CHALMERS

Managing Knowledge:

Improving knowledge sharing in a consultancy firm

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Göteborg, Sweden, 2013
Report No. E2013:047

Abstract

Knowledge is considered to be one of the most important assets and must therefore be managed for any company in order to stay competitive. For knowledge intensive firms such as consultancy firms this is even truer. This thesis is based on a case study of the management consultancy firm Capacent. Capacent is a Nordic company with offices in Sweden and Finland, and with a recently opened office in China. The company has an outspoken aim to improve their knowledge sharing among the about 120 employees. The aim of the thesis is to answer the main research question:

- ***What kind of knowledge management is needed in order to enable and support knowledge sharing within a consultancy firm?***

The main research question is divided into the following questions:

- ***What organization culture currently exists and what characteristics are needed in order to enable knowledge sharing within a consultancy firm?***

- ***Which formal processes and tools enhance knowledge sharing within a consultancy firm?***

The empirical findings are gathered by interviewing more than 20 employees, observations during meetings, reviews of a previous employee-survey and reviews of the database and other IT-systems. Their main issue is a non-user-friendly database where all documents related to the projects are stored. The fact that the company is geographically spread out is another implication.

The findings are analyzed based on a couple of theoretical frameworks containing literature on knowledge sharing. Nonaka and Takeuchi (1995) divides knowledge sharing into different modes depending on whether knowledge is tacit or explicit. O'Dell and Grayson (1998) explain the importance of a good organizational culture and the right behavior to enable knowledge sharing and the need of management support. Motivation is also described as vital for enhancing knowledge sharing.

Finally, the thesis proposes a number of concrete ways to improve the knowledge sharing at Capacent. Since the organizational culture is rather supportive towards knowledge sharing the focus is on creating the right prerequisites for knowledge sharing, i.e. a more user-friendly way to store and find documents in the database. Furthermore, a way to acknowledge positive knowledge sharing-work by the employees is to include this in the career advancement. This will not only motivate the employees but is also a way for the management to emphasis the importance of knowledge sharing.

Keywords: knowledge management, knowledge sharing, consultancy firm, knowledge intensive firm, organizational culture

Acknowledgements

This master thesis is the academic result of a cross-functional project between the two master programs; Management and Economics of Innovation (MEI) and Quality and Operations Management (QOM) at Chalmers University of Technology. The business case in the thesis is based on the Nordic management consulting firm Capacent.

We would like to express our deepest thanks to a number of people that have been of great importance to the outcome of this thesis.

First of all, Susanne Ollila, our supervisor from the department of Management of Organizational Renewal and Entrepreneurship (MORE), both for her expertise and pragmatic guidance but also for her capability to inspire us.

Secondly, Robin Hanson, our supervisor at Capacent, for his support both as a professional and as an academic and always being willing to answer questions and reviewing our drafts.

Thirdly, Martin Gustafsson, our requestor and head of Capacent's office in Gothenburg, for providing us with the possibility to conduct this master thesis by believing in us and our idea of a master thesis.

Fourthly, we would like to thank all of Capacent's employees in both Sweden and Finland, for taking time to answer questions, being interviewed and viewing us as colleagues.

Lastly, we would like to thank all those, not mentioned above, that we have been in contact with for minor and larger issues during the production of this master thesis.

Gothenburg, May 2013

Christian Ardelean
Magnus Nordstrand

“An investment in knowledge always pays the best interest.”

- Benjamin Franklin -

“If you have knowledge, let others light their candles at it.”

- Margaret Fuller -

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1 Introduction

This chapter will provide a description of the background of the thesis that has been studied. It starts with a description of knowledge management. After the introduction follows a section that explains the background to the case study conducted. Thereafter is a section explaining the purpose of the thesis and the research questions that have been posed. The chapter is ended with the delimitations that have been done in the thesis.

Knowledge is a term that has been treated ever since the antique time when Greek philosophers, like Plato and Aristotle, thought about what knowledge is and how it can be applied (Amidon and Skyrme, 1997, Davenport and Prusak, 1998) In modern times one of the most influential and most often cited works conducted by Nonaka and Takeuchi (1995), not only defined knowledge management but also attributed the Japanese economic recovery to successful knowledge management. In a modern economy with an increasing pace of innovation, managing knowledge provides a competitive advantage over competitors (Malhotra, 2005). To better understand knowledge management and what the aims of it are, Collison and Parcell (p.16, 2004) give an explanation when quoting Allan Ward explaining KM as:

"It is not about creating an encyclopedia that captures everything that anybody ever knew. Rather, it is about keeping track of those who knew the recipe, and nurturing the culture and the technology that will get them talking".

Despite good examples like Skandia, which was one of the first companies to give a financial evaluation of the knowledge assets it had (Amidon and Skyrme, 1997), and British Petroleum, that created a system that encouraged knowledge sharing via video conferencing, relatively few companies have successfully managed knowledge in the past (Powell and Ambrosini, 2012, Amidon and Skyrme, 1997). The entire domain of knowledge management is a rather new area of research with a hype taken place around the turn of the century (Voelpel and Han, 2005).

For most knowledge intensive firms (KIF), such as law firms, accounting and consultancy firms, knowledge management is vital to the organization (Swart and Kinnie, 2003). The term of knowledge intensive can be used to highlight that a firm uses human capital to compete with more than physical goods (Swart and Kinnie, 2003). The entire group of KIFs are defined as companies where the larger part of the work is of an intellectual nature and where the majority of the workforce consists of well-educated employees (Alvesson, 1995, Robertson and Swan, 1998, Starbuck, 1992). A subdivision of this group includes consultancy firms which, according to Werr and Stjernberg (2003), involves work that includes intensive creation and application of knowledge. This becomes increasingly important for consultancy firms since their primary asset consists of the knowledge of its employees (Edvinsson, 1997).

To better understand knowledge management there is a need to understand what is meant by knowledge. It is split in four distinct parts in previous research, which are; *data*, *information*, *knowledge* and *action* (Nonaka and Takeuchi, 1995, Choo, 1998, Davenport and Prusak, 1998, Awad and Ghaziri, 2004). *Data* is objective facts that can be organize into *information* that serves a purpose. *Knowledge* is the combination of experiences and *information*, which then leads to *action* that is based upon it. Furthermore knowledge itself

can be modeled as having two different states. This definition is one that is based on the modeling often used in previous literature such as Nonaka and Takeuchi (1995), Davenport and Prusak (1998) and Awad and Ghaziri (2004). The two different forms of knowledge are tacit and explicit knowledge. Where tacit knowledge is the knowledge that a person has but is not fully aware of it and therefore it is hard or impossible to document in written form (Nelson and Winter, 1982, Baumard, 1999). Explicit knowledge is on the other hand the knowledge that can be observed and written down such as manuals and instructions (Kogut and Zander, 1992). As described by many authors among others Machuca and Costa (2012) and Davenport and Prusak (1998), company culture is an important factor to consider for a successful implementation of a knowledge management initiative.

1.2 Case study background

This thesis will be based upon a case study conducted at Capacent AB. Capacent is a medium sized Nordic consultancy firm with its origins in ABB financial consultancy. Currently Capacent employs about 120 (100 when the thesis started). Capacent has an outspoken aim to diversify itself against competitors by having a focus on implementation as well as the consulting that precedes it. Throughout its history Capacent has grown its offerings by acquiring consultancy firms specialized within other areas of competence. Most notable are the acquisitions of KW partners, specializing in business strategy and marketing, Unitedlog, specializing in logistics consulting and Resight which specializes in Business Intelligence. Capacent has three offices in Sweden, one in Finland and one in China. Capacent is internally structured in different Service Areas (SA) representing a certain area of expertise or knowledge. There are 10 SAs, each led by a manager.

Capacent is struggling with its knowledge management processes. An employee survey was performed in late 2012; the result shows that employees desire a better knowledge management system. During the initial meeting with Capacent, they expressed the need for a well-structured approach towards improved knowledge management within the firm. According to them, a major problem is the database. The situation is delicate and important since Capacent is fast growing. Therefore it becomes very important for Capacent to manage and make sure that the competence is shared and accessible in the entire company.

1.3 Purpose

The purpose of this thesis is to find strengths and weaknesses that need to be managed in order to better handle the knowledge in a consultancy firm similar to Capacent. The concerned with knowledge management in general and knowledge sharing in particular. Included in this purpose is both a view of processes and tools as well as organizational culture. Translated to a practical purpose for Capacent is to define a number of problem areas by conducting interviews and examining existing knowledge management tools. Thereafter there is a purpose to give relevant improvement suggestions, based on current literature in the field. The focus is on the company's formal and informal processes related to knowledge sharing, such as databases. Coupled to this is also an investigation on the current company culture at Capacent.

Except from the improvement suggestions for Capacent the thesis also hopes to add and enrich the existing research field of knowledge management. This is due to the empirically based conclusions resulting in a number of more hands-on improvement suggestions than can be found in today's research.

1.4 Research questions

Based upon the previous sections and given the purpose of the study the following research question has been formulated;

- ***What kind of knowledge management is needed in order to enable and support knowledge sharing within a consultancy firm?***

The main research question is further broken down to two sub questions that aim to further specify the main research question, these questions are formulated as following;

- ***What organizational culture currently exists and what characteristics are needed in order to enable knowledge sharing within a consultancy firm?***

- ***Which formal processes and tools enhance knowledge sharing within a consultancy firm?***

These sub questions structure and better explain the formulation of the main research question. The main research question is answered by answering the two sub questions, having answered the main research question, the thesis will have fulfilled the previously formulated purpose. The answering of the research question will provide insights into problems relating to knowledge management faced by consultancy firms in general and Capacent in particular. The results obtained within this thesis will therefore lead to both an academic contribution as well as a practical contribution to Capacent.

1.5 Delimitations

In order to keep focus on the task at hand and answer the research questions, there is a need for delimitating the work done within the thesis. The first delimitation is geographical. The thesis is concerned with the knowledge management at the Swedish and Finnish part of the organization. This means that the operations in China are excluded. The delimitation was based on practical constraints stemming from the great geographical distance to the Chinese office. However the Finnish office is included since it is closer geographically as well as being more closely integrated with the operations in Sweden.

The second delimitation made concerned the different parts of the organization that are included in the knowledge management system. There is an exclusion of the different business aspects that are not related to the projects carried out by the consultants at Capacent. That is to say that support functions like salary and purchasing that are handled within the current knowledge management system are not treated within the scope of this thesis. This means that the focus of this thesis is on the knowledge managed relating to projects that are either completed, ongoing or to commence. This delimitation was made in order to prioritize and ensure that focus is kept on the aspects that have higher impact for Capacent.

2 Theoretical framework

This chapter gives the theoretical framework on which the analysis is based. Knowledge management is a wide and rather blurry area. Therefore this chapter starts with an explanation and definition of knowledge management and knowledge followed by a presentation of other important areas to enable knowledge management and especially knowledge sharing.

2.1 Knowledge management

Knowledge management (KM) is an interdisciplinary business method that focuses on the knowledge within an organization. It has been recognized as the most important competitive advantage for companies of today (Awad and Ghaziri, 2004).

According to De Long and Fahey (2000) KM is concerned with creating, sharing and using knowledge within an organization. It can be done in many ways, as was shown above knowledge can be captured in documents, in databases or in the minds of the employees (De Long and Fahey, 2000). However, depending on the organization, the best way is a mix between these two extreme states of knowledge, as was shown with the quote in the introduction, this is shared by (Collison and Parcell, 2004) when quoting Allan Ward.

2.1.1 Knowledge

As was previously shown in the introduction, knowledge can be split into four distinct parts to further understand what is managed within KM, Davenport and Prusak (p.4, 2000) defines knowledge as being:

"Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms."

Knowledge can be divided into tacit and explicit knowledge. The former term refers to the kind of knowledge that is informal and personalized (Davenport and Prusak, 2000). This includes among other insights and intuitions or practical know how (Davenport and Prusak, 2000). Considering the high level of personalization this type of knowledge is hard to share with others (Davenport and Prusak, 2000). The latter term refers to formal knowledge easily expressed in numbers or words and is therefore easily shared (Davenport and Prusak, 2000).

Nonaka and Takeuchi (p.61, 1995) argue that *"knowledge is created and expanded through social interaction between tacit knowledge and explicit knowledge"*. They present a, today well-known, model for this knowledge conversion consisting of four different modes which is found in Figure 1.

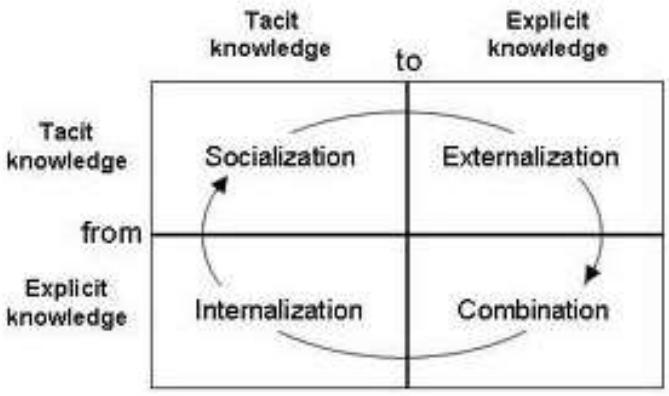


Figure 1 The four different modes of knowledge as presented by Nonaka and Takeuchi (1995)

The process of sharing experiences, tacit knowledge, with other employees and in that way create tacit knowledge, like mental models or technical skills, is called socialization (Nonaka and Takeuchi, 1995). This can be done without using a spoken language and instead through observation, imitation and practice an apprentice can learn from the master (Nonaka and Takeuchi, 1995).

Externalization is when tacit knowledge is conversed to explicit knowledge such as theoretical models and concepts (Nonaka and Takeuchi, 1995). However, it is often insufficient and interaction between colleagues is necessary and encouraged (Nonaka and Takeuchi, 1995). Although, it is considered as one of the most important modes since it enables tacit knowledge to be transferred throughout the whole organization (Nonaka and Takeuchi, 1995).

Conversion from explicit knowledge to explicit knowledge is called combination (Nonaka and Takeuchi, 1995). It could be the work that employees do when systemizing data, information or concepts in a database and in by that make the knowledge available for the company (Nonaka and Takeuchi, 1995).

Finally, internalization is the process of converting explicit knowledge to tacit (Nonaka and Takeuchi, 1995). It is when an individual makes use of the documented knowledge from for example databases. The documents should be structured like manuals in order for the user to easily learn from the document and without too much of interpretation width (Nonaka and Takeuchi, 1995). However, the adoption of the documented knowledge is not real learning. The learning occurs when the knowledge is being used i.e. learning by doing (Nonaka and Takeuchi, 1995).

2.2 Knowledge sharing

To fully use the company's knowledge base is more than just having competent employees (Davenport and Prusak, 2000). It is about sharing knowledge to enable knowledge homogeneity within the company. There are many ways to enhance the sharing (Davenport and Prusak, 2000). Most of them focus on the letting people talk and listen to each other (Davenport and Prusak, 2000).

Knowledge sharing is for example when an employee asks the nearest seated colleague for advice with a PowerPoint (Davenport and Prusak, 2000). It means that knowledge sharing

can take place in informal ways and without management interference(Davenport and Prusak, 2000). However, these everyday transfers are local and coincidental (Davenport and Prusak, 2000). The sharing might not be with the colleague most capable of assisting, and the larger the company is the harder it is to find the right person (Davenport and Prusak, 2000).

O'Dell and Grayson (1998) presents five factors that must work together to enable knowledge sharing. The first one is about technology, which is no longer is viewed as a barrier to a successful KM, all important technical solutions already exist (O'Dell and Grayson, 1998). However, it is important to have a framework for classifying knowledge before putting it in a database (O'Dell and Grayson, 1998). A common vocabulary is one way to make the database more clearly structured (O'Dell and Grayson, 1998). Finally it is important to note that not all knowledge is possible to codify because some processes are simply too complex (O'Dell and Grayson, 1998).

Secondly, having a supportive culture towards knowledge sharing is a major enabler (O'Dell and Grayson, 1998). In many knowledge intensive firms individuality or the focus on being an expert is emphasized, which minimizes the sharing (O'Dell and Grayson, 1998). Tangible rewards and reinforcement from mangers and colleagues can be critical to improve the culture (O'Dell and Grayson, 1998). However, the culture can be difficult to change but its importance is unquestionable.

Thirdly, to be rewarded for knowledge sharing is a question without a simple answer (O'Dell and Grayson, 1998). For example, tangible rewards i.e. money can increase the knowledge transfer initially. But in the long run it has no positive effect (O'Dell and Grayson, 1998). On the contrary, it can actually have negative effect on sharing (O'Dell and Grayson, 1998). Intangible rewards, like recognition among the colleagues or advancement on the career path are more long lasting solutions (O'Dell and Grayson, 1998). What is even more effective is when the work itself gets better, easier and more efficient thanks to the knowledge sharing (O'Dell and Grayson, 1998).

Fourthly, the role of the management is important for the sharing since it sends out a clear message that this is an area of importance to the company (O'Dell and Grayson, 1998). The most successful companies have tied the initiative to the strategy (O'Dell and Grayson, 1998).

Finally, the last enabler is measurement of how improvement in the knowledge sharing has improved the knowledge work (O'Dell and Grayson, 1998). One example here could be to measure the frequency of usage of a database and the satisfaction with the information (O'Dell and Grayson, 1998).

2.2.1 How to enable knowledge sharing

The text below presents a number of ways to enhance the knowledge sharing in an organization. It presents four different solutions that can be used within a knowledge management strategy in order to enhance the sharing of already existing knowledge in the firm.

2.2.1.1 Community of Practice

Community of practice (CoP) is defined by Hasanali et al. (2002) as: *"a group of people that shares an expertise and is bound by a common mission or purpose"*. The members seek to

improve their own expertise but unlike other teams they are not bound to a static project (Hasanali et al., 2002). The purpose of a CoP is to produce and share information, insight, and best practice. A CoP should be view not necessarily as a supplement but rather as a complement to other organizational arrangements(Hasanali et al., 2002). Employees can turn to these communities to get help on how to address a business problem. In many consultancy firms CoP's are referred to as knowledge networks (Hasanali et al., 2002).

The American Productivity & Quality Center (APQC) has shown that many different kinds of CoPs exist (Hasanali et al., 2002). Some are very formal and structured, while others are completely the opposite. Some focus on capturing and documenting knowledge, while others are more like a forum for elaborating on ideas (Hasanali et al., 2002). Four types of CoPs have been identified by APQC depending on their strategic intent (Hasanali et al., 2002). *Helping communities* are a result of the more team-based work which makes professionals with similar expertise more isolated (Hasanali et al., 2002). The community is a way to get input from peers and therefore exists naturally in most organizations (Hasanali et al., 2002). The purpose of these communities is to connect individuals and enable informal communication; therefore the knowledge is very tacit (Hasanali et al., 2002).

Best-practice communities' purpose is to identify, develop and disseminate practices. In contrast to helping communities, they share more explicit knowledge due to codification and storage of standardized and qualified practices (Hasanali et al., 2002). This community is important to sustain knowledge when employees leave the organization. *Knowledge-stewarding communities* host forums like previously mentioned communities to develop and share practices, but their main focus is to organize, upgrade and share the member's knowledge that is used regularly (Hasanali et al., 2002). Many consultancy firms use this kind of CoP to make sure their internal knowledge is refined and updated and by that stay competitive. Many new ideas are informally created within a project. The knowledge-sharing communities' task is to locate these ideas, document and share them in order to increase the company's productivity (Hasanali et al., 2002).

Innovation communities encourage employees to create and share new practices, but their focus is more on cross-functional teams and the fostering of unexpected and innovative ideas necessary in a high-paced marketplace (Hasanali et al., 2002). The focus is on generating new ideas rather than on standardizing the sharing of them (Hasanali et al., 2002). The four CoP:s have different structures and relationships within the community that will affect the integration and support in the organization. Important for any CoP is to have a leader responsible for the CoP to fulfill its purpose, and a sponsor to support the CoP by for example funding and encouraging of the community's members (Hasanali et al., 2002). When time is scarce, it is important not to overlook the long-term benefits with a CoP. One effective way to foster participation is to have regular events (Hasanali et al., 2002).

2.2.1.2 Knowledge facilitator

A knowledge facilitator is a formal role that an employee can take in order to improve the efficiency of knowledge transfer from external sources, as well as enhancing the knowledge sharing within the organization (Roth, 2002). A knowledge facilitator's task can be to connect those with a specific knowledge and experience with those who are in need of it for a certain purpose, and vice versa (Hellstrom et al., 2001). Another form of knowledge facilitator is the establisher of the right knowledge enabling context. Their role is to create micro-communities that share tacit knowledge (von Krogh et al., 2000).

An example of the latter form of knowledge facilitator from AstraZeneca is presented below. The initiative was due to find a process and tools to improve the knowledge sharing between internal projects (Roth, 2002). An important prerequisite was that the KM initiative had to be cost and time-effective (Roth, 2002).

Step 1: Legitimize and familiarize

First the knowledge facilitator (KF) interviews the project leader in order for the KF to familiarize with the project and to help the project leader understand what activities are important, problematic or positive, and importantly put words on it. At the same time the KF can give some advices from previous projects and guide the project leader whom to contact for a specific issue. The interview takes 1,5 -2 hours and is documented.

Step 2: Unlock the tacit knowledge – Structure explicit knowledge

The second step is often performed more than once. The project group is gathered for a two-hour brainstorming activity, where the outcome is to have captured relevant knowledge from the group members. The KF structures and documents the material while the members have a dialog. There are two KFs switching roles, one posing questions and one listening and documenting.

Step 3: Sharing with the organization

Finally, the captured knowledge is shared with the rest of the organization during a seminar or a similar activity. This session often lasts for two hours and is preferred to be interactive aiming to create a collective understanding of a phenomenon.

2.2.1.3 Knowledge fairs

Yet another way to improve knowledge sharing is a so called knowledge fair. It is an event where the participants put up displays of what they work with, and in that way share their knowledge (2013). The knowledge activities and communities are made physical and by that accessible to the employees. A knowledge fair enables interaction and spread knowledge of what others are doing (Denning, 2000). Partners and customers can just as well be invited but changes the fair's focus slightly and can affect what knowledge is shared. Methods included in a knowledge fair could be demonstrations, exhibition boards, and videos.

The knowledge fair provides opportunities for networking, both instantly and in the future. Attendees can immediately get the answer to a certain question or a possibility for future contact. Furthermore, the knowledge fair is an alternative to a more formal presentation where interaction is lower. The author, of award-winning books on leadership and knowledge management, Denning (2000) highlights the importance of having top management support for a knowledge fair, to put the best communities of practice on display and to make the fair fun.

2.2.1.4 Post project review

Post project review is used in project management used to facilitate the process of continuous improvements by learning from past project experience (Carrillo et al., 2011). Anbari et al. (2008) specifies that post project review is needed in a project environment in order to assess if the original and modified objectives have been reached. Williams (2008) highlights that the most important aspect of post project review is to increase the competency of individual managers. Anbari et al. (2008) points out that the value of post-project review comes from the flow of information about the lessons learned in various projects with the

scope of enhancing the performance of current and future projects carried out. Furthermore Anbari et al. (2008) constructs a model for post project review that is applicable for larger projects but has adaptations toward knowledge based professional services projects. The main takeaway is that post project review should be incorporated in the project cycle. The starting point is in defining the metrics that shall be reviewed throughout the project (Anbari et al., 2008). The basis for the metrics should be in the so called triple constraints, which is delivery of projects on time, on budget and according to scope. These could be expanded to include secondary triple constraints that are measuring delivery according to quality, customer expectation and managing risks (Anbari et al., 2008).

Complementing the view on having a continuous flow of project review is also the end review that should be conducted. Sowards (2005) present a proposed framework for how a post project review should be conducted. It has its starting in introducing the topics to be discussed, moving on to giving a project overview. Having covered the introduction Sowards (2005) proposes that the meeting discusses the bests and busts, that is what went well and what didn't go as expected something that is also supported by Anbari et al. (2008). Thereafter the group should focus on the key learnings that can be extracted from the project. The meeting is ended with a review of the discussion and with an evaluation of the meeting itself in order to improve the process. Sowards (2005) points out that post project review of this scale is not justified for all projects, rather a firm should select larger and more important projects. Furthermore both Sowards (2005) and Anbari et al. (2008) point out the importance of having the post project review led by an independent facilitator that is not emotionally bound to the project. Related to this issue is also the fact that a post project review should be conducted on the basis of objective arguing and not be based on finding the guilty party for underperformance in a project (Anbari et al. (2008);Sowards (2005)). The entire process should lead to a document that can be stored in a repository such as a database (Anbari et al. (2008);Sowards (2005)). However as Anbari et al. (2008) points out it is important to make the contents available and motivate the usage and access of the post project review in order to reap the rewards of it.

2.2.2 What to share

This section will examine the literature that is written around project based work and knowledge sharing. The scope of this thesis being to improve the knowledge sharing at a consultancy firm that works in a project based environment justifies a look into how knowledge sharing should be used in order to increase the value for the firm from the projects conducted.

2.2.2.1 Content management

This section has its starting point in the work conducted by Ambos and Schlegelmilch (2009) in which they provide an overview of how knowledge management interacts with a typical project life cycle. The findings by Ambos and Schlegelmilch (2009) are based on partly their own work as well as that of Hansen et al. (1999) and Birkinshaw and Sheehan (2002). The starting point is in *project start-up* where Ambos and Schlegelmilch (2009) argue that knowledge management supports via skills directories and intranets. The skills directory also called "expert yellow pages" is used to compose the correct team and the intranet is used to access client references and information on prior projects. The next step according to Ambos and Schlegelmilch (2009) is *gathering knowledge* where the project gets more defined. This step includes personalization strategies as well as codification strategies. The third step is

sharing and creating knowledge where the project is up and running. This steps involves according to Ambos and Schlegelmilch (2009) mainly personalization strategies with a lot of face-to-face meetings, presentations and brainstorming sessions. The fourth step is *disseminating knowledge*, where the project is summed up and knowledge gained summarized and codified in a database. The final step is *maintaining knowledge*, this is a codification strategy of maintaining the database where re-use and standardization is the main work conducted. The entire process is shown in Figure 2.

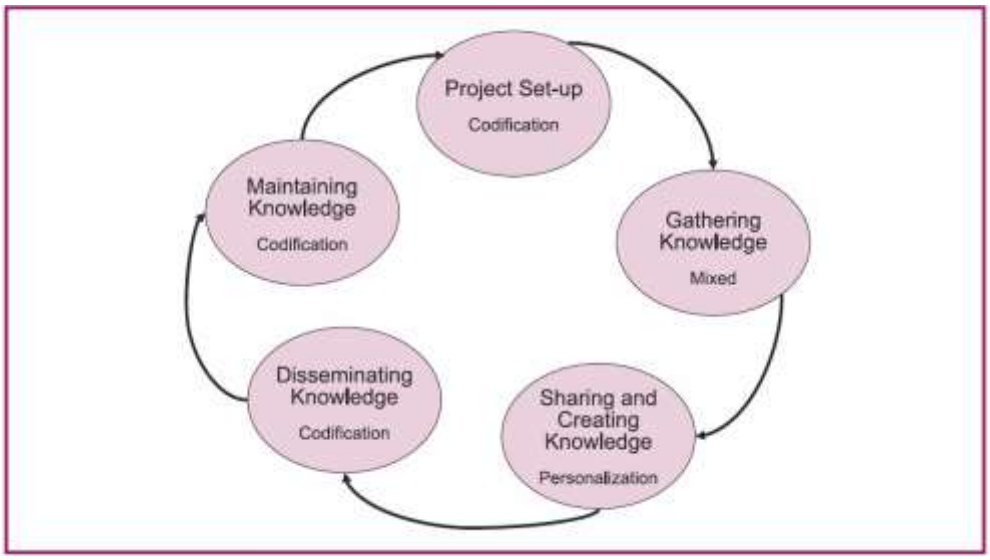


Figure 2 the different knowledge sharing strategies in the project cycle according to Ambos and Schlegelmilch (2009)

Ambos and Schlegelmilch (2009) argue that knowledge should be managed throughout the entire process and that the proposed framework reflects the parts that need to be covered in order to ensure that knowledge is managed correctly throughout a project.

Yellow pages of the company's employees are meant to keep track of the capabilities of a firm something that has been pointed out as lacking within many professional services firms (Miles, 2000, Drejer and Vinding, 2006). The teams that works within a project group are often autonomous and the insight by management on the skills and work carried out is often limited (Hansen et al., 1999). Therefore having the skills managed in a yellow page directory in order to map out the capabilities of the firm becomes imperative in order to understand where the company has its strengths and where it needs reinforcements (Criscuolo et al., 2007). When designing the yellow pages to reap the potential benefits many firms rely on formally validated systems that identify individual skills (Davenport and Prusak, 1998). A study conduct by Criscuolo et al. (2007) at Arup, an engineering services firm, provides an insight on a different approach. Arup maintains a database where each employee is asked to rate their own competencies within a number of domains. This then is included in a three months evaluation to ensure that the skills are maintained and developed (Criscuolo et al., 2007). There is a trust between the employees not to over declare in order to be able to actual provide knowledge needed. Furthermore by employing a yellow page system it is possible to create maps showing the different areas of competence of a firm and see where new employees add knowledge and where knowledge is lacking (Criscuolo et al., 2007). When assigning skills it is important to describe them by using terms that are not to general but are applicable in the project work being conducted (Criscuolo et al., 2007).

Following the model presented above, much of the knowledge management is handled through IT systems. However implementing a database system is not enough in itself if it is not used properly (Ambos and Schlegelmilch, 2009, Davidson and Rowe, 2009). Instead when managing knowledge the focus should be on the interaction between the users and the system. With the introduction of IT systems the available information has become immense which has led to information overload for worker (Farhoomand and Drury, 2002, Jackson and Smith, 2012). The solution to this problem as proposed by Jackson and Smith (2012) is to organize the information in the database and making it more searchable. Jackson and Smith (2012) propose that firms using databases and file systems should use tags in order to increase searchability. The benefits of using tags are proved by Jackson and Smith (2012) and Huang et al. (2012), these include more accurate hits and less time spent on searching for needed information.

When using tags to order the information there is an importance in doing it correctly. Huang et al. (2012) propose that the tagging should be carried out by the group that is to use it in a collaborative way, a view that is shared by Jackson and Smith (2012). Furthermore Huang et al. (2012) argue that the tagging should be done by linking similar tags together an example being linking “ERP” and “enterprise resource planning”. Jackson and Smith (2012) list a number of problems that have been found with tagging. The first one being using single use tags, which is tags that have not been used previously. Secondly they highlight that plurals and singular is treated as two different terms although being equal in contents. Thirdly Jackson and Smith (2012) point out the problems with personal tags, calling for the need of a common semantic when tagging. Fourthly there is the issue of using synonyms in the group and spelling mistakes (Jackson and Smith, 2012). There is also a point being made to use a large number of tags on the same entry in order to gain accuracy in the file system and/or database.

In line with the view of having an interaction between the people and the KM-system is also the usage of Wiki-based KM-system. The argument is brought forward by Pfaff and Hasan (2011) that a Wiki-based system captures the knowledge that exist in a company by taping in to the collective knowledge of a larger group. They highlight that the benefits are the low costs of implementing a Wiki-based solution as well as the openness and democratization it also for in an organization. However they point out the dangers of Wiki of losing authority in such a system as well as not having a critical mass when launching the system.

Having looked at some of the solutions for a KM-system there is also a need to examine how the responsibility should be distributed in the firm. Pfaff and Hasan (2011) argue that the guidelines of what should be included in a KM-system should be governed by management but the entries are governed by the workers using the system. Davidson and Rowe (2009) argues that the project managers are the ones that are responsible for the knowledge management in a project. However he also points out the different views held by, among others, Bonifacio et al. (2002) that there might be a need to have a knowledge officer. The role of the knowledge officer is rather to be a facilitator augmenting and easing the tasks presented to the project leader. There is a view that the knowledge workers should be rather autonomous and that they may provide the feedback to the system by rating the entries in a database (Ambos and Schlegelmilch, 2009).

2.3 Organizational culture for knowledge sharing

Culture is often said to be one of the most critical factors in knowledge management as well as sharing (Gold et al., 2001, O'Dell and Hubert, 2011). According to Liebowitz (1999) 20 percent of KM is concerned with technology, while 80 percent is concerned with people and culture. Organizational culture can be described as:

… pattern of basic assumptions that a particular group invented, discovered and developed in the process of learning how to solve its external adaptation and internal integration problems, and that worked well enough to be considered valid and passed on to new members of the group as the correct way of perceiving, thinking and feeling in relation to those problems. (Schein, 2010)

Culture is not only intangible and abstract, it is concrete in the way an organization's employees behave De Long and Fahey (2000). Culture can be broken down into its components, one of them is value. Machuca and Costa (2012) presents seven values that have been included in previous research and is especially relevant for consultancy firms. These values are: trust, transparency, flexibility, collaboration, commitment, honesty and professionalism. Their findings suggest that especially trust, transparency and honesty are important to create an environment for sharing knowledge and for the employees to learn and use new practices. Trust is the cornerstone in an organization. Transparency will result in a *"clear and free-flow of communication"* (Machuca and Costa, 2012). If honesty does not exist, KM will be seen as a threat instead of an opportunity.

Furthermore De Long and Fahey (2000) argue that culture affects and determines the behaviour surrounding knowledge sharing. They present three elements that determine the behaviour of employees stemming from the organizational culture. The first one according to De Long and Fahey (2000) is values. These are embedded preferences about what the company should strive for and how to do it, these are often hard to identify and even harder to change. Secondly are the norms which are derived from values and govern how people relate to each other with concern to knowledge sharing, these are easier to identify and are more susceptible to change (De Long and Fahey, 2000). Finally De Long and Fahey (2000) present practices as the most visible element of culture that is easiest to change. These three elements lay the basis of the behaviour in a company. Therefore De Long and Fahey (2000) argues that in order to change certain behaviour, there is a need to change the culture. This relationship is modelled by De Long and Fahey (2000) in figure 3.

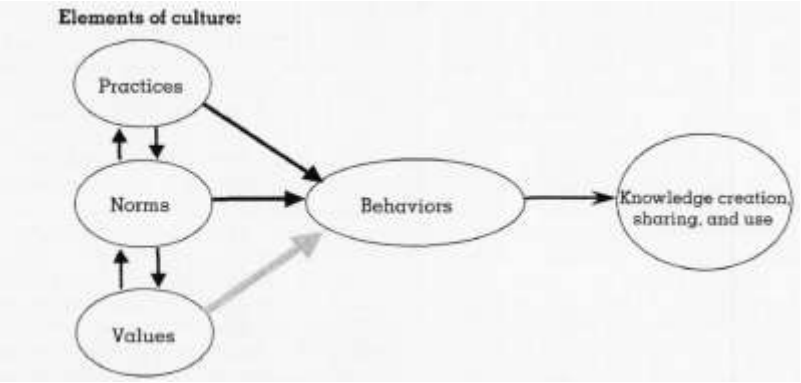


Figure 3 The relationship between culture, behaviour and knowledge management as shown by De Long and Fahey (2000)

Continuing the discussion De Long and Fahey (2000) points out four cultural aspects that are important to consider in order to encourage the right behavior. First, culture shapes what employees consider as relevant knowledge. This affects what kind of knowledge for example a project group will focus on. Second, if knowledge belongs to an individual or the organization is very much affected by culture. This can be an issue if using a database and by that make an employee's knowledge accessible by anyone. Third, social interaction varies from one organization to another. How much emails are used versus face-to-face contact influences knowledge sharing and are affected by culture. Finally, culture shapes the creation and adoption of new knowledge. De Long and Fahey (2000) states that it is within these domains that an organization should work in order to change the underlying culture to create a new behavior that enables knowledge sharing. However it is important to note that De Long and Fahey (2000) highlight that this process is a difficult one and is only to be undertaken if the culture is fundamentally wrong. They exemplify it with a company that spent three years in order to change one of the four factors.

Complementing the view presented above is that of (Reychav and Weisberg, 2010) that examines how behavior of employees affects the knowledge sharing. Within the literature there are two models that are widely used to explain the knowledge sharing behavior of individuals (Reychav and Weisberg, 2010). The first one is the Theory of Reasoned Action (TRA) written by (Ajzen and Fishbein, 1975). This model focuses on the intentions to engage in a certain behavior and is influenced by the individual attitudes and the norms relating to how others respond to the individuals behavior (Ajzen and Fishbein, 1975). The second model is Theory of Planned Behavior (TPB) which added a third dimension to the TRA (Ajzen, 1991). The third dimension consisted of describing how the employee perceives abilities about behavior in the organization. These two models have a direct linkage to culture and (Reychav and Weisberg, 2010) concludes that a manager can only enable employees to translate their intentions into sharing of knowledge. This is done according to (Reychav and Weisberg, 2010) by firstly implementing IT systems in order to share explicit knowledge. Secondly the conversion of intention to action is done by creating interactions where personal contact is made in order to share tacit knowledge.

2.6 Motivating knowledge sharing

Having a proper incentive and motivation model is imperative in order to assure that a knowledge management effort is fruitful within a company (Nan, 2008). An example is that of Orlikowski (2000), which observed that the use of a knowledge sharing tool in a US consultancy firm failed since it was not supported by the correct incentives. The same observation was done by Oltra (2005) in a European consultancy firm. Furthermore there are empirical evidence that show that rewards have an effect on the behaviour and performance of organization members (Huber, 1991, Maltz and Kohli, 2000). The idea often propagated is having rewards for knowledge sharing through an organization's formal incentive system (Davenport and Prusak, 1998, Ba et al., 2001). An example is that of Bain & Company where up to a quarter of a partner's annual compensation is based on how much help he has provided (Hansen et al., 1999)

The difficulty in motivating knowledge sharing is attributed to the fact that there is an information asymmetry (Nan, 2008). The managers cannot observe how much effort is made by the knowledge possessor to share knowledge (Nan, 2008). The asymmetry of information is based on the fact that knowledge contains a degree of intangibility (Nonaka, 1994, Alavi

and Leidner, 2001)). Building on this idea Nan (2008) classifies the knowledge as being either explicit, tacit or a mix of the two. Thereafter Nan (2008) uses the principal agent model, which argues that the managers want the knowledge to be shared but this incurs costs for the knowledge holder. The manager can only observe the reusability of the knowledge that has been shared and not the action that has been taken. This shows the difficulties in incentives design since the knowledge possessor will only share knowledge if he receives enough value back (Nan, 2008). Therefore Nan (2008) argues that in order to motivate the sharing of explicit data there is a need for financial reward and punishment if the goal is not met. At the other end of the spectrum Nan (2008) finds that there is no payment scheme that can motivate the sharing of tacit knowledge in a database. Therefore Nan (2008) argues that a combination of economic reward and enabling motivation should be used to incentivise knowledge possessors.

Another way to model the same problem is done by Lee and Ahn (2007), which divides incentives as being either given on group basis or individual basis. This division of incentives is coupled to two common strategies used in sharing knowledge. According to Hansen et al. (1999), knowledge is either stored and shared through a knowledge repository, or it is shared from person-to-person, the former corresponding to a codification strategy and the latter corresponding to a personification strategy. The choice of sharing strategy is dependent on the nature of the knowledge that is to be shared. The codification approach being better suited when sharing explicit knowledge (Lee and Ahn, 2007). Equivalently the personification strategy is suited to sharing more tacit knowledge.

The choice of sharing strategy affects how the incentives should be made. When using a codification strategy, monetary rewards given to individuals are the better approach (Bartol and Srivastava, 2002). When using a personalization strategy incentives should be based on group level rewards that are divided among the different group members (Farrell and Scotchmer, 1988, Milgrom and Roberts, 1992). The reasoning behind these choices are that codification is easily measured and attributed to an individual while personalization is encouraged by motivating the sharing carried out on a group level (Lee and Ahn, 2007). Examining further what type of incentives should be used, Ambos and Schlegelmilch (2009) presents 9 different types of incentives and the perceived effectiveness of these. The study by Ambos and Schlegelmilch (2009) is based on a review at several consultancy firms via interviews, the results are presented in figure 4 below.

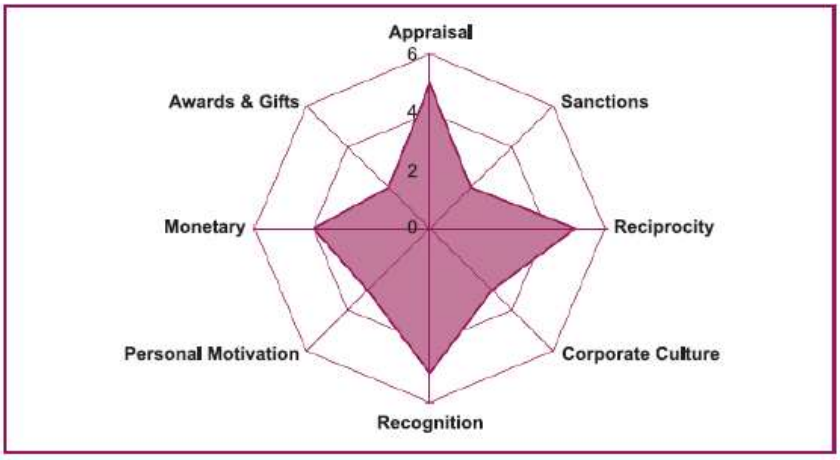


Figure 4 The 8 different motivational factors and the graded impact of them according to Ambos and Schlegelmilch (2009)

Ambos and Schlegelmilch (2009) argue that the best way to base the incentives is by providing recognition, reciprocity and appraisal. Having established what type of incentives that are needed in order to motivate knowledge sharing, Ambos and Schlegelmilch (2009) continues on to giving recommendations on how to measure the achievements of the knowledge management. What is important to note is that Ambos and Schlegelmilch (2009) consider that there should be a match between the incentives used and the performance measures used. This means that for example if monetary reward is used it might be more appropriate to use a quantitative measure. However there is a tendency to move towards more qualitative measures in general since these capture how knowledge provides value to the bottom line of the company.

3 Method

This chapter presents and discusses the methodology used in this thesis. It contains sections pertinent to the chosen research strategy, research design and research process and methods. Within each section the different aspects of the methods are discussed and there is an argumentation made justifying the different choices made concerning the methodology used in this thesis. The chapter is ended with a discussion about the validity and reliability of this study.

3.1 Research strategy

With regards to the research strategy presented by Bryman and Bell (2011) there are two main branches when conducting business research, qualitative and quantitative. The differences between these two strategies lies in the how data is collected and then analyzed. The quantitative research entails a large collection of data, quantification of data, where the main accent is placed on testing theories with reality. In contrast the qualitative approach is based on collection of data by collecting the views of individuals within a given setting (Bryman and Bell, 2011). This thesis is conducted using a qualitative approach and therefore there is a focus on explaining this research strategy.

A qualitative approach to research aims to observe social interactions and softer issues (Bryman and Bell, 2011). Its main objective is to study the social interactions and thereafter creating a theory based on interactions observed. The qualitative approach entails an interpretation of the behavior of people and groups. Study focus lies not only on results but also on the process itself, which may be how a certain problem is handled by individuals (Bryman and Bell, 2011). The qualitative approach allows for flexibility by utilizing a flexible research structure. The main critique aimed towards qualitative research is that it is subjective, that is to say that the researcher interprets and thus also affects the research based on his personal views and prior knowledge (Bryman and Bell, 2011). Another critique is that the research itself is hard to replicate with regards to the studied environment. Coupled to this is problems with generalizing the findings since cultures and practices vary based on study object (Bryman and Bell, 2011).

The aim of this study is to analyze knowledge management, routines for knowledge sharing and the organizational culture at Capacent consulting. The study is therefore concerned with studying the processes coupled to knowledge management within a company active in a knowledge intensive environment. Thereby it is justified to use of a qualitative research strategy since the focus lays on understanding behavior of people and on softer issues rather than harder facts that are measurable.

3.2 Research Design

The research design provides a framework that is used in a study for the collection and analysis of data (Bryman and Bell, 2011). It reflects the priority given to a number of dimensions concerning the research process. These dimensions include importance given towards creating causal connections between variables, generalization derived from a smaller sample, understanding behavior and its meaning in specific social context as well as understanding social phenomena over a time period (Bryman and Bell, 2011). The focus of this section is on explaining and arguing around the use of a case study to answer the posed research questions.

A case study is defined as *"[…] a research strategy which focuses on understanding the dynamics present within single settings."* (Eisenhardt, 1989). A case study consist of a deeper and more detailed study of a particular single case of interest which might include an organization, a business unit, a person or a project (Bryman and Bell, 2011). Case studies are generally linked to qualitative approaches since the deeper study of a single organization or setting is compatible and well adapted in conjunction with the qualitative approach (Bryman and Bell, 2011). The aim with a case study is to gain an in-depth understanding of the studied object during a given period of time which is in line with characteristics previously described to a qualitative approach (Yin, 2009).

The aim of this study is to analyze knowledge management, routines for knowledge sharing and the organizational culture at Capacent consulting. The study is therefore concerned with studying the processes coupled to knowledge management within a company active in a knowledge intensive environment. The focus then of this study is on words, thoughts and behaviors. Given the aim of the study a qualitative research strategy with a case study design was seen as the best approach. In order to capture these aspects, there was a choice done to of using interviews as the main data collection form. In order to conduct the interviews the researchers had to develop an interview template. The template was created in order to conduct semi structured interviews. A semi structured approach allows for a richer collection of environmental factors that affect the studied object (Bryman and Bell, 2011).

3.3 Quality Criteria

This section will detail how different quality criteria have been evaluated during this study in order to ensure a high quality research. According to Bryman and Bell (2011) there are three different types of criteria that are of importance to consider when conducting business research. These are reliability, replication and validity, all of which will be treated in this part of the thesis. Emphasis in this section is put on the criteria that have the largest influence on the research outcome. This reflects also the hurdles that have been overcome during the research process.

3.3.1 Validity

Validity is the criteria that are concerned with the integrity of the conclusion that are drawn within a given research. It indicates the level of trustworthiness that is found throughout the conducted research (Bryman and Bell, 2011). Validity as a criteria is therefore multifaceted and can be divided into four main areas (Bryman and Bell, 2011). These areas will be discussed and put in relation to the research that has been in this section.

3.3.1.1 Measurement validity

The first area of validity discussed is that of measurement validity, which is also sometimes synonymous with the concept of construct validity (Bryman and Bell, 2011). It is used in order to assure that the measures that are used actual fulfill their task. That is for example, if one is to measure intelligence is an IQ test a good measurement (Bryman and Bell, 2011).

To ensure that a high level of measurement validity has been achieved there have been a number of steps taken. Firstly the interview template was reviewed and tested several times before being employed on a large scale in the research. Secondly the methods and processes used during this study have been clearly described and argued for. This ensures a high level of transparency and also a high degree of reflection during its formation assuring

acceptable construct validity. Lastly during this study, by combining multiple sources of data (interviews and secondary data) construct validity was created.

3.3.1.2 Internal validity

The second area of validity treated in this section is that of internal validity. This criteria is concerned with the issue of causality (Bryman and Bell, 2011). Within quantitative research the examination consists of ensuring that an outcome truly is affected by a given factor and that there is no other variable affecting this causal relationship (Bryman and Bell, 2011). In qualitative research the focus of this criterion lies in examining if the observations made during the study have a good match with the theory that is developed.

Internal validity of the research was achieved with the use of respondent validation. That is the process in which the researcher provides the research results to the studied persons or organization. This was done in large with a workshop toward the end of the study when the first draft of a final solution had been composed. This allowed for a completed overlook of the solution and findings. The feedback given was then incorporated in the study. Complemented to this was a feedback process during the study as a whole primarily carried out with the supervisor at Capacent. Because of the geographical and temporal constraints it was hard to maintain an equally high level of respondent validation with the respondents outside of the Gothenburg office.

3.3.1.3 External validity

The third factor that needs consideration is external validity which is concerned with the generalization of the study results. According to Bryman and Bell (2011) this issue is one of the most important ones when conducting a case study. The issue have garnered a lot of discussion in the academic discourse since there are differences in the perceived possibility to generalize based on a case (Bryman and Bell, 2011). As explained by Bryman and Bell (2011), it is not possible to generalize for a very large group of organizations based on a single case. However some researchers such as Kanter (1977) try to generalize the findings to a few other similar settings. This is also the scope of this particular case study.

A case study can be used in different purposes in terms of generalization. According toYin (2009) case studies consists of mainly five different types these are; the critical case, the unique case, the revelatory case, the representative and the longitudinal case. This case is used as a representative case, which is a case “that exemplifies an everyday situation or form of organization”. The case study object as defined previously is a medium large Scandinavian consultancy firm that is experiencing rapid growth. Given these characteristics it is possible to generalize the findings within this case to other similar companies. A description of the context has been given in order to provide for a better base for generalization. To further enhance the external validity of the case, an examination and description of the cultural and organizational factors are given. These two factors provide for an easier identification of the study at hand which in turn enables for a better generalization.

3.3.1.4 Ecological validity

The last criterion that is considered within the concept of validity of this research study is that of ecological validity. It is concerned with whether or not the study has captured the everyday, natural social setting of people that have been studied (Bryman and Bell, 2011). The main concern is that the researchers have created an experimental environment that might interfere with the results that are obtained from the study (Bryman and Bell, 2011).

This factor has been highlight according to Bryman and Bell (2011) by the Hawthorne studies.

In order to ensure a high ecological validity to this study a number of steps have been taken. Firstly there was an explicit objective to use as little “unnatural” tools as possible in the data collection as to maintain a natural setting. The interviews that were held aimed at creating an environment that was open and enabled for a rapport with the interviewee which in turn eases the formal feel. Secondly there has been a thorough description of the setting, mindset and cultural aspects of the respondents. Finally there was a use of field notes throughout the study coupled with the fact that the study was carried out at Capacent during several months. This allowed for a capturing of natural work conditions as well as provided the possibility for the employees to give feedback on interviews and results obtained.

3.3.2 Reliability & Replication

Reliability is concerned with whether the results of a conducted study are repeatable or not. This criteria is mainly a consideration when conducting a quantitative business research (Bryman and Bell, 2011). The main concern from a reliability perspective is accuracy of the study undertaken (Bryman and Bell, 2011). For a qualitative study, Bryman and Bell (2011) suggests an adaption of the term to better fit the purpose. They divided the concept in external and internal reliability, where the former is concerned with the replication of the research while the latter is concerned with agreement between researchers in the same study (Bryman and Bell, 2011). Closely related to the concept of reliability is replication, which is concerned with the possibility to repeat and replicate the study that has been conducted (Bryman and Bell, 2011). The difference is that replication has a stronger focus on the study itself rather than the results obtained from it (Bryman and Bell, 2011). Within the scope of this study these criteria are treated in the same section since they are intertwined.

In order to achieve the internal reliability in this study the researchers have had a close interaction within the study. There has been a discussion after all of the interviews in order to ensure that the findings and reflections are discussed and noted. Throughout the research process a continued discussion has been held and allowed to take time in order to ensure that the researchers have the same opinion. This has been done to ensure a high level of internal reliability by having inter-observer consistency. To ensure a high level of external reliability and replication there is a description of what was observed and under which conditions in order to allow for a replication of the study onto other similar organizations. The entire process has been clearly defined and discussed in previous sections of this thesis. There has also been a careful documentation of the study’s different phases and steps. Preceding this was a clear definition of the research questions used. This has ensured a high level of reliability of the study.

3.4 Research Process and Methods

The research process has been divided in three distinct phase with different objectives and research methods employed. In the following section is a presentation of these phases along with descriptions and motivations of the chosen methods as well as the process itself. Found below in Table 1 is a presentation of the different phases along with the different main research methods employed at each phase.

Phase 1: Pre study	Phase 2: Data collection	Phase 3: Analysis and proposition
1. Literature study 2. Internal employee survey & informal interviews	3. Formulating interview template 4. Test of interview template 5. First set of interviews 6. Summary of interviews 7. Review of IT systems and routines 8. Complementing interviews	9. Data analysis 10. Literature review 11. Formulating of recommendations 12. Workshop at Capacent 13. Final review of thesis

Table 1 Research process employed showing the main phases and the different steps taken during the conduction of the thesis

3.4.1 Phase 1

The first phase of the work was aimed at gaining knowledge in the field of knowledge management. This has been done by an extensive literature study. Text books, articles and digital sources have been reviewed by searching on key words such as organizational learning, knowledge management etc. Within each search the authors reviewed the number of citations of given articles to gain an understanding of the importance of a given source. The search process was conducted by looking at the title and reading abstracts. Articles and books that seemed to be relevant and important were then further examined and read and constitute the basis of the thesis.

The initial problem that was broadly formulated in conjunction with Capacent needed to be better defined. To complement this study, a number of interviews were held. Interviews included the head of office in Gothenburg, HR & structure capital manager and the senior managing director in Finland. These interviews were carried out according to an open interview structure in order to allow a discussion surrounding the issues and grasping the problems so that the problem could be better specified. To ensure that a broader set of perspectives was included in the first phase, the interviews were complemented with a review of an employee satisfaction survey. The survey was carried out prior to the thesis start and was one of the factors formulating the initial thesis proposal from Capacent. The survey not only helped in defining the problem but also lay the basis to two of the questions used in an interview template that was used.

3.4.2 Phase 2

With the deepened knowledge the data gathering was initiated. This phase is critical in order to understand the environment at the company and suggest appropriate improvements. The data gathering was done by conducting interviews. The interviews were carried out according to a semi structured method. In total the researchers interviewed 20 different people using the template. These interviews constituted the main source of empirical data pertinent to this

thesis. The interviews were complemented by analyzing the data systems and routines used by Capacent.

Before carrying out the interviews, an interview template was created. The interview template was organized as to have an introductory open question about the interviewees work and experience. It was then followed by a part concerning their work at Capacent with project work as the main focus area. After which a couple of questions concerning experiences about knowledge sharing were posed. The last questions were pertinent to the company culture at Capacent before ending with an open question about possible improvements. Throughout the entire interview template there is a certain focus surrounding the work process and culture around Knowledge Management since this is considered to constitute a main domain of study. The entire template can be found in appendix I.

The interviewees were grouped together in order to ensure that all different types of employees were interviewed. Main purpose of the division was to map the demographics required in the interviews. The employees were grouped according to prior experience at other employments and length of employment at Capacent. Added to these criteria was also the management group that constitutes a separate group. Management in the company is usually less involved or absent from consulting and possess a more strategic role in the company. By having this demographic grouping it was secured that a representative base of the employees were interviewed thus getting a representative image of Capacent. The interviewees in each group were chosen randomly based only on the grouping. The four groups that were targeted were; junior employees, new employees, senior employees and management. The grouping can be seen in Table 2 below.

Group of employee	**Junior employee**	**New employee**	**Senior employee**	**Management**
Characteristics	Worked less than 2yrs at Capacent, no prior experience	Have worked less than 2yrs at Capacent but has prior experience	Have worked more than 5 yrs at Capacent	Member of the management team at Capacent
Number of interviewees	3	8	5	4

Table 2 The different groups of employees interviewed during the empirical data collection at Capacent

Before conducting the interviews, the template was tested with one of the employees at Capacent. It was tested on our company supervisor, which also holds a PHD in logistics. This was done in order to assure that the template is correctly modeled and will provide the answers desired and needed in order to get the needed data in this set. The template was then somewhat refined with the input given during the testing of the template.

Having carried out the interviews, the next step in phase two was to conduct an analysis of the obtained data. All interviews were recorded in order to allow a review of what was discussed in the interviews. The interviews were summarized and listened to in order to ensure that the key insights were found and extracted. The summaries of all the interviews were collected in document that served as reference for the continued work with analyzing the situation at Capacent.

After the conclusion of the interviews the main problem areas were identified. These were presented to the supervisor both at Chalmers as well as at Capacent. The main purpose was to clearly have identified the main areas of concern that needed to be addressed within this thesis work to arrive at the desired result and recommendation. Coupled to the identification of the different target areas was also a study of the databases and internal systems utilized by Capacent.

Finally phase 2 was concluded with a final round of interviews that had the aim of complementing within specific areas of interest that are pertinent to the study object. The questions were posed in order to complement the areas that have come up as interesting during the interviews but were not planned for during the template creation. This was done to ensure that the areas of interest were understood correctly and that the entireties of factors affecting the issues of concern are covered.

3.4.3 Phase 3

The final phase of this study consisted of a thorough data analysis and proposal writing. Before going ahead and writing up the conclusions and finding the appropriate solutions, all data was reviewed a final time. After the data analysis was completed a final literature review was carried out in order to complement the final pieces that might be missing. During this literature review there was a collection of best practice material that was collected and analyzed as well to prepare for the writing of the solutions and recommendations for Capacent.

Based on the literature that was found and the data collected solutions are proposed for Capacent. The solution laid the grounds for what is to be implemented in order to achieve a better knowledge management at Capacent. The research questions were finally answered in conjunction with the recommendations and conclusions. The recommendations were reported back to Capacent in the form of a workshop. The workshop was held at the Stockholm office with invitations going out to employees that had already been interviewed. The workshop was used to present and gather feedback and final input to test the solutions. The discussion at the workshop provided useful insight in how to change the solutions proposed to better fit the case company. By conducting a workshop the authors also eliminated a basis for bias by having it externally reviewed by the receiving organization.

4 Empirical findings

In this chapter the empirical findings are presented. The findings have been gathered from surveys, interviews, observations and Capacent's intranet and database. First general information is presented, followed by a chapter about formal and informal ways of knowledge sharing. Then the working process is described from a knowledge sharing perspective. The chapter ends with relevant auxiliary findings that are needed to understand the present situation at Capacent.

4.1 The organization

The first part of the empirical findings presented is pertinent to different aspects of the organization in general at Capacent. The section provides information about relevant issues that are important to know in order to understand the current situation at Capacent.

4.1.1 Widening the knowledgebase by acquisitions

Capacent is currently in an aggressive expansion phase. Capacent's latest acquisition was done in February 2013 when Resight, specialized in business intelligence (BI), was acquired. This aggressive expansion phase is due to the firm's strategy to become a broader consultancy firm. The official group CEO explains: *"We have expanded the width and height of our assortment shelves rather than growing organically only".*

He explains that by adding to the assortment of the services provided they are providing a situation of "*one plus one equal two*" that is to say no synergies and little integration. However, Capacent hopes that the expansion will make "*one plus one equal to two and a half*", or in other words not only widen the customer offering but improve the customer offerings and create synergies. However, in the long run the sum will become three due to good integration. The CEO explains that with good integration, synergy effects between the acquisitions will improve Capacent's work and enable higher value for the customer. He also says that if the knowledge management had been better the integration could have been smoother and shorter.

4.1.2 One company, many subgroups

As a result of the above mentioned acquisitions and mergers the company is described by some employees as divided in subgroups from past companies. For example some of the previous companies are still sitting together. However, because of the integration with Resight, Capacent will now use hot desking at the Stockholm office. Hot desking means that multiple employees share the same desks, which is possible for example because of customer visits. Another visible consequence of having grown through acquisition is that the employees themselves say that they do not fully grasp what all different units can provide in terms of customer offerings.

4.1.3 The three internal focus areas

Capacent has three large internal projects that aim at improving the organization as to be more competitive and better use the resources available at the company. These three areas include smaller projects that involve a group of consultants that work together on a more specific issue. The three internal focus areas at Capacent are; sales, change management and value and leadership. In order to increase the occupancy for the employees and increase revenues there is currently a focus on sales. The status on won and closed projects is regularly communicated within the company to motivate employees to sell more. Cross-sales are an important issue. It means that an extra service can be sold to an existing project

and by that generate higher revenue. This includes selling additional services from the same service area as well as adding from other areas.

Change management is the way Capacent highlights the importance of sustainable solutions for its customers. The project also aims at implementing value-based pricing, by getting paid depending on how well the project turns out for the customer. The Finnish office is in charge of the project since they already have implemented the pricing strategy at their office and have employees that have experience in dealing with this subject in previous customer projects. Courses in change management are also included as a part of Capacent Academy, which will be presented later.

The Structure & HR manager is responsible for the third project, which is concerned with value and leadership. He has initiated a three day long activity at a conference center where all employees must participate once. The conference center is called Noor and has also become the name of the activity. The activity is led by a consultancy firm specialized in company integration and collaboration. The project aims to create a common value and culture platform. The activities undertaken at Noor are aimed to be a one off event that all the employees should have done. After the activities at Noor the employees are divided up in teams that work on a common internal project related to the discussion held at Noor.

4.2 Formal knowledge sharing

In the follow section the formal ways of knowledge sharing used at Capacent is presented. The section presents the empirical findings that are pertinent to understanding how knowledge sharing is supported by formal processes and routines.

4.2.1 Using databases as a way to sharing knowledge

Capacent has two network drives that act as databases, mapped as M: on the computer system, colloquially called the M-disc (J-disc in Finland). It is the file system that works as a database where all information about past and present projects is stored. The documentation is structured in a file structure that is dictated by routines and catalogued after the company at which the project was conducted. The idea is to provide a possibility to backtrack all interaction with a certain company. Documentation stored is every final document used in a completed project as well as information such as offers, sales meetings and other similar material. Documents irrelevant for further usage are to be removed. The project model has a mandatory step that includes organizing all final project documentation according to a predefined structure.

The general perception of the M-disc is that it is unstructured and it is very difficult to find relevant information. One problem is that it is structured after company, instead of for example SA which would have made it more accessible. One of the interviewee formulated that "*If you have not done a lot of projects beforehand you need to talk to somebody that have and knows where to find the information on the M-disc. Otherwise you spend time guessing and browsing a lot of projects that might be similar in order to find prior data to use.*" Another problem is that it is not possible to make any qualitatively searchers. The file system lacks a practical search function that can be used to find relevant documents. The researchers conducted a search on a fairly broad search term and got a couple of hundred hits. The search took 50 minutes when aborted since it took too long to complete. One of the interviewees said "*I prefer to ask a colleague for help instead of searching in the M-disc, because I never find anything there".* That example also shows the problem with the

information overload that exists because of an abundance of documents on the network disk. According to routines the documents should be sorted and cleaned (irrelevant information should be removed) after closed project. However many of the interviewees stated that this is not always respected and depends a lot on the project leader and the people involved in a project.

4.2.2 The intranet is based on SharePoint

The intranet is used as a tool for the management to communicate internal information such as sales statistics and internal news. Standard documents and working procedures can also be found here as well information relating to employee condition and salary. Everyone has access to the intranet but only the CIO and a limited number of employees can update the information. The intranet has a fixed heading showing the focus areas; sales, change management and, value and leadership. Each area is presented and for example course material is available for the change management initiative. It is on the intranet that all documentations regarding routines, policies and models can be found. For example the model for project work is accessible from here. Another feature is the CV-base. Here each employee should be presented and the CV available. However, as for now only the name and picture is present but the development of a better CV base is underway.

The intranet is based on a SharePoint server, it is however not the enterprise version. Each employee has access to SharePoint workspace which is the client that needs to be connected to the server in order to sync the data. This is not always done and creates problems if the local data is lost, which in turn leads to knowledge being lost. SharePoint constitutes a platform which can be extended to include functions such as tagging of documents, forum, Wiki based pages and personal directories. However there is again a split in the workforce concerning the use of SharePoint. Some employees, mainly those that have worked with it at Unitedlog use it more extensively than those of what used to be Capto. There are no formal instructions on when to use SharePoint and to what extent. There is however routines on emptying the workspace used in SharePoint when closing a project. However again this is not always lived up to by all users. One interviewee points out "*I know that we are told to empty the workspace but it varies a lot depending on the project members and the time given to properly close a project.*"

4.2.3 Friday meetings are a way to share knowledge

Each second Friday Capacent has an internal meeting with all offices in Sweden. The meeting is performed via video conference where projectors at each office display a PowerPoint for all participants. The meetings are led by the region head in Stockholm. Often a success case is presented by some employees. It is a way to share knowledge and improve the cross-selling. However the meetings are not included with the Finnish office that conducts similar meetings locally. After the meetings each office has some time reserved for an internal meeting that is pertinent to dealing with local issues.

4.2.4 Capacent Academy is way to spread internal best-practice

Capacent offers internal courses where employees share knowledge and teach their colleagues in certain subject to which they have a deeper expertise. This initiative is called Capacent Academy and the courses can be in PowerPoint and Excel, or Change Management. The employees are given time to participate in courses that are held in one of Capacent's offices. The scope of it is to highlight and enhance the competence of the entire

workforce. The registration is open for all employees that have an interest in the announced subject and the courses are appreciated by the employees attending.

4.2.5 Heat maps are a way to find the right competence

In all offices, Capacent has four posters with information about the employees. One contains the picture and name of all employees and where they are located. The three others contain service area competence, customer offerings and industry competence for each employee. Visualizing the employees like this is called heat maps. It is a way for Capacent to increase the communication internally and ease the finding of "right person". The usage of them varies among the employees. Some employees suggest the heat maps should be made accessible digitally to improve usage. As is right now the heat maps are updated twice every year. Employees have stated that the heat maps might be outdated and that everybody does not fill their skills out in a timely and accurate manner. This reduces the usability of the heat maps when needed.

4.3 Informal knowledge sharing

In the follow paragraph the informal ways used at Capacent to share knowledge is presented. The section gives a description of the parts of the knowledge sharing that is not governed by formal routines.

4.3.1 Knowledge sharing based on personal connections

Capacent's employees have an open mindset towards knowledge sharing. When they are asked for advice and help they willingly provide it by spreading their knowledge and experience from previous cases. There are no signs of employees protecting their expertise area in order to be a key person in the company. The knowledge sharing is more or less based on personal connections. In the instances where knowledge is sought in databases it has often started with a personal contact. As put by one of the consultants "*I usually start by asking someone that have done something similar and then I look it up in prior work that is saved. If I still have some questions I ask the person again but now it is usually more about details.*" Concerning the motivation behind why they share the knowledge one interviewee describes the consultants as: *"… sensitive, everyone thinks they are stars"*. Another one stated "*Consultants are usually a bunch of divas that are highly competent but have their own way of doing things.*" Even if they happily share their knowledge they appreciate to be acknowledged for it. It could be as simple as a pat on the back but a successful case presentation within the company is also considered to be rewarding.

In general employees consider that there are no limitations in asking other employees when in need of help. Asking for help through email is however not always appreciated. Some employees have stated that they never use it since it is considered an irritating occurrence and that it rarely gets the attention needed. Others however have stated that emails are a great way of communicating if used properly and that there currently is no email overload at Capacent. Furthermore employees are frequently interacting and talking after sales calls and when in need of help. The informal knowledge sharing is also enabled by the open office landscape that removes physical obstacle to communicating.

4.4 Project practices concerning knowledge sharing

In the following section the empirical findings that deal with the working process are presented. This includes mainly project work and how the knowledge is shared after the completion of a project.

4.4.1 Project group constellation based on personal contacts

Capacent has according to the management team a well-defined model for how a project should be managed, related to initiation, current work and closure. However this model is not used in the organization according to the project leaders that have been interviewed. Among the interviewed some are aware of this model but few follow it. The composition of a project team is not predetermined but rather tailored by the project leader based on his or her perception of the competences needed for the project. Team members are picked based on how well the project leader perceived their knowledge as fitting for the project at hand. This leads to a knowledge sharing problem as put by an interviewee "*… had the project team talked to me I could have provided insight in how to tackle that problem with a different perspective and provided further value to the customer. Ultimately this meant that we lost a potential to sell in further consultancy hours.*" The interviewee argued that knowledge was not shared properly since nobody had sought his input. Some argue that they often work with new people but most notes that they tend to work with people they have worked with before. One of the project leaders stated *"[…] it is often easier to work with somebody you already know since you know what to expect from them.*"

4.4.2 Employees are not making their documents public on the server

The IT systems used at Capacent are not utilized fully as one of the interviewees said "*IT doesn't matter if nobody uses the systems […]".* There is a reluctance to use the system since the information is hard to find. Again it is noted that the routines related to documentation are poorly followed. Some blame the lack of time as a reason not to properly document and other blame the lack of trust in the IT-system. The CEO further blames himself and the board as not using the IT-system and by that not stating a good example. This applies to routines about project management which are neither followed. The routines exist and are considered to be detailed enough. However there is little knowledge about the routines existence and the use of them is next to none when asked about routines one interviewee stated *"[…] is that so? I have not looked at any of the routines concerning the database. I simply didn't know that they existed.*"

4.4.3 Post project review is not performed after all projects

Furthermore there is little formal post project review conduct, although some of the interviewees have stated that they would like to have some form of lessons learned or project summary at the end of the project. Another aspect pertinent to project closure is that there is no evaluation conducted with the customer other than the official project hand over. The routines that exist today are more focused at evaluating the project from an internal perspective and is not focused on capturing customer input. Many of the interviewees have stated that having a better post project review would enable them to understand where there is room for improvement. One of the consultants said "*it is a shame that we do not review projects with customers in order to capture why they did not like the output. It is also important since then we can also capture why customers were especially satisfied with our performance.*"

4.4.4 Better insight in other parts of the company is requested

Another issue that was apparent was that employees wanted to have better knowledge of all the service areas and what they can offer to customers. A part of this is that employees request more standard models and short presentations from each SA as one employee puts it "*It is not always clear what the other service areas do and what they can provide to customers. This makes it harder for me to achieve cross-sales…*" This would increase the general knowledge about other SAs. It is further also requested to use more standardized documents in sales purposes. The consultants also say that this is a great way to get an overview over previous projects before digging deeper into the documentation available. One of the employees said "*Where I previously worked we had a system of documenting white papers after our projects which was very useful to get a quick overview on not only what was produced but also on the process during the project. We had information about difficulties encountered and how they were solved.*" Employees have also pointed out the need to save and structure models and tools that have been used and created in other projects for reuse in new projects.

4.5 Barriers towards knowledge sharing

The following section presents other empirical findings that are considered important but that cannot be sorted in any of the previously treated areas. The findings presented in this section are equally as important as previous sections and should be treated as such.

4.5.1 Ambiguity concerning who is the CEO and what to focus on

There is an ambiguity about who really is the CEO or in other words there is lack of transparency concerning who is the real manager. Some employees thought the CEO is the group CEO while others thought it was the region head of Stockholm, as one of the interviewees stated *"[…] oohh it is he who is the CEO I always thought it was the other one*." Not only does this create an uncertainty of whom to follow and listen to, but also what is the main priority in the company. An example of this is that the company has initiated many internal projects within the scope of the three internal focus areas. There is little feedback on how the projects are working out and which the important ones are. Coupled to this is also that many of the employees do not know who initiate the project furthermore making it difficult to prioritize the tasks at hand. Another concern is that internal projects are often set aside when another external project arises one consultant stated "*I believe that people simply start to work with internal projects and there is something else that requires their time and they put it aside and pick it up later on. This leads to other people losing their insight in the progress of many internal projects".* Some employees have also noted that it is not only the CEO role that is not clear but the entire structure is somewhat unclear and leads to the presented prioritization problem.

4.5.2 Lack of integration with Finland

Due to that Capacent has offices in both Sweden and Finland distinct differences exists regarding cultural and linguistic factors. Some of the employees in Finland speak Swedish, but these are a minority, and therefore the language is a barrier towards collaboration and knowledge sharing. However they have an outspoken goal to integrate and share more over the countries. However this has not fully manifested yet as one of the Finnish members points out "*I do not know why we do not participate on the Swedish group meetings. However all information is not relevant as we do not completely share the same customers. Whenever we have projects for customers that are active in both countries we have a*

knowledge exchange. We could however be better at sharing knowledge outside these projects to enhance our ability to sell over the country limits." Furthermore the documentation is often conducted in the working language meaning that if a project has been conducted entirely in Swedish or Finnish, all the documents will be in the respective language. This is seen as another language barrier that is hard and unmotivated to bridge since there is little value that can be extracted from sharing all the knowledge over the country limits.

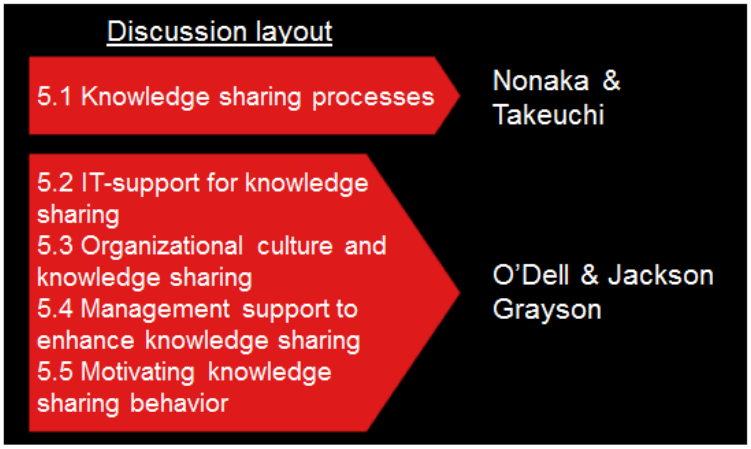
4.5.3 Career advancement and bonus

Every year the employees are evaluated by their superiors. The evaluation is based on the performance during previous projects. The qualitative criteria are based on the performance as perceived by the project leader and follow a template. To do the evaluation each person must request that input is given from each project manager for all the projects where the employee has participated. The evaluation is done at the project closure by the project leaders. Employee evaluation is then carried out at the end of each year where the superiors evaluate the employees in his service area. The evaluation is then based on the thoughts of the project leaders with the input of each superior. As with other routines, this is not always followed but instead all the project evaluations are done before the employee review once a year. One of the interviewees said "*It is a problem for both the project leaders as well as the employee that we get evaluated so long after the project is done.*" The evaluations are used when deciding on possible career advancements. In the evaluations there are specific qualitative metrics used to evaluate the employees. These differ depending on the seniority of the employee and include for some of the roles a part that is based on knowledge management. However the knowledge management metrics are not highlighted and are often found bundled together with other metrics.

The bonus system is based on sales and billed hours. The part of the bonus based on sales is paid out as a percentage of the value of a sold project and is paid to an employee involved in the sales process. The total bonus is paid each quarter and is based on the work done in current quarter. There is no financial incentive such as bonus that is based on knowledge sharing. The management team has discussed the introduction of sanctions in order to enhance knowledge sharing and appliance toward routines. However it was decided that a better approach would be to support the project management by formalizing the project cycle by a project supporter.

5 Analysis and discussion

In this chapter the empirical findings are analyzed and treated according to the theoretical framework presented in the beginning of the thesis. The chapter begins with a mapping of current formal and informal process of knowledge sharing at Capacent into the framework presented by Nonaka and Takeuchi (1995). The following sections are then based on analyzing and discussing the strengths and weaknesses at Capacent concerning their Knowledge Management. The different chapters are based on O'Dell and Grayson (1998) theoretical contribution where the four of the five factors presented by them are used as domains of analysis. Measurements have been omitted in the analysis since they are omitted by the delimitations of the thesis. The layout of this chapter is illustrated in Figure 5.



Figur 5 Layout of the discussion and analysis

5.1 Knowledge sharing processes

From the empirical findings it is clear that Capacent has a number of working processes and routines that are pertinent to knowledge sharing and knowledge management. However, as is presented in the empirical findings Capacent's major issue is that the knowledge sharing is perceived as not being utilized to its full potential and that these routines and processes are not followed as they should. In this section the different processes have been arranged in a matrix according to the framework by Nonaka and Takeuchi (1995), which is seen in table 3 below.

From/To	Tacit knowledge	Explicit knowledge
Tacit knowledge	**Socialization:** - Friday meetings (Case presentation) - Capacent Academy - Sharing of knowledge via personal contacts	**Externalization:** - Creation of models and tools in a project
Explicit knowledge	**Internalization:** - Usage of the database files in projects - Routines employed at project startup	**Combination:** - Transferring of project material to the database - SharePoint for the intranet

Table 3 Capacent's ways to share knowledge as of today

From the above table we note that Capacent has processes and routines that correspond to the four different states of knowledge modes. The initiatives shown above need to be analysed using the empirical findings presented earlier. From these it is firstly noteworthy that Capacent have a solid foundation to build further on when it comes to **socialization**. There is arguably already a strong foundation to build on is within the socialization since there is already a high degree of personal information exchange that is supportive of socialization when transferring tacit knowledge. Secondly the **Externalization** at Capacent could improve; they have routines and processes supporting the creation of models and tools that have been used in projects, enabling some spreading of tacit knowledge through explicit means. The routines are however not always followed which leads to problems with this part of the knowledge sharing. Following of routines are also a problem when looking at **Combination** at Capacent. There is a structure for how to transfer information to a database but these are not always followed and could be improved to increase the utilization of explicit knowledge further in the company. Lastly **Internalization** is a domain that is currently lacking in the sense that the database is underutilized since it is perceived to be plagued by overload in information. There are improvements to be made by making it more accessible. Furthermore routines are not always followed when creating projects groups. These two factors hinder the knowledge sharing of explicit knowledge to tacit knowledge. What is important to note however is that the foundations is already laid and can be improved upon. That is to say that the main components in terms of IT systems and routines are there but need only reinforcement.

To conclude this section the authors note that being a knowledge intensive firm they have knowledge that is both tacit and explicit. There is therefore a need to manage and share all different types of knowledge. Capacent as a consultancy firm has the need to share knowledge through personalization since there is a lot of knowledge that is tacit when dealing with projects. Conversely it is arguably from the empirical findings possible to see that Capacent have a need of sharing explicit knowledge. Capacent has processes in all four fields presented by Nonaka and Takeuchi (1995), and share both tacit and explicit knowledge. The real need is to reinforce the fields in which Capacent are lacking. The domain in which Capacent are more prominent is within socialization and should therefore focus more on the three other forms since there are more gains to be had there.

5.2 IT-support for knowledge sharing

As was presented in the theory, O'Dell and Grayson (1998) states that for knowledge sharing to be effective it needs to be supported by technology. The empirical findings suggest that Capacent does not view their IT-solutions as satisfactory in supporting knowledge sharing. *The problem is two folded; the user-friendliness is low and the technology is not properly used.* From the empirical findings it was clear that there is no effective search function implemented in the database, which hampers the internalization, explicit to tacit knolwedge. The reason for underutilizing the database is that it simply does not fulfil its purpose since it lacks some technical aspects needed in order to serve the knowledge sharing process.

As was shown in the theory by Ambos and Schlegelmilch (2009), the important aspect when designing the technical aspects of the database is the interactions between people and the systems. It is arguably therefore more important to design the system in such a way that it enables an interaction where the users are put in the centre of the process. This then has the implication that employees tend to use it less and add to the problem since the real value of

the system is somewhat lost when there is an information overload in the database and no easy way to access what is needed. A solution maintained by Jackson and Smith (2012) is to implement tags that enable searching. This means then that a database can overcome the problem of information overload by having a search function that is effective in displaying the knowledge that is looked for. In the present case of Capacent a search function reinforces the already used structure when saving information in the database.

Furthermore, from the empirical findings it was evident that Capacent had a need to share more standardized models and documents. The aim is to not need to reinvent the wheel for every project but also to have documents that can serve as sales material. This is according to Nonaka and Takeuchi's model (1995) externalization, tacit knowledge to explicit. In the theory, Pfaff and Hasan (2011) presents a Wiki based solution as a possible tool to use when sharing information. Using such a system in a consultancy firm would mean that all the employees have a common technical platform around which standardized documents could be built and shared. This would tap in to the collective knowledge of the entire workforce. However the implications then for any company implementing Wiki based pages is that a certain degree of management control is lost since the very idea of Wiki pages is to enable the users to create the content. Instead the system brings a degree of transparency to the company in the sense that all employees, including management, see the knowledge that is used and can contribute to it.

Lastly it was found in the empirical findings that employees requested a better overview of other competences in the company as well as other SA. There is a usage of heat maps in the company but they are static. Criscuolo et al. (2007) showed that by having a section of the intranet dedicated to skills a company can better map the knowledge that exists within the company. For consultancy firms this is an important aspect since it enables the project managers to assign the right people to the right project. In the empirical findings it was shown that Capacent had difficulties in ensuring that all employees knew what the different service areas could offer to the customers. Having a collected repository where the CVs and skills of the company is accessible and held update would ease this problem. The current solution of having heat maps at each office lacked the overview needed and the ability to search in it. The so called "expert yellow pages" as described by Ambos and Schlegelmilch (2009) can be accessible from a Wiki-page.

5.3 Organization culture and knowledge sharing

It was shown in the theory by O'Dell and Grayson (1998) that organizational culture is a major enabler when improving the knowledge sharing in a company. *It was empirically found that Capacent had a good culture in the sense that there was no hogging of information and that employees openly shared knowledge when asked for it.* This was also emphasized in the mapping of Capacent's knowledge sharing processes, according to Nonaka and Takeuchi (1995), as a strong area. *What was however of concern is that there are indications that the company still is somewhat split along the acquired companies.* This split is being dealt with to some degree with initiative such as the Noor-weekend, value and leadership. It is however imperative that the different units feels as one and acts as one in order to have a high level of trust. Machuca and Costa (2012) stated that without trust, KM might become a threat instead of an opportunity. Considering the integration of different units there are indications that this could be pursued more actively. Management have stated that they are not actively integrating the units and employees say that they do not have the full knowledge

on all units of the company. These are indications that the integration needs to improve in order to ensure that trust is built which is needed for a high qualitative knowledge sharing to take root. In more practical terms this means that an implementation of a knowledge sharing initiative should include all parts of the company as to avoid a perception that it is a project that do not involve everybody. This would then increase the trust between the units and enhance the interpersonal trust that already exists at Capacent today.

Further analysing the culture at Capacent one can apply the model presented by De Long and Fahey (2000) including the three elements; practices, norms and values. In the empirical findings it was shown that employees have values and norms that are supportive of knowledge sharing. They have stated that knowledge sharing is important and that it is something that they would like to work more with. *However, knowledge sharing is not translated into real behaviour since the practices do not include knowledge sharing to the same extent as in norms and values.* This could arguably also be a problem that stems from the fact that employee do not have the full support in terms of IT, routines and motivation. De Long and Fahey (2000) point out that changing the culture is a time consuming and tedious process that is not easily carried out. Therefore it is arguably more important in an initial step to harness the positive aspects of the culture that exist and rather be vigilant of what is lacking.

Lastly analysing the organizational culture at Capacent it was found that there is a difference between the Finnish office and the Swedish one. The Finnish office does not share the same database and do not have access to the Swedish one and vice versa. Furthermore there are no regular meetings held between the offices. These two factors are based on language barriers but it also impedes to some degree the possibility to cross-sale over the country boundaries as well as knowledge sharing between the two units. Capacent has a great opportunity to bridge this gap and bring the countries closer to each other by making as much knowledge as possible accessible in English, when implementing a new knowledge sharing initiative.

5.4 Management support to enhance knowledge sharing

As was shown in the theory by O'Dell and Grayson (1998), having management support is important for knowledge sharing since they give the direction via the strategy as well as through stating a good example. The main point carried throughout the literature is that there is a need to link knowledge management in general and knowledge sharing in particular to management of the firm. *However as was shown in the empirical findings, employees at Capacent felt that there was no clear direction and prioritization given from management towards knowledge sharing.* This has the implication that even if a knowledge sharing initiative is implemented, there would be little adherence since there is a lack of focus from management, both as stating a good example as well as providing strategic direction.

An effect of not having a clear management and strategy concerning knowledge management is that the internal tasks such as project review and codification of knowledge do not receive prioritization. This adds to the problem of defining what is important for the firm. In the theoretical findings Anbari et al. (2008) argues that methods for sharing knowledge should be integrated in the project cycle. Another way of highlighting the importance of having clearly defined roles is done by Roth (2002) where a new role is created in a project group that works with knowledge sharing. The implication of having a

knowledge facilitator is that management clearly signals the importance of knowledge sharing and allows for it to occur.

5.5 Motivating knowledge sharing behaviour

Motivating knowledge sharing is important according to O'Dell and Grayson (1998), but how it is best done is not an easy matter. In the empirical findings it was shown that Capacent had a bonus system that placed focus on sales and debiting to customer. *This has the implication that internal processes are not of focus and areas such as knowledge sharing is set aside in favour of customer projects*. Ambos and Schlegelmilch (2009) argue further that the best way to motivate employees to share knowledge is by having recognition and reciprocity. This can take the form of using personalization strategies, i.e. personal interaction, for sharing knowledge. Therein lays a recognition part in that there is increased visibility of each individual's added knowledge. The presentations during Friday meetings are examples of this. Furthermore by having IT systems that encourage sharing of knowledge that everybody is using means that reciprocity is reached and thus motivating to further add to the knowledge repository. This then creates a positive loop countering the negative feedback from the financial incentive in the form of a bonus.

Motivating employees financially is something that both Nan (2008) and Ambos and Schlegelmilch (2009) argue against, especially if it is tacit knowledge. However for knowledge that is explicit Nan (2008) argues that financial incentives can be used. But both Lee and Ahn (2007) and Ambos and Schlegelmilch (2009) highlight that it needs to be matched to the effort and only used if the attribution is possible to measure. That means that financial incentives can only be used when it is easy to define a metric to use. Therefore it is not fitting as a motivating factor for all types of knowledge and should be used very carefully. This is also the view of the employees at Capacent. It is rather better to motivate by applying qualitative judgements of the input of each employee. This way it is easier to capture the multifaceted aspect of knowledge sharing. The sharing of knowledge is both a social task between group members as well as one that is dependent on the individual and therefore should be awarded accordingly and not only based on quantitative measures that are coupled to individuals.

Further in the theory De Long and Fahey (2000) found that the real way to change a certain behaviour is by changing the culture of the organization. Using this perspective it becomes even clearer that the real way to motivate employees toward a certain behaviour is not done with financial motivation. However continuing this discussion it is important to note that in the empirical findings it was shown that the evaluation of employees was only carried out on an on-demand basis once per year. This has the implication that motivation is trailing in time. The authors then argue that the evaluations must occur more frequently in order to serve as a motivator in the sense of career advancement.

6 Conclusions

Returning back to the beginning of the report, this chapter will answer the research question that was formulated. The main research question used in this thesis was broken down into two sub questions and this section will start with answering the two sub questions and then answer the main research question. This chapter is then ended with a discussion of further research that discusses the possible continuation of this thesis.

6.1 Answering the research questions

The first sub question was formulated as: *What organization culture exists and what characteristics are needed in order to enable knowledge sharing within a consultancy firm?* From the studied case the answer was found to be that there is already an existing organizational culture that is supportive of knowledge sharing. However, the problem surrounding the organizational culture was rather one that relates to the behavior. The solution is then to support the culture and ensure that a right behavior manifests. This is true for all consultancy firms looking to improve their knowledge sharing. Support to the culture and behavior is obtained by having a clear distribution of responsibility for knowledge sharing which is supported by a clear management focus surrounding KM. Furthermore, behavior is supported by creating routines that ensure that knowledge sharing becomes a natural part of the working processes. The main issue is then rather getting the right behavior from the employees. The answer then is to enable the right behavior rather than changing the culture. The culture should only be changed if it is counteracting knowledge sharing which was not found in the case. The authors of this thesis argue that this is a typical situation for a consultancy firm. The culture is there but the behavior needs support in the form of IT systems and routines. Another issue that was found in the case study is that an expansion through acquisition might lead to different cultures taking hold in the company. Therefore for any consultancy firm, growing by acquisition, it is important to integrate the cultures and ensure that the same supportive culture for knowledge sharing exists throughout the firm.

The second sub question was formulated as: *Which formal processes and tools enhance knowledge sharing within a consultancy firm?* The answer to this question is found in the improvement suggestions slightly discussed in the previous chapter and more detailed in the next chapter. Knowledge sharing in a consultancy firm is enhanced by ensuring that the IT systems employed are used and correctly modeled. Secondly usage of the IT system has to become an integrated part of the work carried out, therefore a need for supporting routines arises. Lastly the routines need to be supported by having clear definition of responsibilities and roles for knowledge sharing. Coupling all these factors lays the basis for better knowledge sharing to take root. The suggestions then are aimed at improving the IT solution and improving the interaction between employees by formalizing social knowledge sharing. Complemented to this is also the introduction of better motivational metrics that further ensures the supportive behavior. Furthermore the improvements that are suggested are valid for any consultancy firm that are experiencing difficulties with knowledge management and need to improve the knowledge sharing.

Having answered the two sub questions it is possible to return to the main research question which was: *What kind of knowledge management is needed in order to enable and support knowledge sharing in a consultancy firm?* The answer to this question is found by combining the two sub questions. More precisely the answer is to have to ensure the creation of an IT infrastructure that provides easy access to knowledge. With easy access it is meant both in

terms of searchability and user friendliness in terms of file structure. Coupled to the IT infrastructure is also having clear management support around it in terms of leadership, routines and motivation. This is enabled by having the right organizational culture which integrates knowledge sharing in the daily work of a consultant. Having established these two parts in a consultancy firm ensures that the knowledge that exists in the company is utilized in a more efficient way thus providing value back to the firm.

6.2 Further research

This thesis has examined how a consultancy firm can improve its knowledge management in general and its knowledge sharing in particular. The study has been conducted as a case study on the Nordic consultancy firm, Capacent. The end result of this thesis can be used for any consultancy firm which share the characteristics of Capacent when preparing to implement a new knowledge management strategy. A continuation of the study conducted in this thesis is arguably to examine how to carry out a practical implementation. Furthermore this thesis has not had a focus on measuring the impact of a knowledge management system. Therefore a natural further research would be to examine the effects of an implementation and compare the results with how it was before the implementation. This would enable researchers to get a better understanding of the monetary value of having a knowledge management system. It would also enable a further understanding of the value of knowledge itself for a consultancy firm. The authors of this thesis then argues that the natural continuation of this thesis is a study on how to carry out an implementation of a new knowledge management system and then a study on the effects of said system. Combining these two possible research domains with the one of this thesis would create a complete understanding of implementations and improvements of knowledge management.

7 Improvements

This chapter describes the suggestions for improvements that are suggested toward Capacent with the scope to enable a better knowledge sharing at the firm. The improvements that are suggested here are based on the current situation at Capacent but can also serve as a guide for other consultancy firms finding themselves in a similar situation as Capacent. The chapter is ended with a suggested implementation plan detailing in what order the implementation should be carried out. This chapter is based on the empirical findings as well as on a workshop that was held at the case company.

7.1 Improved searchability

This section details three separate suggestions that are intertwined and should be implemented as an entity. The improvement is based on a future implementation of all three suggestions. These suggestions aim to address the issue of searchability of the database and provide the needed structure to increase the usability of the m-disc at Capacent. The aim of the suggestions is to improve knowledge management by providing a formalized process for handling explicit knowledge and the transfer of tacit project knowledge to explicit knowledge.

7.1.1 Project Front Page

The first part presented is the creation of a project front page that is a document describing a certain project and the content of the project's folder on the M-disc. It is a one page document containing the following information:

- **Title**, the title of the project is contained here
- **Tags**, tags are listed that define the project. The goal is to have many tags to tightly define the project and provide insight into what type of project has been carried out.
- **Company,** information about the customer company is written in this part. This includes information about which section of the company.
- **Project sponsor**, the information about who the project sponsor was at the customer company is held in this part of the project front page, including contact information to the project sponsor.
- **Project members**, in this section there is information about the project team at Capacent with contact information as well as their role in the project
- **Project purpose**, here is a short description about the purpose of the project.
- **Tools/Methods,** this part contains information about specific tools and methods that were created or modified to be used in the project. Details about how tools/methods were used should also be included when it is relevant.
- **Lessons learned,** this section captures important information about what went well in the project and why. It also details what did not go as planned and why this happened and how it could be avoided in the future.
- **Links,** this section contains links to the different folders on the database where relevant documents for the project are kept.

The document will be stored on the intranet through the usage of SharePoint as the technical platform for said system. The document will then be tagged which will enable searching for it for future references. Searching for the document will be handled through the search engine available in the SharePoint platform. The tags that are used are predetermined in order to ensure that it is possible to use the search engine. Tags will however be reviewed and the

predetermined tags will be more as the usage of the system increases. Suggestions for tags that are to be used in the initial phase are:

- Service Area (SA)
- Industry
- Project members
- Tools/Methods
- Company

7.1.2 Post Project Review

A Post Project Review (PPR) is suggested to be a part of the project model. It would include an initial meeting where metrics, such as cost, time and scope, are decided. At the end of a project the PPR would be held to review the project and examine the metrics. The content of this meeting would be the input to the Project Front Page. Included at the end meeting is also a review of the entire process. The output generated at this meeting is reported back to the HR & structure manager at Capacent. The review of the process includes reviewing the time set aside for knowledge sharing, review of the tags, length and content of the project front page document and metrics used to evaluate project members.

7.1.3 Knowledge Facilitator

A Knowledge Facilitator (KF) is recommended and would be responsible to lead the post project reviews and create the project front page and tag it in the intranet. The knowledge facilitator would also be responsible for that everyone in the project team transfers the documents from their local server and over to the database according to the existing structure used. KF is then a role that is given to a project member at the first meeting in the post project review process.

7.2 Wiki-page

The intranet will be extended with a Wiki-page. A Wiki-page is unique in the sense that it enables a dynamic content since everyone is able to edit the page. It taps in to the collective knowledge base that exists in a consultancy firm. The user-friendliness is high because of the overview ability and searchability that a webpage provides compared to having documents in a digital folder. The Wiki-page is suggested to contain information about tools, standard documents and presentations of the different SA's competencies and presentations of all employees. Around each of the standardized tools that are stored in the Wiki page it is suggested that Capacent creates a community of practice. These are a group of employees that come from different SA's but have an expertise in dealing with that particular tool. The communities of practice are responsible for maintaining the Wiki page and meet once a year to discuss possible additions and new applications of it. The COP is also responsible for answering questions toward all the other employees when needed.

Regarding the personal skills part of the Wiki, each employee will have a page where they are presented and information about their skills. The entire section containing employee skills will form expert yellow pages that are searchable using the search engine embedded in SharePoint. The presentations about the tools will contain information about whom to contact for questions and a link to that person's page. This suggestion will ease the knowledge sharing about the SA's capabilities and provide a good platform for sharing best-practice documents.

7.3 Knowledge Fair

An annual knowledge fair is suggested to be held at the Stockholm office where each SA, for a day, can present what they are doing. Each SA will have a designated area where they can put up information on boards about a previous successful case. The different communities of practice will also meet and exhibit the different tools and methods that they are responsible for. The information can be very succinct and serve as a support to the informer rather than letting the receiver read it by him or herself. Seminars can be held during the day, similar to the case presentations on Friday-meetings. A variety of topics can be presented and the participants can sign up for what they are interested in. The employees from the other offices will be invited and participate to enable knowledge sharing over the geographic limits. The fair is a good place for networking and knowledge sharing. Capacent's customers can be invited and would make the fair a good way for marketing.

7.4 Integration between Sweden & Finland

Within each of the above suggested improvements, Capacent should act to integrate the offices in Sweden with the one in Finland. This is to be done by having the project front page written in English to ensure that an overview of all the projects is possible for all employees regardless of spoken language. Furthermore Capacent should have common meetings between the offices, the suggestion is to have a general part for both countries during the Friday meetings and then each country continues with their native languages. Lastly the proposed knowledge fair should include the Finnish office as well and all employees participating should be prepared to present their exhibits in English.

7.5 Motivation

To enhance the motivation for knowledge sharing it is suggested to emphasize and add knowledge sharing attributes to the annual evaluation of the employees that can lead to career advancement. The evaluation will be qualitative and based on the project leader´s evaluation of his/her team members. This suggestion is a powerful way for the management to communicate the importance of knowledge sharing. The metrics should be highlighted by having them in a separate section. Motivation is also enhanced in that all the suggestions are designed to embed motivation in the form of reciprocity and recognition. The evaluations of employees should also be conducted at the end of each project instead of being on demand.

Having motivation that is more tightly connected to knowledge sharing factors will ensure that the suggested improvements are actually used. Without a change in how motivation is given the improvements will more likely not take hold and become a natural part of the work process at Capacent. Without a change in motivation it is difficult to change the behavior and thus the improvements risk to give little value for Capacent.

7.6 Implementation plan

This section will detail the plan for how to implement the aforementioned improvements. The plan is mainly a recommendation from the authors that is based on discussions during the workshop as well as discussions held with key personnel at Capacent.

When implementing the suggested improvements it is important to have a plan as to not risk trying to implement everything at once and end up with little adherence. Furthermore for a company like Capacent that was found to already have a lot of internal projects it is important to have a prioritization plan when introducing new projects in order to not aggravate the problem. The improvements that are suggested are presented in table 4 found below, results

shown in table 4 are based on the data collected during the previously mentioned workshop at Capacent. Every improvement has been graded based on three metrics; difficulty to implement, achieved effect on knowledge sharing and implementation priority.

Suggestion	Difficulty	Effect	Priority
1. Project front page	Easy	Small	High
2. Post project review	Medium	Medium	High
3. Knowledge facilitator	Easy	Large	High
4. Motivation	Medium	Medium	High
5. Wiki page	Hard	Large	Medium
6. Knowledge fair	Medium	Small	Low

Table 4 The table shows the different improvements and the perceived difficulty, effect and priority that should be given.

As was stated when presenting the improvements, number 1-3 are treated as one improvement that should be implemented. These three improvements achieve synergy effects and the grading given is based on implementation of each individual suggestion. Therefore the implementation priority is high for all three since they only provide the entire value when all are implemented. It is however suggested that the three first parts should be implemented on a pilot project and then roll it out to smaller projects (not smaller than 500 000 SEK). The three first improvements aim at addressing the issues of searchability, lack of project structure and formalization of routines, mainly how saving of project data is carried out. This is considered the most pressing issues at Capacent and is also why they are seen as most important to implement.

Related to introducing the first three suggestions is the change in motivation. This suggestion is important as to show that management considers the issue of knowledge sharing to be important. Without motivation there is a risk that the entire suggestion falls apart since nobody is motivated to use it. Having implemented the new motivation metrics it is suggested that the Wiki page be created. When building the Wikipage in SharePoint it is suggested that Capacent should start by building the pages containing standardized documents and tools and then focusing on building the expert yellow pages part of the Wiki. The part containing standardized documents is where the real strength, that is contribution of the entire workforce, becomes apparent. Finally, the knowledge fair is the last part that is to be introduced since it is considered to have a relatively small effect on the company. It may also become a quite difficult implementation since it requires a degree of coordination.

Throughout the implementation it is important that the entire system is reviewed continuously. This is primarily done by the knowledge facilitator during the post project review but responsibility falls on the HR & structure capital manager at Capacent. This means that metrics are added to the evaluation as the system evolves and there are more metrics to be found. It also means that the tags are evaluated as well as the contents of the project front page. The numbers of projects that are conducting a post project review are increased. The Wiki page is continuously growing and irrelevant parts are removed. The time reserved towards knowledge sharing is adjusted based on the reviews. Having a piecewise implementation as suggested above enables Capacent to continuously grow the knowledge sharing strategy and thereby ensure that implementation is carried out in a qualitative manner.

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9 Appendix

Appendix I – Interview template

Personen
Berätta lite om dig och ditt jobb på Capacent

- Vilken position har du på Capacent? (tänk även gate keeper)
- Vilket SA tillhör du?
- Hur många år har du jobbat på Capacent?
- Antal år på annat företag?
- Vilket företag?
- Vilken position hade du där?
- Varför började du jobba på Capacent?
- Varför blev du konsult?

Arbetet
Vad är det för projekt du jobbar med i dag?

Är det alltid samma personer som du jobbar med?

- Varför är det så?
- Inom vilket kompetens område
- Typ av projekt
- Många samtidigt
- Längd på projekt
- Projektkonstellation

Erfarenhet av KS
Hur inhämtar du kunskap för att genomföra ett projekt?

- Före
- Under
- Efter
- Hämtas något extern?
- Vad funkar bra?
- Brister?
- (Relaterat till projekt på Capacent)
- Är det samma M-disk och intranät i Sverige/Finland?

Vad finns det för andra rutiner eller verktyg för att dokumentera och sprida kunskap, som Capacent har initierat? (formella/informella)

- Dokumentation och delning (kommunicering)
- Avrapportering och utvärdering
- Även informella sätt?

Vilka av dessa använder du?

- Vad funkar bra?
- Brister?

Enligt enkäten så är kommunikationen mellan projekten låg. Vad beror det på?

Finns det kunskap som inte är direkt kopplad till ett projekt som spridas på företaget?

- Kopplat till sälj/internutbildning

Är det skillnad på den kunskap du vill ha, beroende på om du letar i databasen eller kontaktar en person?

Tror du att alla kunskap kan göras tillgänglig i en databas?

Kulturen på Capacent

Vad är din uppfattning om synen på kunskapsspridning på Capacent?

- Vill man dela med sig av sin kunskap? (öppet/stängt)
- Uppmuntras kunskapsspridning?
- Finns det bonussystem och motivation kopplat till kunskapsspridning?
- Enkäten visar att kommunikationen inom projekten är låg. Varför tror du att det är så?

Hur initieras interna aktiviteter som t ex Noor-utbildning eller spontanfikat?

Märker man av att Capacent är tre sammanslagna företag? Hur är relationen med Finland?

Vad finns det för hinder för fungerande kunskapshantering?

- Strukturen vid jobb
- Ledningen
- Avstånd
- Teknik
- Är språket en barriär?

Visionär, hur skulle det se ut

I de bästa av världar, hur skulle kunskapshanteringen se ut på Capacent? Med tanke på din erfarenhet jobb/skola…

- Formellt och informellt
- Kulturellt

Är det något du känner att vi inte har tagit upp under intervjun som vi kan ha användning av?