Strategic Alignment and the Implementation of a Knowledge Management System: A Social Representation Perspective

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Abstract

In today’s highly competitive environment many organizations want to reuse existing organizational knowledge to derive business value more effectively and efficiently. They seek to rely on strategically aligned knowledge management systems (KMS) to improve their organizational agility. They underestimate, however, the challenges associated with the implementation of such systems. Prior studies have shown that social interactions may influence the users’ perceptions and response to the implementation of a new information system. Based on an interpretive case study, this paper examines the implementation of a KMS and how social interactions among four groups of users shaped not only the implementation process but also the alignment of the KMS with organizational strategy. Adopting a social representation lens, we are able to study how the groups develop different cognitive views of the KMS being implemented that ultimately lead to a strategic misalignment. Implications for research and practice are then discussed.

1. Introduction

Knowledge management systems (KMS) are a type of information systems (IS) that allow organizations to better leverage their intellectual assets. By enabling the storage and retrieval of information about projects, clients, and other business issues, KMS permit the reuse of knowledge acquired and contributed by organizational members. KMS are “people oriented” to the extent that their effective use depends upon voluntary contributions to KMS knowledge bases and to a set of users who value those codified contributions [2, 7]. In some domains, consultancy for instance, the consultants’ knowledge and experience are the firm’s “product”. In other domains, the employees’ knowledge and experience support the quest for organizational efficiency and effectiveness. Thus, the use of a KMS to store and reuse organizational knowledge becomes essential in order to manage these assets and to sustain organizational agility. It is little wonder that organizational spending for KMS has reached significant levels: over $73 billion in US [10].

Nevertheless, there are still important gaps that warrant further research. For example, prior research in strategic management has shown that the alignment of the business strategy with the IS strategy leads to higher organizational performance [3]. A strategically aligned KMS, therefore, would support the intellectual resources necessary to achieve an organization’s strategic objectives. However, the response to a KMS implementation may be hindered by user perceptions and socially constructed understandings of the KMS as well as the organization’s objectives [15]. Unexpected outcomes may especially result from the implementation of KMS because their use depends upon subjective understandings of knowledge, strategy and the system itself, even for a strategically aligned system. It is thus necessary to further explore the “less rational but highly influential elements” [15, p. 55] emerging during the KMS implementation process. To demystify these less rational elements, we pose the research question: How do social interactions shape the strategic alignment of a knowledge management system during implementation?

We examine the implementation of a KMS in a government agency providing IT consulting services to other government agencies. Although motivated by the practical benefits and challenges associated with the implementation of a strategically aligned KMS, this research ultimately seeks to make a theoretical contribution. By acknowledging the importance of social context in the production of knowledge and the use of a KMS, this paper shows that, through social interactions, organizational actors represent the KMS in different ways and that these representations shape the use and acceptance of the new KMS, thus influencing the implementation process and ultimately strategic alignment. Following the recommendations of previous studies on knowledge management [14, 15], the theoretical lens chosen (here, the social representation lens [11]) and the data analysis focus simultaneously on the individual and group levels of analysis because individual knowledge originates within the context of actors’ symbolic worlds and cannot be detached, stored, and moved to other contexts without social
reinterpretation. The findings also contribute to the IS alignment literature by showing how the implementation of a KMS can lead to misalignment, failing to support organizational goals and to sustain business agility.

In the following, we first present the theoretical concepts of KMS alignment and social representation. Our method section presents the research site and the research design. The results provide detailed evidence of the social representations created about the new KMS. Our discussion draws on these results to explain how social interactions may lead to the emergence of different social representations of the KMS and how these differences influence alignment. The implications for both research and practice are then discussed.

2. Theoretical background

2.1. Conceptualization of KMS alignment

Given its direct impact on organizational performance, IS alignment is a chief concern for practitioners [9]. IS alignment is generally defined as the degree of fit and integration among an organization’s business strategy, IS strategy, business structure (or business processes), and IT structure (or IT infrastructure) [3, 6]. Thus, IS alignment is not fixed in time, but rather a dynamic concept moving through periods of high and low alignment. High IS alignment implies a degree of fit and integration among the four components that is perceived to be at a level, where both the IT function and the IS strategy effectively support the organization’s business goals. Low IS alignment implies a degree of fit and integration among the four components where one or several business goals are not supported appropriately by the IS strategy or the IT function. Periods of low alignment are followed by a revolutionary change, which helps the organization to move on its evolutionary path and adjust to new elements in its environment [16].

Achieving alignment is contingent upon several factors, such as communication, collaboration, IT metrics, IS/IT governance, human resources, and technologies [9]. These contingency factors may influence either the strategic dimension of alignment (between business and IS strategies) or the structural dimension of alignment (between business and IT structures). Therefore, even if an IS project is initially aligned with regard to the strategic dimension, the overall IS alignment may decrease if the structural dimension is misaligned. Such conditions of misalignment may lead to failed IS implementation projects [4]. Formal business and IS strategies are implemented at the upper levels of the organizational hierarchy, while the implementation projects are executed at lower levels.

As with any other IS, KMS need to be strategically and structurally aligned with the organization’s business strategy in order to lead to increased organizational performance. However, as contingency factors, the social and cultural aspects are far more significant in the case of KMS [3]. The social dimension refers to the degree to which organizational actors understand the organizational goals and use the KMS to support these goals [15]. The cultural dimension refers to the degree to which KMS alignment is culturally supported within the organization by appropriate values, norms, informal structures, and incentives, among others [15]. Despite their role as either an enabler or a disabler of KMS alignment, the social and cultural dimensions have received little attention in the knowledge management literature. The theoretical lens of social representations, which is presented next, allows us to examine these two organizational contingencies during the implementation of a KMS.

2.2. Socially representing the use of KMS

Using a KMS is more than just performing an IT-mediated task. It is a contextually dependent activity, and the use of a KMS may not only change the associated work practices but also the nature of the work itself, given the complex interactions between social and material practices [8]. Therefore, adopting a practice lens is recommended in order to attain a more in-depth view [13, 15]. With this assumption in mind, we chose the social representation lens [11], which presents several similarities with the practice lens but, through the process of representing, social representations emphasize the dialectics between representer and represented [17]. The practice lens is thus enriched with more detailed insights.

The main premise is that individuals create a representation of something (object, idea, concept, etc.) or someone (individual, group, etc.) to construct a cognitive framework for the interpretation of reality. The representation acts as “a means of transferring what disturbs us, what threatens our universe, [...] to a context where the unusual becomes usual, where the unknown can be included in an acknowledged category” [12, p.26]. However, an individual’s thoughts do not form in isolation, but are based on collectively shared images of objects. Thus, the social representation is built on the common understanding of an object, idea or concept and embodies “the ensemble of thoughts and feelings being expressed in verbal and overt behavior” [19, p.96] of a social group. Social representations are both the product of the interpretation process and the process itself.

Let’s suppose Anne and John form a group of two individuals. Anne asks John to pass the quill used to write a specific manuscript. If John does not know the meaning of the term *quill*, he will mentally represent this concept based on known elements (e.g., a device for writing) as well as images of concepts from the same category (e.g., pen, pencil, ballpoint, marker). The ensemble of thoughts
and feelings composing the initial representation of a quill (which is in fact a pen made from a bird’s feather) might be far from the truth. John may, for instance, initially think of a quill as a weapon shed by a porcupine and therefore not understand Anne’s request. Through John’s social interactions with Anne, the initial representation is constantly adjusted so that, gradually, it denotes John’s social representation of a quill as a writing instrument.

Any representation is characterized by three elements: the object that is represented (the quill), the individual who builds the representation (John), and the group to which this individual belongs (in our example, the group composed of Anne and John). Given social interactions among the members of the group, both the process of creating a social representation and the social representation itself are in constant evolution. The group’s pressure and opinions, social negotiation, or collective sensemaking shape the representation and influence its form over time (see Figure 1).

In summary, the theory of social representation is appropriate for this study because it focuses on social interactions by examining the dynamic interdependence among thinking, communicating, and acting. Anchoring and objectification are key to creating and re-creating social representations. Together with communicative genres, they allow researchers to characterize the common understanding of a group.

3. Method

This research is conducted as an interpretive case study focusing on the subjective reports of users’ perceptions about KMS and their influence on the strategic alignment of the KMS. The subjective and context-dependent nature of knowledge implies that interpretations of reality depend on individuals’ thoughts and feelings and on other influences that may operate within the social context. Therefore, this section describes our methodological choices given the social and organizational context of our research site.

3.1. Research site

The research site (herein called IT Projects Authority or ITPA) is a state government agency in the United States. Established in 2000 by the state Governor, ITPA provides IT consulting services to the other state agencies. Its mission is to create a more efficient and responsive government through the innovative use of technology.

Figure 2 shows an extract of ITPA’s organizational structure: a 12-member board of directors, an executive director, and three divisions (Finance, Project Planning, and Operations). ITPA’s internal IT department is under direct supervision of the Finance division. The IT department is responsible for all the IT projects within ITPA (i.e. internal IT projects). The Project Planning division is responsible for initiating and planning IT
projects with other state agencies (i.e. external IT projects). Once the external projects get to the execution phase, they are transferred to the Operations division. Within this division, the Projects Management group is responsible for the project management side of the external projects and the Solutions Development group leads their technical development and deployment.

3.2. Case study design

The social representation approach offers not only conceptual richness, but also methodological direction [1, 5]. Therefore, we purposely chose ITPA because it was introducing a new KMS as a result of its strategic IS alignment process. The new system was a multi-user networking system based on Microsoft Project Server combined with Microsoft SharePoint Server (hereafter Project/SharePoint). The system allowed ITPA’s project teams to record project details, information about clients, and information about project management tools and methodologies. The system also generated reports of aggregated data and provided access to project deliverables. The use of this system required that tacit knowledge be codified and stored in a web-based repository rather than transmitted orally (which was the customary practice before the implementation of the new system). For this reason, Project/SharePoint was a major technological change for this organization.

Given the size of the organization (over 500 employees) and the great number of IT projects conducted at ITPA, we asked the top management team to suggest a set of relatively similar projects for which we could examine the implementation of Project/SharePoint in detail. The recommendation was the Enterprise Integration (EI) program, which was a collection of over 20 external projects (some in progress, others already completed) that all sought to deploy a unified IT infrastructure across groups of state agencies.

The investigation of social representations is considered more informative when natural groups are studied. Bauer and Gaskell [1] characterize a natural group by the presence of common interests (or a common project) and a collective memory. After examining the modes and media of representations at ITPA, as recommended by Bauer and Gaskell [1], we found that “project groupings” proved to be weak forms due to the temporal nature of the projects and the matrix structure of the organization. However, groupings based on divisional affiliation proved to be strong because members shared experiences, activities, interests, and had self-referential identities [1]. Respondents from the EI program perceived themselves as members of one of four groups: EI-External (EI members from the Project Planning division or the “external” group as they called themselves), EI-Developers (EI members from the Solution Development group or the “developers”), and EI-Internal (EI members from the internal IT department or the “internal” group). The data analysis focused on these four natural groups.

3.3. Data collection and data analysis procedures

Data collection began in November 2006. By January 2007, Project/SharePoint was already in production in the Finance division, and the two other divisions were expected to gradually embark by May 2007. Due to technical problems, the implementation project accumulated delays and the go-live dates were postponed. Given the precarious financial situation of ITPA, a sudden change in the business strategy took place in May 2007 – the implementation of Project/SharePoint was temporally suspended and work on most EI projects was stalled. Several members left the agency and those who stayed were more concerned about their jobs than about using the KMS. An example of the magnitude of the organizational restructuring is the major downsizing planned for the following year: from over 500 employees to just 80. In this context, we felt we had to leave the field in order to protect the data we already had from these unrelated events that changed the groups’ composition. Fortunately, the data already collected was rich enough to study the social representations at three key moments (before implementation, after training, and before the restructuring) during the six months spent at ITPA.

Multiple data sources and collection methods are needed in order to capture the complexity of social representations. First, social representations materialize through different modes (behavior, individual cognition, informal and formal communicative genres) and media (movement, words, visual images and non-linguistic sounds) [1]. Our focus is not the social representation per se, but the anchoring and the objectification of Project/SharePoint. Second, a thorough understanding of the alignment of the KMS may also transpire from documents, organizational routines, business processes, organizational practices, and norms. Thus, we used interviews, non-participant observation, and documents (see Table 1). The first author conducted interviews with key informants from each group. The interviews included questions pertaining to the KMS (specifically the implementation process, use practices, content, and other perceptions), and to KMS alignment. Some of the issues that were unclear based on interviews and observations were verified in informal discussions with small groups of informants. The first author also observed and wrote field notes on regular activities, meetings, working sessions, and training sessions. Documents such as organizational charts, strategic plans, business plans, the list of organizational goals and newsletters were used in order to better understand the KMS alignment process, the
organizational context, and the social representations as materialized in formal communications. Other documents used such as project documentation, project checklists, white papers, internal memos, and PowerPoint handouts proved to be especially useful because they helped us to better understand the type of knowledge that needed to be shared via Project/SharePoint. The various data sources and data collection methods allowed us to identify and examine similarities and differences across groups [1].

Table 1: Data collection methods

<table>
<thead>
<tr>
<th>Research methods</th>
<th>Informants</th>
<th>Modes of SR</th>
<th>Medium of SR</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews (23 semi-structured interviews)</td>
<td>Project Managers, Group members, Organizational level manager, IT Support group</td>
<td>Individual cognition</td>
<td>Words, conversations</td>
<td>Use of the KMS; SR of the KMS; Alignment of the KMS</td>
</tr>
<tr>
<td>Non participant observation</td>
<td>Project Managers, Group members, Organizational level managers</td>
<td>Habitual behavior; Informal communication</td>
<td>Behavior and rituals; Conversations during meetings and workshops; Unofficial symbols</td>
<td>Verify unclear issues about the use of the KMS and the IS alignment</td>
</tr>
<tr>
<td>Group interviews (4-5 informants at a time)</td>
<td>Project Managers, Group members, Organizational level managers</td>
<td>Informal communication</td>
<td>Conversations at business gatherings</td>
<td>SR of the KMS; Alignment of the KMS</td>
</tr>
<tr>
<td>Use of documents</td>
<td>Organizational documents and trade press</td>
<td>Formal communication</td>
<td>Official documents and symbols, news articles</td>
<td>Use of the KMS; Alignment of the KMS</td>
</tr>
</tbody>
</table>

Legend: SR = social representation

Table 2: Categories and examples of codes

<table>
<thead>
<tr>
<th>Categories</th>
<th>Examples of codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anchoring: past</td>
<td>Common background, prior experience</td>
</tr>
<tr>
<td>Anchoring: organizational context</td>
<td>Values and norms</td>
</tr>
<tr>
<td>Anchoring: future</td>
<td>Goals and aspirations</td>
</tr>
<tr>
<td>Objectification</td>
<td>Images, metaphors and symbols, behavior patterns</td>
</tr>
<tr>
<td>KMS alignment</td>
<td>Business strategy, IS strategy, organizational structure, IT structure</td>
</tr>
<tr>
<td>Implementation project</td>
<td>Objectives, events, system usage</td>
</tr>
<tr>
<td>Social interactions</td>
<td>Type, objective, content</td>
</tr>
</tbody>
</table>

5. Results

5.1. IS alignment and KMS alignment

Although ITPA does not have any competitors, the Governor’s office monitors ITPA’s spending and provides guiding principles so that ITPA can support the statewide goals. Then, ITPA’s upper management develops a list of strategies for each business function (e.g. IS, Marketing, Operations, etc.) accompanied by specific action items. Leadership groups refine the action items, which act as baseline for each operational plan. In 2001, the state Governor established IT-based cross-agency sharing of information as a statewide goal. The traditional “silod” data of each agency represented a significant barrier to producing efficient services to citizens and employees. Integrating the IT infrastructure would build consensus across state agencies, save money, and increase the quality of services offered. For example, criminal justice activities would benefit from real-time access to data from state law enforcement agencies, the courts, the Department of Corrections, and the Board of Pardons and Paroles. ITPA was mandated to promote a collaborative IT environment across agencies and to support its execution. The EI program was then created.

The projects under the EI program had a major challenge because most of the agencies were hesitant to lose ownership of the data to be shared. Therefore, ITPA decided to use its own departments to demonstrate that collaboration was possible across ITPA’s divisions (IT Strategic Plan, 2004). ITPA’s own divisions functioned in silos and cross-sharing was minimal. The projects undertaken at ITPA (especially the EI projects) had many similarities and the project teams were eager to share their expertise and to avoid reinventing the wheel when faced with similar problems. Better collaboration would also improve ITPA’s work practices and contribute to sustain...
ITPA’s expertise in IT project management and technology development (IT Strategic Plan, 2004).

To better align the IS strategy with the IT infrastructure, executive managers decided to formalize the use of the shared drive as the main electronic repository. Project teams were required to use the shared drives to store and share all project-related information and knowledge: project deliverables, contact information, meeting minutes, lessons-learned databases, diagrams (e.g., organizational charts, project charts, technical diagrams, etc.), memos, white papers, roadmaps, and any other project-related document. However, the shared drive was not very effective as a knowledge repository because it could not deal with version control and redundancy, among other deficiencies. As a result, few EI employees changed their work practices to include knowledge management activities using the shared drives.

Interpreting the inefficient use of the shared-drives as a technological misalignment, ITPA implemented in 2005 a more conventional solution, Microsoft SharePoint Services (hereafter SharePoint). At ITPA, SharePoint was configured to provide key functionalities that the shared drives did not have, such as: document versions, check-in and check-out of documents, alerts when changes were made, task monitoring, forums, and instant messaging. Given these benefits, SharePoint was expected to replace all the other tools for knowledge management tasks. But, despite the potential benefits of SharePoint, the project teams complained that the standard structure was too broad and vague and the access to the SharePoint sites was limited for security reasons. Gradually, project teams went back to their pre-SharePoint work practices for knowledge management activities. In 2006, ITPA decided to further readjust the technological misalignment by replacing SharePoint with another solution, Project/SharePoint [IT Strategic Plan, 2007].

In summary, business strategy was the main driver behind ITPA’s technological transformation. The alignment process supported the business strategy by implementing an IS strategy and then seeking to put in play the appropriate IT infrastructure. Executive managers provided technology vision. However, social contingencies influenced the implementation of the KMS. The organization kept introducing different KMS that failed to reach their strategic objectives. Next we describe the KMS implementation.

5.2. Social representations of Project/SharePoint

EI-External: the EI-External members were certified project managers (i.e. PMP®) who talked highly about knowledge management and its role for the EI projects: “We need to know what others are doing because we may be able to help each other. They may have something that we need and vice-versa” (Program Lead).

The EI-External members were quick adopters of all the tools supporting knowledge management activities. However, expectations on how to use these tools differed based on previous experiences with these tools. For example, the Program Coordinator was initially excited to work again on SharePoint. She pictured in her mind the structure of the new SharePoint sites, based on her experience at her previous job. She later admitted that those visualizations were very different from her current usage of SharePoint. She knew the tool had the functionalities to impose a structure that would fit the program’s needs, but the way in which the site was configured by the IT department forced people to find alternative solutions (e.g. shared drive, email, phone). The most common alternative solution was to put documents on both the SharePoint site and the shared drive. This solution complied with the formal requirement to have all the documentation on SharePoint, while allowing the EI members to create their own structure on the shared drive.

EI-External members became so used to this double-entry practice that they could not imagine the use of a single KMS, such as Project/SharePoint. When they heard about the implementation of Project/SharePoint, they hesitated because they perceived this system as yet another tool to be used in parallel with the existing tools. After a few training sessions, a mix of doubt and excitement emerged as illustrated by one of the project managers: “[Project/SharePoint] is supposed to provide a lot of details about the project and therefore automatically or magically pull it out for you so that everything is consistent. That is what we want. […] I’ve seen the details in the training about how it is supposed to work and how I am supposed to enter the details about the projects I’m managing but I haven’t seen the magical product yet.” (Project Manager)

Despite the advantages of Project/SharePoint, the transition from a mix of tools to a single, integrated system was still a major source of disbelief for the members of this group. On the one hand, they felt frustrated and dissatisfied with having too many knowledge management tools that could do the same task. “People have that desire to share and they feel frustrated because they could do it better. [...] They feel that there is no platform or opportunity or place for sharing knowledge and make a difference” (Executive Project Manager). On the other hand, every time a new knowledge management tool was introduced, they used that tool in conjunction with the other tools. When the major restructuring occurred, Project/SharePoint was still not accepted as the main KMS for the EI-External group. Even those members who used it regularly perceived it as “a fancy note-keeping program” (EI Program Manager). Table 3 summarizes the key findings regarding the anchoring and the objectification of Project/SharePoint within EI-External.
things directly to my resources” as they were used as “900-plus gigabytes of information [about] everything and everybody” (Unit Director). SharePoint was used by only one project manager who wished to comply with the norms established for the EI program: “To make sure that we are following the guidelines [of the EI program], the SharePoint site is where everything is available. My upper team, that I report to, will go to SharePoint and they will see what’s going on. But I am still managing my resources on a more personal level, instead of relying on them to go to SharePoint to pull things down. I know that the one I’m looking at is current, is approved, is the right version for me to see, and I have access to it. Right now, on the shared drive, that’s not true” (Unit Director).

Like their colleagues in the EI-External group, EI-Operations members were skeptical about changing their knowledge sharing practice: “I think [Project/SharePoint] will help us, but a lot of times we rely on tools to do the work for us and we don’t put enough energy and time into processes and into the behind the scenes stuff that allow tools to work for us” (Project Manager). Table 4 summarizes the key findings regarding the anchoring and objectification of Project/SharePoint.

Table 4: EI-Operations: summary of the findings

<table>
<thead>
<tr>
<th>Anchoring</th>
<th>Goals and aspirations</th>
<th>Objectification</th>
<th>Representative images, metaphors, behavior patterns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience, background, values and norms</td>
<td>- Hands-on project management expertise</td>
<td>- Efficient document collaboration</td>
<td>- T0: Project/SharePoint will have everything that the shared-drive doesn’t have</td>
</tr>
<tr>
<td></td>
<td>- Limited prior experience with IT-based KMS</td>
<td>- A common KMS for everybody at ITPA</td>
<td>- T1: Using a KMS is time consuming but it’s worth the effort if everybody else is doing it</td>
</tr>
<tr>
<td></td>
<td>- Limited conversion from tacit to explicit knowledge</td>
<td>- Strong preference for face-to-face and informal sharing</td>
<td>- T2: Project/SharePoint will help us but it won’t do the work for us</td>
</tr>
<tr>
<td></td>
<td>- Compliance with the norms for the EI program</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend: T0 = beginning of the implementation process in this group; T1 = after the six training sessions; T2 = right before the major organizational restructuring.

EI-Developers: The EI-Developers were responsible for deploying and supporting the technological solutions of all EI projects. On a daily basis, they used several tools to support their knowledge management tasks: shared drives, email, instant messaging, and web-based repositories for technical documents. The main tool was the shared drive; the others were used for very specific needs. A SharePoint site had been set up for them but moving all the documents from the shared drive was considered of low priority and the site was not used at all.

As the owners of the technical documentation necessary for all the EI projects, the EI-Developers group had a strong identity, tied to their cultural norms to document and share technical knowledge. Their use of the shared drive was extremely effective as they created their own organizing structure and their own system of alerts for version control. On the one hand, the group size was
relatively small (around six people plus external consultants who temporally joined the team), while on the other hand the opportunity for reuse was so palpable that it was possible to measure it in dollars and time saved. In this sense, the team leader noted: “It is the whole culture from square one: whatever we have we share so that everyone [in our group] can get to it and read it. [...] If you don’t want phone calls at 3AM from someone working on it, you’d better document” (Team Leader).

After attending the mandatory training sessions for Project/SharePoint, the EI-Developers members found the features of the new KMS very useful for the group’s needs. Nevertheless, they were concerned about the transition, which they perceived to be too costly and time-consuming: “It’s not reasonable for us, but down the road, when things slow down, absolutely, it can be very valuable. We’re just not ready for it” (Unit Director). They lacked motivation because “everything that SharePoint or Project/SharePoint does we can do it on the shared drive” (Business Analyst). Table 5 summarizes the key findings regarding the EI-Developers group’s anchoring and objectification of Project/SharePoint.

Table 5: EI-Developers: summary of the findings

<table>
<thead>
<tr>
<th>Anchoring</th>
<th>Objectification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience, background, values and norms</td>
<td>Goals and aspirations</td>
</tr>
<tr>
<td>- Technical skills</td>
<td>Better documentation for more efficient knowledge reuse</td>
</tr>
<tr>
<td>- Culture to document technical knowledge for reuse</td>
<td>Didn’t want another KMS</td>
</tr>
<tr>
<td>- Strong preference for codifying and sharing knowledge</td>
<td>- T2: Project/SharePoint can be valuable but we’re not ready to switch</td>
</tr>
<tr>
<td>- Switching from shared-drive to another KMS was a low priority for the group’s managers</td>
<td>- T0: Certified project management skills and expertise</td>
</tr>
<tr>
<td></td>
<td>- Not Applicable (this EI project was an exception according to the norms and rules at ITPA)</td>
</tr>
</tbody>
</table>

Legend: T0 = beginning of the implementation process in this group; T1 = after the six training sessions; T2 = right before the major organizational restructuring.

5. Discussion

We undertook this research to examine how social interactions shape the strategic alignment of a KMS being implemented. We adopted a social representation lens, which is recommended when new situations emerge (such as the implementation of a significantly different KMS) and the paths of different groups cross as they try to make sense of the unfamiliar situation [1]. The implementation of the new KMS was not a “revolutionary change” [cf. 16] for ITPA but it created nonetheless a context of unfamiliarity. The technology – here the Project/SharePoint system – became a “social object of the community for the purpose of behaving and
communicating” [11, p.251]. However, given significant differences in the anchoring process, each group’s collective sensemaking and social negotiation shaped the social representations of Project/SharePoint differently. Based on each group’s past experiences and knowledge about a KMS, common skills, future goals and aspirations, Project/SharePoint became associated with different images and meanings. Through social interactions among the group’s members, the anchoring and objectification mechanisms (see Tables 3-6) led to the development of a social representation of Project/SharePoint, at specific points in time (T1, T2 and T3). While we acknowledge some peripheral individuals in each group, we focused the data analysis on the common objectification or the core representation for each group and how this representation evolved in time from T1 to T3. The social representations influenced how each group talked about the new system and its implementation, how it interpreted new knowledge about the system, how it created its social identity, how it communicated with the other groups, and how it justified its actions regarding the use of the new system. For example, as shown in table 4, the EI-Operations group aspired to share their knowledge efficiently, but their limited expertise with KMS and their strong preference for oral sharing led to a social representation of Project/SharePoint that was clearly different from that of the other groups.

The patterns of evolution are neither ‘good’ nor ‘bad’ [18]. They simply correspond to the various social representations across the EI groups. At the beginning of the implementation, prior experiences and the common background played a dominant role in shaping the groups’ representations. Later, the mandatory training sessions (which focused exclusively on KMS use) added a positive spin to the groups’ social representations. Images, such as “magical product”, useful features, or a system worth the effort, were associated with the new system being implemented. However, after using the system (EI-External) or after waiting impatiently for the go-live (EI-Operations), the social representations of Project/SharePoint changed again. For example, the common understanding of the EI-External group shifted from “magical product” to “fancy-note keeping program”. As a result, we see different degrees of use and adoption of the KMS: from barely any use at all (EI-Developers) to rather regular use (EI-External). Some groups used the KMS more efficiently than others; some groups modified their work practices more than others to include the new KMS.

From an alignment point of view, as the use of Project/SharePoint failed to converge toward a common understanding across the EI groups, the initial strategic alignment was no longer sustainable. ITPA focused primarily on external issues (business strategy and IS strategy) and underestimated the importance of a structural alignment [6]. Thus, a misalignment gradually emerged between the business domain and the IS domain. Only by examining this phenomenon from different perspectives (for example, external vs. internal) or levels (group vs. individual) [15] can we gain a clearer understanding of the social representations affecting IS alignment. This explains why on the surface the KMS seemed well aligned with the organization’s strategy and, yet at the subunit level, the KMS was met with various forms of resistance. In the end, the implementation project was interpreted as a good effort to improve knowledge management work practices, but it was insufficient to maintain its strategic alignment. Hence, both executive managers and project teams lost interest in the KMS when the business strategy drastically changed. Despite the massive layoff and the need to limit knowledge spillovers in such situations, Project/SharePoint was not perceived as a necessary piece of the IT infrastructure supporting the new strategy.

Another key finding is the difficulty to examine IS alignment if we treat the KMS holistically [16]. As also found by Ravishankar et al. [15], the degree of alignment (or misalignment) varied across groups. Adopting a group-level analysis allowed us to examine these differences. We are therefore able to infer that the technological change did not trigger an improvement of the corresponding business practices (as it was initially intended) because some of the groups at ITPA continued to use their own approaches. Hence, KMS alignment depends not only on an appropriate IT infrastructure, but also on having a common representation of the system being implemented that is harmonized across groups.

These findings are summarized in the form of the following propositions:

P1. Social representations influence group interpretations of a KMS, a group’s social identity, its communication with other groups, and its justification regarding the use of a KMS.

P2. Social representations change over the course of KMS implementation in response to group background, such as training and hands-on experience.

P3. Differences in social representations of KMS among groups result in strategic misalignment.

P4. Shifts in organizational strategy threaten strategic alignment by altering social representations of a KMS as unnecessary to new strategic initiatives.

6. Conclusions

This research presented a social representation angle linking KMS implementation to KMS alignment. We studied four groups during the implementation of a KMS that was initially strategically aligned. Our findings showed that the social interactions among the groups' members facilitated the development of different social representations that ultimately led to a misalignment.
Our study is limited due to its focus on a single public agency. It is thus difficult to compare our results with other studies of KMS implementation that use quantitative methods. Qualitative studies like ours are not designed with such comparisons in mind. Moreover, comparison with other qualitative studies is limited because of the novel use of social representation framework for analyzing strategic alignment. Most studies of alignment use theories drawn from strategic management, which focus more on top management decision making than KMS user interpretations. Rather than risk direct comparisons across incommensurate studies, we limit our contribution to the generation of local insights into KMS alignment within a single setting.

Despite this limitation, our study has implications for both research and practice. First, it offers a novel approach to investigate a perennial organizational struggle: IS alignment. The social representation lens is less concerned with judging the success or failure of IS implementation projects and more concerned with explaining the degree of system use. Thus, we were able to capture how social interactions within and among the groups studied shaped KMS alignment.

Second, this research builds on prior studies on IS alignment and IS implementation. Examining the relationship between these two themes raises new methodological issues as some of the constructs are at the group level, while others are at the individual level. Hence, it is essential to adopt a multi-level theoretical framework. By doing so, our study has empirically shown how the “less rational but highly influential” 15 social contingencies shape the relationship between KMS alignment and KMS implementation. Future research could identify other forms of influence applying other multi-level theoretical frameworks.

With respect to practitioners, our results emphasize the role played by social representations in facilitating (or impeding) IS implementation and adoption. Opposing forces act on individuals’ representations and both ‘stability’ and ‘change’ elements influence how the individuals’ representations form and evolve over time. Rather than push for a technology-driven change, practitioners should understand how groups’ anchor their social representations and objectification mechanisms guide their behavior. Change toward alignment can then proceed with more realistic assumptions and expectations.

7. References