Supporting Knowledge Strategy in Consulting Organizations: Codification, Personalization or Both

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Abstract

This paper reports on results from an ongoing study of the information infrastructure support for organizational knowledge strategy. We assess the applicability and predictions of the widely cited model of Hansen, Nohria and Tierney’s on knowledge strategy and infrastructure support. We do so by means of two case studies that we conducted in the consulting sector. Our findings indicate support for the Hansen et al.’s model as each of the organizations has predominately pursued a knowledge strategy consistent with the model’s predictions. However, we also find that in so doing, organizations can incur significant opportunity costs if either a codification or a personalization knowledge strategy is allowed to predominate to such an extent that it crowds-out the alternative knowledge strategy.

Keywords

Knowledge strategy, codification, personalization, opportunity cost, consulting, information infrastructure

Introduction

An effective knowledge management strategy is a prime concern for most knowledge intensive organizations. Determining the most effective knowledge strategy for an organization to pursue has emerged as an important topic in the knowledge management literature (Hansen, Nohria & Tierney 1999, Zack 1999, Earl 2001). Similarly, within the information systems literature, the determination of an effective information infrastructure for supporting different organizational knowledge approaches has emerged as an interesting and pertinent research topic (Alavi & Leidner 1999, Alavi 2000, Alavi & Leidner 2001, Davenport & Prusak 1998).
These concerns are particularly pressing for knowledge intensive organizations, such as consulting firms (Hansen et al. 1999). For these organizations, knowledge is a core asset and getting their knowledge strategy right is crucial to their competitive position. At the same time, it is necessary to have an appropriate information infrastructure in place to support the chosen knowledge strategy.

The model of Hansen et al. is often cited as a means of informing the choice of knowledge strategy, especially for knowledge-intensive organizations. The Hansen et al. model was developed from the analysis of consulting firms’ approaches to knowledge management, given the nature of the business of these organizations. As such, the model distinguishes between two fundamentally different approaches to knowledge strategy that consulting organizations can pursue: codification versus personalization. Codification as a knowledge strategy is concerned with capturing and storing knowledge in explicit forms so that it can be readily transferred and used by others within the organization. Information technology (IT) is used to support the storage of this knowledge and its retrieval by people across the organization when and if they require it (Hansen et al. 1999, Dunford 2000). On the other hand, a personalization knowledge strategy is claimed to facilitate and encourage the person-to-person sharing of tacit knowledge (Hansen et al. 1999). Within a personalization strategy, IT is used to extend people’s interpersonal networks and enhance their ability to connect and communicate with one another (Hansen et al. 1999).

In this paper, we test the applicability and predictions of Hansen et al.’s model by assessing the model against the knowledge strategies pursued by the two consulting organizations. Our first case is a global management consulting organization that has invested heavily in information infrastructure designed to support a codification knowledge strategy. The second case is a small Australasian consulting organization in the education sector. The latter organization has a minimal investment in information infrastructure, and what it does have, is used to support a personalization knowledge strategy. In both these case studies, we have found support for Hansen et al.’s predictions as each of these organizations has predominately pursued a knowledge strategy consistent with their model. However, we also find that organizations can incur significant opportunity costs when allowing either a codification or a personalization knowledge strategy to predominate to such an extent that it crowds-out the alternative knowledge strategy.

The paper is structured as follows. First, we review pertinent literature on the information infrastructure support for organizational knowledge strategy. We then describe the key features of Hansen et al.’s knowledge strategy model. In the following sections, we outline our research methodology and present two case studies. We compare the findings from our cases with Hansen et al.’s predictions, which indicate that opportunity costs are incurred and these arise from an over commitment to each respective knowledge strategy.

**Literature Review**

In preparation for our discussion of the Hansen et al. model, we review some definitions and arguments pertaining to knowledge and knowledge strategy choice in consulting organizations.

There have been numerous attempts at defining knowledge and knowledge management in the literature. Given the focus in this paper, it is beyond our scope to revisit this discourse. For our discussion here in the context of consulting organisations, we adopt Alavi and Leidner’s (2001) broad definition of knowledge as ‘the potential to influence action’ and
knowledge management as being about ‘building core competencies and understanding of strategic know-how’ (Alavi & Leidner 2001 p. 110).

It has been argued that knowledge strategy should be considered as a key component of business strategy (Zack 1999, Earl 2001, Grant 1996). Business strategy describes the goals of an organization and the means it uses to achieve them (Miles & Snow 1978, Porter 1996). To manage organizational knowledge effectively, a defined knowledge strategy reflective of the business strategy is seen as important (Zack 1999, Liebowitz 1999, Maier & Remus 2002, Dunford 2000). Having a stated knowledge strategy in place can help to identify the existing internal strengths and weaknesses and external opportunities and threats (Zack 1999) of the organization. This also assists in the detection of knowledge problems within the organization. Moreover a stated knowledge strategy helps to determine how information technology can enable and support knowledge management in the organization (Hansen et al. 1999, Zack 1999). Despite these benefits, it has been noted that organizations often do not explicitly state their knowledge strategy (Zack 1999, Maier & Remus 2002).

In the context of consulting organizations, knowledge is seen as a fundamental asset (Hansen et al. 1999, Kautz 2002). The nature of consulting firms’ business is to generate, store, share and sell knowledge (Dunford 2000). In order to implement effective knowledge management in this sector, knowledge strategy is considered to be crucial and should be formulated in a manner to reflect and support the competitive strategy of the organization (Hansen et al. 1999). In this respect, a competitive knowledge strategy should be chosen to perform knowledge activities differently from one’s competitors in order to create and sustain competitive advantage (Porter 1990, Porter 1996, Hansen et al. 1999) and deliver value to customers.

The role of IT in supporting knowledge strategy is an area of much discussion at present (Alavi & Leidner 1999, Davenport & Prusak 1998, Ruggles 1998). There is a need to better understand the significance of IT support while devising knowledge strategies, especially in the consulting sector. The Hansen et al. (1999) model offers some advice in this regard.

**The Hansen Nohria and Tierney (1999) Model**

Hansen et al. (1999) have developed a knowledge strategy model based on the study of the approaches to knowledge management used by consulting organizations. Hansen et al. claim that organizations involved in consulting should adopt either a codification knowledge strategy as the primary focus and personalization as the secondary focus or vice versa. They also claim that if both personalization and codification are pursued with equal emphasis, knowledge management efforts will result in failure (Hansen et al. 1999).

This poses the key question: Under what circumstances should organizations adopt a codification or a personalization knowledge strategy? Hansen et al. suggested the nature of business of the organization determines the choice of knowledge strategy. In this respect, the way the organization serves its clients, the type of economics in its business, and the type of people working for the organization influence this choice.

For a greater understanding of the two approaches, Hansen et al. have illustrated with examples of organizations from the consulting sector. Historically, management consulting organizations have invested heavily on information technology to manage knowledge (Hansen et al. 1999, Dunford 2000) and have paid less attention to human resources. The business is routinized and solutions are often reused to solve clients’ problems. Hansen et
al.’s prescription for a codification strategy is underlined in these organizations where the main domain of knowledge is codified, stored and reused using IT applications such as databases, groupware, web-pages and portals (Alavi & Leidner 2001, Weill & Broadbent 1998, Davenport & Prusak 1998). In this respect, IT acts as an enabler to codify knowledge (Hansen et al. 1999).

Codification can be viewed as a ‘people-documents approach’ (Hansen et al. 1999). It involves capturing explicit knowledge to make it available to the organization as a whole for further reuse (Hansen et al. 1999). This avoids costs associated with the unwanted duplication of knowledge and the costs associated with a lack of codification process. Hence, in a codification strategy, the focus is on IT as a means for storing and retrieving knowledge. Here, the interactions between individuals do exist, but the level of importance is secondary to the role of IT in managing knowledge (Hansen et al. 1999).

On the other hand, in strategy consulting organizations, the concentration on technology investment is usually low and primarily focused on people for managing knowledge. The business is non-routinized and solutions are customized to serve its clients problems (Hansen et al. 1999, Davenport & Prusak 1998). Hansen et al.’s recommend that personalization strategies are used in those organizations where the main domain of knowledge is predominantly shared via interpersonal interactions (Dell & McDermott 2001, Polanyi 1962, Sveiby 1997). In these organizations, IT applications such as email, video conferencing and online forums are used to assist the communication of knowledge between people (Hansen et al. 1999, Kautz 2002, Prusak 1997).

Here personalization can be viewed as a ‘people-people approach’ (Hansen et al. 1999). It involves using interpersonal relationships to mobilize and use personal knowledge (Polanyi 1962, Polanyi 1966) to solve customized problems (Hansen et al. 1999). Person-to-person interactions are the main focus and the emphasis on using IT is of secondary importance (McDermott 1999).

Hansen et al. recommend that knowledge intensive organizations should pursue either codification or personalization as a dominant strategy and use the other as a supporting strategy where the strategy split should be 80-20 (Hansen et al. 1999). That is, 80% of an organization’s total knowledge management efforts should be on one strategy, and 20% on the other, secondary strategy.

Hansen et al.’s concept of codification and personalization is widely cited in the literature on knowledge strategy formulation and it is also positioned as a guide in designing the level of IT infrastructure required for implementing the knowledge management program based in consulting organizations. Table 1 summarizes Hansen et al.’s recommendations for choosing between the two knowledge strategies and IT support thereof.

<table>
<thead>
<tr>
<th>Codification Strategy</th>
<th>Personalization Strategy</th>
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<tr>
<td>Information-systems implementation by reusing codified knowledge.</td>
<td>Solve problems through channelling individual expertise.</td>
</tr>
<tr>
<td>Focus on explicit knowledge</td>
<td>Focus on individual knowledge</td>
</tr>
<tr>
<td>Predominantly documented form of knowledge</td>
<td>Predominantly personalized form of knowledge</td>
</tr>
<tr>
<td>Importance of electronic document systems</td>
<td>Importance of knowledge networks to share</td>
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for codification, storage, dissemination | tacit knowledge
---|---
Emphasis on technology factors | Emphasis on organizational and social factors
High budget for IT | Low budget for IT

*Table 1: Summary of knowledge strategy approaches (Hansen et al. 1999)*

**Methodology**

We employed case study research as the method to assess the theory of codification-personalization approaches to knowledge strategy in the specific context of consulting organizations. We have chosen the case study approach for a number of reasons. The field of knowledge strategy research is relatively novel and there is a need for theory building (Eisenhardt 1989). Relationships between the phenomenon of knowledge strategy and IT support are not clearly evident in the literature. As such the case study method allowed us to study a contemporary phenomenon in-depth within the real life context of consulting organizations (Walsham 1995, Galliers 1991).

Data was collected from multiple sources including formal and informal interviews, document collections and system reviews (inspection). The interviews formed the key source of evidence. The formal interviews were semi-structured with an interview guideline (Yin 1989, Neuman 2000). The interview guideline was developed from themes based in the research literature on organization’s knowledge strategy and knowledge management system.\(^1\)

On average, the interviews lasted for around an hour. The interviews were recorded and transcribed. The transcribed data were subsequently verified with the interviewees to check for transcription errors (Benbasat, Goldstein & Mead 1987, Klein & Myers 1999) and to improve the internal validity of data collection (Neuman 2000, Yin 1989). In addition, we took detailed notes during the interviews.

The interviewees were senior level managers who were involved in the formulation of the organization’s knowledge strategy. We focused on senior managers, who had a history of experience in strategy formulation, with particular reference to knowledge strategy, in the two organizations. Other sources of evidence included documents such as strategy blue prints, organizational structures, charts and relevant manuals on knowledge management. We also inspected the information infrastructure for supporting the knowledge strategies in these firms. These included information systems, networks, data repositories, communication systems, portals and knowledge support systems in use in the organizations.

During data analysis we made use of investigative triangulation (Yin 1989, Patton, 1990) where the authors worked independently and collaboratively in considering the evidence and the interpretations thereof. This was done in an iterative method culminating in the set of conclusions presented in this paper.

The data collected in these cases forms part of an on-going study. We analysed the data in each case according to themes such as knowledge strategy, personalisation, codification, and

\(^1\) A copy of the interview guideline is available upon request from the authors.
so on (Miles & Huberman 1984). We also performed a cross case analysis to compare similar and distinct occurrences of events.

**Case Studies**

In this section, we present the two case studies. The cases describe the knowledge strategies and supporting information technology of two consulting organizations that are knowledge intensive and geographically dispersed. We use the pseudonyms, **Consultco** and **Educo** for these organizations.

**Consultco**

Consultco is a large multi-national consulting organization with offices spread across the globe. They provide consulting services in the management and technology areas. Knowledge is a fundamental asset and the main revenue engine for the organization. The main business of the organization is oriented towards codifying, storing, reusing and selling knowledge.

Consultco has an articulated knowledge strategy and a group of staff dedicated to knowledge management work. People working in their Knowledge Management Division have a variety of roles and responsibilities such as Knowledge Taxonomists, Knowledge Analysts, Knowledge Account Managers, and Knowledge Leaders responsible for different regions such as Europe, America and Australasia. Moreover, they have a team of information technology experts who manage and support the organization’s computer-based, knowledge management systems.

The knowledge strategy at Consultco can be characterized as being predominantly one of **codification** according to Hansen *et al.* (1999). Within this approach, strong emphasis has been placed on knowledge processes such as mapping, acquiring, codifying, and storing knowledge in explicit forms.

Consultco has invested heavily in IT to support its knowledge strategy and it has an extensive global information infrastructure in place. This information infrastructure includes powerful search engines to locate and map information on prior projects, databases, high capacity networks, the Internet and various intranets for knowledge transfer and distribution. The organization also has an extensive knowledge portal system with a number of features for mapping, capturing and generating knowledge. Consultco has a series of specific research databases that provide capabilities to do internal research and integrate with external information and knowledge.

Information technology at Consultco strongly supports knowledge reuse within the organization. This enables consultants working on client problems to draw on the codified experience of other consultants who have developed solutions for similar problems elsewhere in the world. Hence, information technology provides an advantage to the organization and assists in avoiding knowledge loss and reinvention problems. Moreover, the organization’s information infrastructure provides the consultants with quick access to regularly updated information such as market trends, business intelligence, industry performance and product portfolios.

From the interviews conducted with Consultco, we however see that by adopting a knowledge strategy that relies predominantly on information technology to codify and reuse knowledge, there were significant cost implications for the organization. The information
infrastructure is not particularly supportive of interpersonal networks and person-to-person knowledge sharing. This results in an opportunity cost and to compensate, the organization has created new knowledge management roles and responsibilities to accommodate the lack of a personalization approach in their knowledge strategy.

One such role that has been created in response to this perceived knowledge cost is that of Knowledge Market Leader (KML). An important part of the KML’s role is to shape and direct the organization’s knowledge strategy, but the role is also responsible for developing and encouraging the sharing of best practices in knowledge management within the organization. The KML for the Australasian region describes the current emphasis in his leadership role as being:

...like a telephone switch board operator. I am the connector, a broker. I keep the communities of interest... I grow and connect many little communities.

An important part of the KML’s role is to ‘connect’ people across the organization and to facilitate and encourage the formation of interpersonal networks and communities across the organization in order to facilitate person-to-person knowledge exchange. This connecting role is a response on his part to the significant limitation that has emerged from the organizations over-reliance on information technology to address its knowledge needs. The KML remarked:

Culture is the most important thing for knowledge management to work, systems can’t do everything and we are limited by that.

He was also passionate about the need for personalization in Consultco:

If someone’s job is at stake, knowledge management works well. My philosophy is that building networks and relationships are important in consulting.

At Consultco, efforts are being directed towards addressing the perceived deficit in current knowledge strategy. Even though the organization has a strong information infrastructure for knowledge codification and reuse, there is a need to enable, encourage and support personalization knowledge strategies within the organization.

By emphasizing sophisticated systems and applications, Consultco has allowed a codification strategy to dominate its knowledge management efforts. This is a problem recognized by many in the knowledge management area at Consultco. For example, the Technology Leader for the American region made the following comment:

Certainly, a consulting firm cannot share knowledge without technology. If you create great things on the greatest technology, but people don’t care to share, then it is difficult.

The over reliance at Consultco on codification strategies and the lack of personalization approaches has resulted in very limited information infrastructure capabilities for knowledge exchange between individuals. This has implications for the organization in terms of the cost of having to hire people to make knowledge management function well. In fact, Consultco is currently recruiting more people to liaise between knowledgeable individuals across the organization. The organization is currently planning for more information technology to support personalization. Plans are afoot to implement virtual meeting spaces (called ‘E-rooms’) to facilitate interpersonal sharing of knowledge between its employees in the future.
Educo

Educo provides consulting services in the education sector. It has offices in a number of major cities throughout Australia and New Zealand. Educo provides a range of services including advice to international students on studying and living abroad, counselling and orientation for students, university course selection, as well as advice to universities on issues associated with international students. Educo is a member-based organization and it has a large network of student advisers, counsellors and consultants based in Australia and New Zealand. Educo’s main business focus is the dissemination of relevant information to its members and ensuring that necessary expertise is available to them when required. Over the last few years, Educo’s member base has grown rapidly and the organization itself has expanded geographically.

Educo does not have an explicit knowledge strategy nor does it have dedicated staff devoting themselves to knowledge management work. However, implicit in the running of the organization, we see a good example of a personalization knowledge strategy according to the Hansen et al. (1999) model. The organization as a whole has a strong culture of knowledge sharing and knowledge is for the most part shared through interpersonal networks.

Information technology support for this implicit knowledge strategy at Educo is minimal. The organization mainly relies on e-mail to share information between its members and for providing advice to its clients. Knowledge storage is haphazard and is largely accomplished by individual staff members saving and filing the content of e-mails on their own computers. Due to the increase in the size of its member base in recent years, the quantity of information and knowledge flowing throughout the organization has also increased vastly. Without a robust information infrastructure to capture and store this knowledge, much of it is getting lost. As a result, knowledge reinvention and duplication has been reported to us as becoming significant problems for the organization.

According to the Vice President for Policy, planning and Development (VP), the lack of information technology support for knowledge capture and storage has created significant problems for the organization:

One of the problems that we have had is although we use the technology to share the information, we have not necessarily used the technology to store the information. And over the years that gets lost, that’s a huge problem for us as an organization because strategically we want to be able to capture the information and not reinvent the cycle all the time.

Educo relies predominantly on people to share and transfer knowledge. In this, there are significant cost implications for the organization, in the form of knowledge reinvention that occurs in different geographical locations. The knowledge reinvention arises from the lack of stored, codified knowledge resources. Educo realizes the need for such information infrastructure and, as a result, the organization is planning to invest in suitable information technology to support knowledge codification, storage and reuse.

In order to address these problems the organization is now looking for ways to codify and store knowledge and is seeking to use information technology to capture, store and organize knowledge created from the experience of its members. According to the VP, this will facilitate better knowledge management in Educo:
Technology is to help us manage better. There are pockets of knowledge everywhere in Australia. If we have a system and when we contribute to the system, it takes care by automatically sending it off... and not reinvent the wheel. [...] What we want is a centralized database [...] that can be instantly updated by the members themselves and that's why we are looking for a new website that has all sorts of facilities as well.

At Educo, the inability of the organization to capture, store and disseminate codified knowledge effectively has created significant problems for the organization since it has grown in size. In response to these problems, Educo is planning to implement information technologies such as centralized databases, portals and intranets to support an ability to manage codified knowledge.

Cross-case Comparison

The two organizations have pursued totally different knowledge strategies, both with a dominant focus on either codification or personalization. In Consultco the codification approach dominates, while personalization dominates at Educo. In both these cases, their information infrastructure reflects the chosen knowledge strategy, but also imposes limitations as a result of its tight coupling to the chosen strategy. Both organizations incur an opportunity costs as a result. This is also reflected in the stated needs for improvement in information infrastructure in each case. A comparative summary of the two cases appears in Table 2.

<table>
<thead>
<tr>
<th>Aspects of knowledge strategy</th>
<th>Consultco</th>
<th>Educo</th>
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<tbody>
<tr>
<td>Knowledge strategy</td>
<td>Predominantly codification</td>
<td>Predominantly personalization</td>
</tr>
<tr>
<td>Information infrastructure</td>
<td>Massive IT infrastructure in support of knowledge strategy</td>
<td>Very elementary IT support</td>
</tr>
<tr>
<td>Reported information infrastructure limitations</td>
<td>Little support for person-to-person knowledge exchange</td>
<td>Minimal support for knowledge storage and retrieval</td>
</tr>
<tr>
<td>Stated needs for improvement in information infrastructure</td>
<td>Discussion facilities such as virtual meeting spaces (“E-rooms”) to facilitate interpersonal sharing of knowledge</td>
<td>Central databases, portals and intranets for codified knowledge capture, storage and exchange</td>
</tr>
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</table>

Table 2: Comparative summary of the two cases

Discussion

In examining these two case studies, we find evidence that these two organizations are indeed pursuing knowledge strategies consistent with the advice given in Hansen et al.’s model for consulting organizations (1999). In the first case study, we found that Consultco was pursuing a knowledge strategy in which knowledge codification and reuse predominated, and this strategic focus was reflected in the information infrastructure of the organization. On the other hand, in our second case study, we found that Educo was pursuing a personalization knowledge strategy in which knowledge sharing and transfer are given importance. This
strategic focus was reflected in the sharing of knowledge between its members and low level of information infrastructure support.

However, we also found in these two cases, that an over commitment to one, dominant knowledge strategy at the expense of the other incurred a cost. In our case studies, we saw strong evidence that opportunity costs were being incurred as a result of pursuing a dominant codification strategy in Consultco and dominant personalization strategy in Educo.

At Consultco, an opportunity cost was incurred in the need for new organizational roles and responsibilities to connect and share knowledge between its employees. In order to address the knowledge problems faced by the organization, they are now ‘banking on culture’ to extend personal networks and encourage interpersonal interaction and knowledge sharing. Hence, while they have relied almost solely on codification knowledge strategies in the past, they now recognize the need to place greater emphasis on personalization in their knowledge strategy.

In contrast with the Consultco case, at Educo opportunity costs emerged from the organization’s need for information systems such as intranets, website portals and centralised databases to support knowledge codification and storage. In order to address the knowledge problems the organization currently faces, they are ‘banking on systems’ to codify and store knowledge through databases and web pages. Hence, while they have in the past relied almost solely on personalization approaches to knowledge management they have now recognized the need to place greater emphasis on codification in their knowledge strategy.

Our findings are largely consistent with the knowledge strategy model put forward by Hansen et al. (1999). As their model predicts, consulting organizations need to adopt a knowledge strategy that is predominantly a codification strategy or is predominantly a personalization strategy. Attempting to pursue both of these strategies in an even-handed manner will result in poor knowledge management results. However, the watchword here is ‘predominant’. While Hansen et al. (1999) advise organizations to emphasise either one or the other of these strategies, they also recommend that organization do not totally neglect the other. Rather, they suggest that organizations should adopt an 80/20 split. That is, they recommend that roughly, 80% of an organization’s knowledge management efforts should be directed toward the dominant strategy and 20% of the total effort should be directed towards the other supporting strategy in order to develop an effective overall knowledge strategy. In our case studies, we see confirmation of the validity of this suggestion.

However, in both the cases, we found the supporting knowledge strategy to be largely absent in each organization and that pursuing a codification or personalization strategy by foregoing the other incurs a significant opportunity cost for the organization. These opportunity costs manifest in needs recognised by each organization for improving its knowledge management efforts. At Consultco, where codification has dominated, this has occurred in the recognised need for significant investment in the development of personalization strategies. In contrast, at Educo, where personalization has dominated, it has occurred in the recognized need for investment in codification strategies. These case studies clearly illustrate that neglecting the ‘20% supporting knowledge strategy’ represented a significant opportunity cost for these organizations and provides good support for Hansen et al.’s recommendations concerning the pursuit of a two-tiered ‘80/20’ knowledge strategy mix.
Conclusion

In this paper, we have explored the applicability of Hansen, Nohria and Tierney’s model of knowledge strategy in consulting organizations. Through an examination of two case studies, we find support for this model. In each of these consulting organizations a knowledge strategy has been adopted that corroborates to Hansen et al.’s recommendations that an organization should focus predominately on either a codification or a personalization strategy and a secondary focus on the non-dominant strategy, if it is to effectively manage knowledge. However, we have also found that there is a significant opportunity cost associated with each of these strategies if they are pursued to the exclusion of the other approach. That is, if a codification knowledge strategy is pursued so vigorously that personalization approaches are crowded out, the organization will incur an opportunity cost, and vice versa. This opportunity cost also manifests in limitations in the information infrastructure support for the knowledge strategy. Our study confirms Hansen et al.’s suggestion that an effective, overall knowledge strategy is one in which codification and personalization are mixed so that one of these strategies dominates but not to the total exclusion of the other. The non-dominant strategy still has an important, abettedly subordinate, role to play and should not be completely neglected or crowded-out by an exclusive focus on the dominant approach.

Our study has a number of limitations. First, we have focussed specifically on consulting organisations and the findings may not be applicable to all organizations. Consulting organisation are knowledge intensive and are in the business of selling knowledge based services and knowledge strategies form an important part of the organizations overall business strategy. This explicit focus on selling as well as using knowledge internally may significantly influence the effectiveness of various knowledge strategies and the need to adopt a dominant/subordinate mix of codification and personalization strategies. Additional case studies in other sectors should shed light on the applicability of these findings to other contexts. It should also be noted that in these studies we have focused on the opportunity cost encountered by organisations when they over-commit to either a codification or a personalization strategy. We are currently engaged in follow-up studies with these and other organizations to further study the relationship between organizational knowledge strategy and information infrastructure support.

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