on the extent to which they help others. Another barrier is that people may not realize what aspects of their knowledge ought to be shared. Without a systematic routine for knowledge capturing, an organization might not benefit from its accumulative knowledge. In many organizations, a major cultural shift is required to change employees’ attitudes and behavior, so that they would willingly and consistently share their knowledge and insights.

While formalization and standard operating procedures may hinder KM initiatives (Hargadon, 1998; Von Krogh, 1998; Huber, 1991), Hooff et al. (2003) argue that openness, respect and communication climate are preconditions for a culture in which mutual trust is created and new ideas and experiments are encouraged. In this study, the current culture is analyzed and improvements to current practices are identified.

### 2.5 Uncovering tacit perceptions

KM initiatives, similar to business processes reengineering (BPR), are major organizational interventions. However, the organization’s members may not fully understand the goals and structure of the initiative. Fahey (1998) demonstrates the importance of tacit knowledge in the early stages of BPR:

> BPR was generally viewed as causing unnecessary upheaval in the organization (a tacit belief) and consuming the total organization’s attention for a considerable period of time (a tacit perception) [...] These elements of tacit knowledge collectively shape how they feel about BPR, how they initially react to the introduction of a BPR initiative, and whether and how quickly they eventually support or refuse it (Fahey, 1998, p. 112).

Fahey (1998) claims that organizations often fail when conducting BPR to overcome operating inefficiencies, organizational redundancies and work disconnections. One reason for this failure is the absence of attention to organizational knowledge and, especially, to tacit knowledge. Tacit knowledge (Polanyi, 1967; Nonaka and Takeuchi, 1995) is knowledge that individuals often find difficult to articulate, but at the same time significantly shapes how they see the world and their choice of behaviors. It consists of perceptions, beliefs, assumptions and projections. Although tacit knowledge develops through personal experiences, it is often shared and reinforced in groups of people with similar backgrounds, experiences and contexts.

Fahey (1998) argues that the knowledge challenge at this stage is twofold:

1. to build a shared understanding of the desired initiative; and
2. to involve as many people as possible in doing so.

Because the initiative might face objections, tacit knowledge quickly becomes evident while organizational groups assess the state of current working processes:

> If tacit knowledge of individuals or groups is not aligned with the proposed process change, then its execution is likely to run into multiple problems. The experience of many organizations vividly illustrates that these problems are often sufficiently severe to jeopardize process change (Fahey, 1998, p. 115).

“An organization’s culture must be understood before a KM solution can be successfully implemented.”
Therefore, when implementing a KM program, a critical phase is to capture data about each tacit knowledge element: perceptions, beliefs, assumptions, and values. This can be accomplished through interviews, surveys, and observations, and should create a “common understanding” among the initiative’s stakeholders regarding the program’s merits and potential. This data gathering activity should be continued through all the implementation stages. In this study, grounded theory (Strauss and Corbin, 1994) was used to interpret the interviews and open discussions, and to derive the tacit culture perceptions.

3. Methodology and setting

The main objective of this study is to uncover tacit cultural perceptions of different stakeholders in the organization, in order to identify barriers that might impede the adoption of KM solutions. When aiming to learn a phenomenon and identify its characteristics, rather than corroborating predetermined hypotheses, it is appropriate to use qualitative research methods and tools. In light of the research objective, the research tools that were developed during the study are based on the knowledge engineering methodology CommonKADS (Schreiber et al., 1999). Following this methodology and according to the qualitative grounded theory approach (Strauss and Corbin, 1994), open discussions, structured and semi-structured interviews were constructed and conducted with selected stakeholders who are actively involved in the organization’s key business and KM processes. The verbal responses were transcribed and inductively analyzed using the grounded theory approach.

The empirical study took place within three customer-facing divisions (field organizations) of an international software development organization. The data collection was conducted in three phases.

The first phase was a series of open discussions with nine people in different roles and seniority. Its goal was to learn about the current KM processes that take place in the organization, and the requirements and expectations from a new KM solution. Based on these focus group discussions, a semi-structured interview was developed and conducted with 12 additional interviewees in different locations and by different members of the research team. The interview in the second phase was semi-structured for two reasons. While the aim of the initial data collection was to gain a wide perspective about both the users’ current KM processes and their expectations for a new KM process, the second phase was focused entirely on understanding the current KM processes. Additionally, from the methodological point of view, we wanted to make sure that the interviews would be comparable even though they were conducted by different interviewers.

The semi-structured interview included sixteen questions focusing on the KM activities, how they are executed, their importance within the business processes, and how they may be improved. In this phase, we selected 12 interviewees with diverse seniorities and from three different globally spread regions. Interviewers were permitted to ask additional questions in order to probe responses.

The data analysis was inductive. First, the researchers marked each statement and characterized it according to different aspects. After analyzing several interview transcripts in this manner, the categories that emerged from the data analysis were defined and characterized. Then all interviews were analyzed, classifying each statement according to the identified categories. When needed, categories were added, joined or refined iteratively until category saturation was achieved. This was conducted in parallel by two researchers for validation purposes. Once the two researchers finished the analysis, the categories were discussed, some refinements were made and the data analysis was finalized accordingly. All together, 402 statements were isolated, analyzed and categorized.

In the third phase, eight additional interviews were conducted; six participants were chosen from previous phases and two additional participants were chosen to complement perspectives not fully covered by participants in the previous phases. The goal of the third phase was to understand how the KM activities are embedded within the organization’s
business processes. Thus, the interviews examined the organizational context of the business processes, their decomposition to tasks, flows, and staffing, and their communication and KM needs (what communications and documents are created, shared and consumed to support a business process). The interviews also examined the cultural context of the business processes.

4. Findings

The data analysis process, detailed in the previous section, was conducted according to the main activities of the KM lifecycle, as discussed in the literature review. The final categories included:
- create;
- share;
- access;
- usage; and
- maintain.

In addition to these KM activities, another category – infrastructure – was identified. According to the data analysis, researchers defined the categories unambiguously so that each statement could be classified to the appropriate category. Table I presents these definitions and illustrates them, using examples of interviewees’ statements.

<table>
<thead>
<tr>
<th>Category</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
</table>
| Create      | The activity in which extracted knowledge is documented                      | “I also have many notepads where I write and save my remarks”  
“I built a [specific tool] that provides a set of artifacts[. . .]”  
“The […] notes are shared via e-mail with other group member”  
“We share information via e-mail, wiki and chats.”                                                                         |
| Share       | The activity in which documented knowledge is published to other people (including adaptation of the document for publication) | “I use the search on the [company repository], For technical terms I do a general web search, Google, use the MS site and wikipedia. I also search the intranet”  
“I always succeed in finding it in the required timeframe”  
“If I find a PDF file, I forward it to [another department]; if this is a response to a request, I cut and paste into e-mail”  
“I use this information in order to prepare documents and answer questions asked by others”                                                                 |
| Access      | The activities of searching and finding specific required knowledge in available sources | “I think it would have been more effective if people could send suggestions for updating documents (but still that a single owner will be in charge of actually editing them)”  
“I would never annotate a document that doesn’t belong to me. I use (digital) ‘sticky notes’, e-mails or write my notes in a notepad, which I save on my desktop’”  
“In our enterprise organization, we have multiple sources of information […] no single point of contact’”  
 “[The firm] is built up of many applications. It is important to connect them all and unite information resources as much as possible” |
| Usage       | The activity of applying the knowledge found in a specific context          |                                                                                                                                                                                                           |
| Maintain    | The activities of validating, refining and updating existing knowledge documentation |                                                                                                                                                                                                           |
| Infrastructure | Tools supporting KM activities                                   |                                                                                                                                                                                                           |
Figure 1 presents the distribution of the statements made by the interviewees across the different categories. Notably, statements about access to knowledge occurred most frequently.

To better understand the tacit meaning of these statements, each of the statements was classified as active or passive. For example, the statement “The […] notes are shared via e-mail with other group member” was classified as passive, while the statement “We share information via e-mail, wiki and chats” was classified as active. While the literature usually refers to the different activities from the execution point of view, the interviewees frequently referred to the activities either from the knowledge point of view or by referring to the action of a (non-specific) third person, i.e. the activities that need to be done, but not necessarily by the speaker. This was very apparent in the infrastructure category, where 92% of the statements were passive. Figure 2 presents the division between passive and active forms of each category. Note that the activities of access and usage have the highest active form rate.

Occasionally, participants discussed KM activities in which items were created for their personal use, rather than public use. In most activities, this phenomenon was marginal, except for maintenance activities, where 36 percent of the active statements explicitly referred to the personal (rather than public) knowledge items.
In addition to the above findings, the analysis revealed general concerns about KM processes. One concern that was often mentioned in the interviews and confirmed in conversations with management, was the additional work needed to document knowledge in a manner suitable for subsequent sharing. For example, one interviewee explained that his documents needed to be adapted for sharing: “I don’t give them [my colleagues] access to my Word files – they include many personal notes I wrote for myself so that I can understand. In order to be able to share such a document, much editing and organization effort needs to be put into these files”. Later in the interview, in order to share knowledge, a need to allocate time was specifically expressed for this task: “It is important that we will have the time as an inherent part of our work, to dedicate for handling the information we found and created, so it will be sharable”.

Another interesting phenomenon that emerged from the data was the participants’ heavy reliance on social networking, in spite of the KM tools available in the organization. For example: “Most knowledge people have is in their minds and not written down. We spend a lot of time waiting for responses from these people”.

The interviewees pointed out additional aspects: “Many of the questions I get from my peers were already acted upon in the past. They want me to provide the same information again instead of searching for it themselves, in previously produced answers”; “I think many of the questions they ask us, they could have looked for and found themselves if they had certain access to the system, especially in the context of [. . .]. Such a solution would save both us and them considerable time”.

The above findings illustrate existing KM activities and concerns in the organization. Contextualizing these activities and concerns in term of business processes was the objective of the last interviews round. For each of the three studied field organizations, critical business processes models were developed. Figure 3 presents a general business process model built to represent the proprietary models used internally by the groups studied. This generalization, while abstracting away specific details, allows a generic analysis and discussion about the KM audit process.

The process represented in Figure 3 elaborates tasks (rectangles), inputs and outputs (ellipses) of the critical business processes of the field organizations studied. The process is triggered by an external or internal stakeholder. The first task is to clarify the requirements for resolving an issue. The next task is conducting research about the issue, such as understanding the issue and searching for existing solutions.

Figure 3: A general representation of the field organization’s business process

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discovering if a similar issue was encountered before and whether a reusable solution exists. After identifying the requirements for a solution and what knowledge resources are available, high-level solutions and schedule are prepared. Then, a detailed solution is generated along with the proper documentation. Next, quality control is conducted, first via peer review and then by the QA department. When the solution is ready, it is published for future reuse by internal and external stakeholders as well as delivered to the customer. During the process, the organizational repositories, project documentation and operational IT systems are utilized and updated. However, in many teams, the main communication channel is e-mail. In these teams, e-mail serves as the most extensively used knowledge repository.

Statements about knowledge activities were classified according to the following characteristics: business activity; knowledge activity; interviewees’ role and statement intent. Statements by interviewees with a wide business role (W) were distinguished from statements by interviewees whose role was focused on a specific product(s) (F). Statements about existing practice (P) were differentiated from statements indicating the Need for improvement (N). Examples are shown in Table II.

Examining KM in the context of business processes provided a deeper understanding about the practical knowledge activities carried out in the organization. Different views about

<table>
<thead>
<tr>
<th>Statement</th>
<th>Business activity</th>
<th>KM activity</th>
<th>Role</th>
<th>N/P</th>
</tr>
</thead>
<tbody>
<tr>
<td>When QA finds a problem they open an issue in [repository]</td>
<td>QA</td>
<td>Create and share</td>
<td>W</td>
<td>P</td>
</tr>
<tr>
<td>The test plan is supposed to be written before the test, but often the code gets written first</td>
<td>Generate solution</td>
<td>Create</td>
<td>W</td>
<td>N</td>
</tr>
<tr>
<td>There is a methodology that includes a process (document structure) and notation (e.g. using UML). In the last years, a qualified architect is responsible to sign these documents</td>
<td>Construct high-level solution</td>
<td>Create</td>
<td>F</td>
<td>P</td>
</tr>
<tr>
<td>The repository contains all the answers to the questions they [the employees] need to ask</td>
<td>Research the issue</td>
<td>Access</td>
<td>W</td>
<td>P</td>
</tr>
<tr>
<td>Most people have issues with [a certain repository]. Its use is mandatory but sometimes new acquired companies will use their own. [...] It is very difficult to produce reports with [the repository]</td>
<td>Research issue and transfer information</td>
<td>Infrastructure</td>
<td>W</td>
<td>N</td>
</tr>
<tr>
<td>You get an award on the best [solution-related knowledge item] of the quarter, and you also gain good reputation. They want to reuse the documents</td>
<td>Construct high-level solution</td>
<td>Share</td>
<td>F</td>
<td>P</td>
</tr>
<tr>
<td>There is lack of tags and metadata on the documents; it is organized according to their subjects. Certain documents don’t fall in a specific category and it is hard to find them</td>
<td>Research issue</td>
<td>Access</td>
<td>F</td>
<td>N</td>
</tr>
<tr>
<td>Fix is placed in shared directory for our department [...] In some cases they will also be published in a public site, from which customers can download the fix</td>
<td>Provide solution</td>
<td>Share</td>
<td>W</td>
<td>P</td>
</tr>
<tr>
<td>The e-mails are sent to everyone. There is no filtering or selection.</td>
<td>General</td>
<td>Share, access and infrastructure</td>
<td>W</td>
<td>N</td>
</tr>
<tr>
<td>Lessons learned are part of the e-mails that are sent to the mailing list</td>
<td>General</td>
<td>Share</td>
<td>F</td>
<td>P</td>
</tr>
<tr>
<td>Step-by-step processes and tools, using best practices, are set</td>
<td>General</td>
<td>Create and share</td>
<td>W</td>
<td>P</td>
</tr>
<tr>
<td>There are several presentations [PPT docs] in the internal site regarding different solutions and customers. These presentations are not updated when creating new versions</td>
<td>Generate solutions and documentation</td>
<td>Maintenance</td>
<td>F</td>
<td>N</td>
</tr>
</tbody>
</table>

Note: This statement refers to a specific case within sustaining engineering
knowledge processes were articulated by different organizations and different knowledge workers, spanning from formal to informal practices, and different levels of satisfactions with current practices. While the interviewees with wider responsibilities described relatively clear and well-defined standards of how KM is performed and the infrastructure that enables it, some of the interviewees with the more focused responsibilities voiced concerns about the usability of organizational standards and tools. In comparison to the latter, the group with wide responsibilities discussed the current organizational KM more abstractly, seemed less emotionally involved, and occasionally referred in present tense to planned KM tools that exist on the company roadmap.

Improving organizational efficiency by additional investments in KM was one of the major suggestions that were provided implicitly by some employees with regard to their specific work tasks. For example, one of the interviewees stated: “We create a lot of documents from scratch; if I knew that templates for these documents exist, it would have saved me a lot of time”. Other expressed their thoughts regarding organizational awareness: “I would like to raise a point: I think that there is not enough sharing; I am not aware of specific demand from management, and as far as I can tell, it is not embedded within the business process”. The employees expressed their desire to get more feedback and evaluation regarding KM: “We can do more business process cost evaluation and more examination of plans against execution”. These statements may imply that employees expect incentives that will make KM activities worthwhile. Moreover, the employees referred to KM infrastructure that will facilitate KM activities: “I would expect the organization to provide me with a unified portal where all the documentation can be found, and where I will be able to manage and collaborate with other employees, like with Google office tools”. One of the interviewees expressed his expectation for educational support when a need to learn new material arises: “Our organization fosters self-education using remote e-learning material; you just jump into the cold water for on-the-job training”. It seems that they believe that good KM would leverage their professional capabilities and facilitate learning and professional development.

Discussing KM in the context of business processes enables better exposure of the interviewees’ perceptions. In the context of the tasks they perform, KM issues become much less abstract, and it becomes more apparent to them how KM is related to, and may improve, their professional work.

In the following section, the results obtained are discussed and presented through the lens of culture audits, in order to identify the perceptions and cultural barriers influencing KM implementation.

5. Discussion

This research analyzed and categorized prominent activities taking place during routine work at the organization under study, in accordance with existing KM models and text analysis of open discussions and interviews. The KM lifecycle that currently take place in the organization include the following phases:

- create;
- share;
- access;
- usage; and
- maintenance.

An additional category that emerged from the analysis, orthogonal to these activities, is the KM infrastructure, which was considered as an enabler for KM. The important point is that KM audits must consider the enabling infrastructure as well as the KM lifecycle.

Further analysis of KM in the context of the examined business processes points at the already identified KM activities. Nevertheless, while the employees with the wider
responsibilities (and perspective) mainly address KM strategic standards and tools, employees with more focused, technical-oriented responsibilities refer to specific tactical KM concerns, and at times even suggest possible solutions that may affect their daily work. Both types of employees’ perspectives should be elicited and used when designing and applying a KM solution. This follows Holsapple and Singh’s (2003) knowledge chain model, which distinguishes between primary and secondary KM activities, the latter supporting and guiding the performance of the former.

The analysis of perceptions about KM activities revealed differences in emphasis. The access activity is the most referred to, while the knowledge construction activities for public domains are mostly discussed in passive or third person form. This reflects on a need to invest more on knowledge construction related activities (create, share and maintain) within the daily work tasks. Specifically, the interviewees relate to the existing infrastructure and its contribution to their work mostly in the context of knowledge consumption rather than construction. They treat the infrastructure as a passive form of knowledge and not as a dynamic, embedded tool of their working processes.

In general, it seems that the interviewees view knowledge consumption as an inherent part of their work, while knowledge construction is often considered an independent activity. This is a fundamental cultural barrier that should be addressed in our KM implementation. Preferring consumption to construction is a natural bias (Cress and Martin, 2006). The benefit of consumption is inherently evident, but the provider needs to be motivated to construct and provide to others. Thus, the knowledge market will be developed where there are both sellers as well as buyers. In the words of Davenport and Prusak (1998):

There is a genuine market for knowledge in organizations. Like markets for goods and services, the knowledge market has buyers and sellers who negotiate to reach a mutually satisfactory price for the goods exchanged. It has brokers who bring buyers and sellers together and even entrepreneurs who use their market knowledge to create internal power bases. Knowledge market transactions occur because all of the participants in them believe that they will benefit from them in some particular way. In economists’ jargon, they expect the transaction to provide ‘utility’ (p. 25).

The joint effort for, and responsibility to, the overall KM lifecycle is achieved by creating a culture that values knowledge sharing and collaboration, while embedding KM related activities in the routine work processes. Specifically, knowledge sharing in public domains should be acknowledged (through various incentives) and enhanced with adapted tools that best fit the users’ preferences (Davenport and Prusak, 1998; Hooff et al., 2003; Sackmann and Friesl, 2007).

While cultural aspects are well recognized in the literature, the authors wish to emphasize the importance of eliciting related data and identifying cultural barriers during a KM audit, by capturing tacit perceptions (Fahey, 1998). On this basis, an organization can choose solutions that overcome these barriers. Furthermore, discussing KM activities in the context of business processes motivates commitment, as well as overcomes natural barriers with regard to the activities of knowledge sharing. It may provide a direction for solutions that best fit employees’ needs.

6. Conclusion

Identifying the cultural aspects that affect KM practices (Alavi and Leidner, 2001, Davenport and Prusak, 1998) is a crucial step towards implementing a KM initiative in an organization (Hooff et al., 2003). The current KM audit techniques for analyzing culture perceptions are based on participants’ responses in interviews and surveys that are designed according to theoretical KM models (Biloslavo and Trnavčevic, 2007, Burnett et al., 2004). This paper presents an empirical study that identifies tacit perceptions and cultural barriers that may challenge KM initiatives in an organization, similar to other BPR efforts (Fahey, 1998). Statements by interview participants were classified according to KM lifecycle activities and infrastructure, as well as additional emerging characteristics. Further analysis exposed tacit perceptions, which in turn led to identification of cultural barriers that may influence the
success of KM initiatives. In this organization, at the time of the study, access issues were most prominent.

This research also suggests the need for embedding KM activities within the business processes, as well as the need to effectively communicate strong managerial support for the KM initiative. Interweaving a strategic KM plan with tactical involvement of the employees will greatly improve the likelihood of success. Moreover, embedding KM activities within their work routine can increase business process achievements as well as the employees' performance and professional development.

It is important to note that the findings of this study are based on a large, multi-located and highly distributed, yet single, organization. Thus generalization of these results should be done cautiously; and additional research needs to be conducted in order to further validate them. Nevertheless, the principle of identifying tacit perception and cultural barriers illustrated in this study may be helpful in any organization. Tacit knowledge affects the way in which KM processes and tools are adopted and adapted. Eliciting tacit knowledge and identifying the issues that need to be addressed prior to designing and implementing a KM solution is critical for a successful implementation.

References


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