Analysis of Interrelations between Business Models and Knowledge Management Strategies in Consulting Firms

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Abstract

Knowledge is an important matter for consulting firms − as a resource, as a product or service, and as a trigger for internal value creation processes. Therefore, a strategy for management and utilisation of knowledge in its different state is needed. It is sensible to assume, that this strategy is strongly influenced by a respective consulting firm's business model. This paper provides an analysis of the interrelation between business model and Knowledge Management strategy. Four determinants are defined to allow a detailed description of different Knowledge Management strategies. Methods and techniques of Knowledge Management are subsumed under these determinants. The use of these methods determine, whether a Knowledge Management strategy is dominated by central or de-central elements. This article describes different types of business models and derives recommendations for corresponding Knowledge Management strategies. Case studies of four international consulting firms with different business models and different Knowledge Management strategies are used to validate these recommendations.

Keywords

knowledge management, consulting, business model, knowledge management strategy

1. Introduction

Following Polanyi (1966) we distinguish between explicit knowledge which can be explicated (e. g. in the form of models, theories, methods and techniques) and documented on media (such as paper, audio tapes, video tapes, hard disks, or whiteboards) on one hand and implicit or tacit knowledge, that is bound to an individual's specific experience, personal background, value system, methods of learning, and ways of interacting with individuals, on the other hand.

Management consulting firms are often defined by their "product" which is the value-adding knowledge-based advice they offer to the management of companies in particular fields such as strategy, operations, or information technology. From a client perspective, the essence of these services is the creation and exchange of specific knowledge, the implementation of which leads to performance improvement (Krogh, Ichijo & Nonaka 2000). Therefore, taking into account that consulting firms

- depend on the re-use of experience as well as on the standardisation of methodologies and approaches for their analysis and solution of client problems and issues,

- tend to show high staff fluctuation,

- normally have their staff, and thus their knowledge and competencies, distributed across many office locations and client sites,

the management of a consulting firm's knowledge is critical. Knowledge is their core resource or asset, producing and selling it is their business (Krogh et al. 2000, Ortwein & Spallek 1998).

While a company's history and culture should be considered, its business strategy must be the basis for the derivation of an adequate Knowledge Management (KM) strategy. While we establish the link between consulting business models and KM strategies in section 2, we detail four determinants of a KM strategy and explain state of the art methods and techniques as well as their utilisation for the implementation of KM strategies in section 3. In section 4 we present our empirical findings with four consulting firms, which follow different business models and different KM strategies. In section 5 we compare the expected KM strategies with the empirical results and analyse deviations.

2. Consulting Business Models and KM Strategies

2.1 Types of Consulting Business Models

Consulting firms typically follow one of two major business models. There are firms that repeatedly deal with mostly similar issues and therefore provide highly *standardised products and services*. Consultants re-use existing modules or pieces while applying their skills to construct something new (Hansen, Nohria & Tierney 1999, Probst & Büchel 1994). This can result in "economies of re-use". The focus of such a business model is on generating large revenues.

On the other hand, there are consulting firms that create highly *customised solutions* to unique problems. They provide creative, analytically rigorous advice that is rich in tacit knowledge and focus on high-level strategic problems by channelling individual expertise.

The business model of such strategy consulting firms focuses on maintaining high profit margins (Sarvary 1999, Igl & Lehner 2000).

2.2 KM Strategies

A KM strategy is characterised by its goals and by the methods and techniques used to pursue these goals. The goals, methods and techniques can be managed in a central or de-central way, i.e. the connected KM sub-processes *Knowledge Generation, Knowledge Maintenance,* and *Knowledge Distribution* are controlled centrally or de-centrally (Probst & Romhardt 2001, Blessing & Bach 2000, Voß & Gutenschwager 2001).

Consulting firms that follow a central KM strategy have developed elaborate methods to codify, store, disseminate and allow reuse of knowledge. Knowledge is codified using a "people-to-document" approach: It is extracted from the person who developed or acquired it, then made independent of that person, and finally re-used for various purposes. Corresponding electronic document, content and KM systems are established and managed top down (Hansen et al. 1999, Sarvary 1999, Tucher von Simmelsdorf 2000). Knowledge dissemination from a database to individual requestors is a good example for a central distribution sub process. This sub process remains "central" if replicas of the database exist in different geographical locations, because the process, even in this case, continues to be managed centrally.

The other strategic extreme is to manage knowledge *de-centrally*, i.e. KM sub processes are driven de-centrally. In this case, knowledge is closely tied to the person who acquired it. Networks of individuals are built to connect people so that tacit knowledge can be shared through direct "person-to-person" contact (Hansen et al. 1999; Tucher von Simmelsdorf 2000). The de-central strategy is a bottom-up approach. KM systems emerge as a result of consultants' initiative. Management is only loosely involved in the co-ordination and funding of the process and does not pre-define the focus or the topics of knowledge sharing. Such a system is market driven with a rather small administration effort (Sarvary 1999, Tucher von Simmelsdorf 2000).

2.3 Interrelation between Business Models and KM Strategies

Besides a firm's corporate culture and history its KM strategy mainly depends on its business model (Sarvary 1999, Zack 1999, Maier & Remus 2001). Considering the different business models and KM strategies mentioned above, the following normative recommendations can be given:

Consulting firms that deal with standardised solutions for similar issues where a reuse of knowledge is essential should focus on a central KM strategy (Heilmann 1999, Post & Weggeman 1999). The knowledge used for resolving the issues is only weakly context dependent and relatively easy to categorise and synthesise with formal methods (Sarvary 1999). "Knowledge objects" can be developed by extracting general pieces of knowledge and storing them in an electronic repository. This allows many people to search for and to retrieve codified knowledge and enables large-scale knowledge re-use and thus promotes business growth (Hansen et al. 1999).

Consulting firms that create customised solutions to unique problems should use a more de-central KM approach (Sarvary 1999, Heilmann 1999, Post et al. 1999). Because their customers' needs vary dramatically, codified knowledge is of limited value (Hansen et al. 1999). What is really important is the consulting firm's experience, or rather its tacit

knowledge, which can be used to develop innovative solutions (Heilmann 1999). Tacit knowledge is hard to categorize and the level of synthesis and abstraction is limited because of strong context dependence (Sarvary 1999, Hansen et al. 1999). Therefore, knowledge should be closely tied to the person who developed it. Networks should be built so that tacit knowledge can be shared through person-to-person contacts.
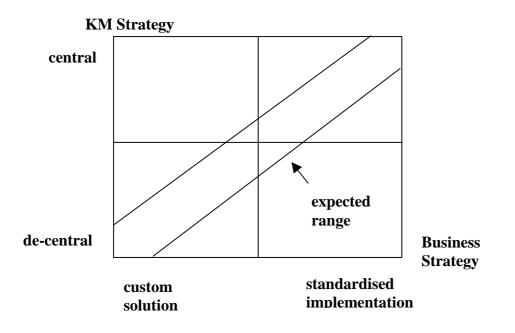

Figure 1. Expected correlation between business strategy and KM strategy for the consulting industry

Generalising the correlation between business models and KM strategy identified above, one would expect that, within certain limits, the level of centrality of a consulting firm's KM strategy is proportional to the level of standardisation in the solution it offers. This is illustrated in figure 1 which depicts the expected range in terms of business strategy and KM strategy.

3. Methods and Techniques of Central and De-central KM Strategies

KM processes, need to be supported and determined by methods and techniques for four determinants, namely culture, organisation, information technology (IT), and human resources. In the following sections, methods and techniques relevant to KM in the consulting industry are introduced, attributed to one of the four KM strategy determinants, and classified as central or de-central KM strategy elements.

3.1 Culture

An organisational culture is "a way a group perceives, thinks and feels in relation to problems and [...] is acquired when a group solves a problem" (Fitzek 1999, p. 68). In consulting, the dominant project-based organisational structure influences the working and communication culture. The composition of project teams changes frequently, the diversity of team members as well as their implicit knowledge is huge, and, in many cases different mentalities and

cultural backgrounds are brought into contact. Therefore, organisational culture is an important factor for the success of KM. Culture can encourage openness, knowledge sharing and mutual support among employees, while generating attitudes like altruism, trust, error tolerance, and understanding.

Methods and techniques of corporate culture for central KM strategy control the internal knowledge flow in a strongly regulated and formal way. Periodical meetings for top down knowledge diffusion, mailings and newsletters from central units, formal establishment of reports and internal publications as common means of knowledge explication, are examples for this central approach. Another method used with a central KM strategy is the establishment of contact between different business units and qualifications in a formalised way, to promote the exchange of different views, mentalities and experience. Centralised KM often establishes binding rules for internal and external communication to ensure appropriate internal knowledge transfer as well as controlled knowledge disclosure to third parties.

Methods of corporate culture for a de-central KM strategy strongly support informal "peer to peer" knowledge transfer. Examples of cultural methods for de-central KM are the encouragement of an open, informal, internal knowledge market, support of Communities of Practice (CoP) or Interest (CoI) (Alpar & Kalmring 2001), the fostering of informal contacts by means of team events, sufficient spatio-temporal resources (e.g. coffee corners), etc. Another de-central method is the requirement that consultants react promptly to requests from colleagues (Hansen et al. 1999). The formation of heterogeneous teams of people generates a culture in which groups are hindered from creating routine solutions, but rather find highly creative, non-standard, new ways – thus being a purely de-central, cultural KM method. Similarly, team building, i.e. measures to support understanding, trust, team spirit, and team cohesion, must be considered a de-central cultural method.

Some methods and techniques of KM can support both KM strategies. On the one hand internal symposia provide the opportunity to impart knowledge to many employees at the same time and from a central perspective. On the other hand such symposia stimulate bilateral exchange of knowledge by providing employees the opportunity to identify experts within the enterprise on the basis of individual conversation. Incentive (cf. section 3.4) and sanction schemes promote the removal of the "knowledge-is-power"-attitude, which restricts the disclosure of personal knowledge and thus facilitates central as well as de-central KM. Besides, the attitude of employees towards knowledge sharing in a centralised or de-centralised way is often influenced by using internal marketing methods such as KM newsletters or by having senior staff and teams leaders represent living examples for the firm's KM.

3.2 Organisation

With organisational design as a determinant of KM strategy, an environment that is well suited for more effective knowledge generation, maintenance, and distribution within the consulting firm can be established. While certain organisational structures provide a good environment for the transformation of individual into collective knowledge and vice versa, the institutionalisation of KM-related processes and roles must also be considered.

Functionally organised departments, which provide knowledge services for all practices, project teams, and staff are a characteristic of a central KM strategy. "Knowledge centres" establish the connection between employees and the explicit knowledge base of a consulting firm through a central organisation (Sarvary 1999) – storing, synthesising, indexing, retrieving, and transferring knowledge objects is centralised. The knowledge centre satisfies a

large part of the knowledge demand centrally. Similarly, "centres of excellence" (Allee 1997), which e.g. define new consulting products, play an important role by offering dedicated, central support in the knowledge generation process. The core business process oriented specification and implementation of specific knowledge processes (Alpar et al. 2001) belongs to a central KM strategy. Formal Knowledge harvesting, i.e. the selection of knowledge collected from engagements and its distribution in knowledge repositories as performed by knowledge content managers is another important method for a central KM strategy.

A de-central type of KM strategy is supported by "peer-to-peer knowledge networking", because the demand for knowledge is satisfied de-centrally. The support of staff by informal "affinity groups", "communities of practice", "communities of interest" or advisors assigned to projects are common de-central techniques. Team- or project-oriented organisational structures foster a de-central transformation of individual into collective knowledge and vice versa.

Roles and functions for KM can be defined at a strategic, operational, and technical level (Blessing et al. 2000) to support central as well as de-central KM. Whether a role or function supports central or de-central KM, crucially depends on the way function holders work. Examples for operational functions in support of central KM would be Knowledge Content Managers or an application developer working on a knowledge document store. An operational function for a de-central KM strategy would be "Knowledge Networker", who supports informal knowledge exchange between staff.

3.3 Information Technology

Information technology, the third determinant of KM, may support all KM processes. The level of IT support and the kind of IT infrastructure needed by a consulting firm, depend on its KM strategy.

For a central KM strategy, extensive support with advanced IT is critical (Reimus 2001, Sarvary 1999). The core element of a suitable architecture is a central electronic repository of explicit knowledge focusing on knowledge as an object (Zack 1999, Maier et al. 2001). The repository contains databases for best practices, case studies, methods, articles, etc. For the implementation, maintenance and constant improvement of the repository, document management, content management and workflow management systems are essential. Furthermore, a central KM system must contain tools for knowledge search operating both on the full text and the meta-data of a knowledge object. Examples for such tools are search engines, information retrieval mechanisms, management information systems, decision support systems, data mining and text mining tools, and agent technology (Heilmann 1999). Knowledge Maps can aid users in an ergonomic way to find knowledge assets in a repository (Maier et al. 2001). To allow the sharing of (esp. explicit) knowledge, electronic networks, especially Web based systems (e.g. Intranets) are commonly implemented (Chen & Gaines 1997).

For consulting firms which pursue a de-central KM strategy, a different IT infrastructure is required and moderate investments in IT are sufficient (Hansen et al. 1999, Reimus 2001). These firms should also develop electronic repositories and document systems, but their purpose is not to provide knowledge objects. Instead, consultants browse documents to retrieve meta-information that helps them to get informed about a particular subject area or to find subject matter experts. The identified individuals or sources are then directly approached (Reimus 2001, Zack 1999). IT for a de-central KM strategy should support communication

among people in order to facilitate the exchange of tacit knowledge (Maier et al. 2001, Hansen et al. 1999). Knowledge is shared over telephone, voice- and e-mail systems, via videoconferences, discussion forums or groupware systems (Heilmann 1999, Fitzek 1999). An important recent development for the support of de-central KM strategies are real-time collaboration tools which often become particularly powerful in conjunction with well-established communities. Knowledge maps can also be used as part of a de-central KM strategy to quickly identify adequate discussion partners and subject matter experts within the organisation. Such expertise locators are, in their simpler forms, also known as "yellow pages". In their more complex forms, they are visual, topic-based tools, and contribute to the formation of networks of experts and communities of practice (Tucher von Simmelsdorf 2000, Heilmann 1999). Finally, the intranet also provides the possibility of creating virtual rooms, which can be used as places to exchange tacit knowledge (Cantoni, Frigerio, & Bello 2001).

3.4 Human Resources

In consulting, high workforce turnover, short project lifecycles and a small half-life of experience are major issues KM needs to tackle.

A KM training curriculum that familiarises employees with all internal KM services, is a central measure, typically delivered by the knowledge centre. The derivation of concrete knowledge goals, from a corporate level down to each individual, is a central technique of corporate knowledge and employee skill management. Often, training programs are derived on knowledge goals and thus integrated as central KM elements. Even de-centrally delivered training, e.g. computer-based distance learning, must be considered a technique of central KM, because the underlying KM process is centrally governed. The measurement of the corporate down to the individual knowledge and skills, e.g. by means of a hierarchical system of balanced scorecards, is another element of centralised KM (Kaplan & Norton 1996). A further important HR technique for central KM is the implementation of an incentive scheme for regular, successful use of and contribution to the corporate knowledge repository (Hansen et al. 1999) and KM activities. The measurement of contributions to the knowledge repository may be performed with credit assignments based on contribution frequency and relevance feedback mechanisms.

Incentives for participation in de-central KM measures such as incentives for directly sharing knowledge, particularly implicit knowledge, or for extensive networking between consultants are a technique for the support of de-central KM. The appraisal of networking behaviour could e.g. proceed through formalised peer-group feedback. Incentives can be complemented by punishment for insufficient achievements. Recruitment may support central KM, e.g. by following a recruiting policy based on "hard" skills which seeks candidates that fall into a skill portfolio defined in terms of knowledge goals. Alternatively, the recruitment policy may support a de-central KM approach by implementing a soft-skill-oriented recruiting policy which would be more permanent and which favours candidates with outstanding general intelligence, extraordinary social skills and the like.

Among the de-central KM techniques in the field of human resources we find, in addition, the development of workforce skills based on self-co-ordinated learning groups, training on the job, learning by doing in teams, project oriented training, and self-governed knowledge networks. Both mentor or coach and job rotation programs are de-central approaches (Tucher von Simmelsdorf 2000).

4. Case Studies: KM Strategies for four Consulting Firms

In the following case studies, the business strategy, the KM strategy self-perception, and the components of KM strategy determinants of four consulting firms are identified. The cases were selected, because they represent a broad range in terms of the dimensions "leadership in their industry" and "business model". We expected each company to follow a different business model and therefore a different KM strategy. The results of our case studies were extracted from structured and semi-structured interviews. More detailed results of the four cases, omitted in this paper due to space limitations, are available from the authors.

4.1 Firms and Business Models

Accenture employs about 75,000 people in 110 offices world-wide. The business units of the company are divided into five industry segments and into so-called capabilities dealing with cross-industry solutions, e.g. Supply Chain Management or Customer Relationship Management. Accenture focuses on products and services for which consultants re-use existing modules or pieces of knowledge while applying their skills to add value. In most cases they rely on explicit knowledge. Annually, Accenture hires 10-30% new employees while approximately 10-15% leave the company.

McKinsey & Co. is one of the leaders in international strategy consulting employing more than 7.000 people in offices around the world. The firm, organised as a partnership, follows a business strategy that focuses on custom solutions and individual services that serve to add value to the client's business. McKinsey specialises in supplying strategic analysis and advice to its clients. The information for this case has been extracted from McKinsey's Italian practice.

PricewaterhouseCoopers (PwC) is a global professional services firm with more than 150.000 employees world-wide. In Germany, more than 10.000 employees work in more than 40 offices. **PwC Consulting (PwCC) Germany**, which is the subject of this case study, employs roughly 2300 people in eight offices[1]. Work force fluctuation is near the consulting industry average of 10% to 15% annually. PwCC offers both standardised implementation services and custom solutions with a tendency towards re-use in standardised implementations.

Prognos AG with its headquarters in Basel, Switzerland, employs around one hundred people in offices in Europe and the USA. The firm focuses on executive strategy consulting for business, government and the public sector, and for international non-profit organisations. Prognos' consulting services focus on highly customised analysis, usually based on up-to-date research. With this research-based approach, they create reports with comprehensive long-term predictions on different subject areas, their content depending on a complex model of effects. Knowledge exchange between experts is an integral part of the business strategy.

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[1] We describe the situation as of 2002-09-30, because PwC Consulting merged with IBM Business Innovation Services on 2002-10-01.

4.2 Methods and Techniques

<table>
<tr><th colspan="2">Methods + Techniques to support central and de-central KM strategies</th><th>Accenture</th><th>McKinsey</th><th>PwCC</th><th>Prognos</th></tr>
<tr><td rowspan="18">Culture</td><td>Periodical meetings for top-down knowledge diffusion</td><td>MEDIUM</td><td>WEAK</td><td>WEAK</td><td>MEDIUM</td></tr>
<tr><td>Mailings / Newsletters from central units for top-down knowledge diffusion</td><td>STRONG</td><td>MEDIUM</td><td>STRONG</td><td>MEDIUM</td></tr>
<tr><td>Formal establishment of reports / internal publications as means of knowledge explication</td><td>STRONG</td><td>STRONG</td><td>MEDIUM</td><td>STRONG</td></tr>
<tr><td>Formalised establishment of contact between different nationalities, lines of service, and qualifications</td><td>NO</td><td>STRONG</td><td>MEDIUM</td><td>NO</td></tr>
<tr><td>Implementation of binding rules for internal and external communication</td><td>MEDIUM</td><td>NO</td><td>STRONG</td><td>NO</td></tr>
<tr><td>Encouragement of open, informal internal knowledge markets</td><td>MEDIUM</td><td>STRONG</td><td>MEDIUM</td><td>STRONG</td></tr>
<tr><td>Implementation of CoPs or CoIs</td><td>STRONG</td><td>NO</td><td>STRONG</td><td>NO</td></tr>
<tr><td>Fostering of informal contacts by means of team events, sufficient spatio-temporal resources</td><td>MEDIUM (more en-abling than fostering)</td><td>MEDIUM</td><td>MEDIUM</td><td>STRONG</td></tr>
<tr><td>Requirement to practitioners to react promptly to requests from colleagues</td><td>MEDIUM</td><td>STRONG</td><td>MEDIUM</td><td>STRONG</td></tr>
<tr><td>Formation of heterogeneous teams</td><td>MEDIUM</td><td>STRONG</td><td>MEDIUM</td><td>STRONG</td></tr>
<tr><td>Team building</td><td>STRONG</td><td>MEDIUM</td><td>STRONG</td><td>NO</td></tr>
<tr><td>Internal symposia</td><td></td><td></td><td></td><td></td></tr>
<tr><td>→ to provide the opportunity to impart knowledge to many employees at the same time</td><td>STRONG</td><td>WEAK</td><td>MEDIUM (lectures at staff days)</td><td>WEAK</td></tr>
<tr><td>→ to stimulate the bilateral exchange of knowledge by providing employees the opportunity to identify experts within the enterprise on the basis of individual conversation</td><td>WEAK</td><td>MEDIUM</td><td>MEDIUM (e.g. social events at staff days)</td><td>STRONG</td></tr>
<tr><td>Incentive and sanction schemes contribute to the removal of the "knowledge-is-power" attitude</td><td>NO</td><td>WEAK</td><td>WEAK</td><td>NO</td></tr>
<tr><td>Internal marketing methods to influence the employees' attitude towards KM activities</td><td></td><td></td><td></td><td>NO</td></tr>
<tr><td>→ Codification</td><td>STRONG</td><td>MEDIUM</td><td>STRONG</td><td></td></tr>
<tr><td>→ Networking of Experts</td><td>WEAK</td><td>MEDIUM</td><td>WEAK</td><td></td></tr>
<tr><td rowspan="11">Senior staff and teams leaders represent living examples for the firm's KM</td></tr>
</table>

<table>
<tr><td colspan="2">Senior staff and teams leaders represent living examples for the firm's KM</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>→ Codification</td><td>MEDIUM</td><td>MEDIUM</td><td>MEDIUM</td><td>WEAK</td></tr>
<tr><td></td><td>→ Networking of Experts</td><td>MEDIUM</td><td>STRONG</td><td>MEDIUM</td><td>STRONG</td></tr>
<tr><td rowspan="9">Organisation</td><td>Functionally organised KM departments</td><td>STRONG</td><td>MEDIUM</td><td>STRONG</td><td>WEAK</td></tr>
<tr><td>Centres of excellence</td><td>STRONG</td><td>MEDIUM</td><td>STRONG</td><td>NO</td></tr>
<tr><td>Specification and implementation of specific knowledge processes</td><td>STRONG</td><td>WEAK</td><td>STRONG</td><td>NO</td></tr>
<tr><td>Peer-to-peer knowledge networking</td><td>MEDIUM</td><td>YES</td><td>MEDIUM</td><td>YES</td></tr>
<tr><td>Affinity groups, CoPs, CoIs</td><td>MEDIUM</td><td>WEAK</td><td>MEDIUM</td><td>NO</td></tr>
<tr><td>Advisers assigned to projects</td><td>STRONG</td><td>WEAK</td><td>STRONG</td><td>NO</td></tr>
<tr><td>Team- or project-oriented organisational structures</td><td>STRONG</td><td>STRONG</td><td>STRONG</td><td>STRONG</td></tr>
<tr><td>Institutionalisation of KM-related operational roles and functions</td><td></td><td></td><td></td><td>NO</td></tr>
</table>

	Methods + Techniques to support central and de-central KM strategies	Accenture	McKinsey	PwCC	Prognos
	→ roles for central techniques (e. g. Knowledge Content Manager)	STRONG	MEDIUM	STRONG	
	→ roles for de-central techniques (e. g. Knowledge Networker)	WEAK	MEDIUM	WEAK	
Information Technology	Level of sophistication of embraced KM IT	STRONG	WEAK	STRONG	WEAK
	Standards (standardised taxonomy, ontology, thesaurus, KM data model, etc.)	STRONG	WEAK	STRONG	WEAK
	Electronic repository				
	→ which focuses on knowledge as an object	STRONG	MEDIUM	MEDIUM	NO
	→ to retrieve meta-information to get informed on a particular subject area or to find subject matter experts	MEDIUM	MEDIUM	MEDIUM	STRONG
	Document management system	STRONG	STRONG	STRONG	NO
	Content management system	STRONG	MEDIUM	MEDIUM	MEDIUM
	Workflow management system	STRONG	NO	STRONG	NO
	Tools for knowledge search	STRONG	MEDIUM	MEDIUM	WEAK
	Knowledge Maps				
	→ to find knowledge assets	STRONG	STRONG	MEDIUM	NO
	→ to find experts	MEDIUM	MEDIUM	MEDIUM	STRONG
	→ to facilitate the formation of communities of practice	MEDIUM	NO	WEAK	NO
	IT to support communication	STRONG	STRONG	MEDIUM	MEDIUM
	Discussion forums	MEDIUM	MEDIUM	MEDIUM	MEDIUM
	Groupware systems	STRONG	WEAK	STRONG	WEAK
	Real-time collaboration tools	WEAK	NO	MEDIUM	NO
	Network systems				
	→ allowing to share explicit knowledge	STRONG	MEDIUM	STRONG	MEDIUM
	→ allowing to share tacit knowledge	MEDIUM	NO	MEDIUM	NO
Human Resources	Dedicated KM training curriculum	MEDIUM	NO	MEDIUM	MEDIUM
	Top down derivation of concrete knowledge goals	STRONG	WEAK	MEDIUM	MEDIUM
	Training programs based on knowledge goals	STRONG	NO	STRONG	NO
	Measurement of the corporate down to the individual knowledge and skills	MEDIUM	NO	MEDIUM	NO
	Incentives for positively and punishment for insufficiently	NO			NO
	→ using and contributing to document bases		MEDIUM	MEDIUM	
	→ directly sharing knowledge, particularly implicit knowledge, with others		MEDIUM	NO	
	Recruiting policy				
	→ based on "hard" skills	STRONG	STRONG	MEDIUM	MEDIUM
	→ oriented towards soft-skill-excellence	MEDIUM	WEAK	STRONG	WEAK
	Development of workforce skills based on				
	→ project oriented training	STRONG	STRONG	STRONG	STRONG
	→ training on the job	STRONG	MEDIUM	STRONG	STRONG
	→ mentor programs	STRONG	MEDIUM	MEDIUM	STRONG
	→ job rotation programs	NO	STRONG	MEDIUM	STRONG
	→ learning by doing in teams	STRONG	MEDIUM	STRONG	MEDIUM
	→ self-co-ordinated learning groups	WEAK	MEDIUM	NO	MEDIUM
	→ self-governed knowledge networks	MEDIUM	STRONG	MEDIUM	STRONG

Table 1. Methods and techniques of the consulting enterprises

4.3 KM Strategies

4.3.1 Accenture

Accenture has a consistent and explicit KM strategy that has been globally communicated for ten years and is an integral part of the company's business strategy, operative business, and HR policy. The main motivations for the company's KM program are economies of scale as well as cost reduction, leadership in knowledge and quality, business model reasons, innovation, and employee fluctuation. The KM budget is allocated on an annual basis by the respective industry or capability executives for whom respective KM professionals work. For external research purposes, client teams are charged for time and expenses.

Analysing Accenture's KM techniques we find that its KM strategy focuses on central management of knowledge that relies on the codification and re-use of knowledge (70%), but also uses de-central management of knowledge that relies on networks of individuals and on individuals' experience to solve client problems (30%).

4.3.2 McKinsey & Co.

McKinsey & Co. has a global KM strategy and knowledge is communicated as a strategic resource since the founding of the company. The main motivation of the firm's KM program is leadership in quality and innovation as well as adding value to the services. The benefit of the program is not explicitly measured except for the measurement of success and market share of McKinsey and its business units. Value is created by means of the professional skills of the consultants and the international orientation of the company. Solutions, once implemented for a customer, cannot be reused by contract, but the general knowledge about problems and methodology is shared throughout the company. Thus, tacit knowledge is most important.

Analysing McKinsey's KM techniques we find a KM strategy which considers central management of knowledge (30%) but concentrates on de-central management of knowledge (70%).

4.3.3 PricewaterhouseCoopers Consulting

PwCC has a global KM strategy since 1998, with Germany being one of the strategic front-runners. KM is considered a very important part of the PwCC strategy. Therefore KM is integrated with PwCC engagement work and HR processes. The funds for KM are derived from sources across all dimensions of the PwCC organisation – from global and central down to engagement budgets. The organisational foundation of KM within PwCC is illustrated by the fact that the highest ranking KM role is at the second hierarchical level within the organisation and by the independence of the KM staff unit from other horizontal organisational units. While reasons for PwCC KM are manifold, the firms' business model and its ambition towards leadership in knowledge and quality are the program's main drivers. PwCC has, however, no formalised processes for measuring effects of KM.

While re-use of solutions and explicit knowledge is crucial to PwCC's business, tacit knowledge continues to play an important role for PwCC practitioners. Correspondingly, the PwCC KM strategy focuses on central management of knowledge while taking into account the relevance of de-central KM and, in particular, networks of individuals. Altogether, PwCC Germany follows a mostly central KM strategy (60%) that is, however, complemented by

important de-central elements (40%) due to the company's business model as a hybrid consultancy offering standardised products as well as custom solutions.

4.3.4 Prognos

While Prognos has no explicit KM strategy, the relevance of individual knowledge as a corporate asset is an omnipresent element of the corporate culture. Prognos fosters an "expert culture", in which employees are fully aware of the importance of knowledge as an asset – an attitude that is a manifest part of the firm's vision. This "expert culture" is mainly based on knowledge exchange through communication on the foundation of personal relations. The "research-based approach" focuses on highly customised analysis and prediction. Existing knowledge is "recycled" only in rare cases, while the tacit knowledge of consultants and teams forms the basis of day-to-day business. This approach results in a strong reliance on the reception, application, and adaptation of external knowledge.

Prognos' KM strategy can be described as a primarily de-central management of knowledge that relies on networks of individuals and on individuals experience to solve client problems (90%) and secondarily as a central management of knowledge that relies on the codification and re-use of knowledge (10%).

5. Summary and Conclusion

Figure 2 visualises the findings from the case studies in section 4. In agreement with the expectations described in section 3, the findings prove a strong correlation between business and KM strategy in consulting firms.
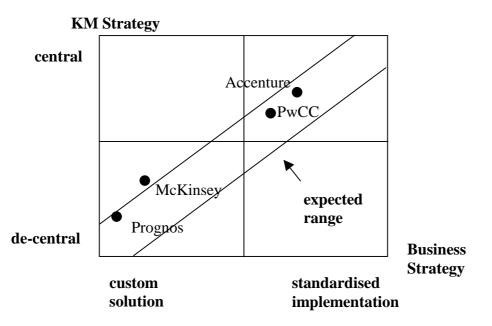

Figure 2. Correlation between business strategy and KM strategy in the consulting industry

Nevertheless, a slight deviation from the expected range can be identified for McKinsey Italy. From McKinsey's business strategy, we had expected a more de-central KM strategy. This deviation, however, is easily explained. McKinsey Italy follows a business strategy that focuses on custom solutions and individual services to add value to the client's business.

Therefore, McKinsey exhibits considerable de-central elements (e. g. networking of individuals, virtual team rooms), but also a number of central KM strategy elements (e. g. "Knowledge Professionals", "Knowledge Portal", "Internal Public Report"). Central elements result from the fact that employees need information about previous engagements to trigger learning and find appropriate contacts. With staff scattered, such information and knowledge are most efficiently made available with the help of central techniques.

In conclusion, we were able to prove our hypothesis of a strong correlation between a consulting firms' business model on its KM strategy implementation. While individual elements of the described four determinants differ from the normative KM strategy in order to address specific conditions within a consulting firm, the overall KM implementation reflects a KM strategy that, in terms of our hypothesis, fits the firm's business strategy. This is true in all cases that we have investigated by analysing four KM determinants with corresponding KM methods and techniques.

Therefore, in consulting, recommendations for an adequate KM strategy can be derived from the corresponding business strategy. Central or de-central KM strategies can be realised with sufficient flexibility to accommodate company specifics through adequate methods and techniques in each of the four determinants.

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