

Joonas Saarela

Improving Knowledge Management in Consulting Service Business

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PREFACE

During this process to produce this thesis I have learned a lot about knowledge management and I must admit that it has been challenging but rewarding process. During this process I have learned that knowledge must always be managed to get the appropriate value out of it.

I would like to thank everyone from the case company who participated to this thesis and gave their insight and effort to the topic. I would also like to thank Satu Teerikangas, Zinaida Grabovskaia and Sonja Holappa for their continues support, guidelines and encouragement.

Without my family's continues support, this would been much thougher project. I appreciate all the support that I have received for this thesis. Thank you!

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ABSTRACT

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| <p>This Master's Thesis aims to improve knowledge management in a consulting service business. Currently knowledge is not managed appropriately in the case company. The purpose of this Thesis is to identify challenges related to this issue and to propose improvements to the knowledge management system of the case company.</p> <p>This is a qualitative case study. In this Thesis, data is collected through interviews with managers & consultants as well as observations and a literature review. The data thus collected is used to analyse the current state of knowledge management in the case company. This data is also applied as input to build the proposal for improved knowledge management in the consulting service business.</p> <p>The outcome of this Thesis is a proposal for improvements to the knowledge management system in the consulting service business. The proposal revolves around knowledge management model, which has four main areas, knowledge creation, knowledge storage, knowledge distribution and knowledge application. The outcome of this study will help the case company to manage their knowledge more systematically and distribute it through appropriate channels. Thus, in the long run this proposal, if properly implemented, will increase the efficiency and quality of their service business.</p> | |
| Keywords | Knowledge Management, Knowledge Distribution, Knowledge Sharing, Knowledge Transfer, Knowledge creation, Knowledge application |

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1 Introduction

This Thesis focuses on the improvement of knowledge management processes in the consultation business. This is a business, where internal knowledge sharing is one of the crucial issues for profitable business. The case company has accumulated a significant amount of internal knowledge and some platforms for knowledge sharing exist. However, if the know-how were systematically managed it would create much more value for the case company. This problem was selected because the writer is working as a consultant in the case company and it has been recognized in the case company that knowledge management could be improved.

1.1 Key Concepts

In order to understand knowledge management processes in consultation, a few key concepts need to be explained.

Knowledge is a mix of information with interpretation and meaning. In other words, it is information gathered through our abilities and then applied in our everyday life.

Knowledge management (KM) is a process to manage the knowledge inside the firm and to “facilitate the flow of knowledge” (Birkinshaw 2001:12). It can also be seen as a skill to “aggregate, analyse and use data to make informed decisions that lead to action and generate real business value” (Davenport et al. 2001:117).

Knowledge sharing is “basically the act of making knowledge available to others” (Ipe 2003:341).

Knowledge transfer is a transfer process, where knowledge is transferred to larger groups or entities within organisations (e.g. from HQ to subsidiaries). (Lam 1997)

Multinational Corporation (MNC) is a corporation, which owns and/or controls production and/or services and has established businesses in one or more countries other than their home country. The MNC is conceptualized in this study as a *network of units*. In this network, these units have “strategic mandates and thus access and transfer knowledge from different positions” (Chini 2005:21).

1.2 Case Company Background

The case company is a multinational corporation (MNC) providing consultation services in the machinery building industry, with more than 30 years of experience. The case company has more than 250 consultants in 32 different countries where they can provide national or global consultancy related to a certain area of machine building. In the fiscal year of 2014 the company made a record turnover of 260 million euros with 1950 employees in total. The company has been able to grow their turnover by 11,3 % from 2013.

The case company is a market leader in the field of their technical expertise through their global network, its know-how and the service portfolio that no competitors are currently offering. The company has also a product-manufacturing side but that is left outside of the scope in this thesis.

1.3 Business Challenge

Presently, the sharing and transfer of knowledge inside the company are not managed effectively. This leads to a loss of time and effort when required expertise is not available on time and to the full extent, even if the knowledge is available in the company. The problem is visible in the situation where some of the consultants are struggling with certain issues in their own office, even though these topics have been already solved in other locations. Thus, the “know-how” which the case company possesses should be made more readily available internally for the benefit of the case company's professionals. This ultimately has a positive effect on the customer experience and company profitability.

1.4 Objective and Outcome

The objective of the study is to create a proposal to improve knowledge management in the case company. This proposal aims to make knowledge management and sharing more effective in the case company.

By achieving this objective, the thesis will help to increase the profitability of the services and also provide more opportunities to further grow expertise in the field of service business through the shared knowledge.

The scope of the study is knowledge management processes related to the case company consultancy services. Knowledge, in this case, comprises the following main topics: services, standards and legislations. The knowledge will be shared between the headquarters (HQ) and the 32 subsidiaries around the world.

The outcome of the study is a proposal to improve knowledge management.

Finally, the proposal recommends changes to the knowledge management processes, which will aim to support the service business and steer focus to appropriate topics.

This research is conducted as a qualitative case study.

1.5 Limitations

The focus of this thesis is in knowledge management, knowledge sharing and knowledge transfer. Because of the main focus is on the knowledge distribution, the areas of knowledge creation and knowledge applications are not fully detailed. This thesis is not focusing on the searching process of knowledge. Confidentially is also a crucial issue related to knowledge, especially in the field of business where the case company is operating. In this Thesis confidentiality is not covered.

1.6. Structure of Thesis

This Thesis is written in 7 Sections. Section 1 provides introduction to this Thesis and to the topic of it. Section 2 covers the methods and materials, which has been used to create this Thesis. Section 3 provides the best practices from the literature for knowledge management. Section 4 explains current state of the case company based on current state analyze. Section 5 provides the proposal for the case company based on the current state analysis and best practice. In this chapter findings of current state analyze and best practices from the literature are merged to a proposal. Section 6 covers validation of the proposal and section 7 provides discussions and conclusion of the Thesis.

2 Method and Material

This section discusses the methods and material used to collect the data for this thesis. This section describes the research approach, research design and the validity and reliability plan for this study.

2.1 Research Approach

This research is made as a qualitative case study, which is a method that is used to describe the complexity of the subject of the study by investigating and analysing it (Stake 1995). Case studies are often used when it is required to answer questions of “how” or “why” on certain subject(s). (Yin 2003:6).

Case study is always context dependent research, which mostly relies on qualitative data. As stated, case studies are used to describe the complexity of the subject, which can be difficult to describe with quantitative data. Qualitative data is used to describe or express the data by natural language description while quantitative data express the result in terms of numbers.

Normally the case study starts with the determination of the research question. Once the research question has been raised, it is necessary to select the case(s) and the data collection and analyse techniques. By compiling the data from multiple sources, it strengthens the findings of the research and makes it richer, so that it is more holistic and well grounded, which grants deeper understanding of the case (Baxter and Jack 2008: 554). In a case study, through the data collection and analysis, the collected and analysed data are evaluated and finally reported. The final report also contains a proposal(s) related to the research question.

In this thesis, the case is to examine knowledge management and best practice for sharing and transferring knowledge in service business in a multinational corporation (MNC). More precisely, this Thesis focuses on the knowledge management of the service business of the case company. In the context of the case company, it means that the knowledge is managed and shared between the company HQ and the 32 subsidiaries around the world. This kind of soft approach is suitable for the case because there can be divergent views about the challenge. The consensus for the proposal will be

gained through the data 2 and 3 phases where the feedback from the participants will be heard.

In this thesis, the case study is made through qualitative research, which aims to change the knowledge sharing process. This study includes interviews with different stakeholders from the case company, including 7 consultants and 4 managers from different countries.

2.2 Research Design

The research design of this study is based on the logic of the case study, which is presented in Figure 1 below. In this logic, the objective of the study is defined at the first place. As stated previously, the objective of this case is to improve the current knowledge management process in the case company.

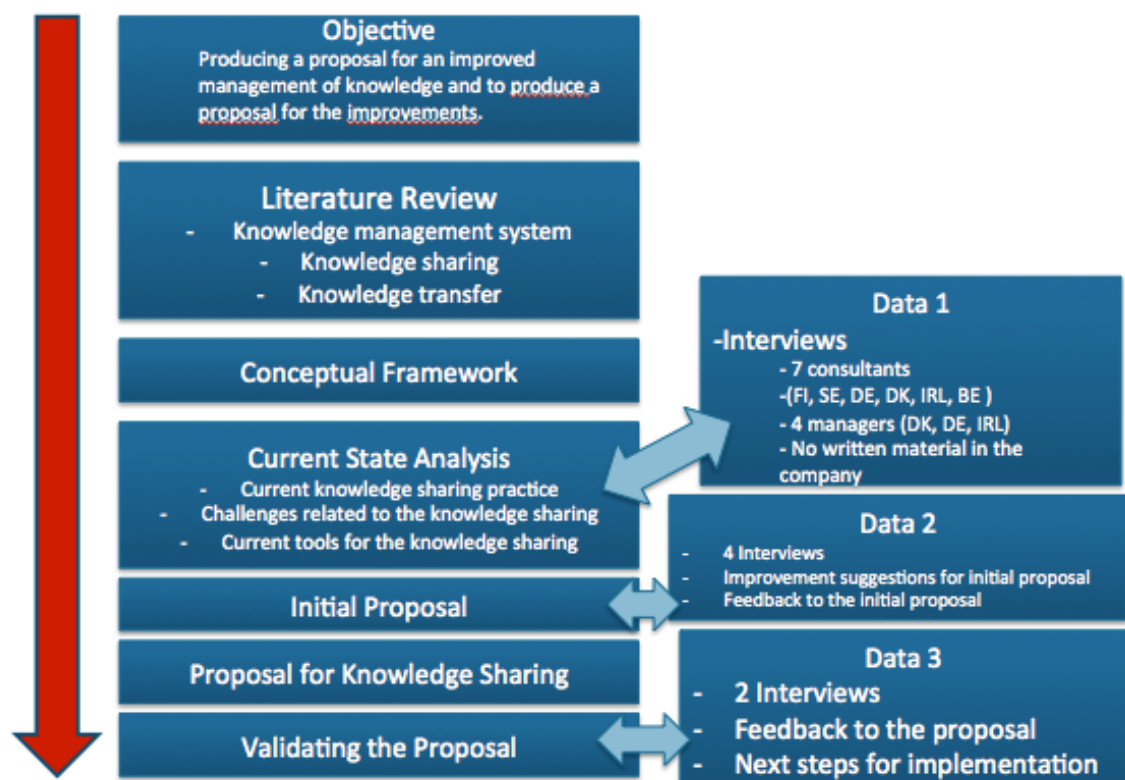


Figure 1. Research design of the study.

As shown in Figure 1, after identifying the objective, the study starts with the literature review. The goal for this stage is to identify the appropriate literature perspective and the ways to approach the Current State Analysis (CSA) of the existing knowledge

management practices in the case company. In the literature review, the focus is on searching for existing knowledge and best practice of knowledge management, knowledge sharing, and knowledge transfer. These will create the conceptual framework for this Thesis. Once the conceptual framework has been conducted, it helps formulating the interview questions and mapping the current knowledge management process in the case company. After that, the CSA will define the current state of knowledge management processes and their strengths and weaknesses. Once the CSA has been conducted, based on Data 1, it will provide deeper knowledge on the state of the current knowledge management processes in the company. Later on the results from both, i.e. best practice and CSA will be used to create the proposal for the improvements.

After the conceptual framework and current state analysis it is possible to start building the initial proposal for the objective. The initial proposal will be circulated among certain people's who were interviewed during the CSA so that they can give feedback and improvements suggestions to the proposal. This is stated in the research design as Data 2.

From the initial proposal, the next step is to build the actual proposal for the case company, which in this study is to improve knowledge management in the case company. The proposal will then be validated through selected persons from the CSA phase as stated in the research design as Data 3.

2.3 Data Collection and Analysis

In this study, the data is gathered in three rounds of data collection. Data 1, for the current state analysis, includes interviews and personal observations. Data 2, for the initial proposal, includes discussions with some of the interviewees. Data 3, for the validation of the proposal, includes a workshop with a few selected persons from the interviews.

a) Interviews

In this study, the data is gathered through semi-structured interviews because of the soft approach to the topic. It makes the most sense so that the interviewed person can give their possibly divergent view to the case study. Thanks to having conducted the

interviews in such a way, the conversations were deep and rich thus granting a good perspective for the current knowledge management system.

For the semi-structured interviews the questions were used as a framework for conversation about knowledge management in the case company. The interviews were conducted through remote meetings using the remote meeting software. During the data collection, the writer interviewed 11 people from 6 different countries. Some of the interviewees were from the managerial level and some were the actual consultants who are the users of the knowledge management system in the case company. Table 1 shows the details of the interviews conducted in this study.

Table 1. Details of the interviews, Data 1.

| Data collection event | Participants | Topic | Duration | Date | Documentation |
|--|---|--|-------------|---------------|---|
| Interview, face to face | Consultant (FI) | Knowledge management, transfer and Sharing, Structure of the information | 40 min | 14.1 2016 | Field notes, recording of the interview |
| Interview, remote GotoMeeting software | Consultant, BE Consultant, DK Consultant, DK Consultant, IRL Consultant, SE Consultant, SE | Knowledge management, transfer and sharing | 45 min each | 18-27.01 2016 | Field notes, recording of the interview |
| | Manager, Engineering, DE Technical Manager, DK | Knowledge management, transfer and sharing | 45 min each | 18-27.01 2016 | Field notes, recording of the interview |
| | Manager, Services DE Manager, International Services IRL | Knowledge management, transfer and sharing | N/A | 21.1 2016 | Written answers from the participants |

As seen from Table 1, the interviews lasted approximately 45 min for each interviewed person. Some managers were not able to participate in face-to-face interviews but they were still able to return the written answers for the questionnaire. The questionnaires were made based on the pre-literature and general knowledge management and sharing related to the case company's services (see interview questions in Appendix 1). The interview themes included knowledge management in general, knowledge sharing, attitude and importance of knowledge sharing and mechanism for the sharing. The questions were made with that idea in mind that the interviewed persons were not aware of the theory of knowledge management and also so that the participants would not easily only give 'yes' or 'no' answers. The Data 1 was analysed so that it was first lightly analysed through listening to the recorded interviews and based on those and notes made from the interviews, it was possible to approach these through interpretation of the content.

Based on the results of the interviews, it was possible to conduct the CSA, create a map and describe the state of the current state of the knowledge management processes.

After the conceptual framework and CSA in place, it was possible to make the initial proposal based on these. After the initial proposal was made, it was time for the Data 2 round, which was an open discussion related to the initial proposal. In this round, it was necessary to get feedback and proposals for the initial proposal so that it could be developed to be the final proposal. Data 2 included 4 persons who were from the Data 1 round.

Table 2. Details of the interviews, Data 2.

| Data collection event | Participants | Topic | Duration | Date | Documentation |
|--|--|------------------|----------|------|---------------------------|
| 1. Interviews, remote, Goto meeting software | Consultant, BE Consultant, IRL Manager, DE | Initial proposal | 1 h | 12.4 | Recording and field notes |
| 2. Interview, face - to face | Consultant, FI | Initial proposal | 1 h | 12.4 | Field notes |

Data 3 included 2 person to validate the final proposal of this thesis. This participant was selected to the final round because he is the writer's supervisor and is working as a technical manager in the case company.

Table 3. Details of the interviews, Data 3.

| Data collection event | Participants | Topic | Duration | Date | Documentation |
|--|------------------------|---|----------|-------|---------------|
| Interview, remote, Goto meeting software | Technical Manager (DK) | Final proposal, feedback | 1,5 h | 13.4 | Field notes |
| Interview, remote, Goto meeting software | General Manager (DK) | Implementation, discussion of next steps. | 1 h | 21.04 | Field notes |

Data from these Data round 1, 2 & 3, was carefully analysed to make a strengths and weaknesses table, which is the table 4. These findings were further analysed and compared to best practice from the literature to create the comparison between best practice and current state. This comparison is presented in the appendix 3.

b) *Internal knowledge management documentation*

In the case company, there was no internal documentation available for knowledge management.

c) *Observations*

Also, one data provider for this topic is the writer because he has been observing the current procedures for 5 years in the case company. The writer is in such a position that he is the “user” of knowledge management system but is also actively participating in knowledge sharing.

2.4 Validity and Reliability

For every study, validity and reliability criteria serve as an assessment made to reinforce and ensure that the research is acceptable and it meets the requirements of the research method.

Validity, in qualitative research, means that the research paper should actually be able to answer the research question as accurately and well founded as possible (Quinton and Smallbone 2006: 127). As the word validity is derived from the Latin word *validus*, which means strong, it describes the meaning of it quite well. The research paper must be strong, which means that the answer to the research question must be well grounded.

Reliability is used to ensure replicability, in other words, if other researchers would carry out the same study, they would end up with approximately the same results if the conditions set in the study would be the same. This means that the research should be replicable (Yin 2003). By using multiple data sources, collection methods and documented research procedures the reliability of the study can be increased. Reliability also serves as a pre-condition for validity, which refers to the credibility of the research (Thyer 2001).

In this thesis, interviewing and consulting different stakeholders related to the topic of this thesis is planned to enhance the validity of this thesis. The interview questions, as well as the selection of the interviewees, will be key factors in ensuring the validity and reliability of the study. The reliability of the study will be enhanced by studying a suffi-

cient range of relevant literature, discussing best practices of knowledge management, knowledge sharing and learning organizations. At the end of the study, the most knowledgeable stakeholders from the CSA phase will validate the proposal so that the outcome of this thesis would match the expected outcome. In other words, validity and reliability conditions of the stakeholders would also be matched.

The next section discusses about existing knowledge on knowledge management. This following chapter will create the conceptual framework for this Thesis.

3 Existing Knowledge on Knowledge Management

This section discusses the best practice of knowledge management based on a review of academic literature. To understand knowledge management it is essential to understand what knowledge and the process of knowledge management are. After the introduction to the topic, it is possible to move onto a deeper view on the knowledge transferring process.

Contents in this section are used to create the Conceptual Framework of the thesis. The conceptual framework is used to form the platform for a theory based approach to the current state analysis and it is also used to form appropriate questionnaires for the interviews so that the interviews would reflect and reveal relevant issues to the topic.

3.1 What is Knowledge?

In the everyday life, *knowledge* can be defined as follows:

Knowledge is a mix of information with interpretation and meaning. In other words, it is information gathered through our abilities and then applied to our everyday life.

In the literature, knowledge is commonly conceptualized as relating to three concepts: Data - Information - Knowledge, where:

- "*Data* can be defined as a set of objective facts" (Chini 2005:6)
- *Information* can be defined as data with meaning (Davenport et al. 1998)
- *Knowledge* then "combines various pieces of information with an interpretation and meaning" (Chini 2005:6)

This continuum of data is shown in Figure 2.

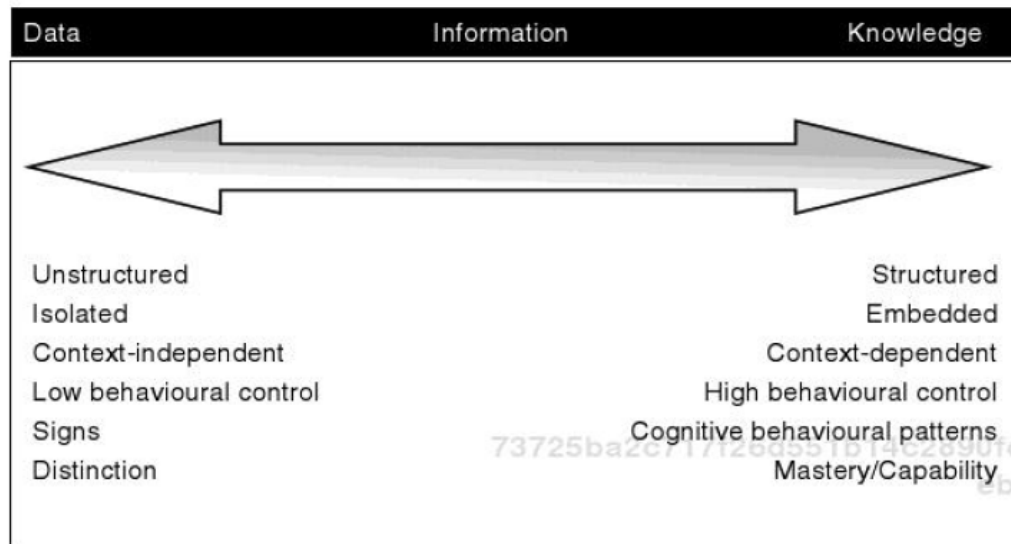


Figure 2. The continuum of data.
(Chini 2005:7, based on Probst et al. 1999:38)

As Figure 2 illustrates, the transition from data via information to knowledge is described as a continuum. This continuum of data can be seen as the lowest common denominator and it is essential to understand this basic transition data to knowledge.

The transition from information to knowledge happens through interactions between individuals, where they compare information in different situations, through the combination of various bits of knowledge, conversations or assessing the consequences of the information for decision-taking (Chini 2005, Davenport 1998).

There are a number of definitions of knowledge. As Davenport and Prusak (1998) defined knowledge as, “a fluid mix of framed experience, values, contextual information and expert insights” (p. 5). Nonaka and Takeuchi (1995) have defined knowledge to be a function of an individual’s particular perspective, intention or stance, which is about their beliefs and commitment. They also present that knowledge is always about reaching some end, which means that knowledge is about action and it is always context specific.

In this study, the basic definition for knowledge is based on these definitions because they summarise the definition of knowledge in a clear and understandable way.

Knowledge can further be classified to tacit and explicit knowledge. Tacit knowledge is defined as non-verbalized, intuitive and unarticulated, which is depending on the experience of the individual (Hedlund 1994). Explicit knowledge, on the other hand, is defined as codified knowledge in some systematic language. Knowledge contains always both tacit and explicit elements in it (Chini 2005, Nonaka and Takeuchi 1995).

According to Lam, the critical differences between explicit and tacit knowledge are: codifiability and mechanisms for transfer, methods for acquisitions and accumulation, and the potential to be collected and distributed (Lam 2000). The classification of knowledge is shown in more detail in Table 2.

Table 2. Classification of knowledge (Weiss 1999:66)

| RELEVANT RESEARCH | KNOWLEDGE THAT IS RELATIVELY EASY TO ARTICULATE | KNOWLEDGE THAT IS RELATIVELY MORE DIFFICULT TO ARTICULATE |
|---|---|---|
| <i>Polanyi (1966)</i> <i>Nonaka and Takeuchi (1995)</i> <i>Senker (1995)</i> | Explicit | Tacit |
| <i>Winter (1987)</i> | Articulate | Observable |
| <i>Ryle (1949)</i> <i>von Hippel (1988)</i> <i>Kogut and Zander (1992)</i> <i>Quinn, et al. (1996)</i> | Knowing that | Knowing how |
| <i>Pringle (1951)</i> <i>Rogers (1980)</i> <i>Winter (1987)</i> | Codifiable | Complex |
| <i>Davenport and Prusak (1998)</i> | Low viscosity | High viscosity |

Explicit knowledge is classified in Table 2, with the following adjectives; Easy to articulate, knowing that, which in some literature were defined knowing what, and codifiable. Therefore, explicit knowledge is amenable to share or transfer (Riesenberger 1998).

As shown in Table 2, tacit knowledge is defined with the following adjectives; Observable, knowing how, complex and relatively difficult to articulate. Tacit knowledge is embedded in organizational routines and it is implicit by nature. That is why it can be difficult to formalize and to transfer. But according to Zack, this is the basis for sustainable advantage because of the difficulty of imitating it (Chini 2005, Zack 1999). But actually

the importance for firms lies in the ability to articulate the tacit elements of the knowledge and according to Håkanson, most of the tacit knowledge is at least potentially articulable. In other words, tacit knowledge has not been articulated yet or the economic importance of tacit knowledge has not been recognized (Chini 2005, Håkanson 2002). Based on this logic, it should be possible to articulate, codify and transfer to others all tacit knowledge.

Knowledge itself is dynamic by nature and because of this, it has *limited shelf life*. For example, the case company's field of knowledge is changing quite rapidly because the standardization and technology, which both are evolving all the time. Other things relating to this are changes in strategic objectives, market conditions, new products & services and continue learning of the firms (Weiss 1999).

In the service business, it not possible to know all of the relevant knowledge, to the delivery of services in advance because, most of the client situations vary to some extent. Because of this, it is not possible to specify the entire range of knowledge in advance. This condition is called "*radical uncertainty*" by Doere (Doere et al. 1985, Weiss 1999).

Another important issue is the *value of knowledge*. The recognition of the commercial value of knowledge and its ownership has been perceived by individuals and organizations (Staples et al. 2001). Once the individuals recognize this, they possess knowledge as a valuable commodity. This will have effects on knowledge sharing because it comes mediated by decisions of what, when, and who to share it with (Andrews et al 2000). In the knowledge-intense service business, where knowledge is highly valued, individuals may tend to claim emotional ownership over it (Jones et al. 1998). The sense of ownership comes from the fact that, in various settings, knowledge is linked to status, career prospect and reputation, (Andrew et al. 2000). If the knowledge is individual's primary source of value to the firm, it can create reluctance towards knowledge sharing activities because individuals may think that their value might diminish (Empson 2001). Professionals may perceive the knowledge that they possess as a product of knowledge and they tend to guard it (Weiss 1999).

It is also essential to recognize the difference between rationalized and embedded knowledge. *Rationalized knowledge* is "general, context-independent, standardized, widely applicable, internally public, "official" and depersonalized" (Weiss 1999:66). *Em-*

bedded knowledge in other hand is, “specific, context-dependent, unstandardized, narrowly applicable, private, personalized, “unofficial” and may be personally or professionally sensitive” (Weiss 1999:66). Rational knowledge, in professional service context, is “methodologies for conducting consulting projects, templates for drafting and standard operating procedures” (Weiss 1999:66). Rational knowledge of the service company is generic and widely applicable to multiple projects. But in the knowledge driven consulting business, the embedded knowledge is the knowledge, which is interesting for other consultants. Because the embedded knowledge is context-dependent, it is linked to the original source. Firms rationalize embedded knowledge by collecting and synthesizing it so that it will be transformed to be standardized and widely applicable. This can be made by codifying individual expertise and experience, standardizing successful approaches and decoupling knowledge from its original source (Weiss 1999).

In the literature, knowledge is distinguished among certain bearers, which are individuals, groups and organizations. “*Individual knowledge* reflects individual experience” and it is the basis of the organizational knowledge (Chini 2005:10). In other words, knowledge in the organization is actually in the individuals (Gupta et al. 2000). The knowledge of the individuals is then moved to the level of the organization, “so that it can be used to advance the goals of the organization” (Ipe 2003:338, Nonaka 1994). As Ipe stated it “The sharing of individual knowledge is imperative to the creation, dissemination, and management of knowledge at all the other levels within an organization” (Ipe 2003:340). Lam has also stated that individual knowledge is “that part of an organization’s knowledge which resides in the brains and bodily skills of the individual” (Lam 2000:491). “All of the organizational learning takes place inside human heads” (Simon 1991:176) because the process of acquiring knowledge is a cogitative function, which can only be performed by individuals and not by organizations (Huber 1991).

Organizational knowledge is knowledge, which is “embedded in belief systems, collective memories, references and values of the organization” (Chini 2005:10). As Kriwet has stated, it “resides in the relations between individuals and is, therefore, more than the sum of individual knowledge bases” (Kriwet 1997:83). Knowledge that resides in within the groups of people is called social knowledge (Chini 2005).

In summary, knowledge can be considered from many perspective, be it from the perspective of individuals, organisations or groups, it is always organised information with

interpretation and meaning. In Figure 3, all the main aspects of knowledge have been gathered together.

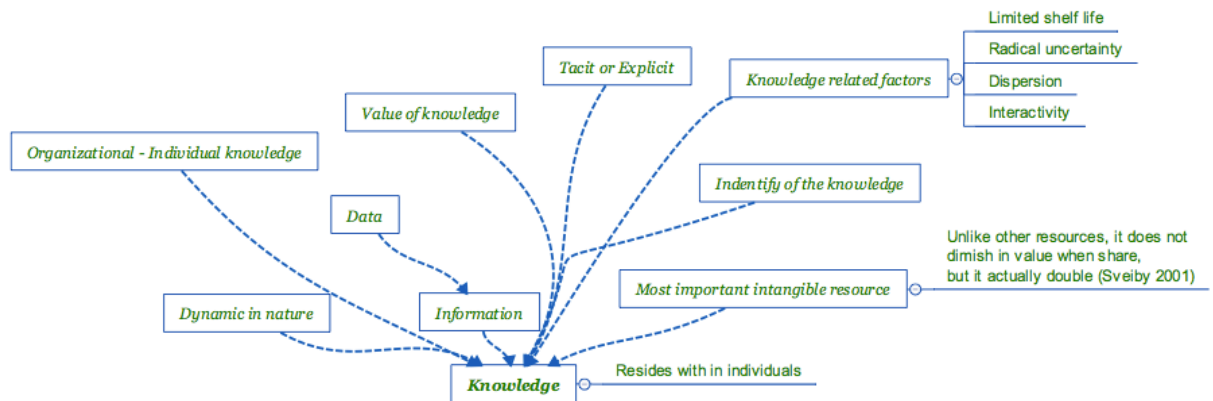


Figure 3. Concept of knowledge

It is essential to understand that knowledge is dynamic by nature so to gain knowledge and to have value for the knowledge that one poses, it is essential that the individuals are humble towards knowledge, which means that they should have focus on continuous learning.

To know is to know that you know nothing. That is the meaning of true knowledge. - Socrates

3.2 Knowledge Management

Knowledge management (KM) itself is not so clearly defined in the literature and many authors describe it in very different terms. *Knowledge management* can be understood “as a set of techniques, practices and processes that facilitates the flow of knowledge into and within the firm” (Birkinshaw 2001:12). It can be also defined as company’s capability to aggregate, analyse and use knowledge “to make informed decisions that lead to action and generates real business value” (Davenport et al. 2001:117). Because knowledge is seen as an asset, it has to be managed, to ensure that the company “derives value from their investment in knowledge assets” (Birkinshaw 2001, Stewart et al. 2000:42).

The literature on this topic sees knowledge management as the most critical internal process and knowledge itself as the most important intangible resource, especially in knowledge-intensive service firms. Knowledge and its management are also seen as a key source of competitive advantage and “critical to the long-term sustainability and success of organization” (Barney 1991, Ipe 2003:337, Nonaka & Takeuchi 1995). For knowledge-intensive firms, “learning from the past and applying it in new situations is the essence of improving future value creation for clients (Weiss 1999:63, Lowendahl 1997). One of the critical features for modern knowledge management is “the *time-lag* between sender and recipient” (Chini 2005:16). As Ipe proposed: “For an organization to be successful in managing its knowledge, there needs to be a common understanding of what constitutes knowledge across the organization” (Ipe 2003: 354). With appropriate knowledge management, where accumulation and storage of the knowledge and linking of the knowledge sources to the seekers are efficient and timely managed, it:

- Speeds the development and deployment of new products and services
- Prevents reinventing the wheel and repeating costly mistakes
- Improves quality of services delivered to customer
- Generates cross-selling opportunities
- Serves as the basis for building client loyalty

(Weiss 1999, Hansen 1996, Levitt et al. 1988, Gittel 1997, Heskett et al 1994)

Shin, Holden & Schmidt have been collecting a knowledge management value chain, which can be seen in Figure 4.

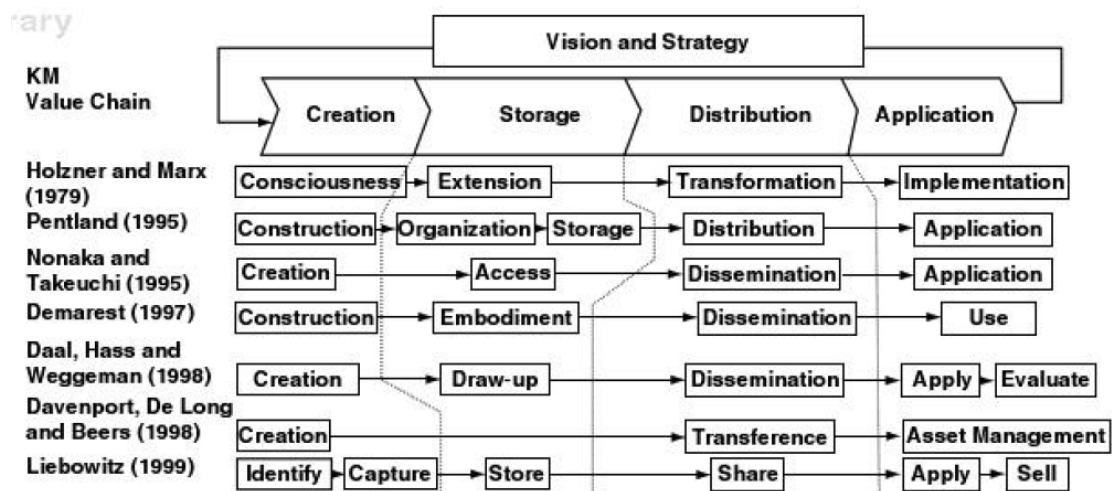


Figure 4. Knowledge management value chain (Shin, Holden & Schmidt 2001, 341)

As Figure 4 illustrates, knowledge management can be divided into four main sections: Knowledge Creation, Knowledge Storage, Knowledge Distribution and Knowledge Application. Below these four main sections, there is a list of the terms or definitions from other authors, which have been using different terms for the same section. Above this knowledge management value chain, there is Vision and Strategy, which are used to steer and control knowledge management to that kind of direction, where it will be supporting for the main business. It is essential that knowledge management system is intricately interwoven with corporate strategy, structure and processes. Vision and strategy are seen as a control circuit for knowledge management (Chini 2005). This knowledge management model can be used either in small companies or in multinational corporations (MNCs).

The different phases of knowledge management will be reviewed next.

3.2.1 Knowledge Creation

The *Creation* phase of this chain can be defined as the phase where the creation of the knowledge is made. The key for this phase is to identify the source of the knowledge. The source of the knowledge can be internal (e.g. experienced employee) or external (e.g. research institution). The creation of the knowledge can be consciousness, constructed, created, captured or acquired. Knowledge is created through interactions between individuals at various levels in the organization (Ipe 2003, Nonaka et al. 1995).

As Nonaka and Takeuchi point out, knowledge creation should be seen as a process where the “knowledge held by the individuals is amplified and internalized as part of an organization’s knowledge base” (Nonaka et. al. 1995:225,:122, Ipe 2003:340).

The same authors have defined the model of knowledge creation, which they called “The *spiral of knowledge*”. This spiral of knowledge is presented in Figure 5.

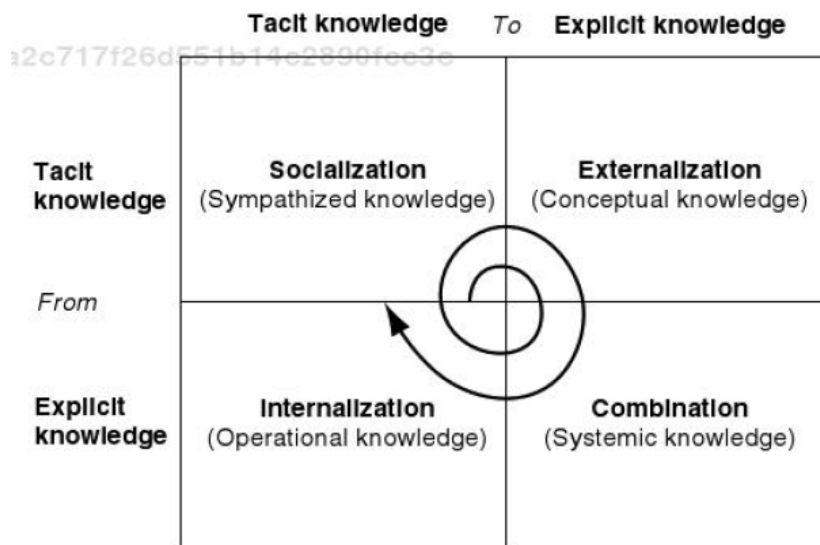


Figure 5. The knowledge spiral
(Nonaka et al. 1995:62)

In this spiral of knowledge, the main assumption is that tacit knowledge has to be mobilized and converted. This model also describes the process of transferring knowledge and more precisely the conversion process. The spiral describes the conversion of the tacit and explicit knowledge in the “higher epistemological and ontological levels” ((Nonaka et. al. 1995:89). The spiral includes four different conversion processes:

- *Socialization* (tacit to tacit): Tacit knowledge is exchanged between the individuals without codifying it, e.g. shared mental models, technical skills
- *Externalization* (tacit to explicit): Tacit knowledge is “made explicit by codifying it in the form of metaphors, analogies, hypotheses, models” (Chini 2005:18-19). In this transformation, tacit personal knowledge is “made available for others on a corporate-wide basis”(Chini 2005:19). This is the most important part of the knowledge creation.

- *Combination* (explicit to explicit): Concepts are systemized within a knowledge system through combination. “Existing elements of knowledge are combined in order to create new explicit knowledge. Different medias support the combination, e.g. documents, meeting, phone calls” (Chini 2005:19).
- *Internalization* (explicit to tacit): Explicit incoming knowledge is integrated into an individual’s tacit knowledge base through internalization. (Nonaka et al. 1995, Chini 2005:19)

3.2.2 Knowledge Storage

Knowledge storage means that knowledge has to be maintained in some kind of organizational memory because there is certain cognitive limitation by individuals in terms of storing information (Chini 2005, Ipe 2003). The storage link of knowledge management is customized to the type of the knowledge, the potential recipient and thus, the *search process* (Chini 2005). Easy and fast search process and access to such storage are one of the keys to the successful knowledge management. The storage of organizational knowledge shall be well structured so that the search process is as easy as it can be. With the well-structured storage, it is possible to minimize the knowledge dispersion in the organization and reduce the searching time of the knowledge (Chini 2005).

If the existing knowledge is not stored in any organization storage, it will remain in the heads of the individuals and it will also be lost once the individuals leave the firm. This is called *outflow* of the knowledge. Also, if the knowledge only remains in the individual, the full value of their knowledge may not be realized, because it is not available to others (Levitt et al. 1988). Recognized and stored knowledge is valuable when it can be identified and retrieved for use by others (Weiss 1999).

Because the storing of the knowledge requires some sort of codifying and recording, the content of it may alter. Also, when users of the stored knowledge adapt it, they might understand it differently.

As the nature of knowledge is dynamic, the update of the stored knowledge is essential. This requires enough resources so that the stored knowledge can be kept up to date. Also the storage itself should be dynamic so that it can be easily adapt to the dynamics of the knowledge and from that point of view, to be as effective as possible. Modern knowledge storage is a web-based storage or platform where all of the knowledge can be stored and it can be easily accessed. Because of continues learning

of the organizations and individuals, the platform should have a different kind of “databases” e.g. wiki’s, forums, FAQ’s.

3.2.3 Knowledge Distribution

Knowledge distribution refers to a distribution of the stored knowledge. If the knowledge of the individuals is not shared with other individuals and groups, it is likely that the knowledge will only have limited impact on organizational effectiveness (Nonaka et. al. 1995). In relation to multinational corporations (MNCs), it is essential to determine that, is the created and embedded knowledge, in the context of one country or subsidiary, valuable for the rest of the organization. If the created knowledge is valuable for rest of subsidiaries it should be distributed. (Kriwet 1997; Gupta et. al. 2000). Knowledge distribution aims to increase value by distributing knowledge, which, once absorbed, should lead to changes in behaviour of individuals and/or creation of new ideas. Knowledge distribution can be considered to be successful if these changes happen (Davenport 1998).

Knowledge distribution happens either by sharing, which refers to *knowledge sharing* between the individuals or by transferring, which refers to knowledge transfer between larger entities within organizations e.g. between subsidiaries (Ipe 2003, Lam 1997). Nahapiet et al. have stated “Social capital is said to be the reason why firms outperform markets in knowledge transfer” (Chini 2005:34, (Nahapiet et. al. 1998)).

This refers to companies’ social capital, which is actually the social capital of the individuals. As the individuals create, share and use the knowledge, and all of this is made through the interactions between the individuals, the social capital, which refers to people’s social capabilities, is an essential attribute for the individuals.

3.2.3.1 Knowledge Sharing

“Unlike other resources, it does not diminish in value when shared but is actually doubled (Sveiby 2001)” (Chini, 2005:28)

At the very basis, knowledge sharing is “making knowledge available to others within the organization” (Ipe 2003:342). Knowledge sharing means the sharing of knowledge between individuals, so-called 1-to-1 interactions. It has been defined that “knowledge

sharing between individuals is the process by which knowledge held by an individual is converted into a form that can be understood, absorbed and used by other individuals” (Ipe 2003:341). During this process, the knowledge is moved from individual level to the organization level, thus by sharing the knowledge, “it is converted into economic and competitive value for the organization” (Hendriks 1999, Ipe 2003:342). This competitive advantage in organizations results from “individuals with diverse knowledge collaborating synergistically toward common outcomes” (Ipe 2003:342). As Ipe has defined, “the sharing of individual knowledge is imperative to the creation, dissemination and management of knowledge at all the other levels within an organization” (Ipe 2003:340). Knowledge sharing also contributes both individual and organizational learning (Andrews et al. 2000). This learning of the individuals can also add individual’s satisfaction towards their job because they can have a possibility to learn more, be better prepared to changes, make their everyday job eventually easier and have a chance to help others (Dhayalan et al. 2013).

It has been established that sharing is a voluntary act, which is a conscious act by an individual “who participates in the knowledge exchange even though there is no compulsion to do so” (Ipe 2003:342, Davenport 1997). But in practice, knowledge sharing is quite a complex process and in the modern knowledge-intensive firms, it cannot be only in the hands of voluntaries. Especially in consultation business, where the employees results are measured by billable hours (Weiss 199).

Ipe has created a *knowledge sharing model*, which describes sharing between individuals in organizations. The model is presented in Figure 6.

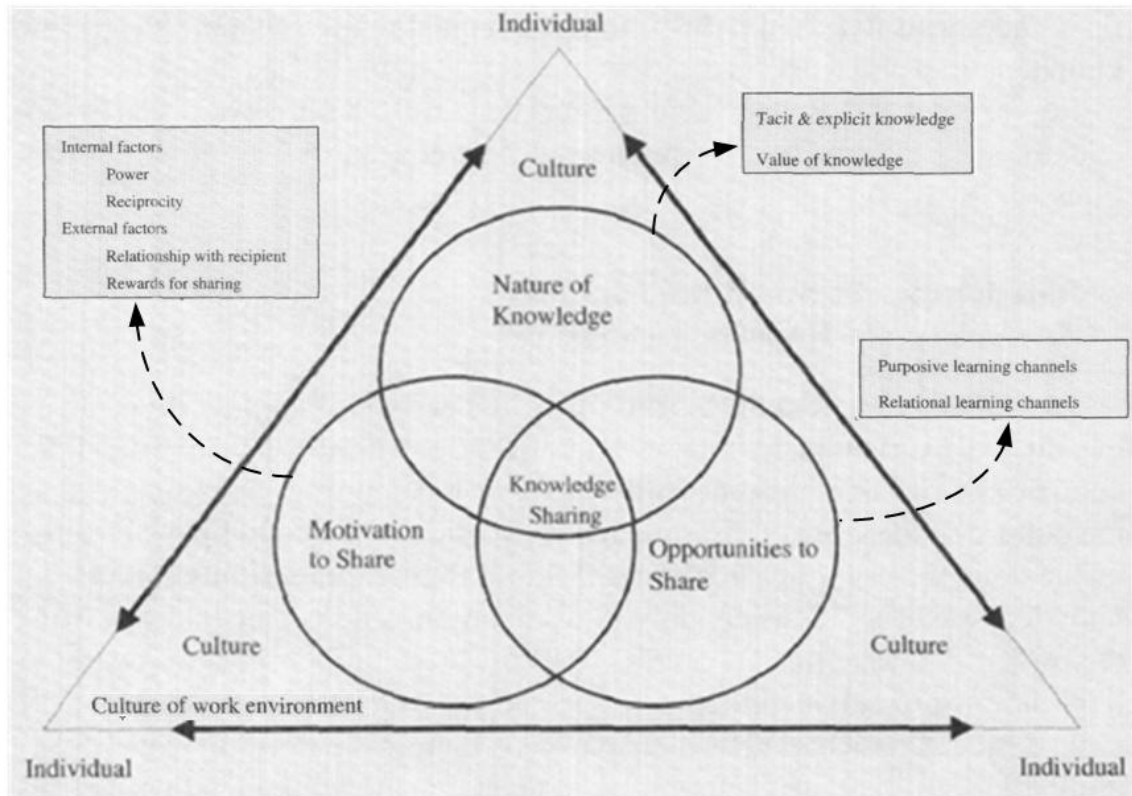


Figure 6. Knowledge sharing model.
(Ipe 2003: 352)

In this model, there are four major factors that influence knowledge sharing:

- Nature of knowledge
- Motivation to share
- Opportunities to share
- Culture of the work environment

Nature of knowledge has been described in subsection 4.1.

Motivation to share. As motivation affects most of our activities, it also has a big effect on knowledge sharing. Without strong personal motivation, people don't tend to share their knowledge (Stenmark 2001). Motivational factors, which influence knowledge sharing, can be divided into internal and external factors. According to Ipe, "*Internal factors* include the perceived power attached to the knowledge and the reciprocity that results from sharing. *External factors* include a relationship with the recipient and rewards for sharing" (Ipe 2003:345).

Knowledge as power. If the individuals possess the right kind of knowledge, it can create the notion of power around knowledge. This can lead to knowledge hoarding and they can use the knowledge for control and defence. Therefore, power politics of knowledge sharing in an organization is an important aspect as well. It has been recognized in the study, where more than 25 companies were studied over a period of 2 years time, that the primary reason for companies not to succeed in knowledge management is lack of the management of “the politics of information” (Davenport et al. 1992:53). As knowledge is always context depend, “it is natural that culture and power dynamics affect the way knowledge is perceived and used” (Blackler et al. 1998, Ipe 2003:346).

Reciprocity. The mutual give-and-take approach for knowledge sharing can facilitate it if the individuals “see that the value-add to them depends on the extent to which they share their own knowledge with others” (Ipe 2003: 346, Weiss 1999, Hendriks 1999). Reciprocal acts can be defined as acts, which help others and share information “without negotiation of terms and without knowing if others will reciprocate” (Molm et al. 2000:1396). Reciprocity can also work as a motivator for knowledge sharing if it can be anticipated that sharing will prove worthwhile and provide opportunities for recognition (Schultz 2001, Bartol et al. 2002). Individuals expect that once they participate to the knowledge sharing, they will acquire or benefit from the value created by their involvement (Ipe 2003). There is also empirical evidence for that reciprocal flow of knowledge sharing is stimulated when knowledge is received from others (Schulz 2001).

Related to reciprocity is the fear of exploitation, where one can “perceive that they are asked to give away valuable knowledge with limited or no benefit in return” (Empson 2001, Ipe 2003:347).

Relationship with recipient. One of the external factors, which is influencing the motivation to share knowledge, is the “relationship between the sender and the recipient” (Ipe 2003:437). This relationship includes two essential elements: trust and power and status of the recipient. From these two, trust is more important because it facilitates learning and decisions to share knowledge. Especially in the knowledge communities, for example IT-platform, which are used to collect, develop and promulgate knowledge, if one percept's that others are not contributing equally or might exploit their cooperative efforts, these can create barriers for trust and reluctance toward knowledge sharing

(Ipe 2003:347, Huemer et al. 1998, Kramer 1999). Individuals that have more power, status and/or experience, tend to direct their information toward their kinds rather than those with less experience (Huber 1982).

Rewards for sharing. The rewarding of individuals whose participating in knowledge sharing has also influence on knowledge sharing process. It has been noted that if the rewards are real and perceived, they will affect positively the probability that one will share his/her knowledge (O'reilly et al. 1980). Studies have suggested that companies should have “an incentive system to encourage individuals to share their knowledge” (Ipe 2003:348, Gupta et al. 2000, Quinn et al. 1996). The incentive system should have tangible and intangible rewards. Tangible rewards are monetary and intangible rewards are enhancing and recognition of individuals. Studies have also shown that the rewarding system will have positive effects in knowledge creation (Dyer et al. 2000), sustenance of knowledge and organisation's success in knowledge management initiatives (Ipe 2003, Earl 2001). But, only tangible rewards are not sufficient by themselves to motivate individuals to share their knowledge. The ones who participate in knowledge sharing, do it because of the intrinsic reward from the work itself and motivation in a sense of involvement and contribution and can even sometimes perceive formal rewards as demeaning (Ipe 2003:348, Tissen et al. 1998, McDermott et al. 2001). But to have a sustained knowledge-sharing system, it is essential that the knowledge sharing activities help individuals to meet their own professional goals (O'Dell et al. 1998).

Opportunities to share. Organizations can have formal and informal opportunities for sharing. Formal opportunities include “training programs, work teams and technology based systems that facilitate the sharing of knowledge” (Ipe 2003:349). Informal opportunities are personal relationships and social networks that facilitate learning and sharing of knowledge (Ipe 2003, Brown et al. 1991, Nahapiet et al. 1998). Formal opportunities create a context in which to share knowledge and also provide the tools to do so. These *purposive learning channels* are able to “connect a large number of individuals and they allow speedy dissemination of shared knowledge” (Ipe 2003:349, Rulke et al. 2000). These formal opportunities are of course important for knowledge sharing, but it has been indicated in the research that most of knowledge are actually shared in the informal settings (Jones et al. 1998, Pan et al. 1999). These informal opportunities are also called *relational learning channels*. These channels are based on face-to-face communication, which requires and builds trust. The trust between the individuals is critical for the sharing of knowledge. By these informal opportunities, individuals can

interact and develop their respect and friendship towards each other's, thus influences positively to their behavior related to knowledge sharing.

Culture of work environment. It is essential to understand that organizations are cultural entities and culture of work environment influence to all of the factors above. It has been defined by Schein and Ipe, that culture is a "pattern of basic assumptions" (Schein 1985:9) and that it is "developed by group as they grapple with and develop solutions to everyday problems" (Ipe 2003:350). Culture of work environment is reflected in the visions, values, norms and practices of the organization, thus it orients the mindset and action of the individuals and create sense to involvement and contribution.

The culture of the work environment influences knowledge sharing by shaping assumptions about which knowledge is important, attitude towards it, controlling relationships between different level of knowledge e.g. organizational, group and individual, creating a context for social interactions and determining the norms for knowledge distribution in the organization. In the organization, there are subcultures e.g. national, which can be "characterized by a distinct set of values, norms and practices" (Ipe 2003:351). These subcultures have also an impact to the knowledge sharing because they can value knowledge differently from other groups, can value authorities and hierarchies differently, have differences in cognitive styles and can have language barriers if the shared knowledge is shared with other than their native language. Culture of work environment can be either the major obstacle or the key for success to effective knowledge management in total. The knowledge sharing culture is a consequence of the knowledge sharing, which will appear once all the structural barriers have been eliminated and enablers for it provided. Enablers can be for example technology, facilitators and standard approaches. There are ways to influence employees toward knowledge sharing culture for example lead by example, brand knowledge management through thoughtful messaging, formal communication, rewards and recognition and by introducing friendly competition. (Ipe 2003, De Long et al. 2000, Pan 1999, Cook et al. 1993, Takeuchi 1995, O'Dell et al. 1998, Staples et al. 2001, Bhagat et al. 2002, O'Dell et al. 2011).

In this model of knowledge sharing, nature of knowledge, motivation to share and opportunities to share are embedded in the culture of the work environment. All of these factors are critical to knowledge sharing and together these create an optimal environment for knowledge sharing.

3.2.3.2 Knowledge Transfer

In a multinational corporation (MNC), the movement of knowledge between larger entities is essential. In this context, the larger entities are subsidiaries around the world. The main aim of the knowledge transfer is to transfer new knowledge to other units, which should integrate the new knowledge into their context and make use of it. This movement of knowledge is called knowledge transfer. For the knowledge transfer, there is a model created by Chini (2003). This model is presented in Figure 7.

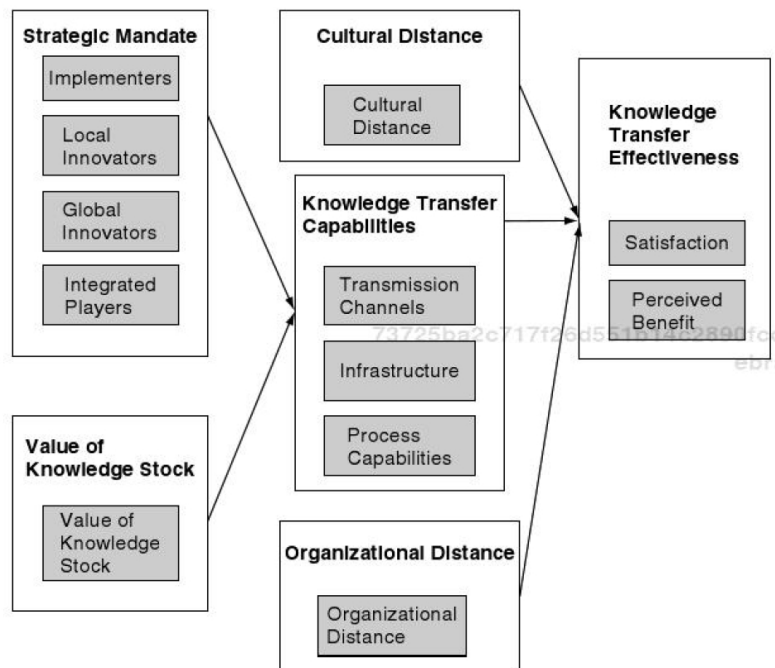


Figure 7. Model of knowledge transfer in multinational corporation (MNC).
(Chini 2005:59)

In this Model of knowledge transfer, the following factors are influencing it:

- Strategic mandate
- Value of knowledge stock
- Cultural and organizational distance
- Knowledge transfer capabilities
- Knowledge transfer effectiveness

Strategic mandate. The strategic mandate of the subsidiaries varies. Some of the subsidiaries might have a mandate to generate and disseminate new knowledge while others aim is to implement or exploit headquarters' knowledge locally (Chini 2005, Gupta et al. 1991). In Figure 8, there are four different strategic mandates for subsidiaries.

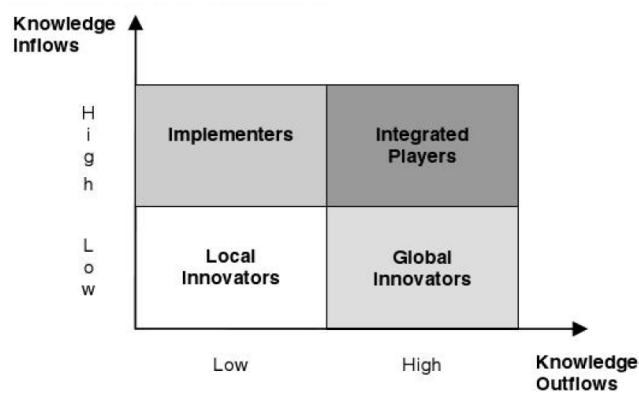


Figure 8. Strategic mandate of Subsidiaries.
(Gupta et al. 1991, Chini 2005:59)

In Figure 8, a difference between the mandates depends on the in- and outflow of knowledge. For example, Global Innovator has a “high outflow of knowledge from the subsidiary to corporation” e.g. HQ and “low inflow from the corporation to the subsidiary” (Gupta et al. 1991, Chini 2005:60).

Value of knowledge stock. Subsidiaries require access to other subsidiaries' knowledge and they have to have certain internal capabilities to engage in knowledge transfer. For example, if subsidiary have strategic mandate of Global Innovator, it has to have attractive and valuable knowledge stock, where it sends knowledge to others. If the knowledge stock that the subsidiary poses were not attractive, it would have a different strategic mandate. The available knowledge that the Global Innovator sends to others shall be non-duplicative and useful for others. One attribute to knowledge stock is unit's ability to handle incoming knowledge. This ability is defined as absorptive capacity and it refers to an ability to use existing knowledge to identify the value of new information, assimilation and applying it to create new knowledge and capabilities. Existing valuable knowledge stock, therefore, enhances absorptive capacity. Prior knowledge and homogeneity of the subsidiaries, which are participating to the knowledge transfer, facilitates assimilation and exploitation of new knowledge. Thus, a value of knowledge

stock, affects positively to knowledge transfer capabilities (Chini 2005:61, Tsai 2001, Gupta et al. 2000, Cohen et al. 1990).

Knowledge transfer capabilities. Knowledge transfer is a key process and free knowledge flow is a key element for successful knowledge management (Marquardt 1996, Riesenberger 1998). To support these, an organization shall have certain organizational architectures developed - e.g. cross-functional flexible structures (Nevis et al. 1995), free flow of communication (Argyris 1994) and a learning culture (Slater et al. 1995). Transmission channels, which were introduced previously in the knowledge-sharing model, are also a crucial part of the knowledge transfer.

Infrastructures of knowledge management shall be highly developed so that the exploitation of resources embedded within can be maximized and that they are available and derived for whole network of subsidiaries (Chini 2005).

Technology is also one structural dimension of the infrastructures of the knowledge transfer, which is needed to mobilize the social capital, as it is the basic element of knowledge creation and sharing. These technological structures shall be multifaceted and they need to support various types of knowledge and communication. They need to also have tools for collaboration, distributed learning and means to gather fragmented flows of information and knowledge. Thus, it should eliminate barriers to communicate and structural and geographical impediments, which may have previously prevented such interaction. Technological dimension of knowledge management should include at least the following:

- Business intelligence e.g. knowledge regarding competition and the broader economic environment
 - Knowledge discovery e.g. discover internal and/or external knowledge
 - Knowledge mapping e.g. track sources of knowledge
 - Knowledge applications e.g. technologies enable to use existing knowledge
 - Opportunity generation e.g. track knowledge about customers, employees or suppliers
 - Security e.g. prevents inappropriate use and thefts of knowledge
- (Gold et al. 2001:187-188)

Knowledge process capabilities refer to knowledge creation and sharing practices of the company. These practices are related to the Nonaka and Takeuchi's knowledge spiral, which was presented in Figure 4. According to Chini, these modes in knowledge spiral, socialization, externalization, internalization and combination cover the possibilities of "knowledge conversion between individual and organizational knowledge", they can be applied to knowledge transfer within the units in the MNC (Chini 2005:62). This view is also supported by other authors e.g. Doz and Santos (1997) and Sveiby (2001). In the knowledge transfer, socialization occurs in sender and receiver, because they need to interact mutually. For this, there shall be a field of interaction established. Externalization occurs when unit sends knowledge to another unit. Internalization occurs when recipient integrates received knowledge. Finally, combination occurs when received new knowledge is braked down into systemic explicit knowledge (Chini 2005, Nonaka et al. 1996, Nonaka et al. 1995).

The strategic mandate of the unit affects the unit's development of transfer capabilities as shown in Table 3.

Table 3. Strategic mandate's relation to development of unit's transfer capabilities. (Chini 2005:64)

| STRATEGIC MANDATE | DEVELOPMENT OF TRANSFER CAPABILITIES | | |
|--------------------|--------------------------------------|-----------------------|--------------------------------|
| | <i>Transmission Channels</i> | <i>Infrastructure</i> | <i>Processes</i> |
| Integrated Players | Highest | Highest | All processes at a high level |
| Global Innovators | Intermediate | Intermediate | Externalization, Socialization |
| Implementers | Intermediate | Intermediate | Internalization, Combination |
| Local Innovators | Lowest | Lowest | All process at a low level |

As Table 3 states, development of knowledge transfer capabilities, unit's strategic mandate and its ability to transfer knowledge are interlinked (Chini 2005). "Knowledge transfer capabilities are mutually reinforcing and have to be coordinated in order to be employed efficiently" (Chini 2005:64). Once these knowledge transfer capabilities are appropriately developed, they will affect positively to effectiveness of knowledge transfer. (Chini 2005)

Organizational and cultural distance. In the knowledge transfer model, organizational distance is affecting to it as well as cultural distance, which was affecting already to a model of knowledge sharing. Organizational distance refers to “differences between organizational units” e.g. “headquarters - subsidiary, subsidiary - subsidiary” (Chini 2005:65). In practice, the organizational distance means that the distance affects:

- Structures, processes and values
- Different approach to decision-making
- Business practices
- Institutional heritage
- Organizational culture
- The way approach and structure knowledge

(Chini 2005, Simonin 1999:473, Asakawa 1995)

In this context, an organizational distance can amplify ambiguity. If the organizational distance is large, it can cause “lack of understanding of the logical linkages between marketing actions and outcomes, inputs and outputs and causes and effects that characterized a broadly defined marketing-based competency and it’s transferability.” (Simonin 1999:467)

Cultural distance in other hand, affects to individuals approach to knowledge and cognition, as these are human behaviours, which have been built within individuals. These, as defined previously, are “patterns of basic assumptions” which are “guided by the contextual rules and resources residing in social structures and conventions” (Chini 2005:66). Knowledge transfer between different cultures can fail if the underlying assumptions are divergent related to the system of meaning e.g. receiver does not understand the deeper meaning of the received knowledge, which they need to implement. Cultural distance can also affect to an identification of market opportunities and understanding of market mechanism. It is important that the organizational routines have been developed so, that they can conform existing cultural expectations (Chini 2005, Macharzina et al. 2001, Simonin 1999). Doz and Santos have stated this well:

“Effective transfer of knowledge is a dialogue between the sender and the receiver about their own contexts and about the object of knowledge” (Doz and Santos 1997:23).

Knowledge transfer effectiveness. Effective knowledge transfer and utilization of it refers to “the potential to turn knowledge into a competitive advantage-yielding capabil-

ity” (Chini 2005:64, Grant 1996). Effectiveness is one dimension of performance as efficiency, adaptiveness, perceived benefit and overall satisfaction (Katsikaes et al 2000, Foss et al. 2002, Becarra-Fernandez et al. 2001). An essential requirement for effective knowledge transfer is that the source unit recognizes the knowledge requirements of recipient unit in order to provide knowledge, which is appropriate, presented in an appropriate form and with appropriate timing (Buckley and Carter 1999). Transferred knowledge has to fit the contextual requirements of the recipient unit. Knowledge transfer - especially organizational procedures and management practices - from one culture to another, tend to fail unless organizational routines are transformed to conform to existing cultural expectations or fits the system of meaning those expected to implement them (Chini 2005, Macharzina et al. 2001).

To sum up, knowledge transfer in the context of MNC is based on strategic mandate, value of knowledge stock, knowledge transfer capabilities and organizational and cultural distance. All of these affect the effectiveness of knowledge transfer.

Cummings (2002) has gathered a list of primary knowledge transfer mechanisms, which are presented in Figure 9.

- | |
|---|
| <ol style="list-style-type: none"> 1. Document Exchanges 2. Clarifying Communications 3. Meetings – at which presentations take place 4. Meetings – through which coordination is enhanced 5. Meetings – through which dialogues are established 6. Site Visits/Tours – of source unit by recipient unit staff 7. Site Visits/Tours – of recipient unit by source unit staff 8. Job Rotations – of recipient staff to source unit 9. Job Rotations – of source unit staff to recipient unit 10. Joint Technical Training 11. Cultural Training – about source and recipient’s cultures 12. Joint Project Teams – to implement existing know-how 13. Joint Development Teams – to develop new know-how 14. Joint Management Meetings – to link units’ objectives |
|---|

Figure 9. Primary knowledge transfer mechanisms.
(Cummings 2002:102)

These knowledge transfer mechanisms in Figure 9 are the basis of knowledge transfer in a Multinational Corporation.

3.2.4 Knowledge Application

The application phase of knowledge management refers to the use of the created, stored and distributed knowledge. As the goal of knowledge management is to increase the value, knowledge management is successful when it leads to changes in behaviour, creation of new ideas and businesses, quality, performance or other things, which will grant the competitive advantage for the firm (Davenport 1998, Chini 2005 Shin et al. 2001).

If the full extent of the value of the knowledge is wanted, it is extremely important that the whole knowledge management keeps the link between practices and created, stored, distributed knowledge in mind. If knowledge management doesn't ground the distributed knowledge to the practices in every phase, usage of the knowledge is far less. It is harder for the individuals to take the new knowledge in if as clear as possible link to the practice does not exist (Chini 2005).

In summary, if an organization wants to be successful in knowledge management, they need to have a common understanding of what constitutes knowledge in their organization. Organizations have to have proper knowledge management, processes and models created so that knowledge can be fully harnessed into use where it can create competitive advantage, create business opportunities and affect the overall quality of provided services.

3.3 Conceptual Framework of This Thesis

The Conceptual Framework of this thesis consists of the four main themes, which are knowledge, knowledge management, knowledge sharing and Knowledge transfer. These themes are presented in Figure 10.

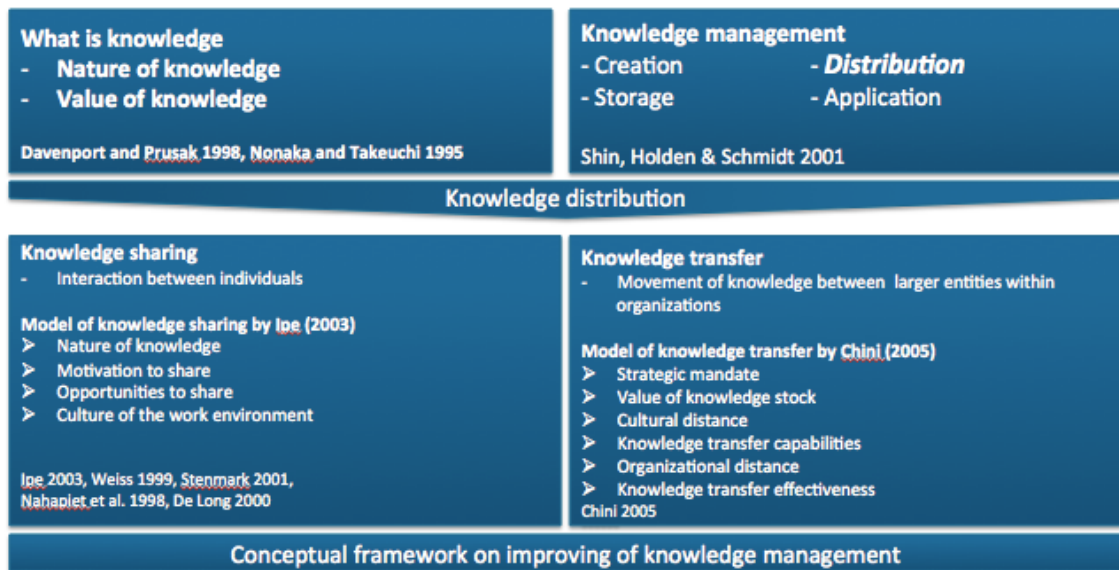


Figure 10. Conceptual framework

As Figure 10 presents, to understand knowledge management and knowledge sharing and transfer, it is essential to understand what knowledge and the nature of it is. Knowledge management itself includes four main topics, which were creation, storage, distribution and application. Knowledge management is controlled by the company's vision and strategy. The model of knowledge sharing was based on the theories of Ipe (2003) and it included four main topics which were nature of knowledge, motivation to share, opportunities to share and culture of work environment. In the model of knowledge transfer, which is based on theories of Chini (2005) there were 6 main topics included, i.e. strategic mandate, value of knowledge stock, cultural distance, knowledge transfer capability, organizational distance and knowledge transfer effectiveness. A more detailed Conceptual Framework of this thesis can be found in Appendix 2.

4 Current State Analysis of Case Company's Knowledge Management Related to the Consultation Services

This section discusses the current state of knowledge management in the case company. The current state of knowledge management in the case company is looked at from the same perspective as the best practices in Section 3. The perspective for this thesis was to focus on knowledge management and more closely to knowledge sharing and transfer.

4.1 Current State of Knowledge Management in the Case Company

The current state of knowledge management in the case company was analyzed through the interviews, which were described in section 2.2, and the questionnaires used in the interview can be found in Appendix 1. Thanks to the semi-structured interviews it was possible to have good, deep and interesting discussions with the relevant stakeholders.

All of the interviewed persons from manager levels to consultant levels agreed on the importance of knowledge management. Further, they agreed that there are advantages and disadvantages definitely in the current knowledge management procedures and that there is some space to improve these procedures. The interviewed persons were "end users" for the company's knowledge management process.

In the case company, knowledge management is currently working as follows. Knowledge management, as well as other managerial functions of the case company, is managed from Germany. The case company has 32 subsidiaries globally; each subsidiary is locally managed but the top management in Germany eventually manages all subsidiaries as these subsidiaries are following the case company's global procedures. In the area of the case company's global service business, there is International Service Group (ISG) working in Ireland and their main duty is to support the international subsidiary network. ISG is supporting subsidiaries by sharing knowledge and resources. ISG is also making some of the internal trainings and publications to the IBM Connections. Currently, subsidiaries can individually and voluntarily participate in knowledge

sharing and transfer via IBM Connections, which is a tool and platform for knowledge storage and distribution, and participating in internal training.

In order to have a thorough understanding of the case company's current situation, it is important to analyze its strengths & weaknesses in this domain. In the following chapters these are analyzed based on the knowledge management model from subsection 3.2.

4.2 Knowledge Management

The main strengths for knowledge management in the case company are internal knowledge and tool and platform for storage and distribution. The case company has a huge amount of internal knowledge because of their long history and interest in the field where they are experts. But as knowledge management needs to be driven by the management to be fully established and acknowledged, it is not so in the case company.

During the interviews one of the interviewed persons stated:

“We can't have 10 persons just for knowledge management”.

But for 250 consultants and tons of internal knowledge, it is essential to have at least a small team, only for knowledge management.

As seen in the previous subsection 3.2, knowledge management must be well established from the top management of the company to the lower levels. In the case company, knowledge is currently not managed by anyone and it is only very lightly controlled by the international service group and each subsidiary. This came up during the interviews, as many of the interviewed persons stated that

“Knowledge management requires some “drivers” to show an example and to activate others”.

As knowledge management should be controlled via company's vision and strategy, these are not yet published for the individuals inside the company. Because there is no management established for knowledge, the case company is currently missing most of processes, structures, follow-up and KPI's related to knowledge. Because of this, there is no proper knowledge sharing culture formed inside the company. Also, other cultural aspects affecting knowledge management are not recognized in the case company.

This was also underlined in the interviews as many of the interviewed persons stated that from their perspective, culture is not affecting knowledge management and sharing. If these aspects are not recognized, it is not possible to take them in to account in knowledge management. It is positive that many of the employees in the case company have this so called, "engineering sense", which means that they are willing to share their solutions if it is asked directly from them. The case company has no system to add motivation of knowledge sharing inside the case company e.g. in the form of incentives or rewards. This is causing that most experienced employees are not interested in knowledge sharing because they do not need the shared knowledge. One of the interviewees stated that the reasons why people are not active toward knowledge sharing are:

"it is not routine, there is no time for it and to find some knowledge from IBM Connections, it requires way too much time to search something from it".

During the interviews, it was found that some of the employees are not participating in knowledge sharing because they don't want to "expose" themselves. With this exposing they meant that individuals do not want to expose their skills, especially if they think that their skill level is not high enough, in English language or in technical know-how. Lack of knowledge management is reflecting all four main sections of knowledge management; creation, storage, distribution and application.

4.3 Knowledge Creation

Currently, knowledge creation includes four aspects in the case company. These are knowledge creation through knowledge spiral, product manufacturing, new projects and standardization committee work. The recognition of knowledge spiral related to knowledge creation is not well known in the case company. Because of this, the case company is not currently focusing on turning the tacit knowledge in to explicit, through codification. Thus, would make tacit knowledge into a format, which could be transferred to others. A knowledge sharing link between product manufacturing and services is not currently established. Related to knowledge creation through new projects, currently, there is no common follow-up of projects, which would give a short internal conclusion of the made project. Related to this, there is no public library of the made project reports either. This is causing a time lag because currently individuals can ask these made project reports from the ISG, but even they do not have any structured index

of these reports. Almost 20 employees of the case company are participating in the standardization committee work, but there is no properly managed way to share the new knowledge received through these channels.

4.4 Knowledge Storage

Knowledge storage in the case company is built by using an IT-cloud tool called IBM connection. The tool has been adapted to the case company two years ago. This IT tool is a social network platform for knowledge sharing, but as it is not currently properly managed, it is lacking:

- Processes
- Proper structures of stored knowledge
- Responsible persons
- Internal knowledge service providers
- Update of the stored knowledge
- Instructions to use the storage
- Practical examples
- Properly managed FAQ section
- External knowledge database

Because of this, it has turned to be more chaos of knowledge than a properly organized knowledge-sharing tool. In the IBM connections, there is already established certain sections for specified business areas and these sections have blogs, forums, wikis and some case company's views related to some specific topics. In the interviews, many of the interviewees stated that it is really important to have forums in the platform so that there can be open discussions, which can be used for debating and brainstorming. Currently, the challenge is that there is nobody to conclude these discussions and to publish these conclusions for others. Some of the knowledge is also stored into NAS drives, where individuals can have access if their managers, ISG or other managers have granted it. The interviews revealed that the consultants are spending currently 5...50 % of their time on knowledge searching.

4.5 Knowledge Distribution

The current state of the knowledge distribution, which includes sharing and transfer of knowledge, is based on these three ways:

- One-to-one discussions
- Internal meetings
- Internal trainings
- Knowledge transfer via IBM Connection

The one-to-one discussions are also challenging in the case company because there is no index of people and about their expertise. Currently to have a discussion with someone who has the knowledge, individuals must ask either from their manager, ISG or from the IBM connections forums if there is anybody that knows something related to their topic, which they are searching. Because there is no proper knowledge sharing culture, individuals are not always so eager to share their knowledge because they don't have time for it or there can be other cultural challenges related to the conversation between individuals e.g. hierarchical issues especially if a less experienced employee is to question the knowledge of the more experienced employee.

The case company has internal meetings every now and then. For example in the Scandinavian area, the service team has internal meetings yearly. In the global level, there is only manager level and standardization committee work related internal meetings.

Because these meetings, especially with the local teams, are so seldom, they are not supporting the sharing culture to develop. Related to knowledge transfer, there is no proper knowledge packet designed for new employees. Some countries have made their own plan how to build the knowledge of the new employees to the proper level, but no common package or route has been developed.

The internal trainings of the case company are one of its strengths. These trainings are well structured and the experts who arrange these, possess a very high level of knowledge. Another issue related to external knowledge transfer is training which is held for the customers. Currently, every subsidiary is making their own training materials, which are not shared internally. ISG is trying to create common training materials for the trainings, which are provided to customers. But most of these materials are not

either good enough and/or individuals need to modify them or they need to create their own materials. A good example is that almost every subsidiary had already their own made material for certain topic, and yet, still the ISG start to make their material for this same certain topic, from scratch, to be shared with others. Knowledge transfer via IBM Connections has the same challenges as were stated above.

4.6 Knowledge Application

For the knowledge application phase, the case company has some practical examples to tie obtained knowledge to practice. But to make knowledge management to produce more value than before, it is essential to improve and focus on this area much more; otherwise, usage rate of new knowledge will be limited.

4.7 Analysis of Strengths & Weaknesses

In Table 4, the main strengths and weaknesses have been listed.

Table 4. Current strengths & weaknesses of case company

| Key issues | Strengths | Weaknesses / Challenges |
|-----------------------------|--|--|
| Knowledge Management | Internal knowledge. | Missing proper management of the knowledge, which causes that the processes of knowledge management do not exist. |
| | Platform and tool for knowledge storage and distribution. | No proper management and structure of stored knowledge, which causes the knowledge storage to be chaos. Causes time lag to find knowledge. |
| | Willingness to share knowledge. | No proper knowledge sharing culture. |
| | | Update of the stored knowledge. |
| Knowledge sharing | Engineering sense, interest to share the solution with others. | Only 1-to-1 conversations but no publication of the knowledge even if it would concern and be interesting for others. |
| | | Link between new knowledge and practice is partially unclear. |
| | | No public listing of employees and their expertise. |
| Knowledge transfer | Tool for it, IBM Connections. | No follow-up and/or publications of made projects. |
| | Internal trainings | Missing internally public listing and access of made project reports. |

4.8 Summary for the CSA

The case company poses a lot of knowledge and they have a good tool and platform for knowledge management. The challenges for knowledge management come mostly from the lack of management towards it. Currently, knowledge management is more or less free flowing in the case company and because of that it is not been harnessed so that it would give the most out of it toward an effective and more profitable service business.

The current state of knowledge management in the case company can be seen in Figure 11.

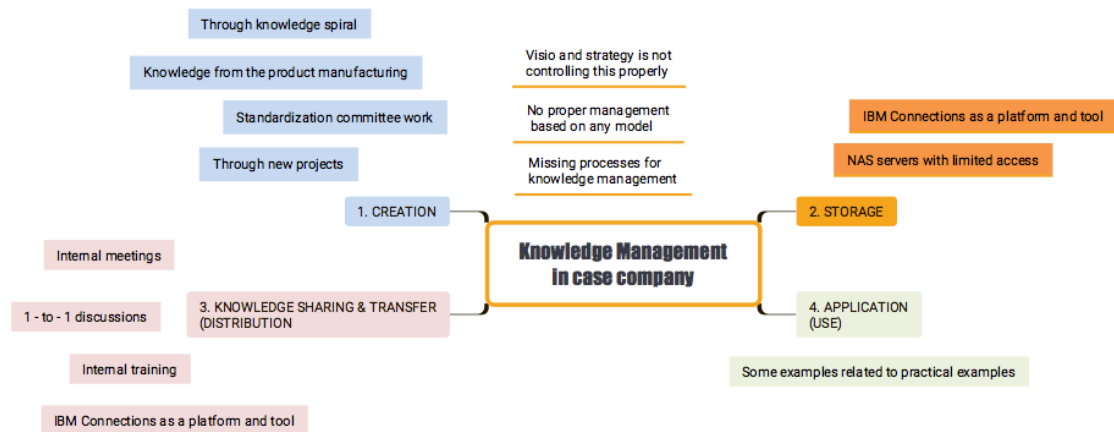


Figure 11. Current state of knowledge management in the case company

As Figure 11 illustrates, currently the case company has established elements of knowledge management, but it is not functioning as good as it could. In Figure 11, the basis of this model is the conceptual framework of improving knowledge management, with four main topics: knowledge creation, knowledge storage, knowledge distribution and knowledge application. For every topic, Figure 11 shows the main subjects summarized. In Appendix 3, there is a comparison made between the current state of the case company's knowledge management and the Conceptual Framework of knowledge management.

The next chapter will present improvements related to knowledge management in the case company based on the theories from Section 3 and to the current state analysis of the case company from Section 4.

5 Building Proposal for the Case Company

This section merges the results of the Conceptual Framework and the Current State Analysis towards the building of the proposal. The building of the proposal was made so that the writer made a preliminary proposal based on the conceptual framework of the thesis. After the initial proposal was made, it was developed and evaluated through a Data 2 session, which was an individual session for a small group of the participants from Data 1 sessions.

5.1 Initial Proposal Draft

The initial proposal draft was built based on the conceptual framework of the thesis, which is shown in Figure 10. In the following sections, parts of the proposal are introduced section by section. At the end of the chapter there is a summary, which provides an overview of the full proposed concept related to knowledge management. This initial proposal is split so that it introduces first the proposals for knowledge management from a managerial perspective, and then it introduces separate proposals one by one for those four main topics of knowledge management, which were knowledge creation, knowledge storage, knowledge distribution and knowledge application.

5.1.1 Knowledge Management

In this subsection, the focus is to propose a good basis for knowledge management itself, so that the other related functions, which are knowledge creation, knowledge storage, knowledge distribution and knowledge application can be attached to it in a later stage.

To improve knowledge management in the case company, it is essential to recognize the value of knowledge and understand that it is the most important intangible resource. Once this recognition has been made, it is necessary to communicate the case company's vision, values, and strategy to the employees as clearly as possible as these are the control circuit of knowledge management. After the communication, it is essential to establish a knowledge management position in the case company so that there is a clearly appointed person and resources for this task. The knowledge manag-

er must understand the factors and attributes related to knowledge. For the factors and attributes, see chapter 3.1.

Due to the amount of knowledge, it might be necessary to create a small team for this duty and make sure that there are enough resources for this. It would then be the knowledge manager's task to create all the relevant processes, structures of the indexes, follow-up measures and key performance indicators (KPI's) needed to manage knowledge properly. With these follow-up measures, it is possible to know the knowledge level of individuals, which would help to improve the overall quality if all would have at least the same minimum level of knowledge.

It is necessary to establish incentives & reward system to active people to share knowledge. This incentive & reward system must include intangible and tangible incentives. An example of intangible can be recognition and praises from the management whereas tangible incentives can be monetary. These monetary incentives can also be salary of individuals who are working in the knowledge management team. More information related to this can be found in subsection 3.2.3.1. It is also essential to create personal goals for the individuals through performance appraisal or similar. It is essential that knowledge manager understand that strategic mandates for subsidiaries have to be chosen because these mandates will be affecting the subsidiary's participation in knowledge transfer. More information related to strategic mandates can be found from the chapter 3.2.3.2.

One key thing is also that the case company's HQ is not the only one who can provide knowledge to others. It is very likely that the subsidiaries might have more knowledge on a certain field than the HQ. This is called reverse transfer when a subsidiary is transferring knowledge to HQ. It is essential to accept and adopt this perspective to be part of knowledge management. Timing of received and published knowledge is also one of the key issues on knowledge management. It is essential that when an individual is seeking knowledge on some certain topic, they must find it or receive it as fast possible. There must also be time reserved for individuals to participate in knowledge management, and more precisely time to participate in knowledge sharing and transfer. It is important that the case company will keep an appropriate focus to minimizing the power politics aspect of knowledge. This can be done by selecting an appropriate politics model, which matches the culture of the organization, selecting appropriate technological solutions for knowledge distribution, electing appropriate knowledge politicians

and avoiding building of knowledge empires around certain topics. For further reading about power politics, see Davenport et al. (1992).

Through top management's commitment and recognition and well-managed knowledge management, the culture of knowledge sharing will eventually be created. It is essential to make sure that everyone understands that it is everybody's responsibility to participate in knowledge management. It is also important that the company has an open and supportive atmosphere so that most of the employees have courage and possibility to participate on knowledge sharing. If this is not noted, it can be that some employees might be afraid to participate especially if they need to expose their language and technical skills in public forums. Figure 12 represents the key items, which need to be developed so that knowledge management can be established.

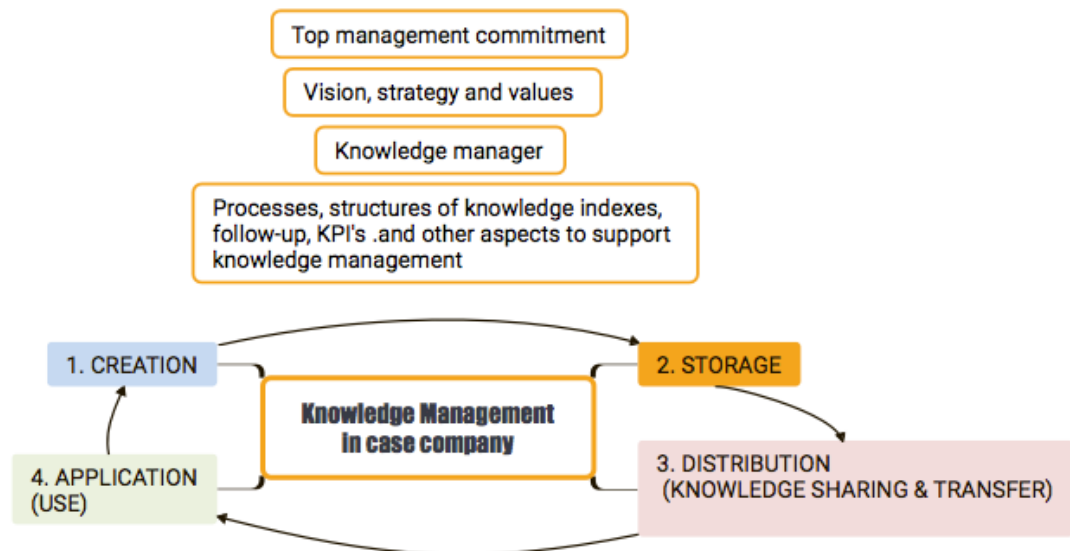


Figure 12. Proposals for knowledge management.

As Figure 12 illustrates, the summary of proposals for knowledge management is collated in it. It is essential to build the knowledge management system first, and after that it is possible to start to focus on those four main parts of it. The next subsection 5.1.2 introduces proposals for knowledge creation. The colour coding in this and following proposal Figures are just to use to divide these proposals under certain functions of knowledge management. Thus, the colour coding just makes it easier to understand.

5.1.2 Knowledge Creation

In the case company, knowledge was created through four different paths, which were knowledge creation through knowledge spiral, product manufacturing, new projects and standardization committee work. The case company must focus on the knowledge spiral and understand the way that knowledge is created through it. In the knowledge spiral, knowledge is created through mobilization of individuals' tacit knowledge, which is then amplified, converted to explicit and internalized. Related to this, the case company should have a strong focus on how to turn tacit knowledge into explicit knowledge through codification. As a recap, tacit knowledge is knowledge that an individual poses e.g. knowledge received through experience and abilities. Explicit knowledge is knowledge, which can be and/or is codified and can be transferred to other. For more information, see chapter 3.1.

The knowledge sharing link between product manufacturing and services is not established at all or it is not working as efficiently as it should. That link should be established so that the service unit would get the necessary knowledge through them. For example, the case company's product manufacturing is producing certain products for certain special application and the service unit must make services for the same kind of applications, but still the product manufacturing unit is not providing knowledge for the services even though they have the knowledge to be able to produce products to such applications. Knowledge creation through a new project is a main channel for new knowledge, "learn by doing". An appropriate, well-structured and easy & fast access index must be created for the project reports. This index should have at least the following information:

- Machine type
- Which legislation
- Reporting language
- Used C-type standard
- Customer name
- What kind of service included
- Manufacturing year of machine
- Industry

There should also be internal conclusions made for other consultants, which would shortly tell the main things or stepping-stones for that precise machine or project.

The knowledge creation through standard committee work requires well-defined processes and management, which would make sure that the created knowledge through that channel will be shared with others. Figure 13 shows the main points of the proposal related to knowledge creation.

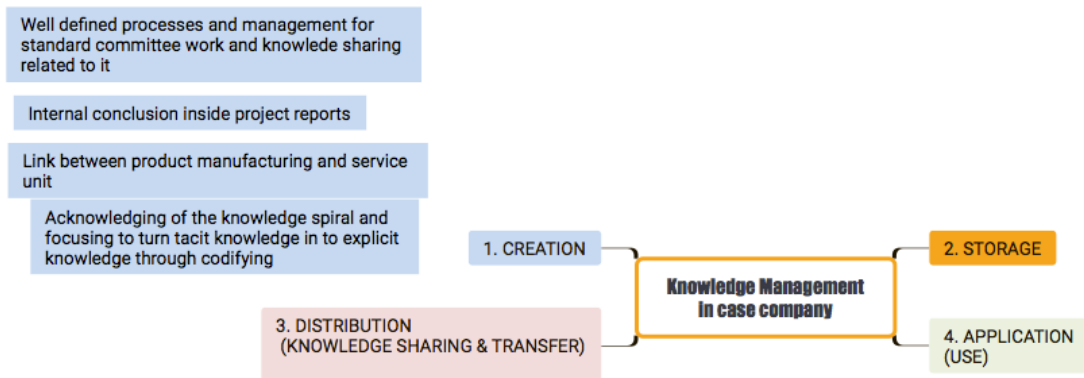


Figure 13. Proposals for knowledge creation

As Figure 13 illustrates, the main aspects of proposals for knowledge creation is summarized. The next subsection 5.1.3 introduces the initial proposals related to knowledge storing.

5.1.3 Knowledge Storage

As the case company uses IBM Connection platform as the main storage for knowledge, it has to also be managed by the knowledge manager or his/hers team. The platform must have well defined and designed:

- Processes e.g. who, how and what to store & share, tagging of the knowledge
- Effective search process of the knowledge must be the controlling theme for the platform
- Index structures
- Update of stored knowledge
- Instructions e.g. who, how and what to store & share, tagging of the knowledge

- Managed forum and FAQ section, which is also actively concluding topics and updating the FAQ section
- Wikis & blogs
- Internal knowledge searching service
- External knowledge database
- Company views on certain topics and continues update of these

The processes related to knowledge storage should be made so that they all have a focus on the searching process of knowledge and there should be processes for how, what, and by whom the knowledge is stored in the platform. The knowledge storage must have well-defined structures for the indexes so that it is easy and fast to search and find knowledge. Also, tagging of knowledge is essential so that it can be found once it has been stored.

The stored knowledge must be continuously updated especially in this field where the case company is working, as it is knowledge intensive, and the knowledge related to this field is continuously evolving. The knowledge storage must also have instructions of how to use it. In the storage, there are currently forums, but they are not actively managed, and there are no assigned resources to do conclusions for others from the topics, which are discussed in the forums. Currently, there is no FAQ section so this should be built especially for the new employees. The storage platform has currently Wikis and blogs, but currently, there are only few assigned resources to do these. In the platform there should be internal searching service provider e.g. chat pop-up or separate chat, which could help individuals to search knowledge. The storage platform should also have an external knowledge database, which should have well established indexes of external knowledge e.g. publications of research organizations.

Currently, the platform has internal company views of certain topics, which are essential in the field where the case company exists, but these views are neither updated nor up to date, as they should be. Figure 14 presents the proposal for knowledge storage.

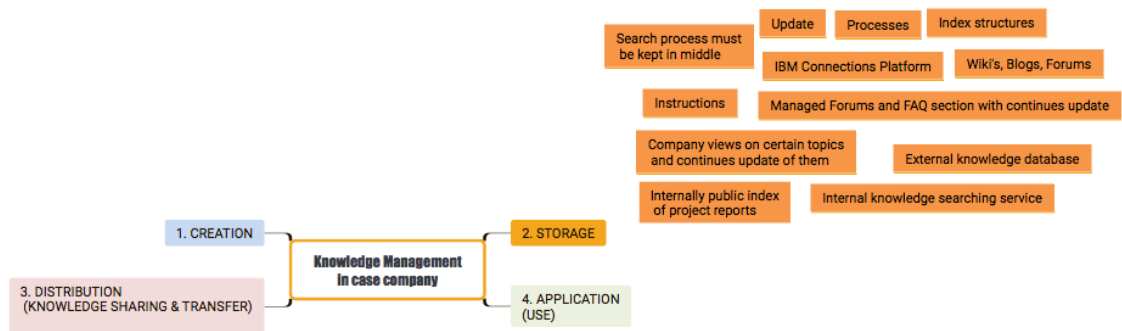


Figure 14. Proposal for knowledge storage.

As Figure 14 illustrates, the main aspects of proposals for knowledge storage are summarized. The next subsection 5.1.4 introduces the initial proposals related to knowledge distribution.

5.1.4 Knowledge Distribution

As knowledge distribution can be divided to sharing and transfer, it is essential to distinguish them in this section. In the following subsections 5.1.4.1 & 5.1.4.2, the proposals for knowledge distribution are presented.

5.1.4.1 Knowledge Sharing

Knowledge sharing in the case company is mostly relying on 1- to -1 discussions. The case company should focus on making these happen and make them to be as easy as they can be for individuals. This is the most important aspect in knowledge sharing as most of the knowledge is shared in these informal settings. Knowledge management should focus on building situations and opportunities to build social networks within the case company. Through these, it is possible to make contacts and extend social networks with others and start to build trust and co-working between individuals. To make these 1- to -1 discussions as easy as possible, the case company should have internally a public list of people and/or groups and their expertise so it would be easy for individuals to find the right contacts. This kind of list is in need of an update, as often as needed, because most employees are all the time learning and building their experience. The case company should also appoint some people and/or groups to be re-

sponsible for supporting others, if they have questions related to special issues where these individuals and/or groups have an answer or know-how.

There should also be ways to share the conclusions of 1- to -1 discussions with others, if the topic is something that would concern others. It could be built in a way that if the “conversation” is made via emails or other written way, after a 1- to -1 conversation is concluded, the individuals could send their email chain to internal knowledge service group and they would create and publish it for others.

5.1.4.2 Knowledge Transfer

For knowledge transfer, the main channel for it is the IBM Connections platform. The proposals related to it were included already in section 5.4. One way to transfer knowledge was through trainings. In the case company, trainings are currently well put together but there should be a focus to make knowledge a known concept for all employees and especially for new employees. With this concept it is meant that there would be a clear knowledge path or similar, which every one should go through. This would make sure that all employees in service consultation would have the same knowledge level, which would have a positive effect in quality of the global service business.

The case company has also some internal meeting established every now and then, which are a good platform for socialization. These meeting are mostly held on a yearly basis, which is quite seldom. There should be these kinds of meetings more often, especially with the local teams e.g. technical team in subsidiary and these meetings should be held on a monthly basis. With the global team, it could be doable to have these meetings e.g. monthly, and these could be held remotely via Go-to meeting software etc. These meetings could have topics and/or questions from the participants and these could be held for smaller groups. One solution to keep these global remote meetings could be to arrange them in a way that there is a meeting on monthly basis for 10 participants and these participants are always changing and they are from different subsidiaries. It would be really beneficial to share the knowledge of questions, on going projects and other issues with other consultants. To improve knowledge transfer it is also essential to arrange cultural training inside the case company at least on a certain level. Through these it is possible to learn how people from different cul-

tures are working and thinking so that it can be understood how they approach and understand knowledge. One way to foster knowledge transfer is to create friendly competitions related to it. These competitions could encourage individuals to participate in knowledge transfer.

Proposals for knowledge distribution are illustrated in Figure 15.

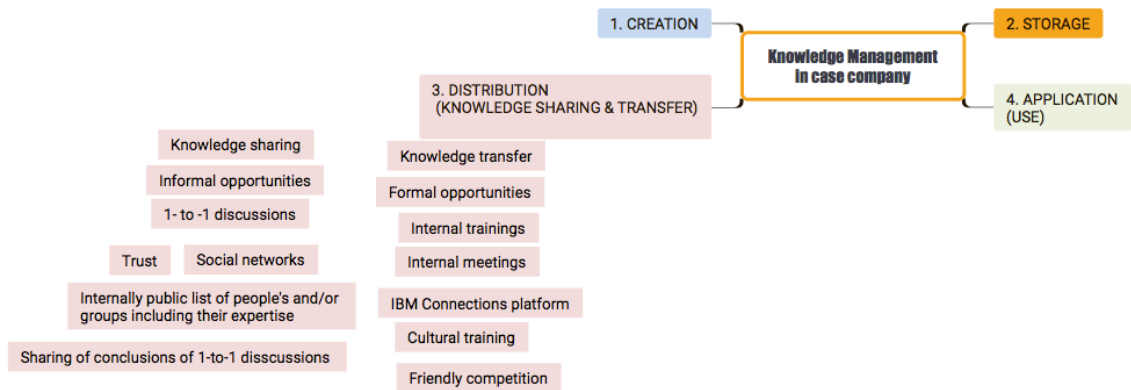


Figure 15. Proposals for knowledge distribution

As Figure 15 illustrates, the main aspects of proposals for knowledge distribution are summarized in it. The next subsection 5.1.5 introduces the initial proposals related to knowledge application.

5.1.5 Knowledge Application

For the knowledge application, it is essential to establish a link between new knowledge and practice. This will make the absorption of new knowledge much easier and more efficient if there is proper grounding made through practice. Practical examples are always something that explain how to adapt theory and new knowledge in to the everyday use. In the case company this means that for example, if there is an update in a technical standard, there must be a practical example what this change means in practice This way the new knowledge can be taken into use.

In the following subsection 5.2, the whole initial proposal is summarized and drawn as a whole concept.

5.2 Overview of initial proposal for case company's knowledge management

Figure 16 shows the complete initial proposal. These proposals should be taken as a whole package.

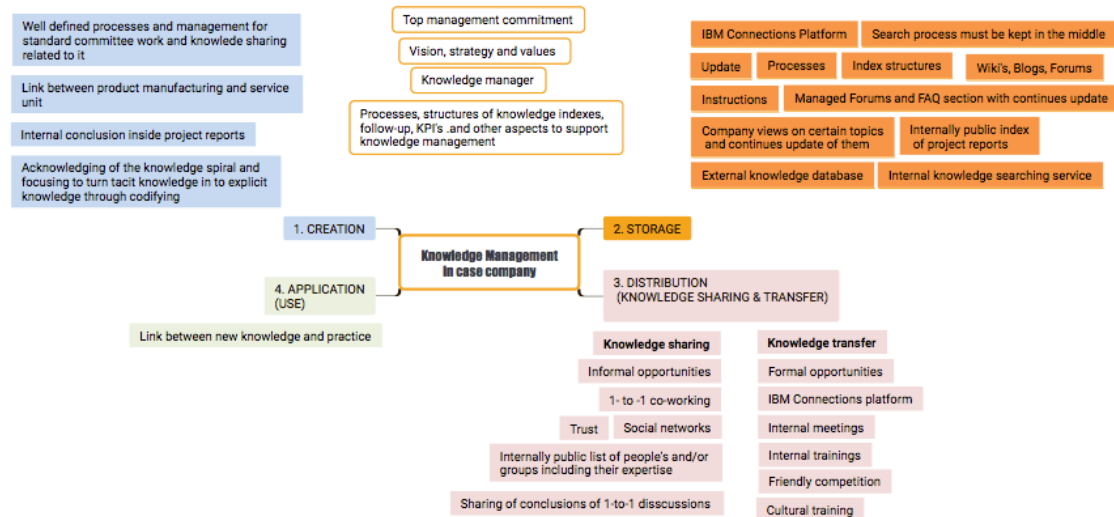


Figure 16. Overview of proposed improvement for knowledge management

As Figure 16 illustrates, this initial knowledge management proposal should be understood as a complete system. Subsection 5.3 describes the development and evaluation aspects of the participants from Data 2 interview sessions.

5.3 Findings of Data Collection 2

In the Data collection 2 there were four stakeholders participating. These stakeholders were also participating in Data 1 collection interviews. All of the participants agreed that the initial proposal by itself is a good start for a knowledge management system, but like one of them stated: "I was hoping to have a more detailed plan". This feedback was good, but it is also essential to understand the limitations of this thesis. This approach should be seen as a starting phase to building a proper knowledge management system and this thesis proposes the building blocks for it. One good notion was brought forward during this data collection as one of interviewees stated that the monetary rewarding system for the knowledge management could be built in a way that the main monetary reward is received through salary for the appointed person related to these tasks. And, one solution is to receive some monetary rewards as extra if other persons are involved in knowledge management and/or sharing. All of the in-

interviewees underlined the importance of the rules and instructions for knowledge sharing so that it will be as logical as possible. One essential suggestion, which came out during this data collection, was that it is essential to discuss "1-to-1 co-working" rather than just "1-to-1 discussion" because knowledge sharing can be made in other ways than just through discussions. Especially in the case company this 1-to-1 co-working can include consultation work, which is made together so it's another aspect for knowledge creation. Friendly competition were agreed to be a good idea to provoke knowledge transfer but also the limitations of it were noted. It is essential to understand that it is just one of the tools to provoke knowledge transfer. Also one note was stated for the knowledge creation. In the initial proposal there were used this term "product manufacturing" as relation to knowledge creation, even though that the proper definition for this term would be "product related know-how". This has been taken into account in the revised proposal. For the knowledge storage function there were also discussions related to this internal searching providing service. During the discussion it was agreed that it is a kind of an extra service and the need of it must be discussed after all other measures have been taken. One solution that came up was to make it so that all people who are logged in to the platform, would be in this pop-up chat, thus, everybody would be an internal service provider related to this. In the following subsection 5.4, the proposal has been revised based on Data 2 findings.

5.4 Revised Proposal Based on Data 2 Findings

In Figure 17, the proposal has been revised based on Data 2 findings. This revised proposal has better definitions, which have been updated based on comments from Data 2. Also the main functions of knowledge management have been interlinked through arrows so that relations of these functions can be understood. This way the proposal is easier to understand and it reflects better the real form of knowledge management.

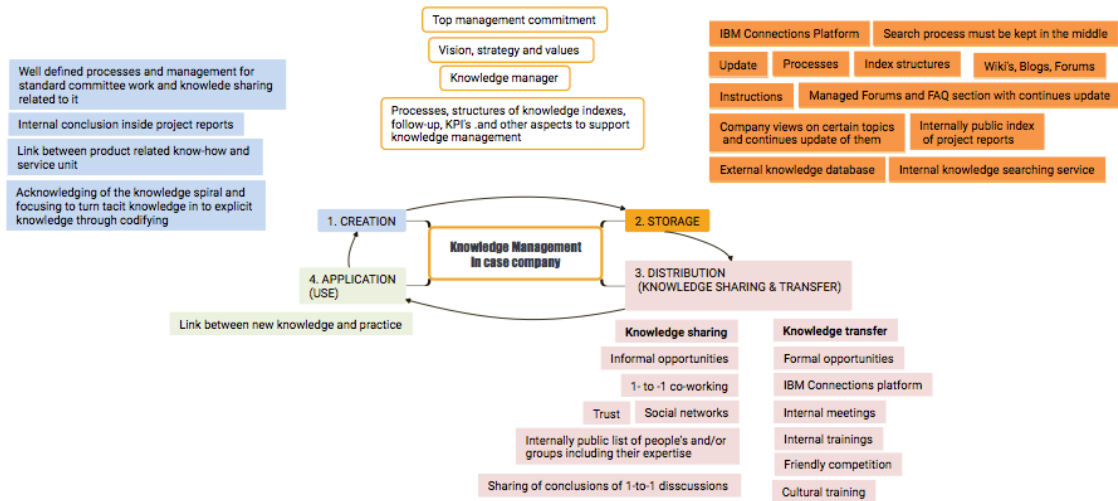


Figure 17. Revised proposal

As Figure 17 illustrates, the revised proposal is made in to a form, which is easier to understand and it has been updated based on Data 2 findings.

In the following Section, the validation of the proposal is discussed. Following section also includes chapters for discussion and conclusion.

6 Validation of the Proposal

This section discusses the validation of the final proposal. The final proposal was built based on the initial proposal and the revision of it based on interviews with the stakeholders during Data 2. This approach was necessary for this topic because the writer of this thesis had the most knowledge related to it. The final proposal was validated together with one of the key managers in the case company. Because of the time limit and size of the case company it was not possible to validate the final proposal in practice.

6.1 Findings of Data Collection 3

In Data collection 3, there were discussions related to the validity of this proposal. During these discussions it was noted that the proposal is good and relevant. During this Data Collection 3, it was agreed that this kind of knowledge management improvement should be implemented. Moreover, it was noted that it is not a complete model and the next step for knowledge management is to have an internal discussion inside top management to decide what kind of practical approach and solutions will be made. In Data Collection 3 it was noted that to make these proposals go through in the case company, it has to go through appropriate management steps to get the full support for it. The following quote from the discussions with the key manager is very telling:

“If we all would know what we really know, we would be successful”

To conclude Data Collection 3, this quote should be made the goal for knowledge management in the case company and made sure that they will all know what the case company really knows to continue the success story of it.

6.2 Final Proposal

The final proposal for the improvement of knowledge management in the case company is built based on the CSA and best practices from theory. Based on these it was possible to build an initial proposal, which was improved and validated based on Data collections 2 & 3. The Final proposal is summarized in Figure 17.

As the CSA showed, there is a need for proper knowledge management and demand for it is also growing, as the company is all the time growing. The need of proper

knowledge management is also essential for the case company as their main resource is knowledge. For this, the theoretical part of this thesis provides guidance from a theoretical perspective and in this revised proposal of this thesis, these needs from the CSA and best practices from theory have been merged.

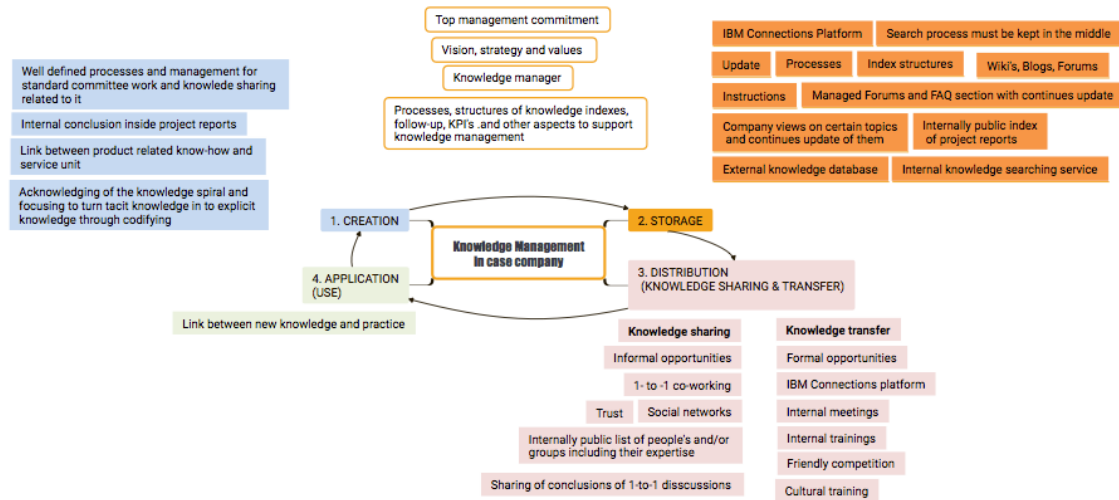


Figure 18. Final proposal

As Figure 18 illustrates, the final proposal for improving knowledge management in the case company.

6.3 Managerial Implications

To make these chances, which are stated in the proposal in chapter 5 it is necessary to make certain action plan for them. To make these chances, it is necessary that the proposal is accepted in correct level of management so that it will get appropriate support for it. Once these discussions and decisions are made, it is possible to start to approach this in a proper way. To do this properly, it is necessary to have a plan for the implementation. Together with this plan it is necessary to prioritize all tasks so that the focus can be aimed appropriately. Prioritizing tasks related to knowledge management include:

1. Resources, tools and attitude change towards knowledge management
2. Processes, instructions
3. Index structures
4. Other things

As one part of planning the implementation of these proposals, it is necessary to have a schedule for it. One suggestion for scheduling these improvements is illustrated in Figure 19.

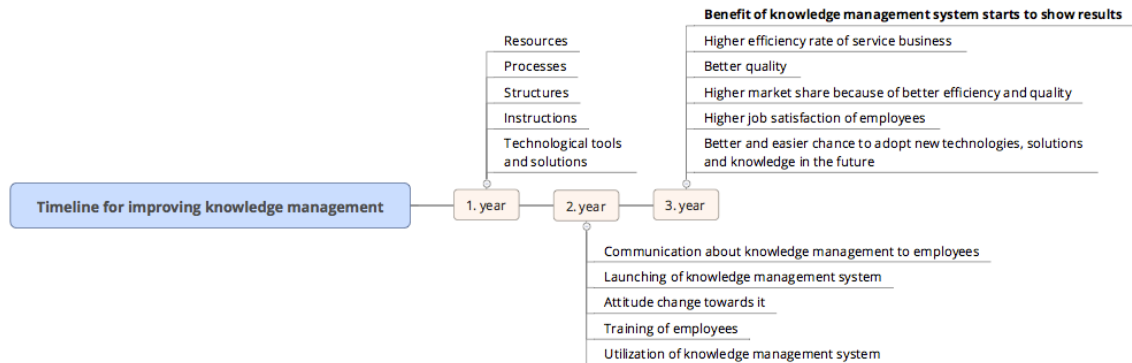


Figure 19. Timeline for the improvements

As Figure 19 illustrates, timeline for the improvements could be set for three years. First year should include all managerial aspects and then second year should be the launching of the new knowledge management system and in third year it would already start to show results.

6.3.1 Benefits and Other Aspects

To have these proposals accepted in the case company it is essential to introduce the benefits to the top management, which would be the following:

- Higher efficient rate of service business
- Better quality
- Higher market share because of better efficient and quality
- Higher job satisfaction of employees
- Better and easier chance to adopt new technologies, solutions and knowledge in the future

As knowledge would be appropriately managed through knowledge management, users of this knowledge could focus more on their main tasks and through it, they would have a higher efficiency rate, which would eventually bring more money and business

to the case company. As the service business is made on a global scale in the case company, to manage knowledge properly would also increase and align the quality of the service of the case company. Through these, it would be possible to capture a higher market share, as it would be possible to do more with better quality, which would eventually lead to a bigger market share. If knowledge in the case company was managed properly, it would also increase the job satisfaction of the employees as they wouldn't be frustrated about it. It would make their everyday job easier and they would have a chance to learn and develop themselves. Also related to the whole case company, if knowledge is managed appropriately it is much easier for all in it to adapt to the future and to the changes it brings once a foundation is well established. Especially in this field where the case company is making their business the technology, solutions and knowledge is all the time evolving.

During this thesis it was found that the IBM Connection platform is not the best tool for knowledge storing. This software has certain limitations related to index structures and its internal tools. The case company has to discuss and decide which kind of technological tool is suitable for their business and especially for their knowledge management.

Another interesting aspect that came out was that the standard for the company's quality management system ISO 9001:2015 has its own chapter 7.1.6 for Organizational knowledge. This means that the quality management system standard requires that the company should have knowledge available and maintained as part of their quality management system. This is something that all companies have to consider on a certain level if they want to have their quality management system certificates to be valid, especially if they are doing it according to the new version of the quality management system standard ISO 9001:2015.

7 Discussion and Conclusions

7.1 Summary

The objective of this thesis was to improve the knowledge management of a Multinational Corporation based on available best practices in literature and a Current State Analysis of the case company. The approach for this, in this thesis, was first to explore literature and after that to make the CSA to find out the current state of knowledge management in the case company. After these phases, it was possible to create a proposal, which was based on theoretical solutions and current needs of the case company. The case company of this thesis is a Germany based Automation Company, which has subsidiaries in 32 different countries. This thesis focused on the service business of the case company and in this field knowledge is the most valuable resource. Within this service business there are more than 250 consultants globally so to manage knowledge in this field and environment is quite challenging.

First in this thesis the focus was on the theory of knowledge management to understand how knowledge management is presented in theory. This gave also a good platform and understanding to approach the case company's employees to find out the current state. This is a first contribution of the thesis: a conceptual framework. The CSA was conducted through Data Collection 1 interviews. Based on these, it was possible to merge the findings and to create an initial proposal for knowledge management based on best practices and current needs of the case company. The initial proposal was validated through Data Collection 2 round, which consisted of 4 interviews.

Based on the findings of Data Collection 2, it was possible to modify the initial proposal to a final proposal. This Final proposal was introduced to certain managers in the Data Collection 3 round during the discussions for further implementation of these proposals. Based on that, the next step after this Thesis is finished, is to have an internal discussion on how to approach this in practice.

The outcome of this thesis is improvements for knowledge management in the case company. These improvements are based on needs of the case company and best practices from literature

7.2 Evaluation of the Thesis

This section discusses the evaluation of this Thesis. Evaluation of this thesis is made by comparing this thesis to the research objective, which was defined in subsection 1.4. Reliability and validity of this thesis are also evaluated based on the reliability and validity plan, which was defined in subsection 2.4.

7.2.1 Outcome vs Objective

The objective of this study was to propose an improvement for the knowledge management in a service business in order to make knowledge sharing and transfer in a Multinational Corporation effective. As a result, the writer of this thesis recognizes that knowledge management is a really wide topic and due to this and the time limitation for this thesis it was essential to focus on certain areas of it.

This study provides a proposal for improvements in the area of knowledge management for making it more efficient and useful in the case company. Thus, by improving knowledge management the case company would be more efficient, have better quality, which would in a long run turn into higher market share and bigger profits. This proposal to improve knowledge management was based on best practices from theory and current needs of the case company, based on the results of the Current State Analysis. The proposal was improved and validated through two different data collection interviews with six different people altogether.

Thus, it can be considered that the outcome did meet the objective of this Thesis. This Thesis offers theoretical improvements for knowledge management and the implementation of the improvements need to be discussed internally in the case company.

7.2.2 Reliability and Validity

As described in subsection 2.4, the reliability and validity of this thesis were ensured through multiple steps. To ensure reliability and validity of this Thesis, the data for it was collected from multiple sources. Additionally, the data was collected from trusted sources. To ensure and support these, there were a total of 17 interviews conducted for this Thesis. To add transparency to this Thesis, the questionnaires of these inter-

views are available in the Appendices. The managers of the case company, who participated in this thesis, accepted the proposal of this thesis but noted that it requires practical solutions as a next step in this improvement process. This proposal responds to the objective of this Thesis, which is the key requirement of validity.

To ensure the reliability and credibility of this Thesis, multiple sources of data were used. Also, to support these, different methods of data collection were used. These methods included interviews, discussions and a literature review on knowledge management.

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Interview questionnaires of Data 1

1. Do you think that knowledge sharing is important related to the services?
2. Does the case company have good knowledge sharing system / process / methods from your point of view?
3. Do you think that the current tools for knowledge sharing are sufficient?
4. Do you think we could improve the knowledge sharing system / process / methods?
5. What kind of topics our knowledge sharing system should include from your point of view related to the services?
6. How do you think we could share the knowledge?
7. Would you consider that proper knowledge sharing system would make your job easier or more efficient? If yes, how?
8. Any idea how much time you spent to the knowledge searching for now?
9. Do you think that the performance and efficiency of the services could be higher if the knowledge sharing would be managed in a more efficient way?
10. Do you have ideas how to improve the knowledge sharing culture inside our company?
11. How do you seek information currently to the topics that you are not familiar?
12. Do you think that cultural differences are affecting to the knowledge sharing?

Interview questionnaires of Data 2

Feedback for initial proposal.

1. What do you think of the initial proposal?
2. Do you see that it would some how benefit our service department?
3. Is the proposal missing something essential?
4. How would you improve this proposal?