A Small-Medium-Enterprise's approach to Knowledge Management

Short Master Thesis

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1   Introduction

Knowledge Management has been driven forward by the development of the knowledge-based economy, which comprises hypercompetition, speed, globalization and complexity. The fact that knowledge is regarded as *the* most important resource, as the driver of productivity and economic growth, make companies ever more reliant upon effective managing of knowledge. Knowledge management accompanied by organizational learning is an approach to exploit knowledge assets effectively and learn faster than the competitors, in order to sustain a competitive advantage.

To achieve effective knowledge management, an environment must be created where key elements such as people, processes and technology act in unison as enablers. The knowledge management best practices and literature recommend that people is the most important factor above all. However, the majority of Small-Medium-Enterprises appear to implement knowledge management initiatives with focus on technology, such as capturing knowledge in repositories and using IT to share and transfer knowledge. An important aspect is that knowledge is not synonymous with information, and therefore IT cannot deliver knowledge management. Knowledge management initiatives should focus on developing a "knowledge culture" also referred to as a "knowledge-sharing culture" where knowledge management will thrive.

1.1   Presentation of the thesis objective

Many companies in the knowledge-based economy recognize the need for managing knowledge, however it can be difficult to identify and define what knowledge management really is. Are companies aware of the core in knowledge management and its importance? Do they believe knowledge management is implemented with an information system? Or do they realize the cultural issue? These are a few questions that arise when reading about companies that seek to approach the field of knowledge management. In this respect, it is interesting to investigate the situation of a Small-Medium-Enterprise regarding knowledge management.

The thesis comprises an elaboration regarding Small-Medium-Enterprises' (SME) approach to knowledge management. In connection with this, a case study has been carried out in relation to the SME firm, mnemonic. This company is located with offices in Norway and Sweden, and the business is directed to IT-Security. The company has experienced a high rate of growth during its five years of existence, and it recognizes the need to manage knowledge more intelligently as the work-force increases rapidly. The thesis will only focus on mnemonic's office in Oslo, which is the headquarters.

The objective of the thesis is to uncover and capture central aspects of knowledge management, and it is presented in a literature review. The literature seeks to make sense of the vast amount of the literature in the field of knowledge management. Terms such as the knowledge management synergy, the knowledge management itself, knowledge, as well as learning and knowledge creation and sharing are some of the concepts presented.

Further, the objective of the thesis is concerned about the organizational culture and investigation in what is required to get a 'knowledge sharing' culture in which has the greatest emphasis in this thesis, and the organizational processes and infrastructure, to see if these works as enablers or barriers to Knowledge Management in mnemonic. At the same time, giving advices for what should be focused on in the future. The thesis seeks to answer the question below:

- What does the concept of an organizational culture implies and what characterizes a 'knowledge sharing' culture?
- What characterizes the culture in mnemonic, and what is required to get a 'knowledge sharing' culture?
- What does the concepts of organizational processes and infrastructure implies, and what are the most significant enablers and barriers?
- What characteristics are present in mnemonic due to the preceding questions?
- What will be the most appropriate KM processes for mnemonic to implement in the future?

The thesis seeks to illuminate the way it is possible to create a proper environment for knowledge management in which facilitates and encourages knowledge sharing and creation, using the theory in the knowledge management literature as a basis for the case study.

1.2 Limitations

The thesis has been restricted to investigate the core of knowledge management, culture, organizational processes and infrastructure, and at the same time give suggestions for what actions can be taken to enable a knowledge-sharing culture in order to succeed with knowledge management. An important aspect is that the thesis focus on the "soft" aspect of knowledge management, therefore technology will not be very much elaborated. The thesis is written in a limited period of time of 17 weeks, from August to December 2005. Based on the limited amount of time and the constraints of the thesis, it has not been possible to cover the entire field of research or literature written on the soft aspect of knowledge management according to SMEs. The limited time may have influence the degree of validity and reliability of the literature review.

In addition, the thesis does not present the quantitative research method in section of methodology, as the method does not it the purpose of the thesis.

2   Methodology

This section shed light on the methods that was used during the research and writing of this thesis.

2.1   Research design

The thesis sought to uncover central element to a SME's approach to knowledge management, using mnemonic as a case study. The starting point of the study was a moderate degree of understanding on the concept of knowledge management; hence an explorative research design was done. This research design is a type of case study. The information gathered from such a study is called qualitative, and it is the preferred method when there is limited or no knowledge about a topic and the purpose is to develop this knowledge [The Association for Qualitative Research]. Qualitative research studies rely on three basic data gathering techniques: participant observation, interview, and document analysis. Each of these techniques represents has a varying degree of structure, as participant observation and interview is less structured than document analysis. It is recognized that various studies or particular techniques may rely more heavily on one data gathering technique or another. A case study provides a systematic way of looking at events, collecting data, analyzing information, and reporting the results. As a result the researcher may gain a sharpened understanding of why the instance happened as it did, and what might become important to look at more extensively in future research. The greatest pitfall in the exploratory study involves to early made conclusions, thus the findings may seem convincing enough for inappropriate release as conclusions. Other pitfalls include the tendency to extend the exploratory phase, and inadequate representation of diversity [Wikipedia].

The process of gathering data from mnemonic mainly involved conducting in-depth interviews, with employees from different positions and with different amount of job experience in the firm. The interviews were to a large degree performed as informal dialogues where the respondent was encouraged to speak freely about a number of topics relevant to thesis objectives. However, the respondents were during the interview asked several specific questions for the purpose of retrieving answers that would be fruitful for the thesis. The interviews was recorded and then written down in full version. In addition, it was conducted several observation of the employees in their daily work. The document search was conducted by the use of Internet and the School Library.

3 Literature review

In search of the nature of knowledge management, with emphasise on the soft aspect, literature from different sources is examined through a literature review. There will be a presentation of knowledge economy, knowledge management, knowledge management in SMEs, knowledge, culture and knowledge-sharing culture, organizational infrastructures and processes.

3.1 Introducing Knowledge management

Knowledge management is not really about managing knowledge. It is rather managing and creating a corporate culture that facilitates and encourages sharing and creation of knowledge, enabling a corporate strategic competitive advantage [Walczak:330]. Knowledge management is concerned with managing how people reason and how they make their expertise accessible [Gamble and Blackwell:16]. Collison and Parcell once presented hearsay about knowledge management; "it's like herding cats." Hence, it is impossible to manage knowledge, on the other hand it is possible to manage the environment where knowledge can be created, discovered, captured, shared, adapted [Collison and Parcell:24]. This view is also supported by Sveiby, who argues that knowledge cannot be managed, but that environment can [Sveiby].

Knowledge sharing goals and strategies are all too often merely mentioned in a business strategy, and according to Riege, it is because the effectiveness of sharing practices is difficult to measure and sharing barriers are not sufficiently identified [Riege:18]. In fact, the gap between organizations recognizing the value of knowledge management and those fully implementing it is large [APQC]. Bhatt argues that knowledge management should be viewed upon as a set of concepts that could be tailored to meet business goals [Bhatt].

3.2 The Knowledge-based economy

The economy has evolved over the last decades from a traditional economy to an entrepreneurial economy, commonly referred to as the knowledge-based economy. In traditional economy, the main production factors were based on land, labor and capital, and knowledge was defined as external to the economic process. The economic growth was explained by factors such as the amount of labor power and the level of technological development, where the latter reflects to the quality of the labor.

In the knowledge-based economy, knowledge is seen as the primary production factor and this intangible asset can lead to economic growth without extra labor power. In fact, knowledge is regarded as the most important determinant for economic growth [Beijerse1999:94-95]. Nonaka [Nonaka:22]

agrees, saying that "in an economy where the only certainty is uncertainty, the one sure source of lasting competitive advantage is knowledge".

The important issue related to the development of the new economy is that companies has become knowledge intensive rather than being capital intensive, because of the key role knowledge plays compared to capital and natural resources [Gamble and Blackwell:9]. Knowledge, as a resource provides increasing returns and becomes gradually more valuable as it is used, and therefore provides a self-reinforcing cycle, whereas natural resources diminish with use [Clarke:190]. As opposed to the traditional economy, the knowledge-based economy is an economy of sharing knowledge [Styhre:229].

The knowledge economy is characterized by a corporate competition worldwide, which is influenced by rapid changes and high complexity. Thus, the market is constantly reshaped because of new innovations, individualization of society and globalization [Scharmer:36]. The consequences, is that the companies must respond faster to the customers, in order to be competitive, thus having less time to experience and acquire the knowledge on which they compete. This results in a demand for quicker learning processes and increased focus on the core competencies which have to be coordinated. In addition, the product and services themselves are becoming increasingly complex, because of the amount of knowledge that is embodied in them [Gamble and Blackwell:10&17] [Beijerse1999:97]. Because of the growing knowledge intensity in products and services, Alan Greenspan denote the knowledge-based economy as the "weightless economy" [Clarke:190].

According to Teece; "the essence of the firm in the new economy is its ability to create, transfer, assemble, integrate, protect and exploit knowledge." [Styhre:228]. In fact, "companies' success or failure will depend on the extent to which they can create, nurture, store, share and exchange knowledge" as stated by Gamble and Blackwell [24]. This implies that companies are ever more reliant upon utilizing, sharing and creating knowledge effectively [Clarke:189].

This shift in the economy observed at the macro-level makes it imperative to take into account the consequences it has made on the micro-level. Thus, the fact that knowledge has become companies' most valuable asset, it is crucial for them to manage it properly in order to gain competitive advantage. Knowledge management can enable companies to better deal with the complexities that surrounds the knowledge-based economy and further enhance and improve the managing of knowledge. In fact, knowledge management is a way to deal intelligently with knowledge in the new economy [Beijerse1999:97&98]. As mentioned above, the companies must learn faster than the competitors [Tiwana:90], therefore "the organization that will truly excel in the future will be the organizations that discover how to tap people's commitment and capacity to learn at all levels in an organization" as stated by Senge [noted in Pemberton and Stonhouse:188].

This implies that in an increasing hypercompetitive environment as the knowledge-based economy, focusing on knowledge management and organizational learning is seen as a critical route for rapid development and effective use of knowledge assets [Pemberton and Stonehouse:186].

The strategic business drivers that push knowledge management forward are the need to enhance;

- Intellectual assets management;
- operational efficiency;
- knowledge worker productivity;
- customer and competitor intelligence;
- continuous improvement;
- organizational learning;
- innovation in products and services;
- time to market [Clarke:193].

According to Beijerse, an organization use only 20% of the knowledge that is potentially available in the organization [Beijerse:97], and they often don't know what they already know. The latter is the predominant source to re-inventing the wheel [Tiwana:34], and a substantial cost can be attached to this as follows; for the Fortune 500 companies in US alone, this cost were estimated to US $31billion in 2001 [Gamble and Blackwell:38]. This emphasizes the importance of dealing intelligently with knowledge through knowledge management in cooperation with organizational learning.

3.3 Knowledge Management Synergy

The key to competitive advantage is Knowledge Management, where synergy is achieved by effectively integrating: People, Processes, and Technology [Providersedge]. Knowledge management entails of a right balance of these three components [Collison and Parcell]. This is also supported by the world-known strategist D.Bhatt: "A key element of a knowledge management concept is a requirement to address People, Process and Technology issues in tandem and not focus on any one element."
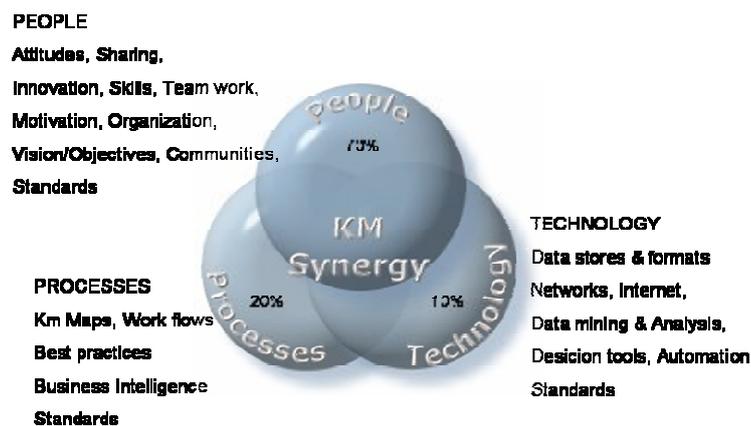

PEOPLE
Attitudes, Sharing, Innovation, Skills, Team work, Motivation, Organization, Vision/Objectives, Communities, Standards

PROCESSES
Km Maps, Work flows
Best practices
Business Intelligence
Standards

TECHNOLOGY
Data stores & formats
Networks, Internet,
Data mining & Analysis,
Desicion tools, Automation
Standards

Figure 1. Knowledge management components and sub-elements [Bhatt D. 2000] [Providersedge].

The above figure illustrates that the different components overlap each other, and knowledge management resides within the area where all the components are represented [Collison and Parcell: 20].

People: refer to getting an organisation's culture (including values and behaviours) 'right' for knowledge management. This is typically the most important and yet often the most difficult challenge. Aspects such as motivation, rewards, openness, mutual trust, respect, support are important in order to enhance knowledge sharing.

Processes: In order to improve knowledge sharing, organisations often need to make changes to the way their internal processes are structured, and sometimes even the organisational structure itself. Factors such as hierarchy, level of collaboration versus competition, structure, and space are important as it may work as enablers or barriers to knowledge management.

Technology: Technology is seen as an enabler in relation to knowledge management, but it is not the solution. However, getting an intranet, linking people by e-mail, compiling information databases etc, enables people to be connected with information. [NELH]

The organization needs to achieve a balance between these components, and the literature recommends that knowledge management initiatives should focus more on the people aspect than on processes and technology. KM experts often divide the effort required within the three components to be 70% in people/cultural issues, 20% in processes and 10% in technology [Bhatt]. Therefore, the primary focus should be on developing an environment with a culture and behaviour that makes knowledge management thrive, with the appropriate processes as support and to have the technology as an enabler [nehl][Gamble and Blacwell:30]. An environment in which people are encouraged to create, learn, share and use knowledge together for the benefit of the organisation, the people who work in it, and the organisation's customers [nelh].

Knowledge management initiatives and projects are as varied as the firms in which they are deployed [Skyrme], thus knowledge management is unique to any given organization as an fingerprint due to the fact that it must be articulated in a given context [Bhatt][Tiwana:100]. There exist no formula to follow in order to succeed, but the recommendation above all is that knowledge management initiatives should focus more on people and not on technology if they are to succeed [Sunassee and Dewry][Skyrme][Gamble and Blackwell:38] [nehl].

3.4   What is Knowledge Management?

The term, knowledge management has been attempted defined by numerous experts. They all enlighten central ideas around the concept of knowledge management, but there are some apparent diversity in the definitions. The following is a few chosen definitions in the field:

- ▪ "Knowledge management caters to the critical issues of organizational adaptation, survival and competence in face of increasingly discontinuous environmental change. Essentially, it embodies organizational processes that seek to synergistic combination of data and information processing capacity of information technologies, and the creative and innovative capacity of human beings." [Malhotra]
- ▪ "Knowledge management is the explicit and systematic management of vital knowledge - and its associated processes of creation, organization, diffusion, use and exploitation" [Skyrme].
- ▪ "Knowledge management is an effort to increase useful knowledge within the organization. Ways to do this include encouraging communication, offering opportunities to learn, and promoting the sharing of appropriate knowledge artefacts" [McInerney:1014].

The diversity among the definitions relates to different focus they put on technology (information technologies), processes (creation, organization, etc.) and people (enable an environment where communication, learning and sharing thrive). This underlines that in the core of knowledge

management there exists a synergy between technology, processes and people. Using the knowledge management synergy, with a focus on people, as a basis for understanding the core of knowledge management; Knowledge management can be seen as an approach to create and manage a 'right' environment that enables and facilitates knowledge sharing and creation, and establish learning as a continuous process within the organization. In which the environment constitute of a knowledge-sharing culture and an organizational infrastructure that enables sharing.

3.5 Knowledge Management in Small-Medium-Enterprises

The literature comprise almost no emphasise on the distinction between knowledge management initiatives in large companies compared to small-medium-enterprises (SME) [Riege:22]. Previous studies regarding knowledge management have mainly focused on large companies, due to the fact that they were the early adopters and performers of KM [Wong:264]. Indeed, the scarce amount of research about this distinction seems to reveal no specific and conclusive empirical evidence regarding which knowledge-barriers are more prominent in large firms compared to SMEs. According to Riege, SMEs still "tend to provide an environment that is conducive to generating knowledge, mainly due to their size, often single location, and closer social relationships of employees, resulting in good communication flows and sharing." Furthermore, as SMEs starts to grow and expand into multiple groups within the company or even expand to multiple geographically regions, the knowledge sharing and communications decreases in a rapid pace [Riege:22]. The repeating characteristics of SME are flatter and less bureaucratic structure, innovative culture, and relationship-building with the customers.

Nevertheless, SMEs do struggle with knowledge management in certain areas. Riege makes reference to Levy et al.'s work, which revealed that the majority of SMEs lacked a strategic focus related to knowledge exploitation and the insufficiency at obtaining competitive advantage from organizational learning and innovation. The reason is that SMEs to a large degree are preoccupied with the day-to day viability which limits time to form a strategic focus [Riege:22]. Approaches to knowledge dissemination as part of knowledge management projects are often ad hoc in the SME, and knowledge creation is supported by a mechanic approach instead of social interaction. Further, these firms need to enhance their understanding of knowledge management as a key business driver rather than as a resource-intensive additional initiative [McAdam and Reid:240] [Egbu et al.:13]. According to Levy et al. [noted in Egbu et al:13], "the SMEs are knowledge creators but poor at knowledge retention. They need to be proactive in knowledge sharing arrangements to recognize that knowledge has value and the added is derived from knowledge exchange."

A quantitative and statistical analysis performed by Wong and Aspinwall [p69] showed that the most typical KM initiatives that SME implemented were in order given; capturing knowledge in repositories or bases, using information technology to share and transfer knowledge, and using the intranet to publish and access information.

Other initiatives like creating a supportive environment for knowledge sharing, developing strategies for KM, appointing KM leaders and teams, and rewarding employees who contribute and share knowledge - did not feature high in SMEs. This implies that there is room for improvements. Similarly, Beijerse [noted in Wong and Aspinwall:69] concluded that even though SMEs have applied various KM tools; their strategy, structure and culture are not formalized to support KM [Wong and Aspinwall:69].

Further, the analysis of Wong and Aspinwall revealed that the factual top six critical success factors for adopting knowledge management in SME were in order given; management leadership and support, culture, and strategy and purpose, resources, processes and activities (sharing, creation, organizing), training and education [Wong and Aspinwall:75].

3.6   Knowledge perspectives

Even though companies today are familiar with and recognize words like intellectual capital, knowledge management, strategic competence, few managers understand the essence of the knowledge-creating company. The reason is a misunderstanding of what knowledge is and what companies must do to exploit it [Nonaka:23]. Therefore, understanding knowledge is imperative.

3.6.1   Knowledge

Knowledge is dependent on making use of resources as data and information, and the knowledge is then represented by patterns among these data, information and possibly other knowledge [Billinger][Styhre:229]. Data is referred to as a set of discrete, objective facts about events, and there are no meaning associated to data. Data becomes information when it is organized [Davenport and Prusak], as information is regarded as "data endowed with relevance and purpose." [Drucker:5] It can be compared to a message with a sender and a receiver in which the information has an impact on the receiver's behavior or judgment [Davenport and Prusak].

To understand the concept knowledge it is best to begin with its relation to information. The key link between information and knowledge is that knowledge is referred to as actionable information. In this respect, actionable implies that the information is available at the right time, in the right context, and in the right way so the user of that information can take action and make decisions [Tiwana:56, 95]. Thus, information becomes knowledge when it is placed in actionable context.

One of the most referenced definitions in the literature of knowledge is presented by Davenport and Prusak; "Knowledge is a fluid mix of framed experience, values, contextual information, expert insight and grounded intuition that provides an environment and framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of the knower. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms." [Davenport and Prusak:5]

The knowledge management literature often denotes knowledge as a tangible resource, "a stock of knowledge", but according to Styhre based on the work of Tsoukas and Orlikowski, "rather than being a stock of knowledge, knowledge is produced as it is shared; it is not consumed but shared, given away and received." [Styhre:229]
Knowledge is through modifications and changes always in a state of becoming, an elusive subject of what happens "in between". Knowledge emerges in-between data and information and previous knowledge and beliefs. In addition, "in-between" also denotes the capability of being shared among individuals and communities. Therefore, knowledge emerges (comes into being) through sharing and giving [Styhre:229]. Examples of where knowledge lies is in connections and conversations between people, experienced-based intuition and peoples ability to compare situations and solve problems [Tiwana:58].

People often refer to knowledge as "know-how", but using this term hides some very important attributes of what is actually considered as knowledge. Knowledge comprise of more than just know-how, and this is; know-why, know-what, know-who, know-where and know-when [Collison and Parcell:23]. Some of these knowledge types come closest to being market commodities, but on the other hand particularly know-how and know-who are more tacit and are the most valuable to possess [Clarke:189].

In organizational terms, knowledge is generally thought of as being 'know how', 'applied information', 'information with judgment' or 'the capacity for effective action'. [NELH]. Sanchez and Heene denote know-how as practical knowledge, know-why as theoretical knowledge, and know-what as strategic knowledge [Stonehouse and Pemberton:185].

Knowledge is the potential for action based upon data, information, insights, intuition and experience [Malhotra]. Knowledge is also defined as a shared collection of principles, facts, skills, and rules [Stonehouse and Pemberton:185]. In this respect, knowledge is what gives a "meaning", thus knowledge without meaning is only disorganized information [Bhatt, G.D.:90]. In addition, knowledge is seen as very subjective, because it depends on the beliefs, values, intuition and the emotions of the individual [Sunassee and Dewry:236].

Knowledge cannot simply be retrieved from a database, because it has to be actively reconstituted in the present moment. A person that uses information in a database is able to solve problems by reflecting and thinking about the information and draw upon experience and insights. These insights comprise of knowledge, and according to Lang; "the living act of knowing – make sense of experience and insights – always occurs in the present moment." [Lang:45]

Furthermore, it is necessary to recognize the diverse nature of knowledge in order to reveal the its potential contribution to the performance of the organization [Stonehouse and Pemberton:185].

3.7 Different aspects on knowledge

Although many terms are used to describe knowledge, perhaps the most contentious is the distinction that is made between tacit and explicit knowledge [Tiwana:66], which concepts invented by Polyani [Beijerse1999:99]. This distinction is an important aspect to further investigate, because their management is quite distinctive [Skyrme]. This section seeks to shed light on some of the various aspects of knowledge.

3.7.1 Explicit knowledge

Know-what is defined as explicit knowledge [Lang:46], and it can be documented and expressed as information in tangible forms as manuals, papers and computer databases [Skyrme]. It can be codified and recorded, archived and protected by the organization [Barth].

Explicit knowledge, according to Scharmer [von Krogh, Nonaka, Nishiguchi:38], relates to the reality that it denotes 'from outside', and therefore it captures knowledge about *things*. The criterion for truth is to ask the question: "Can you observe it?" Instances of explicit knowledge can be the weight, price and ingredients about a loaf of bread [Scharmer 2000:42].

The above characteristics of explicit knowledge or "know-what" emphasize its ability to be easily communicated through information [Barth], thus captured and codified in manuals, documents and computes files that subsequently can be easily shared and disseminated [Lang:48][Beijerse:164 - 2000]. Beijerse denote explicit knowledge as the "system-bound side of knowledge", also known as

information [Beijerse:164 - 2000] . It is clearly formulated, defined and easily expressed without ambiguity or vagueness [Bollinger and Smith:9].

Explicit knowledge requires a level of academic knowledge or understanding, which can be provided/gained with the proper education or structured study [Smith:315]. As soon as explicit knowledge is codified, the knowledge asset can be reused to solve repetitive problems and connect people with valuable knowledge [Smith:315].

Accordingly, in order to manage explicit knowledge, systematic processes for handling information such as information resource management is required [Skyrme]. This relates to processes like implementing information management systems, accessing resources, organizing, using search engines, above all provide employees with a rapid access to the relevant information that already exists within the firm. Also, organizations must give equal attention to adding contextual information to the information repositories [Skyrme]. However, the degree of how much effort to invest in gathering and using explicit knowledge is dependent on a predictable and relatively stable environment [Smith:315].

3.7.2 Tacit knowledge

Tacit knowledge as opposed to explicit knowledge, is personal, resides in the heads of people and it is hard to articulate and document it [Skyrme]. The philosopher Polyani [Smith:314], described tacit knowledge as "knowing more than we can tell, or knowing how to do something without thinking about it." Further, Polyani stated that "personal or tacit knowledge is extremely important for human cognition, because people acquire knowledge by the active (re)creation of their own experience." [noted in Beijerse (1999):99]

Know-how (core competence) is defined as tacit knowledge, and it is know-what brought into practice which means "the ability to recognize the circumstances when certain acts are appropriate and to act accordingly when such circumstances are present themselves." [Lang:46]

Tacit knowledge consist partly of technical skills, which is demonstrated when people master a specific knowledge base or use skills like those gradually developed by a master craftsman, called know-how. At the same time tacit knowledge has a cognitive dimension, which comprise of mental models, beliefs, perspectives so ingrained that they are taken for granted [Nonaka:28]. This emphasizes the difficulties of articulating them and not at least that these models affect how people perceive the events in the world.

The abstract and intangible nature of this knowledge and the fact that knowledge is both social and contextual make storing and communicating it difficult [Pemberton and Stonehouse:190]. The person who holds the knowledge also holds the surrounding context of tacit knowledge; he/she knows what it

means, what its limits are and how it can be used. Even though this knowledge is transmitted as information in a document, the receiver still has to learn to use it in an appropriate way. Thus, knowledge is most effectively shared through face-to-face interaction [Gamble and Blackwell:40].

3.7.3   Two types of Tacit Knowledge

According to Scharmer, based on Polyani and Nonaka and Takeuchi's work, there are two forms of tacit knowledge, *embodied* and *not-yet-embodied* tacit knowledge. These are fundamentally different from each other, as explicit knowledge is fundamentally different from tacit knowledge. The tacit-embodied knowledge has the same characteristics as tacit knowledge described in previous section. It is the knowledge about doing things. Capturing this type of knowledge requires reflecting on one's action, and to test the criteria for truth is 'Can you do it?' An example of this type of knowledge is the activity of baking and producing a loaf of bread [Scharmer 2000:38].

On the other hand, not-yet-embodied knowledge is the knowledge about the originating sources for doing things, also referred to as *self-transcending* knowledge. Again, using the loaf of bread as an example, this form of knowledge is the sources and fields that enable a particular baker to invent the baking of the bread in the first place [Scharmer 2000:42]. In order to capture this knowledge, the individual has to reflect as it acts [Scharmer 2000:38], or what Schön denotes as reflection-in-action (Schön 1983). The criterion for truth is whether you are able to bring the knowledge forth into being [Scharmer 2000:38]. The self-transcending knowledge is tacit knowledge prior to its embodiment in day-to-day practices [Scharmer (b)].

Each type of knowledge is based on a different relationship between the knower and the known [Scharmer 2000:42], and using the examples of a loaf of bread ground the distinction between them. The table below describes the different forms of knowledge explaining three different relationships between the knower and the known, thus how the different forms of knowledge relate to reality from varying perspectives.

Epistemology	K1 Explicit Knowledge	K2 Tacit-Embodied Knowledg	K3 Self-Transcending Knowledg
Type of Knowledge	Knowledge about *things*	Knowledge about *doing* things	Knowing about *thought-origins* for doing things
Data	External reality	Enacted reality	Not-yet-enacted reality
Experience Type	Observation experience	Action experience	Aesthetic experience
Action-Reflection Ratio	Reflection without actio	Reflection-on-action	Reflection-in-action
Truth	Matching reality	Producing reality	Presencing reality
Truth Criterion	Can you observe it?	Can you produce it?	Can you presence it?
Perspective	External: View on *objective* reality	Internal: View on *enacted* reality	Both internal and external: View on *not-yet-enacted* reality
Subject-Object Relation	Separation	Unity (after action)	Unity (in action)

Figure 2: Scharmer 2000:12

Tacit-embodied knowledge relates to the reality that it signifies 'from within', and enables the knower to produce the actual product that is known, baking the bread [Scharmer 2000:39]. Whereas the sources and fields which enable a person to invent the making of a particular product, is described as self-transcending knowledge and relates to reality both 'within and outside' [Scharmer 2000:40]. Both forms of tacit knowledge are based upon a union of subject and object, in the opposite to explicit knowledge which is based on the separation of the knower and the known. Nevertheless, the union has differences. Tacit-embodied knowledge implies that the self conceives of its action after the fact, but in the case of self-transcending knowledge the self conceives of its action while in the movement of enacting [Scharmer 2000:40].

The knowledge about managing the different forms of knowledge decreases from explicit to tacit-embodied to self-transcending knowledge. The word managing is practically non-existing to self-transcending, because it is impossible to manage human experience. Instead, Scharmer says that one needs to "focus on enabling conditions that allow the process of knowing to emerge" [Scharmer 2000:46].
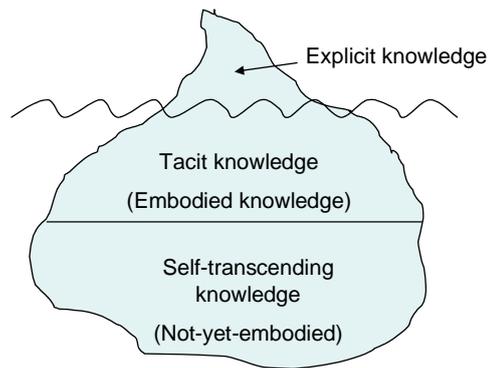
Figure 3. The visible and invisible parts of knowledge

An individual has a greater level of tacit knowledge than explicit, and the figure illustrates the three different forms of knowledge. Explicit knowledge resides above the water surface, which means it is the least difficult knowledge to distribute and disseminate. At the water level the perceptions and perspectives of the individual exist [Saint-Onge:17]. Under the surface exist both forms of tacit knowledge, and it is hard to grasp in order to disseminate and transfer around the organization. Also, tacit knowledge condition both that individuals perspectives and the way he or she will interpret the explicit knowledge that he or she receives [Saint-Onges:17]. In this respect, the explicit knowledge that is codified and expressed in words and numbers is just the tip of the iceberg [Beijerse:99][Nonaka, Reinmoeller, Senoo:91].

What role does self-transcending knowledge play in the knowledge economy, and why is it important in a knowledge management perspective? According to Scharmer, the self-transcending knowledge is the sources or reasons of knowledge creation, which leads to innovation. As innovation is a critical factor for organizational success in the knowledge economy, organizations ought to manage self-transcending knowledge in order to succeed.

Scharmer states that not-yet-embodied knowledge is the only sustainable source for competitive advantage in the knowledge economy, an age of hypercompetition [Scharmer 2000:37]. "The more the world economy moves towards increasing returns the more the capacity to sense and actualize self-transcending knowledge will be the most scarce-and most valuable-source of future competitive advantage."

Several authors have given their description to the same phenomenon as Scharmer calls self-transcending knowledge; Nonaka and Konno (1998) refers to the phenomenon (self-transcending knowledge) as 'ba', as what Schön calls 'reflection-in-action', what von Krogh (1998) recognizes as 'care', and what Senge (1990) denotes 'Personal Mastery' [Scharmer(a):45]. Although the designation differs, their focus is on the primary ground from which human action arises. Specifically, it is a

source or a place that give rise to the process of enacting tacit-embodied knowledge, or 'self-transcending'knowledge.

In addition, Nonaka et al, define four types of "ba" that corresponds to the four stages in the SECI model (elaborated in section 3.10). For each conversion process there is ba, which supports knowledge creation. 'Originating ba' is associated with the socialization stage, and this is where individuals share feelings, emotions experience, and mental models. Barriers are removed between individuals and in this ba, care and trust emerge. Physical activities as face-to-face experiences are the key to sharing knowledge.
In the 'Dialoging ba', associated with the externalization stage, the dialogues between people stimulate reflection on mental models and skills, and in this stage it is important to select people with the proper mix of specific knowledge and capabilities.
Related to the combination stage is the 'systemizing ba', a place of monologue. In this place new explicit knowledge is combined with existing knowledge, and this mode of conversion is most efficiently supported by information and network technology. The last ba is named 'exercising ba' which facilitates conversion of explicit knowledge to tacit knowledge. This is the internalization stage in the SECI model, and this is where on the job training is stressed [Nonaka, Reinmoeller, Senoo:94].

3.7.4   Explicit versus Tacit

Every organization pursuit tacit and explicit knowledge differently, due to the impact of multiple factors such as; the organizations existence in their lifecycle, type of business, core competence, leadership, culture, organizational structure and competitions [Smith:319].
The reason why the distinction between tacit and explicit knowledge is important to illuminate is because they require different type of knowledge environment and learning infrastructure. Further, the capacity "to tap into the sources not-yet-emodied knowing", such as to "sense at actualize what wants to emerge" in the competitive markets, is a sustainable source of competitive advantage in an age of hypercompetition [Scharmer:artikkel].

The distinction between tacit and explicit knowledge determines also who owns the knowledge. Following, tacit knowledge is hard to codify, and therefore it effectively remains the property of the knowledge worker, in contrast to explicit knowledge which remains in the firm [Barth]. The challenge inherent with tacit knowledge is figuring out how to recognize, generate, share and manage it.

3.8   Learning organization / organizational learning

"To be successful in a knowledge economy firms need to create learning organizations," as stated by Don Tapscott [Proversedge]. The growing interest in knowledge management is closely related to organizations effort to become learning organizations, in which managers strive to create a system that promotes communication and collaboration [Daft:25]. A learning organization is according to Garvin, "an organization skilled at creating, acquiring and transferring knowledge, and at modifying its behaviour to reflect new knowledge and insights." In terms of sharing knowledge and sharing practices, a learning organization questions its processes and practices all the time [Gamble and Blackwell:155]. Fiol and Lyles [noted in Civi:167] refers to organizational learning as "the development of insights, knowledge and associations between past actions, the effectiveness of those actions, and the future action."

Effective organizational learning improves the efficiency and effectiveness of knowledge management [Pemberton and Stonehouse 2000]. According to Garvin [Garvin], organizations and employees must first of all learn before they can accomplish improvements. A commitment to learning evolves continuous improvement, and there are three critical issues decisive for a firm to become a learning organization. The first issue is attended to meaning, thus a definition of the characteristics of a learning organization. The second is about the role management ought to play, and the third deals with measurement of learning in the organization [Garvin].
In addition, the learning organization is based on equality, open information, little hierarchy, and a culture that encourages adaptability and participation, enabling ideas and knowledge creation that give the company advantages in the knowledge economy [Daft:25]. Therefore, the learning organization adjust from vertical to horizontal organization structure, from routine tasks to empowered roles, from formal control systems to shared information, from competitive to collaborative strategy, and from rigid to adaptive culture [Daft:27-28].

The process of organizational learning is only accelerated and sustained through development of culture, structures, infrastructures in which improve the effectiveness of knowledge management. The learning organization must create an environment that combines organizational learning with knowledge management. Organizational learning is first of all concerned with development of new knowledge, whereas knowledge management is primarily focused on formalization, storage, distribution and co-ordination of existing knowledge throughout the organization. Knowledge has a dynamic nature which provides challenges regarding the creation and the management of this knowledge, and therefore it is essential to gain insight into the relationship between these two [Pemberton and Stonehouse:185-186] The figure below illustrates this relationship between organizational learning and knowledge management.
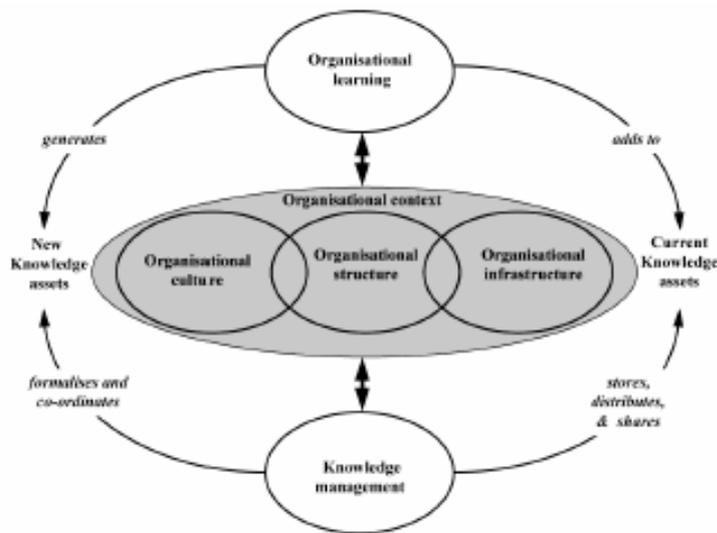
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Figure 4: Pemberton and Stonehouse:186

The objective to become a learning organization is because organizations continuous trying to create superior performance by finding their best way to derive knowledge from their vast amount of information resources. They can constantly generate new sources, because they have a superior ability to learn and share knowledge. The most important roles of organizational learning and knowledge management is to ensure that individual learning leads to organizational learning. Another issue is that, successful learning organizations requires an environment in which organizational learning is combined with knowledge management [Pemberton and Stonhouse:185-193].

In this respect, learning and knowledge are viewed upon as inextricable linked, which means that a successful knowledge management system has to consider the differences between the employees and preferred learning styles. The reason is that each person has experienced a particular cultural context, and it is natural that this cultural ballast affect the way people perceive, judge and evaluate [Gamble and Blackwell:155].

3.9 Learning

According to Gamble and Blackwell, "learning and knowledge are inextricably linked" [p155], which means that knowledge leads to learning and evaluating [Bhatt, D.]. One of the most important aspects of learning is related to the exchange and of tacit to tacit knowledge [Bhatt, D.], thus sharing tacit knowledge. The sharing of tacit knowledge requires processes of learning by the recipient [Grant and Baden-Fuller:123]. Further, renewing tacit knowledge implies learning [Saint-Onges:19], and in order to learn something one has to produce new knowledge by using the existing knowledge [Vicari and Troilo:68]. Tacit knowledge has to be constantly renewed, otherwise the organization will not

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appropriately respond to its changing environment [Saint-Onges:17]. A great challenge connected to learning is to incorporate what Senge called "double-loop learning" [noted in Gamble and Blackwell:155], which entails that employees pose questions about what they currently are doing is right [Gamble and Blackwell:155]. Thereby enhancing and advancing the competence of the organization [Pemberton and Stonehouse1999:136].

There are to important question to pose, what is actually learning? And why is it needed? Learning refers to the acquisition of skills and knowledge and it takes place both at individual and organizational level [Pemberton and Stonehouse1999:135]. Individual learning constitutes of an eagerness to learn, problem-solving, risk taking and challenging existing understanding and practices by posing questions and participate in discussions. Herein lies what Pemberton and Stonehouse states: "the individual learning process is accelerated and enhanced by the sharing of information and knowledge." During the discussions and sharing of knowledge, the individuals involved are continuous evaluated regarding their ideas and current understanding, which is essential before the discussed themes are transformed into organizational knowledge. In this process it evolves an adaptation of existing knowledge and creation of new knowledge.

An important aspect related to this is the role the organization plays, by providing a context with its culture, structure and infrastructure which stimulates the learning of individuals and groups. [Pemberton and Stonehouse1999:136] The culture should enable learning by having a philosophy in the organization that fosters learning, and factors such as openness, trust and motivation. The structure and infrastructure should enable cross-functional teams and projects to emerge, a flat hierarchy that fosters a knowledge culture and a technology that facilitate knowledge sharing.
Thus, learning requires a learning environment where the employees have time to reflect and pose questions in order to improve their skills [Bhatt, D].
Organizational knowledge is more centred on formalised storage, sharing, transfer and co-ordination of its knowledge base through knowledge management systems [Pemberton and Stonehouse1999:136]. Organizational knowledge (documents) account for only a fraction of an organization's knowledge base [Ash].

3.10 Knowledge creation and sharing

Transforming data to information to knowledge is a process called knowledge creation [Smith:312], hence "knowledge can not be imported, it can only be produced" [Vicari And Troilo:68].

The effectiveness of knowledge-driven work is directly related to the creation of new knowledge and the sharing of existing knowledge through the interaction between tacit and explicit knowledge [Riege:21].

Knowledge creation and development, according to Nonaka et al., takes place through conversions between tacit and explicit knowledge [Nonaka, ReinMoeller, Senoo:90]. It is important to note that conversions does not take place within individuals but between them [Beijerse:100].
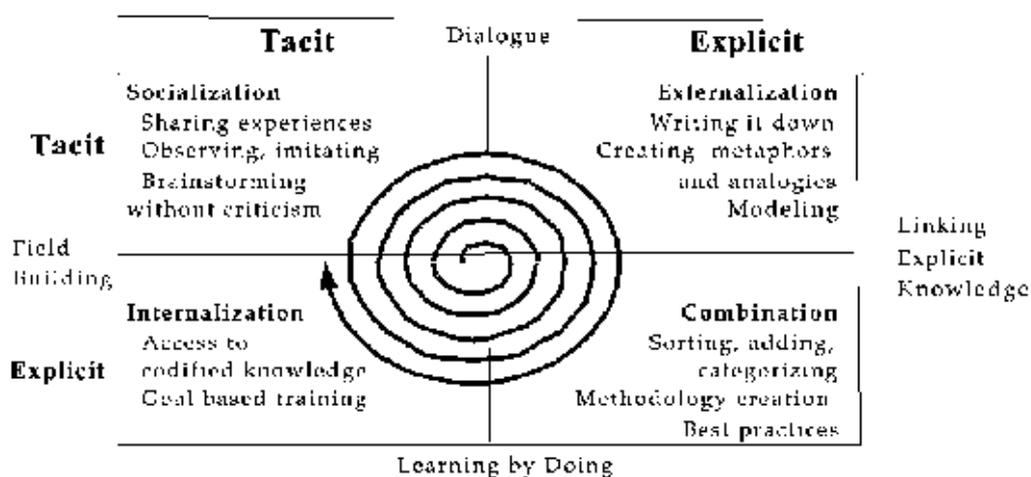

Figure 5: Nonaka's spiral of knowledge, the SECI model [Hildreth and Kimble].

The SECI model illustrates four modes of conversions called socialization, externalization, combination and internalization where explicit and tacit knowledge interacts with each other through these stages of conversions. The first step, socialization (tacit to tacit) transfers tacit knowledge such as skills and experience between individuals through observation, imitations and practice. Examples of situations are on-the-job-training, trial-and-error-policy, brainstorm sessions, and master-fellow-relationships. Hence, sharing tacit knowledge is important in order to gain an understanding how other think and feel, also this is where an apprentice learns the master's skills. This stage is crucial since most of what individuals know is embodied and tacit knowledge. In the next step, externalization (tacit to explicit) is triggered by a dialogue or collective reflection in order to convert tacit knowledge to explicit knowledge. It requires articulation of tacit knowledge with the help of concepts, terms, narratives and metaphors to translate this knowledge into documents and procedures. This process structures and formalizes the tacit knowledge and prepares it for being communicated on a broader scale. An example of this situation is in a design process as the result of discussions and collective considerations are being shaped into a document. The combination stage (explicit to explicit) happens

when people restructure explicit knowledge into new explicit knowledge through systemizing, sorting, editing, analyzing already existing information. These situations are heavily dependent on the use of information systems. The final step, internalization (explicit to tacit) is the process where explicit knowledge is converted to tacit knowledge of the individuals, which is known as learning-by-doing and documented knowledge play a helpful role in this process. Tacit knowledge does not become part of an individual's knowledge base until it is articulated and internalized [Nonaka, Reinmoeller, Senoo:90][Nonaka:28][von Krogh, Nonaka, and Nishiguchi:16][Beijerse:100]

Eventually, the four modes of conversion between tacit and explicit knowledge result in a "knowledge spiral". In a knowledge-creating company all of these patterns are represented, and which constitute the essence to knowledge creation [Nonaka:29].

There is an indisputable agreement in the literature that knowledge increases its value as it is shared and disseminated in the organization [Davenport and Prusak] [Tiwana]. According to Senge [noted in Providersedge], "Sharing knowledge is not about giving people something, or getting something from them. That is only valid for information sharing. Sharing knowledge occurs when people are genuinely interested in helping one another develop new capacities for action; it is about creating learning processes."

Despite the growing awareness among companies related to the benefits of knowledge sharing, the accessibility of knowledge is limited as most of this is tacit knowledge and resides in the head of the employees. Therefore, sharing tacit knowledge among individuals becomes an important step for the creation of knowledge in the organization [Riege:19]. According to Lang, "effective creation of new knowledge, especially tacit knowledge, hinges on strong relationships among organizations members" [Lang:49]. Tacit knowledge can not be captured explicitly, but its sharing can be encouraged and facilitated [Bollinger and Smith:16].

Riege make reference to McDermott's work, who presented a good explanation of the essence of sharing knowledge; "sharing someone's knowledge involves a person guiding someone else through their thinking or using their insights to help others see their own situation better." Furthermore, the person who shares the knowledge should be aware of the knowledge purpose, use, needs or gaps of the person that receives the knowledge. Also, this means that not every employee has to share knowledge at all time, because the knowledge might not be appropriate for the receiver and would not be re-used or applied [Riege:19].

For knowledge sharing and collaboration to reach the desired level, the organization needs to communicate to its employees how the generation and sharing of knowledge is valued and support it by recognitions [Riege:21].

The sharing of knowledge is dependent on the employees' ability and skills to express and communicate their knowledge both verbal and written. Tacit knowledge is by definition incommunicable whereas explicit can be communicated through written documents. Sharing tacit knowledge (e.g. know-how, experience, intuition) requires to be taught through a process of observation, imitation, dialogue and hands-on-learning [Riege:24-25] [Grant and Baden-Fuller:122]. Thus, this enables the tacit knowledge to be "communicable" and shared.

Another important aspect related to sharing knowledge is that the knowledge must be understandable to the source and the recipient, thus specialized knowledge need to be expressed in terms of "common knowledge". [Grant and Baden-Fuller:123]. Accordingly, Leonard and Straus argues that "a message sent is not a message received", because people respond differently and have distinct preferences in their approaches to problem-solving. Therefore, the sender would be better understood if he/she tailored the communication to the receiver by giving an explanation that appeals to the thinking of the listener [Leonard and Straus:119]. Herein lies the fact that human personalities have introvert or extrovert characteristics that affect the way people think and act [Leonard and Straus:131]. McDermott [knowing is a human act-art:4] emphasize the importance of "thinking about the present" when sharing knowledge. As people share knowledge the sender must guide the receiver through his/hers thinking and insight. The sender needs to retrieve knowledge about the receiver in advance to decide whether the receiver is a novice or an expert, due to their different approach in problem-solving. Whereas the novice frequently solve problems by following step-by-step procedures, the expert typically develop a theory of potential causes based on their experience and subsequently tests if this theory is correct. Therefore, sharing knowledge is "an act of knowing" who will use it and for what purposes [McDermott:4]. Furthermore, experts may not be aware of the knowledge they possesses and they may characterize it as a hard task to communicate their expertise to their co-workers. People in the teaching and coaching business are better and more qualified to make their knowledge explicit and also share their knowledge both explicit and tacit. Compared to a coach who focuses on the essence of a process in order to share this, an expert would likely skip over the parts of the process that he/she self consider unimportant and exaggerate others. Hence, experts are influenced of their own passion and interests in a specific field, which may color and even obscure what is considered important to best share their knowledge [Gamble and Blackwell:64]

Davenport and Prusak present three conditions in which facilitate individuals' sharing knowledge; reputation, reciprocity and altruism.
The reputation as a knowledge-sharing person enhances the ability to achieve reciprocity in relation to co-workers. This means that if one is willing to spend time and resources to share knowledge with others, the others will very often return this gesture. The result is that the knowledge sharer will

benefit as they are likely to receive valuable knowledge in return, following that knowledge-sharing is mainly based on knowledge contributions [Davenport and Prusak:32].

The motivation beyond knowledge sharers may be generated in part by their particular fascination for a subject, and as Davenport and Prusak says; "to some degree of altruism, whether 'for the good of the firm' or based on natural impulse to help each other." Thus, altruism means that people are eager to talk about their favorite subject as much of self-gratification as wanting to communicate knowledge. Organization can not create this impulse but on the other hand, they can encourage altruism by giving time for experienced employees to pass on valuable knowledge and formally recognize mentoring relationship. Knowledge altruism is ubiquitous in organizations that hire nice people and treat them good [Davenport and Prusak:33].

However, an inevitable condition connected to knowledge-sharing is the word trust. There need to exist trust among the knowledge-sharers, which entail; the trust in people for not misusing the shared knowledge, or trust that knowledge is accurate and credible due to the information source [Riege:25]. The level of trust is evidently higher among people in informal networks, as they share knowledge and collaborate more actively and willingly. This level of trust also has a direct influence on the communication flow and thus the amount of knowledge shared in the organization. Furthermore, the activities connected to sharing cannot be supervised or forced on to people [Riege:25]. According to Davenport and Prusak, "mutual trust is the heart of knowledge exchange." [Davenport and Prusak:35] The reason is that people will likely withhold their knowledge with the lack of mutual trust, because people will feel skeptical and unsure about the intensions and behaviors of others [Wong:269].

An underlying premise for mutual trust to rise is the presence of care, thus to care for someone is to help the person to optimize task performance by sharing knowledge and to help the person learn and develop [Lang:53].

3.11 Culture

The analysis of the current cultural situation in the organization needs to be determined to assess if the surroundings are suitable for knowledge to develop and flow, because otherwise any attempt to KM likely to fail [Davenport and Prusak]. This is agreed upon by Burnett et al., who implies that all KM implementation projects must reflect the culture and operations of the organization within it is applied [Burnett, Illingworth and Webster:37]. Indeed, McDermott and O'Dell emphasise the importance of integrating knowledge sharing into existing values and the overall style of the organization, rather than changing the corporate culture to suit knowledge sharing [McDermott and O'Dell:84][Davenport and Prusak:93]. Corporate culture runs deep and even changing one profound assumption of an culture is a takes serious work [Clemmons Rumizen:167].

Understanding the importance of culture in relation to knowledge management is best illustrated by Clemmons Rumizen three circles and the size illustrates the importance (fig6):
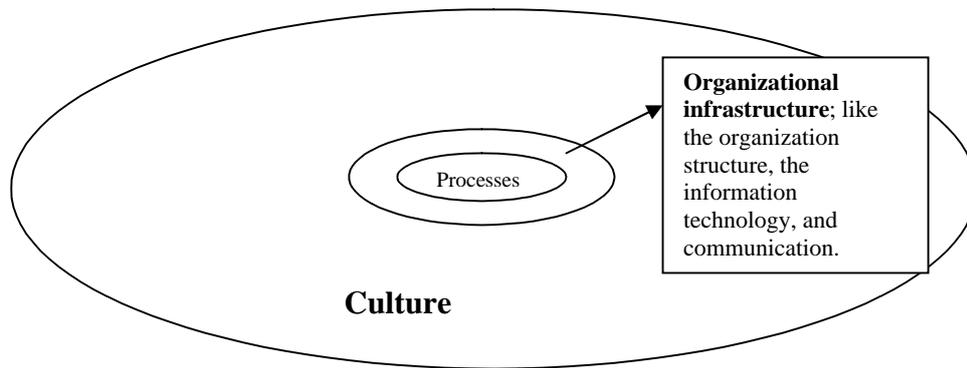
The most important factors related to culture according to the literature of knowledge management is: a clear vision, support from top management, awareness of knowledge management, trust, communication, and rewards [Sunassee and Dewry:241]. Hence, culture is a wide concept and it comprises of many facets [Wong:269].

3.11.1 What is a culture?

Culture is often denoted in the organization as "the way we do thing around here." [Riege:27] [Clemmons Rumizen:165]
Corporate culture refers to a set of behaviours and qualities that are valued. It develops over time from preferences and styles derived from influential members of the enterprise [Gamble and Blackwell:93].

Based upon Schein [1985], McDermott and O'Dell define culture as "the shared values, beliefs and practices of the people in the organization". In addition, these authors divide the culture in two layers which compass of a visible dimension and an invisible dimension. The visible dimension entails of the articulated mission and the espoused values of the organization [McDermott and O'Dell:78].
The espoused values are the official view of what the organization is supposed to believe, and it is reflected in the corporate vision statement, the overall mission and strategies, and written policies. Clemmons Rumizen call these "supposed-to-be's", because there often is divergence in what is written on the wall and the way things are actually done. This gap between the espoused values and what really drives the behaviour has a tendency to be larger in old companies as they seem to veer from their original beliefs [Clemmons Rumizen:165].
On the other hand, the invisible layer consists of a set of unspoken core values that affect the way people act and perceive each other. These values are the "seen but unspoken" values in the organization, and it appears in the way established employees act, speak and interpret the organization. Indeed they are so "taken-for-granted." [McDermott and O'Dell:78]

As a consequence of the two layers in the culture, the employees can act consistent with the underlying core values in the organization but inconsistent with the mission and the espoused values. Therefore, in an organization with a knowledge-sharing culture, people share knowledge as a natural part of their behaviour and working methods, rather than something they are forced to do. They assume that sharing knowledge is the right thing to do.

Although it seems like a specific culture permeates an organization, the culture is not homogenous. The core values may be deeply shared throughout the organization or it may vary according to different subcultures, and these subcultures are often tied to different business areas in the organization. [McDermott and O'Dell:77] De Long and Fahey [noted in Riege:27], concluded that "subcultures often lead members to define and value knowledge differently compared to other groups in the organization, which may result in miscommunication and conflict between groups or teams." The figure below illustrates the visible and invisible dimension of the culture.

Figure 7: McDermott and O'Dell 2001:77

The corporate culture also refers to its structure, stories and spaces. As notes by McDermott and O'Dell, "Multilayered hierarchies or flat structure say something about the core values that directed the organization's designers, and the expectations of its members." Also, the type of stories that circulate within the company can reveal important characteristics of the culture. Aspects of cultural assumptions are even shown in the building and the inside interior [McDermott and O'Dell:77], which is denoted as artefacts by Clemmons Rumizen [Clemmons Rumizen:164]. They are easy to spot, notwithstanding one often interpret the artefacts accordingly to the cultural assumptions owned by yourself.

Gamble and Blackwell presents four classes of corporate cultures based on the work of Goffee and Jones. The figure below illustrates the four cultures according to dimensions of sociability and solidarity. [Gamble and Blackwell:94-95]

High	**Networked** Family atmosphere, lots of joking and chatting but very political – much time spent on pursuing personal agendas.	**Communal** Typical of a fast growing, entrepreneurial start-up but also found in big companies. People identify closely with the company at work and play.
Low	**Fragmented** Not many social ties and hard to manage but often found in professional areas such as law, consultancy, business schools, or virtual enterprises.	**Mercenary** Focus on facts, a 'let's get on with the job' attitude and fast implementation of orders but members don't tend to be very loyal.

Figure 8: Two dimensions, four cultures.

The dimension of sociability shows the degree to which people are friendly and companiable with each other, and this is often constant over time. Whereas solidarity, refers to the extent people share common interests, and it does not have to be sustained by face-to-face relationship. As an example, Communities of Practice resides best at high sociability and high solidarity [Gamble and Blacwell:94].

Organizations reside on different stages in their lifecycle according to their time of existence, and according to Scein [noted in Clemmons Rumizen:171], on each stage the culture is entirely different. The stages are important to consider when analysing the corporate culture and as followed;

- *Start-ups* – the founders' value shape the culture.
- *Midlifes* – promoted managers create the culture, and not the founders.
- *Maturity (or old dinosaurs)* – a company becomes maladapted if it does not change over time. Mature companies must to a large degree submerge to massive cultural transformations to survive.
- *Merger/acquisition* – the stated aim is the combine the best of the merging companies, nevertheless the possible outcomes are separation, domination or blending.

The culture determines the degree of interaction used to accomplish work tasks in the organization both on a vertical and a horizontal level [Riege:27].

3.11.2 What should the culture promote?

Knowledge management is dependent on the presence of a 'knowledge-sharing' culture, also denoted 'knowledg culture'. According to McIrney [p1014], knowledge culture means "an organization that offers opportunities to create knowledge and one that encourages learning and the sharing of what is known."

A supportive environment is the most critical factor for the success of knowledge management projects [Davenport and Prusak], but there is often insufficient attention regarding creation of an environment where people share their knowledge through personal interaction [Skyrme]. Different actions can be pursued to create the proper environment with the required behaviour from the employees, such as understanding what motivates them, supporting them with personal development, and rewarding them appropriately [Skyrme].

Culture plays such an important role, that the majority of successfully knowledge management implementations in companies build their approach/strategy to fit their culture and not the opposite. As a consequence, depending on the organizations culture there can be a variety of possibilities for knowledge sharing to take place [McMcDermott and O'Dell:77].

The key components of a knowledge-sharing culture include [Nehl]:
- "Top leadership view knowledge as an strategic asset and provides incentives and support for KM processes;
- The organization focuses on the development and exploitation of its knowledge assets;
- Tools and process for managing knowledge are clearly defined;
- Knowledge creation, sharing and use are a natural part of organization's processes, not separate from normal work processes;
- Groups within the organization cooperate instead of compete;
- Knowledge is made accessible to everyone who can contribute to it or use it;
- Rewards and performance evaluations recognize contribution to and the use of the organization's knowledge base;
- Communication channels and a common technology infrastructure enable and enhance knowledge management activities;"

McDermott and O'Dell revealed in their study that the core values in the organization to a large degree impact the sharing of knowledge [McDermott and O'Dell:78]. One of the keys to create a knowledge-sharing culture is to build upon one of the underlying core values, for the very reason that these are embodied in what employees consider as important. However, finding this core value may be a hard

task. It does not have to be directly about sharing knowledge, but one need to choose a value that people genuinely believe in [McDermott and O'Dell:82]. It is important that it's not picked out of the "espoused values" of the organization [McDermott and O'Dell:85].

In addition they proposed three ways to make knowledge sharing an important factor in the company;

- Make sharing knowledge directly part of the business strategy.
- Piggyback sharing knowledge on to another key business initiative (e.g. to avoid reinventing the wheel).
- Share knowledge routinely as "the way we work"

The latter factor is identical to what Collison and Parcell describes as "unconscious competence", thus the people in the organization instinctively share knowledge without treating it like an extra task [Collison and Parcell:26]. Reaching the level of "unconscious competence" requires the accomplishment of three preceding levels; unconscious incompetence, conscious incompetence and conscious competence.
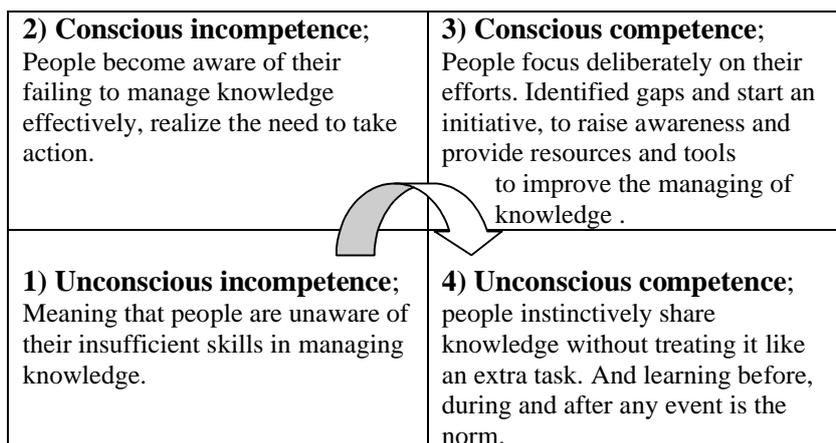
2) Conscious incompetence; People become aware of their failing to manage knowledge effectively, realize the need to take action.	**3) Conscious competence**; People focus deliberately on their efforts. Identified gaps and start an initiative, to raise awareness and provide resources and tools to improve the managing of knowledge .
1) Unconscious incompetence; Meaning that people are unaware of their insufficient skills in managing knowledge.	**4) Unconscious competence**; people instinctively share knowledge without treating it like an extra task. And learning before, during and after any event is the norm.

Figure 9: To achieve unconscious competence [Collison and Parcell:26]

The culture needs to exude trust, honesty, respect and integrity, because these factors are leading in the way employees feel comfortable sharing their knowledge. Bollinger and Smith denote that "integrity is the unity or totality of thoughts and actions that is reflected in honesty and adherence to an authentic code of values." [Bollinger and Smith:15]

The value of trust is associated with the recognition of co-workers and that affects how much confidence is put in communication. A high level of trust enables communication and knowledge is exchanged without to much concern [Gamble and Blackwell:195]. If there is a lack of trust within the company among personnel, knowledge will be hoarded [Robins].

Another cultural aspect which is important for KM is empowerment, which means that one foster an innovative culture where people are free to explore new possibilities, encouraged to generate new ideas and knowledge, permitted to query existing practice and take actions [Wong:269]. According to Pemberton and Stonehouse, the empowerment of the individuals is in fact crucial as it "encourages experimentation with new approaches to business and the development of knowledge skills" [Pemberton and Stonehouse1999:137]. Empowerment is a key step to become a learning organization that can succeed in the world of rapid change [Daft:506].

Equally important aspect is openness, whereby reasonable mistakes and failures are not only tolerated but allowed and forgiven. In this respect, making mistakes is known as learning and should be regarded as an investment process [Wong:269]. Further, a supportive culture should promote communication and dialogue and embrace teamwork [Lopez et al.:96]

All of these factors will be reflected in the culture and their presence is vital for a culture to be positive and supportive, where knowledge creation, innovation, cooperation, and teamwork will thrive [Bollinger and Smith:15]. In such supportive environments there is a mutual intent to share knowledge with colleagues and make each other better [Lang:53].

Szulanski [noted in Riege:25] argued that one of the most typical barriers to sharing knowledge was the phenomenon "ignorance in both ends". This entails that some employees experience a level uncertainty regarding the value of their possessed knowledge to others.

According to Sancez (2004) [noted in Walczak:332] "organizational culture is formed and reinforced through the interrelated elements of strategy, structure, people, and process." This can be clarified by understanding that people work within the organizational structure that subsequently supports organizational processes to accomplish the overall business strategy. An implication of this is an interrelation between the organizational structure and the corporate culture [Walczak:332]. Hence, in the following section, the organizational structure will be elaborated.

3.12 Organizational aspects

3.12.1 What are organizational infrastructure and processes?

According to Clemmons Rumizen the organizational infrastructure constitute of the structure of the organization, the information technology, the communication structure, training and so on [Clemmons Rumizen:168].

Daft presents a definition of organizational structure that encompass of three component as follows [Daft:86];

- "Organization structure designates formal reporting relationships, including the number of levels in the hierarchy and the span of control of managers and supervisors."
- "Organization structure identifies the grouping together of individuals into departments and of departments into the total organization."
- "Organization structure includes the design of systems to ensure effective communication, coordination, and integration of effort across departments."

It is noticeable that the literature uses the words organizational infrastructure and organizational structure about the same things.

Another definition given by NELH denotes that organizational infrastructure entails of different types and layers of structure. The physical structure relates to the geographical location of the organization and the way the organization is divided into departments and functions. Another structure denotes both the hierarchical aspect related to the number of management levels and the relationship among the employees, in which the relationship can be either competitive or collaborative. Also, the allocation of resources such as finances, technology, equipment etc. provides yet an organizational structure.

In addition, the structure contains of processes and procedures on "how people go about their jobs", and for example are there "time to seek and share knowledge and to reflect on it or are the employees under constant pressure? Are there set processes and procedures in place to do particular jobs? Or is there scope for creativity and initiative?" [NEHL]

To investigate in the organizations knowledge management activities, even though they do not label these activities with KM concepts, is about performing a so-called knowledge inventory [Skyrme]. According to Egbu et al.[p14], the lack of time, lack of commitment and unwillingness to share is regarded as typical barriers to KM in SMEs.

These various structures play a vital role on how knowledge is created, shared and used in the organization.[NELH] Thus, the organizational structure depends on different factors in order to support a knowledge sharing culture and knowledge management [Riege:31].

Specifically, according to Gold *et al.* [noted in Walczak:331] "the organizational structure is of importance, because it need to be flexible in order to encourage and enable knowledge-sharing and collaboration across traditional organizational boundaries to promote knowledge creation." Therefore, organizational structure should be designed to support both vertical and horizontal information flow, and if the structure does not fit the requirements, people will either have too little information, or useless information regarding the certain task they are performing [Daft:87].

3.12.2 Enablers and barriers

Processes and structure that initially were successfully implemented in the organization to serve certain purposes, may become insufficient and obsolete as the organization evolve and grow with time [Riege:26]. This reflects that an organization is constantly under pressure from external factors which leads to changes in the organizational structure. Thus, as the organizations grow the number of employees will increase, and this affects and even poses a threat to the sharing of knowledge. A highly hierarchical organization is not considered as the best starting point for knowledge sharing, due to the fact that the communication flow often corresponds to top-down. In a flat structure, on the contrary, the communication flow is to a large degree centered around small functional areas, business units or project teams in which enhance knowledge sharing [Riege:27]. According to Riege, the structure ought to be flat, open and flexible to facilitate and support knowledge flows, processes and resources that provide the proper structure for knowledge sharing and learning culture [Riege:31]. Thus, flatter organizational structures are more appropriate for knowledge management [Pemberton and Stonehouse1999:138]

Vertical information links are used to coordinate information flow between top and bottom of an organization, and examples of these are rules, plans and formal information management systems [Daft:88]. Whereas, horizontal information linkages refers to communication and coordination horizontally, such mechanisms as face-to-face communication, task forces, teams and information systems are examples of this [Daft:89].

Company floor and work space can be separated in a way that complicate knowledge sharing activities, and traditionally employees are arranged along hierarchies rather than focusing on who needs to cooperate regularly and identify who benefits most from the knowledge sharing [Riege:28]. Another sharing obstacle related to the organizational structure take place when employees are scattered in different geographical locations, thus the communication and the creation of trust-based relationship becomes more difficult and harder without the ability to face-to-face contact [Riege:29].

Another important aspect in order to achieve the appropriate organizational infrastructure regarding KM, is to establish a set of roles and skills to capture, distribute and use knowledge. [Davenport and Prusak: 107]. Davenport and Prusak present different levels of roles regarding knowledge management, where the first one emphasise the need for employees to be knowledge-oriented, as "managing knowledge should be everybody's business. This requires concerted efforts from the organization to cultivate knowledge-oriented activities of their employees, which may result in a staff who are knowledge creators, sharers and users. The next levels constitute knowledge project managers and the senior knowledge executive (CKO), with increasing responsibility to perform knowledge related tasks and to coordinate, manage and set the course for knowledge management [Wong:271] [Davenport and Prusak:122]. We evidently find all the different layers of roles established in larger companies, whereas small-medium-enterprises need to take a smaller scale approach [Wong:271]. However, according to Davenport and Prusak, one of the reasons why knowledge has been insufficiently managed is the lack of responsibility. Few employees have the time to embrace the corporate knowledge management responsibilities with their existing jobs. It is merely time for them to manage their own knowledge and share with others [Davenport and Prusak:122].

3.12.3 Technology – enablers and barriers

According to Gamble and Blackwell [p70], the importance regarding the technology that supports knowledge management is "not what it can do but the way it is used." The technology acts as an enabler for storing knowledge and for disseminating it and facilitating communication between the employees [p74]. Thus, it is a medium where explicit knowledge can be stored, retrieved and distributed , however, the technology related to knowledge management has a limited role [Tiwana:143][Egbu et al:10]. Josephine Lang argues that organizational knowledge repositories can at best capture information such as "pre-determined solutions to determinate sets of routine, linear, predictable problems described by pre-defined parameters [Lang:48]. Hence, technology tends to institutionalize "best practices", but in situations where the organization has to cope with rapid changing environments, the information in the databases cannot be left static. It is required to constantly re-examine and renew the basic premises underlying "best practices" [Lang:48]. During the codification process of knowledge into a database format, the knowledge looses context, human cognitive dimension and tacit knowledge. These factors are what mainly distinguish knowledge from information, and therefore it is impossible for databases to replace the knowledge within face-to-face communication [Skyrme]. Nevertheless, according to Skyrme there are some steps that can be taken to make a database more like a knowledge base. One solution is to add the proper amount of sufficient context to accompany this knowledge in the information repositories, for example; what factors are to be considered when using it, and adding reference/link to the contributor/expert? [Skyrme]. On the other hand, this context is very often tacit knowledge and hardly codified, because in one way or the

other, all representations are simplifications [Lang:49]. However, storing valuable experience in electronic form (documents, databases, web pages, knowledge-based systems) is an approach to enable the reuse of best practices and prevent mistakes and reinvention, and minimize the loss of company's expertise when staff decide to leave the firm [Egbu et al:10&11].

Knowledge Management isn't information management with a twist; it's much less about technology than it is about changing the way we work. It's not so much about the hardware and software as it is about the "wetware," the human resource. (skriv om!) [Ash (b)].
The very reason is that knowledge is not the same as information and as Josephine Lang [p50] presents; "knowledge, at rock bottom, resides within the knower and not some hardware or software, knowledge must flow among knowers." This brings us to further to understand the essence of the significant roles teamwork and informal networks have in a knowledge-sharing culture.

3.13 Teamwork

Teams play a central role in the knowledge-creating company because they provide an environment which enables and facilitates sharing and learning. They create a shared context where individuals can interact with each other and engage in the constant dialogue on which effective reflection depends. The dialogues often involve disagreements and considerable discussions, which pushes the individuals to question existing premises and thereby gain new perspectives. Thus, the individual integrates their own perspectives into a new collective perspective in the organization. [Nonaka:44][Sunasse and Sewry:242]

A team is composed by people with different skills and background, and they are usually formed by the management. The team has a common goal they are responsible to achieve through collaboration, and it is the common goal, business directives and joint accountability that tie them together. The fact that team members work closely over an extended period of time, makes them develop a common identity and their relationships improves the ability to create trust among them. The proper level of trust is essential in order to share ideas and solve problems together. This enables learning, as people feel safe enough to share their thinking, the reason behind their conclusions and reveal their questions so they can collectively reflect upon each others thinking and create new knowledge. The team disbands when it achieves its goal [Clemmons Rumizen:87] [McDermott (1998):2]. Teams have a charter and report to a higher authority: Even if they have no box on an organization chart, they have an agenda, a deadline, accountability, a membership list [Stewart].
Especially cross-functional teams are highly recommended by Sunassee and Dewry, as "these teams create knowledge flows between different departments and help to transfer tacit knowledge throughout

the organization." [Sunassee and Dewry:242] Another fundamental aspect to knowledge sharing is according to Dilip Bhatt, self regulating teams with team leaders that act as mentors [Bhatt, D.]

3.14 Informal networks

Informal networks constitute of a web of employees who knows each other, although not everyone is familiar with one another, there is an overall pattern of connections. People have built relationship over time, whereby they easily tend to respond each other due to the level of trust [Clemmons Rumizen:175]. Trust is; "an expectation of how someone else will behave. It may be grounded in experience or it may be granted immediately" [Clemmons Rumizen:176]. As a consequence of trust, strong relationships emerge and the members tend to feel obliged to share knowledge with each other. Further, the members of the give and receive appreciation within the informal network [McDermott and O'Dell:82].

People in informal networks ask one another about who knows what and subsequently guide the knowledge seeker to a person that might contribute with the wanted knowledge. Thus, these networks contain information about where knowledge sources actually reside in the organization [Davenport and Prusak] both as persons and as documents [Egbu et al.] and how to gain access to. The informal networks have a dynamic nature as people continually communicate and update with one another about, among others, who works on different projects and who has become new knowledge sources. In addition, as noted by Davenport and Prusak, "what sounds like workplace gossip is often a knowledge network updating itself." As opposed to this, formal systems as electronic repositories containing the employees' skills likely get out of date.

The above description, according to Egbu et al., refers to knowledge identification, and in small organizations this is mostly achieved through informal networks. A problem evolves as organizations starts to grow, because these networks are not able to be aware of the entire knowledge and the pressure on experts increase as they may be constantly called upon. A key solution is to capture the knowledge of the expertise to guide seekers to the appropriate documents and experts [Egbu et al.:10].

The informal network enables knowledge to flow in the organization. Nevertheless, the disadvantage related to these networks is because of their informality and that they are not documented. Employees will have varied access to the networks due to their connections to co-workers. Indeed, the viability will also depend on these connections and chance conversations, however recommendations from someone we knows and respect is often trustworthy. [Davenport and Prusak: 37-38]

These networks are able to communicate and collaborate effectively when they have sufficient amount of knowledge in common, and then the potential for generating new knowledge is large. The individuals bring to a situation their skills, tacit knowledge and a prior understanding of how things

are supposed to be, but subsequently during conversations and interactions within the network it evolves a shared understanding and shared mental models of the situation. This indicates that knowledge also is created and held collectively in the organization in teams, informal networks even denoted as "communities of practice" [Lang: 46]. Furthermore, once the sharing of tacit knowledge has become part of the corporate culture, the teams and informal networks have enabled the individual's tacit knowledge (recognized as highly personal knowledge) to become embedded in the shared understanding of the organization. In this respect, the organization will be less vulnerable if an employee decides to leave the firm [Ramanauskiene].

The presence of these informal networks is an indicator of the amount of social capital in the company, as social capital is defines as the sum of connections between people. All of the connections comprise of conditions which enable knowledge sharing, and it involves trust, understanding and willingness to collaborate [Clemmons Rumizen: 176].

A strong advice from McDermott and O'Dell is to use the already existing human networks as the basis for knowledge sharing and build upon the energy they have and enhance them by legitimization, enable them with tools, resources, and not insist on or start new structures for knowledge sharing [McDermott and O'Dell:85].

4   The case study of mnemonic

The literature overview constitutes the foundation and background for conducting a case study of mnemonic. Taking established theory and former empirical studies into consideration, the next section gives an elaboration of mnemonic related to knowledge, management style, knowledge-sharing culture, and organizational infrastructure. When debating obstructions found in mnemonic, possible solutions will be presented.

4.1   Presentation of the organization

Mnemonic was established in the year 2000, and today, mnemonic is regarded as the leading company in the market of surveillance services in Scandinavia. In the company there are approximately 60 employees.

The business' field of action encompasses the following services:

- IT security services

- Security solutions

- Operation of IT security solutions

- Support, response and maintenance

The IT market is constantly changing due to new development in technical products, and this put a great emphasise of mnemonic to continually deal with the changing environment and be innovative in order to have a competitive edge. This implies the need for learning in order to be updated as there are constantly new releases in the technological market. Also, there is a need to share knowledge with each other in order to reduce inefficiency by preventing re-invention in work. Because mnemonic has increased the company work force by 30% since the establishment in 2000, the importance of avoiding re-inventing the wheel has become an important aspect. Another factor is that mnemonic wants to prevent knowledge loss if anyone leaves the firm, due to the fact that the majority of the knowledge is tacit knowledge. This knowledge resides in the minds of people, in which constitute a major threat to organizations due to personnel turnover, downsizing and outsourcing. In order to prevent the loss of critical knowledge it is vital to capture this knowledge, especially key decisions which is based on experience and informally shared knowledge [Tiwana:36,45][Egbu et al:10]. An approach deal with these aspects through knowledge management.

In every company there are vast amount of knowledge, and it would be impossible to even include a fraction of it in this thesis. The level of details are not emphasised, thus the knowledge that is important is only described in the general terms. The knowledge that is most crucial in mnemonic constitute of knowledge about the products and services within the area of IT-security. If mnemonic do not have this knowledge, then they are unable to deliver their solutions and products to their

customer. In addition, knowledge about the customers is important but not to the large extent as of product and services. The latter is the knowledge about the market and the competitors.

In the following sections, more details about the company will be presented.

4.1.1 Management style

About management style, "organizations that attempt to introduce a knowledge management initiative without having a managerial support structure will experience that the KM investments does not produce any of the perceived benefits" [Walczak:331]. Thus, the management style has to operate stimulating and motivating with a strong focus on knowledge sharing [Beijerse:105].

The management has to give acceptance for diverse meanings and recognition to tacit knowledge and related human aspects such as ideals, values and emotions including [Lang:53]. As the management considers each persons opinion, the result will be a greater welfare for the employees and a greater willingness for accepting decisions and change when they have the possibility to have an impact on them [Sunassee and Dewry:242]. It is important that the leadership de-emphasize the adherence to "the way things are done here", in order to give the employees the freedom to present different perspectives on prevailing practices. Also, endorse that employees can explore new ideas and creative thinking without being exposed to unfair criticism afterwards. This gives a better possibility to effectively align to the changing external environment [Lang:53].

The mnemonic management style is reflected in a flat company structure, and employees are asked and encouraged to participate in discussions and contribute to decision-taking. In fact, during the first years, the larger decisions were taken in plenum once a week. The leadership recognizes the vast amount of competence and knowledge that resides within their work force, and in order to utilize this in the best manner the leadership is humble. In that way, the management takes the employees suggestions and creative ideas into consideration when decisions are taken. The employees might not approve the decision, yet they are likely to accept it because they were part of the decision-making process and therefore gained an understanding of the underlying reasons of the actual outcome. The leadership's focus on including the employees is also visible in the ownership structure.
The ownership structure in mnemonic is divided between internal and external investors, in which 85% of the company is owned by the employees themselves. The three founders of the firm, regarded here as internal investors, have kept 50% themselves. This implies a strong involvement from employees as they have the opportunity to become co-owners with the right to participate in general meetings where strategies are formed. In this respect, the employees' ability to have an impact on decisions and strategies fosters a strong engagement among the employees in order to make the

business succeed. The result is a company permeated with honesty and no hidden agendas due to the fact that employees are enabled and encouraged to participate.

A hobby horse presented by one of the founders was; "There shall not exist an "us" or "they" inside mnemonic, it is only us." The meaning of this is that one wants to prevent segregation between groups of employees that may use the words "us" and "they" between each other. This is a threat to the community within the company and leads to negative competition, where one group may picture itself as better or inferior. Further, the notion "it is only us" emphasise the importance of employees being and operating as one unit in the company. This has become a common belief inside mnemonic. There is great emphasise on both making the employees feel comfortable, and creating an environment were co-workers of mnemonic feel like a part of a family. The result is virtually no personnel turnover.
In addition, the leadership has established a bonus scheme for the employees, which constitutes a certain percentage according to the company's profit each year. Thus, the employees receive equal bonuses independent of their possessions or experiences, and accordingly this nurtures the sense of community and reflects the flat organizational structure.

Mnemonic's business goal and vision was created during the establishment phase in 2000.
The business goal was to become the leading IT-security company in Norway. Today mnemonic has to a large extent reached this goal by providing the most comprehensive and complete solutions within the area of IT security. The vision, on the other hand, as becoming the leading company in Scandinavia, is still something mnemonic is striving for and makes every endeavour to achieve. mnemonic is run in compliance with both short-term and long-term goals, and the primary is often limited to one year. The best arena for presenting short-term goals is in conjunction with events like Kick-off, which is a weekend arrangement. It consists of presentations and workshops related to the business as well as social activities. For example, last year the goal was set to achieve an immense increase in the number of sales regarding services and today that is obtained.

The management is conscient about the importance of knowledge, since the company is founded upon it. The fact that mnemonic is assumed to grow with a 20-30% rate the next coming years, makes the need for knowledge sharing among the employees essential to prevent re-invention of the wheel. To manage knowledge properly is not viewed upon as a short-term goal by the management, but rather as an ongoing process with the purpose to incorporate it as a condition throughout the company. In addition, the way the different departments manage knowledge is very diverse, therefore the management wants to have a joint system where employees share documents on for example work processes that is beneficial to share with others and guidelines on how to write a report. The latter signifies a wish for standardization, because the management don't want the customers to witness differences if a report is written by different departments within mnemonic.

According to Beijerse [p105], the management style is closely related to culture, as the management behaviour and activities is reflected in the corporate culture. In order to create a knowledge sharing culture the management in mnemonic has a good starting point as they show openness, trust in employees, active listening related to discussions, act upon good suggestions from employees and they share knowledge about the future plans. In this respect, the management in mnemonic "lead by example" in sharing knowledge, which is one approach that will contribute to a knowledge sharing culture [NELH]. The reason is that employees rather cope with changes when the management themselves clearly exhibit the wanted behaviour, instead of a management that just give orders regarding change in behaviour [NEHL].

A supportive top management to a knowledge sharing culture focuses on actions to create a culture that supports innovation, learning and knowledge sharing. According to Senge, this requires a leadership that is "designers, teachers and stewards" [noted in Pemberton and Stonehouse1999:137]. There are especially three aspects the leadership has to concentrate on in order to achieve a "knowledge culture", and that is; "preparing the organization, managing knowledge assets, and leveraging knowledge for competitive advantage." The first may involve a change-making in how people work and interact [Walczak:331], and this change can be nurtured by the action "lead by example" as mentioned above.

The management in mnemonic lacks a clear overall strategy on how to"manage knowledge assets" and "leverage it for competitive advantage", which is reflected in the way the different departments have evolved their own style of dealing with knowledge. mnemonic is a young and comparatively small company and does not have a very rigid structure where knowledge management practices have been necessary.

The lack of strategy in mnemonic is a result of not having incorporated knowledge management into the vision. Even though one of the founders stated that "within mnemonic's vision lies a lot – the company is built upon knowledge, knowledge and good people", however the knowledge aspect is not visible enough in the vision statement. According to Sunassee and Sewry [p239], an important aspect of the vision is a working definition of knowledge and knowledge management in the organization. The result is that employees will better understand what they are being asked to contribute to the knowledge management effort, and subsequently help bring about the knowledge sharing in the organization. Thus, the vision should include a long-term strategy that will drive the knowledge management initiative forward, and provide a scope within which the knowledge management effort [Sunassee and Sewry]. The absence of not having a vision of knowledge management development in an SME, is according to Egbu et al. [p9], because of that the owners/partners focus on tangible cash flow and do not have "knowledge management identification, capture, mapping, dissemination, and

knowledge creation processes well-thought through in daily basis." In mnemonic such a vision would create awareness due to a proper managing of knowledge.

Another task a supportive management should focus on is the promotion of an environment were the employees can build trust among each other and create a knowledge sharing culture [Lang:53]. Despite the fact that mutual trust cannot suddenly appear, a significant enabler is helping and encouraging individuals to develop relationships [NELH]. Thus, a strategy to encourage the development of teams to solve problems in collaboration [Robins -link]. According to Robins, "the department should not be made of individuals with their own respective goals. Instead, it should be made of individuals who can form a team to get tasks done."

Although it is hard to measure the level of trust in an organization, it is apparent that in mnemonic factors such as openness, flat structure, and social events etc. builds and foster trust. As mentioned in section (Knowledge sharing and creation), the level of trust is higher among employees in informal networks which increases the communication flow and knowledge sharing. Therefore, it is crucial to built upon these and enhance the networks that already exists (see section Informal Networks). According to NELH [ref]; "while early practitioners of knowledge management focused on technology, the current view is that the greatest value can be realized by building relationship and connecting people with people, using tools such as communities of practice, peer assist, learning events, coaching and mentoring, and others."

4.1.2 The corporate culture

In section (3.12), corporate culture is denoted as "the way we do things around here."
Sharing knowledge is something that happens in mnemonic on a daily basis, yet aiming for a knowledge-sharing culture in compliance with knowledge management frameworks and guidelines have revealed some short-comings regarding how effective the sharing of knowledge in mnemonic actually is. The best way to illuminate this is by describing some example on how the employees in mnemonic pursuit and perform knowledge sharing at work.

In relation to newly employed:
In mnemonic, there has been established pairing to secure a safe and effective training period for the new employees. The pairing arranges for the newly employed person to be followed up, given advices, taught and guided by an experienced employee in the department. In advance the group leader and team leader map the training requirements, which form the on-the-job training/training program.
In addition to planned training, a lot of unstructured training takes place. The latter implies that the newly employed is accompanied by an experienced person during different work tasks. The newly employed has to perform the tasks themselves under guidance of the experienced person, in fact this is

highly stressed. The reason is based on the widely held perception regarding the insufficiency in learning by observation rather than performing.

The extent to which the employees are working at the client's site varies, and in some of the departments they have focused on involving the new employees in an early stage to participate on projects outside the house. To include this in the training program has been a deliberate choice, with the motive to enhance and accelerate the learning process. To accompany other employees in order to observe and imitate is according to Nonaka's spiral of knowledge, the process of knowledge socialization. This enables the sharing of tacit knowledge (section knowledge creation and sharing). Despite of training due to the pairing and under guidance of other experienced employees, the new employee accomplishes a lot of the practical learning through individual trying and failing. This is so-called "learning-by-doing", and according to Nonaka' spiral of knowledge this is the internalization process. Thus, explicit knowledge in form of information in documents is transferred to tacit knowledge by the individual. (section Knowledge creation and sharing).

However, the new employees define the training program to a large degree as ad hoc, and the underlying reason for this utterance relates to different factors in which only few of them are illuminated in this thesis. According to McAdam and Reid (section 3.5), knowledge management are often ad hoc in SME. The reasons reflect some obstacles to effective knowledge sharing. Hence, *what kind of factors do the new employees regard as obstacles in the training?* The new employees often feel they end up reading documentation in order to get acquainted with internal systems and read technical literature, but often without a specific goal. Regarding the documentation, there is a lack of documented methodology, e.g. how to perform a web revision. In this case people have to go over old reports to seek information, but the information does not contain contextual information, e.g. what kind of tools were used to perform the web revision.

The new employees are dependent on training, and dependent on joining experienced personnel. The hitch is that experienced personnel often work on projects outside the house, and that some new employees work shifts, which means that they often work alone.

They are encouraged to contact others in order to learn from them, but they find it hard to raise questions or seek for information when they do not know what to ask about. Thus, they argue that it would be far more interesting to be delegated a specific task, and in connection with that task read specified documentation and ask others for help. An important aspect related to this is that the new employee should be provided with close continuous observation when performing the task. The new employees also point out the need to work more in pairs, and make sure there are better overlaps on tasks between experienced personnel and new employed.

It is possible that experienced employees have too much ownership in their daily tasks, and instead of entrust a newcomer with a task, they rather perform it themselves This action, doing the task him/herself, may be an unconscious act from the experienced person. Reasons such as lack of time

(section Organizational aspects), lack of trust (section knowledge creation and sharing), and the new employee is not part of the informal network yet (section Informal networks). Furthermore, because the overlapping is insufficient, the new employees feel they are 'thrown into the deep end" far too often.

In fact, it is evident that people do not exploit the benefits of more effective knowledge sharing between experienced persons and new employees. The bottleneck is to a large degree caused by the fact that people are not focused on sharing knowledge. The consequence is lack of sharing tacit knowledge during face-to-face interaction.

<u>In relation to daily work:</u>

In mnemonic there are great differences as to the extent people take initiative to share their knowledge with others, one factor mentioned above was the lack of focus on knowledge sharing, thus lack of awareness of the benefits of sharing. Another factor is the employees personality, as some people are more reticent and shy than others, which implies that these employees participate less in the communication flow that take place in relation to teams/projects, informal networks, and in open spaces (at lunch). In addition, it appears that the level of competence occasionally has an impact on the knowledge sharing, because experts are to some degree too concentrated and preoccupied with their knowledge area and tasks in hand. There are no signs of employees' trying to secure their own knowledge area, which would lead to knowledge hoarding. There is, on the contrary, evident that people willingly help each other and share their knowledge when colleagues ask for help. This has a strong relation to the aspect of competition versus collaboration within the company, and the willingness to share is a direct cause of the absence of competition among the employees in mnemonic. The employees do not denote 'knowledge is power' [nelh], as the expression means that people see their knowledge as a way to protect their position and as a competitive advantage in order to be promoted. Thus the presence of 'knowledge is power' makes people reluctant to share. In relation to secure positions and gain promotions, this is evidently not the case in mnemonic and an example regarding the group-leader position illuminates this. Changes have been made as to who holds the position as group leader due to different reasons. Nevertheless the former group leaders have not left the firm but continued to work within its department and regarded as some of the best consultants. Also, the chief operating officer serve as an example to this behaviour, as he in the position of managing director choose to work periodically as a consultant. This emphasises the wish regarding a flat structure, and according to MacDermott and Dell (section culture) the structure say something about the core values in the company that directed the founders.

Nevertheless it should be mentioned that the absence of knowledge hoarding within mnemonic can be explained by the company's market leader position and not by KM strategies. As the company is

growing and exists within a growing business, the lack of curbing competition makes unpopular strategies or decisions unnecessary. Employees do not have to defend their right to keep their jobs and can therefore indulge in sharing their knowledge. If the company would have to sack people, this would instantly make the employees more reluctant to share the knowledge they possess, so as not to reduce their relative value to the company.

In mnemonic it appears to be a widely held consensus among the employees about the importance of collaboration and that collaboration across the department should be concentrated on. Employees rarely take initiative to work across the departments, but it seems that some employees are better than others to make the effort to establish collaboration across departments. The result of these collaborations has been immense fruitful, and the product has been outstanding and has generated a great amount of learning between the members of the project. According to Walczak, [ref:335] this fruitful result is not surprising, as co-workers will provide diverse backgrounds of tacit knowledge and during the team collaboration the different knowledge sources will enable the team to develop new views, behaviours and ideas. In this way knowledge is shared and new practises is learned from the co-workers. This relates to Nonaka's socialization process in which knowledge creation and development is enabled through the transfer of tacit knowledge (section Knowledge creation and sharing). When the project is accomplished, the co-workers will bring all of the tacit knowledge that they have acquired such as best practises or lesson learned from the project collaboration into other tasks and projects. The result is that the rotation of employees into new teams and projects serve to propagate important knowledge into new business areas. [Walczak:335] Knowledge sharing amongst individuals creates new knowledge, because in the sharing process knowledge is questioned, modified and improved. Therefore knowledge sharing is vital in the creation of new knowledge, as well as in the dissemination of knowledge in the organization [Pemberton and stonehouse:188&192]. Herein lies the basis for posing an interesting question, *why do not employees in mnemonic collaborate more often?* We already know that the people in mnemonic do not take enough initiative themselves, but accepting this as the only answer would cover some important underlying aspects. In relation to enable a knowledge sharing culture, aspects such as trust, openness and time is crucial to foster sharing knowledge between the employees (section Culture). The level of trust is dependent on the presence of informal networks, in which people built strong relationships and fosters knowledge identification, "who knows what" (section Informal networks). According to Egbu et al, as companies starts to grow the informal networks do not have the capacity to have a total overview of the company's knowledge. (section Innformal networks). mnemonic has witnessed a growth in its work force at a 30 % rate each year, which means that departments have been established and the informal networks have changed dramatically as new employees have entered the firm. Today, the extent to which people are aware of who knows what in mnemonic varies. In each department the employees appear to possess satisfactorily amount of knowledge about the skills of their co-workers. However, new employed are

in the beginning scarce on this knowledge, but as soon as they get incorporated into projects and informal networks this knowledge evolves gradually.

Between the departments, the employees with a long time of service, seem to have gained knowledge about peoples' knowledge areas across departments, or they know whom to ask in order to find the person with the right knowledge. This is important because each department has the expertise another department is reliant upon. Group leaders seem to have different approaches regarding an overview of competence to the employees in their department. Whereas some have made a document on this, others keep this overview in their head. The consequences of the latter is that the employees often contact the group leader to find out who knows who, and in situations when an group leader chooses to change position and work as an consultant he carries the overview of "who knows what" with him. The result is that the new group leader must create a new overview and evidently a lot of the knowledge the former group leader had is not fully utilized. However, the competence matrix (a map over the competence of each employee), includes a map over the competence in the company. It appears that during daily work this matrix is not fully used, as people tend to use their informal networks and ask each other on "who knows what".

It appears that the large growth in mnemonic is part of the reason why people don't take the initiative to collaborate across departments. As new employees have entered mnemonic they have been gradually incorporated in the informal networks within his/her department, and because the new employee is not engaged in any cross-department teams or projects the knowledge about "who knows what" is dependent on the reading of the competence matrix. However, an employee will rarely take initiative to collaboration across departments based on a competence matrix, as collaboration and sharing knowledge is dependent on trust (section knowledge creation and sharing) and trust is dependent on and developed in informal networks. In order to develop interdepartmental trust, management plays an important role, as they have to enable an environment where employees can build trust (section Management style). Therefore, a strategy is needed to encourage and enable establishments of teams and projects in which employees can collaborate [Robins]. Today, the management has to a large degree entrusted the effort to tear down barriers between the departments to the group leaders, which make them "responsible" for knowledge sharing across departments.

The approach some group leaders have taken is conducting in-house workshops where employees from other departments are encouraged to attain. However, lack of time makes it hard for people to participate, and sometimes the content of the workshop are too directed to one specific knowledge area which makes it little usable or unprofitable for other departments.

An example reveals the inefficient utilization and sharing of knowledge across department, as follows; one of the departments in mnemonic is constituted by people with some of the highest competence in Norway and Europe on certain products, whereas another department spends time and effort to gain knowledge and writing a document about one of these products. The phenomenon of "re-inventing the

wheel" is in this case crystal clear, as there seem to be no interaction among the departments. An important question to pose is, *why does this situation emerge and why is the knowledge in the house not fully used*? The answer to this is among others related to the fact that employees work as consultants on projects at the customer's site, which means they are not easily to get hold of and collaborate with. Technology such as telephone, e-mail and irc enables communication with them, however this can not replace the position face-to-face communication possesses in being the best approach to share tacit knowledge (section Knowledge creation and sharing). Another issue is that the person who is "re-inventing the wheel" lacks access to some of the documentation that is possessed by the other department.

As mentioned earlier, employees are open to sharing their knowledge. The fact that sharing is curbed is caused by a lack of focus on what obstructs it, and of not implementing the proper technology and practices that would enable and encourage it.

In relation to external environment:

The external environment to mnemonic constitute of customers, clients, vendors and competitors. In relation to the market, mnemonic is well acquainted with several people that work in competing firms as they often meet on different social arenas. These situations are important, as mnemonic deliberately tries to uncover useful information from the competitors in a discrete manner, and are careful with the information they share. In addition, sometimes the customers give information about the competitors both theirs good and bad characteristics. These face-to-face interactions enables mnemonic to achieve more knowledge about the market, which are valuable to business strategies. mnemonic has a high hit rate in the market, which means that they often win and rarely loose tenders in relation to the competitors. On the other hand, one of the founders stated that "this may indicate that mnemonic is not offensive enough in the market." Furthermore, mnemonic is aware that they do not accomplish lost-win-reviews often enough, and subsequently do not take advantage of the benefits due to analyzing and revealing the reasons behind the win or loss cases. This implies that mnemonic in these cases miss important possibilities for learning, because posing questions to what happened earlier nurtures learning and if those earlier actions where right. This denoted as the "double-loop-learning" by Senge. Learning is an integral element of knowledge acquisition (section learning).

mnemonic is dependent on their vendors regarding the information they possess about their products, which needs to be available to mnemonic. In addition, in cases where mnemonic do not have the specific competence themselves, they take advantage of the vendors expertise for example in sales meetings, whereby the vendors accompany mnemonic.

Core values:

Each culture has certain characteristics in compliance with the position it has in the lifecycle. The stage mnemonic reside on in the lifecycle is considered to be the start-up phase, and according to Schein [section What is culture] the founders' value shape the organization. This is evident in mnemonic, as the founders' made executive decisions during the initial phase regarding the choice of a flat structure, and has subsequently emphasised community, provided welfare for the employees, and encouraged a humorous tone etc. The founders' beliefs and behaviours worked as a fundament on which these decisions were taken. According to Gamble and Blacwell [section What is culture], these behaviours and qualities are valued and reflects the corporate culture. In addition, the founders encouraged at an early stage the employees to create and establish a set of core values that are valued throughout the firm. The core values in mnemonic encompass:

- be vigilant and work actively to secure new business possibilities,
- act professionally,
- make sure for 100% handover (delivery),
- constructive, positive, open and honest feedback – the objective is to make each other better,
- respect the time of oneself and others,
- level-headedness.

In this respect, the founders' openness and will to incorporate the employees' perspectives have made an impact on the culture in mnemonic.

However, according to McDermott and O'Dell (see section What is a culture?), the core values are defined as the invisible layer and appear only in the way established employees act, speak and interpret the organization around them. To clarify this, McDermott and O'Dell present an example; in a company that strongly values complete technical work, people routinely performs extensive technical analysis, ask each other about the technical basis for a conclusion or decision, criticize or praise the technical quality of each others work, and discuss other people's technical background. Their behaviour reflects a strong shared belief in the value of good technical work." [McDermott and O'Dell:78] In the case of mnemonic, the values that are denoted as "core values", may rather be the so-called espoused values (see section What is culture). The attempt to investigate the core values during the interviews and participation in work processes was a hard task, but it seemed that the above list was by and large consisted with the way employees acted. The fact that mnemonic is a young firm is the occasion to the large consistency between the espoused values and what really drives the behaviour (core values). Other drivers behind the employees' behaviour in mnemonic appear to be core values such as "taking responsibility" and "aim for excellence", as reflected in the way employees dedicate extra effort and hours to accomplish their tasks. In addition, another core value relates to the fact that the employees acknowledge the importance of knowledge in the company. Thus,

there is a widely held conception in mnemonic that it is a company based on the employees'
knowledge.

It appears that mnemonic has a very homogenous culture, yet it is interesting to bring up one
department that especially see the value in sharing how-to's (best practices) which subsequently drive
their behaviour to do documentation in a content management system others can exploit.

4.1.3   The future's path – how to achieve a knowledge sharing culture?

The fact that cultures are deeply rooted, impacts to which extent it is possible to make changes to it, in
order to attain a knowledge sharing culture. This is a strong debated theme in the knowledge
management literature and different approaches do appear, however the common view is that there are
hand grips to pursuit. Some authors emphasize the importance to build upon the already existing
values, or build upon informal networks (see section informal networks), and therefore avoid changing
the culture. Others call attention to make changes to the individual behaviour of the employees as a
solution, instead of trying to change the entire culture, whereas the latter is not feasible [Nelh]. In
addition to the management's role as "Lead by example"(section Management style), the following
encompass some hand grips to focus on in order to enhance a knowledge sharing culture in mnemonic:

Motivation to share:

According to Collison and Parcell [40], rewards and recognition can nurture the appropriate behaviour
and foster a supportive culture which is important in order to reinforce the culture of learning and
sharing. There is a saying; "you can lead a horse to water, but you cannot make it drink!" In
comparison with knowledge management, a KM initiative will unlikely succeed unless the employees
are motivated for it. An important question to pose is therefore *how are employees motivated to share
knowledge?* The answer is according to McDermott and O'Dell through a system of rewards and
recognitions, because these factors make the knowledge sharing visible in the company. In fact, the
employees would notice that the time and efforts they spent sharing knowledge was encouraged and
appreciated with reward and recognition [McDermott and O'Dell:81]. However, the most effective
incentive, according to numbers of studies, is simple recognition [Nelh]. These recognitions should not
be limited to concern people that only share knowledge, but also include people who reuse and build
on the existing knowledge to prevent wasting time and energy re-inventing the wheel [Nelh].

In mnemonic there exists no formal reward system in order to support and reward the sharing of
knowledge. The motivation factor that is used to enhance sharing among the employees, comprise of
encouragements to share. It is actually 'forbidden' to use internal telephones to call someone in the
building, thus people are encouraged to seek out the person and talk face-to-face. The reason is that a
telephone call does not give the same benefits as a face-to-face conversation. Wether mnemonic

should establish a formal reward system including pay or bonuses promoting knowledge sharing, is according to Rumizen [p80], not necessary or even wanted.

Furthermore, other key factors to embrace in order to increase the motivation to share are, such as demonstrating the value of knowledge sharing and creating heroes. The first factor entails the importance of making employees understand the benefits of knowledge on a number of levels, such as benefits to the organization, to the customers, and to themselves personally. The second factor, create heroes, is an effective approach to actually illuminate the benefits of knowledge sharing [nelh]. In every organization there exist people who embrace the passion to learn and share their knowledge with others and these are so-called 'knowledge savvy'. Also, there are early adopters to knowledge sharing, who easily response to change and make an effort in absorbing new ways of working. The organization ought to celebrate these as 'heroes', thus give them public recognition and present their behaviour as role models due to knowledge sharing. As well, to let them present their approach give inspiration to others in the company [Nelh][Rumizen:180].

The 'knowledge heroes' are also present in mnemonic. They actively share their experiences to others in face-to-face conversations during regular office work or in group meetings, as well as they make an extra effort in being helpful to others. These 'knowledge heroes' also pay great attention to make documentations on best practices and information that might be useful for later use and for others. Furthermore, some of the documentation, such as well written and elaborated proposals and frameworks, provide templates for future use. It is a time consuming process to make good proposals and structured frameworks, however the time invested in documenting it, is shortly gained up because the large degree of re-usability. Therefore, mnemonic should celebrate these as 'knowledge heroes' as described above, in order to make the importance of knowledge sharing more visible for everyone in the company.

Make knowledge work part of everyone's job:

The most common obstacle to knowledge sharing is the lack of time, because people are too busy with 'real work' [Nelh]. In order to enhance knowledge sharing, the employees must be given time to contribute to knowledge-related work as a part of their job [Tiwana:404]. Thus, dealing with knowledge-related work, such as seeking out knowledge, reflecting, sharing, documenting, has to be recognized as 'real work'. A decisive aspect is that the company should regard knowledge work as important and not just as acceptable. In order to demonstrate the importance of knowledge work, a solution is to incorporate it into the employees' responsibilities and job descriptions, as well as performance appraisals [Nelh].

4.1.4   The organizational structure

The organizational structure of mnemonic constitute of a non-hierarchies and flat structure. The underlying factor for this structure is grounded in the choice made by the "grundere" during the start-up phase of mnemonic. They had especially experiences from previous jobs regarding how leadership and management should not be carried out.

The geographical location of mnemonic is situated in three different towns; the headquarter in Oslo and the smaller departments in Stavanger and Stockholm. The department in Oslo comprises approximately 60 employees, whereas Stavanger has 5 and Stockholm 10 employees. Regarding the formal organization of mnemonic, it is important to notice that the employees in Stavanger are organized according to the different departments in Oslo.

In mnemonic's headquarters in Oslo, the different departments are physically divided and separated from each other into functional areas, however almost every department is located in only one open area. This area functions as an open landscape, where co-workers within the same department easily can communicate and share knowledge. Despite the separation between the different departments, there are always open doors. The physical structure does not reflect any hierarchical separation between offices with higher rank, and the reason is that mnemonic has a very flat structure, as mentioned in the section of management style. The consequence is that the group leaders sit among other employees in his department.

In mnemonic the relationship between the departments appears to have a friendly nature, in which collaboration is preferred over competition. The reason has to do with the remuneration system, as no form for percentage allowance for the employees exists in the different departments. This implies that none of the departments has a higher status than the others. In addition, this friendly nature between departments is also generated because of the flat structure.

The technology in mnemonic that are supposed to support knowledge storing and sharing do not comprise of a common system. On way to illustrate this is by given an example from the sales department as follows. In mnemonic, the departments are dependent on knowledge about their customers, in order to deliver and sell better services, products etc. However, the extent to which the customers share their information and knowledge with mnemonic varies. Important factors are such as the customers' levels of competence, the amount of the information they share with mnemonic, how good mnemonic is at administrating" the knowledge that is attained during interaction with the customer and subsequently document this. The sales department admit they have problems in elaborating the information from clients in e-mail and documents, as it tends to remain in the e-mail's in/outbox. Furthermore in this case, the information that is documented is stored in a simple file system, where there exist no quality checks on the information as well as no standard structuring. The

structuring of the information varies as it depends on the person that performs the documentation. The systems that are used are too divided. Here, the bottleneck reveals itself as the sales persons have to respond quickly to the customer, but don't have easy and efficient access to customer information. The way sales persons administer their relations with the 250 customers are crucial as it is mnemonic's livelihood. According to Bhatt, an aspect related to technology is that the information in the organization should be effectively accessible and easy exchanged for the employees, otherwise there is every probability that organizations will be unable to create value or knowledge out of the information [Bhatt, G.D.:92]. This is agreed upon by Sunassee and Sewry, who emphasise the importance of having knowledge repositories with "intuitive" understandable structure and categories so the users easily find what they are searching. Equally important is to prevent over-categorized and over-structured knowledge bases [Sunassee and Dewry: 243]. According to Skyrme, "information professionals should set the framework and structures, develop the good practice guides, and provide the necessary information management expertise." These will be guidelines and enable the employees to better document relevant content due to their particular knowledge domain [Skyrme]. The fact that there are insufficiencies regarding the way information is stored on different systems and the way information is structured, mnemonic has decided to look into a CRM-system.

4.2 The reason of the aligning knowledge with strategy

The literature consistently emphasise the importance of the link between the business strategy and the knowledge management strategy [Tiwana:103][Skyrme][Clarke:192].
Another key aspect for knowledge management initiatives to be successful, the literature emphasise the alignment of KM with the business strategy as important [Bhatt][Sunnassee and Dewry:238] [Skyrme] , even critical, as stated by Tiwana [Tiwana:102].
Culture is important, but the main reason why knowledge management programs fails, is due to the lack of a clear connection between the knowledge management strategy and the overall business goals [Riege:23, McDermott and O'Dell:79].Therefore, the most successful knowledge management projects are those that are inextricably linked to the business and its strategic objectives [Riege:24].

The strategic gap represent the difference it what the company is doing and what it should be doing. Similarly, the knowledge gap will determine what the company needs to know and what it does know in order to support the competitive position it has adopted [Tiwana:156]. According to Tiwana; "The strategic choices that your company makes regarding technology, markets, products, services and processes have a direct impact on the knowledge, skills and competencies that it needs to compete in it intended markets." [153] Developing superior products and services require utilization of knowledge-

based resources and capabilities. Hence, it is important that there is a link between business strategy and the development and use of knowledge within the company [Tiwana:170].

Herein lies that the company must first of all define its strategic intent, further on identify the knowledge required to execute this strategy, and compare that with its actual knowledge [Zack noted in Clarke:192]. This will give an indication on what kind of knowledge and learning initiatives that should be adopted in order to pursue the business strategy by bridging the knowledge gaps.

At this stage, one ought to remember to focus more on people than on technology, and the knowledge management practices must be compatible with the culture of the organization [Sunessee and Dewry:244]. Riege emphasise the importance by noting that "it is the responsibility of senior management to communicate the goals and strategies to all employees in a transparent fashion to obtain support."[Riege:24]

5 Conclusion

The economy has shifted from a traditional economy to a knowledge-based economy, which comprises increased competition, changes, and complexity. Knowledge is seen as the most important asset, and consequently this has forced companies to focus on this asset with the aim to manage it intelligently for competitive advantage. This has driven the need for knowledge management forward, in which the people/cultural aspect is of greater importance that or processes and technology. Knowledge management is regarded as an approach to create the 'right' environment that enables and encourages knowledge sharing and creation, and establishes learning as a continuous process within the company.

The 'right' environment is created by enhancing a knowledge-sharing culture, where important factor is required such as motivation, trust, openness, reciprocity etc. between people, and must be supported by the management in the company. To get the 'right' environment, the organizational infrastructure and processes such as level of hierarchy, level of collaboration versus competition, structure, and spaces, and these must work as enablers not barriers.

The organization should try to become learning organizations, because they can constantly generate new sources of knowledge due to their superior ability to learn and share.

Managing knowledge assets in SMEs should not be viewed upon as a simple task, rather as a long-term process and this is illuminated by the case study of mnemonic. Mnemonic is conscient about the importance of knowledge. As the amount of employees has increased with 30% , the need to prevent re-inventing the wheel has become crucial, and also increase the sharing of knowledge with each other to prevent knowledge loss if any one decide to leave the firm. This implies that the importance to enhance a knowledge sharing culture, where sharing, creating is facilitated and enabled.

In relation to enhance a knowledge-sharing culture, the management style plays an important role. They show openness, encourage people to contribute to decision taking, creates a 'family' environment, active listening, and in that way "lead by example".

Further, employees do not compete for resources, and that relates to the flat structure, the absence of competition between employees, and an equal bonus system.

However, here has been put forward some initiatives that relates to knowledge management, such as the training program and the competence matrix. Even though the plans are well formed in order to enhance sharing and learning, but it seem that in the case of the training program the plans do not actually work in practice. There are no clear strategy that checks if the intended plan is not accomplished as the way it should.

The result, is that knowledge is not fully utilized, the fast growth also reinforce the segregation between the departments as new employees rarely participate in informal networks or teams across departments, unprofitable with the re-inventing of wheel, long training period.

Handgrips that should be performed in mnemonic in order to enhance a knowledge sharing culture, is motivation by encouragement of actually knowledge related tasks, celebrate heroes, and make knowledge work part of everyone's job.

In this way, with an approach to knowledge management, with the focus on the people aspect, mnemonic can start managing their knowledge more intelligently.

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