Tampere University of Applied Sciences,
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Thesis

# Creating Framework for Collaboration and Knowledge Management in a Transnational Corporation

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# TIIVISTELMÄ


Kasvava kilpailu eri palvelualoilla ja taloudelliset suhdanteet ovat luoneet kilpailutilanteen, joka ohjaa yritysostoihin ja toimialojen laajentamiseen. Samalla yritykset muuttuvat monikansallisiksi ja markkina-alueet globalisoituvat. Kansainvälinen ympäristö asettaa uusia haasteita osaamisen ja tiedon hallitsemiselle. Monikansallisuus ja työntekijöiden monipuolinen työkokemus luovat mahdollisuuden menestyä yhä kilpaillummaksi muuttuneilla palvelusektoreilla. Kansainväliset projektit edellyttävät usein monikansallisen tiimin kokoamista projektiin. Monikansallisen projektitiimin yhteistoiminta ei ole itsestäänselvyys ja vaatii selkeitä pelisääntöjä. Hyvällä yhteistoiminnalla ja yhteisellä yrityskulttuurilla luodaan innovatiivinen työilmapiiri ja perusta yrityksen menestymiselle kansainvälisillä markkinoilla.

Synergian saavuttaminen monikansallisissa projekteissa on saanut mielenkiintoa useissa tutkimuksissa. Aihetta on lähestytty muun muassa tiedon- ja muutoksenhallinnan näkökulmasta. Tutkimuksen teoreettiseksi pohjaksi tässä työssä esitetään aiheen aikaisempia tutkimuksia ja käsitteitä. Ympäristö- ja kulttuurierot tuovat haasteita, joista suuri osa on yritystoimintakohtaisia ja siten vaikeasti yleistettävissä.

Tämän tutkimuksen tavoitteena oli laatia prosessikuvaus kohdeyhtiölle siitä, miten yhteistyötä monikansallisissa projekteissa voidaan edistää. Tutkimuksessa esitetään puitteet, kuinka kansainvälisiin projekteihin valmistaudutaan asiakkuusnäkökulmasta, miten tiedonhallinnan avulla löydetään oikeat henkilöt projektitiimiin ja kuinka projektitiimi saadaan työskentelemään menestyksekkäästi ja innovatiivisesti kohti yhteistä päämäärää. Kehityskartat esitetään tutkimuksen liitteenä.

Tutkimuksen tarkoituksena oli kehittää monikansallisen yhtiön kansainvälistä projektiyhteistyötä tiedonhallinnan näkökulmasta. Työssä selvitettiin, miten kansainvälistä yhteistyötä ja tiedonhallintaa on toistaiseksi kohdeyhtiössä kehitetty. Laadullisen kyselyn ja keskustelujen avulla selvitettiin, millaisia kokemuksia ja kehitysnäkemyksiä projektihenkilöillä on kansainvälisestä yhteistyöstä ja toimimisesta monikansallisessa projektiryhmässä. Kyselyllä kartoitettiin, mitä asioita projektihenkilöt pitävät tärkeänä kansainvälisen yhteistyön ja menestymisen kannalta. Kyselyn pohjalta laadittiin prosessikaaviot, jotka tukevat synergian syntymistä kansainvälisiin projekteihin valmistauduttaessa ja itse projekteissa.



Avainsanat Tiedon hallinta, Tiedon jakaminen, Kansainvälinen projektitiimi

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# ABSTRACT


Increasing competition in consulting business as well as economic uncertainty has created a situation which directs the company's acquisitions and expansion of business services. Meanwhile the companies become multinational and globalized. The international environment creates new challenges for Knowledge and Competence Management. Multi-nationality and varied work experiences of employees create an opportunity for success in a high competitive business sector. International projects require the best team assembling to the project. Good collaboration in a transnational project team is not a truism and needs clear and transparent rules with guidance to which all team members are willing to commit.

Achieving synergy in multi-national projects has received interest in several studies. Main approach by subject has been in many cases knowledge management or change management. The theoretical background of this study is based on the existing literature of the subject. Environmental and cultural differences create challenges which mainly depend on the type of business and are thus difficult to generalize.

The aim of this study was to establish a strategic framework on how transnational project work and collaboration can be improved on the case Company. The study will introduce a framework on how to prepare for transnational business from a customer relationship point of view, how the knowledge management helps to find right people to the project team, and how the project teamwork could achieve the best practice. A common corporation knowledge management strategy that is integrated into the company's culture and existing values is the key issue for global success of the company. A road map of the development suggestions will be introduced in appendixes.

The purpose of this study was to develop the international collaboration of the case Company's bridge business network from the knowledge management point of view. A qualitative questionnaire and discussions were used to explore the experiences of transnational team work. Basis of the questionnaire and participant observations was drawn up on the frameworks that support the creation of synergies when preparing for an international project and during the project.



Keywords: Knowledge Management, Knowledge Sharing, Transnational Team

# Preface

This work has been an interesting and rewarding exploration into transnationalism and learning. The journey took longer than I expected, but afterwards it seems that all international projects that interrupted the preparation of this study have been valuable experiences for me and have thus widened my experiential point of view for the subject. During the study, I noticed that I can learn new things every day if I just keep my mind open; there are no ordinary days.

I would like to thank all the colleagues who have contributed to this study. I am grateful to Mr. Peter Molin and Mr. Mikko Leppänen who have encouraged me and have given me great support from the Company. All BBN meetings have been valuable sources of information for the study.

Many thanks for the personnel at the Tampere University of Applied Sciences, who have advised me during my studies. I am thankful to Dr. Marko Mäkilouko who has motivated me and has supervised my study from the University. I am also grateful to Dr. Riitta Virkkunen who kindly helped me with the language aspect of the study.

My greatest gratitude goes to my wife Jaana for supporting me and showing extreme patience during these two years of research and study.

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# 1. Introduction

In this study I will focus on knowledge sharing and collaboration in a multinational company. This study was part of an internal development project in the Company's Bridge Business Network (BBN). The BBN is defined as a Business and Competence network within the field of bridge consultancy in the entire Company. The head of the BBN is a Bridge Development Board (BDB). The BDB consists of a member from each bridge business country units and of a chairman. The main purpose of the BDB is to shape global business by improving knowledge and competence sharing between country units and by using best practice in forthcoming international or national projects. The competence network has been divided into three competence development groups (CDG), with the aim of improving global competences in a same policy as the BDB. The CDG groups reports to the BDB.

The introduction gives an overview on the research and describes which theory and methods are used in order to serve the purpose of the research. The purpose of the research has been described as well.

## 1.1 Background

When working seven years in multinational consulting company with around 10 000 other colleagues I cannot help thinking how enormous insights, talents and skills we must have. That is why we call ourselves one of the leading consultant companies in the global market. However, the company has expanded rapidly since past decade and meanwhile acted more and more internationally. The common history is quite young, and this refers to the lack of common organizational culture and values in company as well. All national companies concentrate mainly on local business and that's why the experiences of transnational projects are minor. On the other hand this indicates that the local market situations have been good, but how long will this sustain? Even though the company is aware of this risk, how to find a way that employees understand this as well? We must remind ourselves that we are the one but not the only one of the biggest consultant companies and it is better to be a step ahead than behind of the competitors. The local field will always be an important market area and meanwhile the place to shape practices and cooperation. Still we must have a lot of giving in globally with 10 000 employees.

People in different countries have different kinds of cultural background and way of work e.g. to solve task and decision making. I think this is the one of the greatest values for the multinational corporation but a challenge as well. How to create a corporation culture that encourages people to respect other cultures and capture new ways of working together and solving tasks together by using multiple approaches to find solutions and to make innovations? In the Company, I think that the strategic background is basically in order, but the benefits on how the knowledge management strategy (KMS) supports the business strategy in practice is not demonstrated thoroughly yet.

Knowledge Management Strategy is young and supportive technology improves all the time, but what is the trick that makes people to understand the value of them?

How to implement them to steer the day to day activity? The vision is to get it deeply embedded, and I want to help get it to that point.

I think we all want to live a meaningful life and no doubt, a work amounts a great part of it. So, why don't we shape our work as inspiring as possible?

The Bridge Business Network has been in function around eight years, and it forms a good basis for transnational project work and cooperation. As the world is shrinking through globalization, more and more internationalization will be needed in consulting business. This phenomenon gives great opportunity for the company with 500 bridge experts.

In order to obtain competitive advantage on the global market we need to create tools for managing our international bridge business in a united and effective way. Based on my own experience in international projects and as a member of competence development group (CDG) I have noticed the importance of this development work. This has been a flame of motivation for me during this study.

The theoretical part of this study will give an overview on previous research in transnational team performance from the viewpoint of Knowledge Management, Cultural Diversity and Collective Learning. We also take a look on how knowledge has been described and how it forms and changes. The results of the study are presented in the results phase of this development work.

## 1.2 Research Scope and Objectives

The objective of the study is to gather previous research on the issues that have influence on transnational team work and knowledge management in a multinational corporation. Another purpose is to have an overall response on the condition of the Company regarding transnational team work: how well it is already prepared to international cooperation and how the existing knowledge management strategy supports this approach.

A questionnaire directed to key members of Bridge Business Network is the main object to gather ideas which help the Company for implementing KM strategy in practice. In addition, the background material of this study was gathered during BBN meetings. By studying the answers and conversations I intend to find issues that support commitment of transnational cooperation, and on the other possible barriers and blind points regarding this.

The objective of this development work is to prepare framework of transnational cooperation process for the Company. The purpose is to give tools for the Bridge Business Network for implementing international business in practice by using the competences from all companies, share knowledge during projects and support collective learning as a "One Company".

## 1.3 Research and development approach

In this study the research approach has been qualitative. As a member of Bridge Competence and Development Group (CDG) I have gathered information during meetings. The scope of the meetings has been the improvement of transnational cooperation in the case Company. The method can be called Participant Observation. A key principle of the method is that one may not merely observe, but has a role within the group observed from which to participate in some manner (Eskola and Suoranta, 2000). Another method that has been used in this study is a research questionnaire for the members of Bridge Business Network. The questionnaire has been made by the form of Thematic Interview i.e. semi-structural method which contains certain themes and respondent can freely emphasize the issues he or she prefers (Eskola and Suoranta, 2000). I decided to use this method because I did not want to guide the respondents toward limited or tight- framed options of answer.

The results of the study will be introduced into form of framework and the used method is a constructive research. This means problem solving in a real-life organizational setting through the construction of a management system (Lukka, 2002). An applied research study is constructed on existing theory and on the experiences of the international business and transnational cooperation in the Company.

## 1.4 Structure

The study is divided into six major chapters. The first chapter of the study provides the reader with background information and clarifies the importance and relevance of the topic to the researcher and to the Company. It will give a reason for the chosen research and development approach.

Chapter two focuses on theoretical backgrounds of the study. It will give an overview on previous research and literature regarding to Knowledge Management and Knowledge Sharing. For having an idea on what knowledge is and how collective learning and intelligence form, we need to take a look behind words *knowledge* and *learning*. Chapter two also focuses on issues that have influence on transnational team work. Cultural diversity will also be handled as well as the main barriers which can hinder the collaboration of the team and knowledge creation in it.

In chapter three, I will describe the purpose of the development and research subject. I will show the methodological bases of what the aim is and expected results of the research. Additionally, the chapter describes research environment and define a target group and gives a reason for them. It introduces a survey which has been handed to target group by the researcher. The survey consisted of a questionnaire and observation. The used questions are explained in this chapter.

Chapter four will reveal the results from the questionnaire and notes from participant observations. The outcomes of the survey were divided in five topics that follow the structure of the questionnaire.

Chapter five combines the theory from previous chapters and outcomes of research study. A strategic architecture of knowledge management in transnational projects will be provided.

Chapter six summarizes the research findings and links them into the theoretical section of the study. The chapter also discusses the recommendations arising from this study and concludes with a summary. A road map of the development suggestions will be introduced in appendixes.

# 2 Theoretical background

How do people learn and how does information transform into knowledge and finally create a "level" of wisdom? These are the questions that people have battled with from the time of great philosophers. After we get an idea on how an individual forms and maintain his or her internal intelligence we can focus on thinking how the collaborative intelligence might form. In this chapter I'll illustrate the existing major opinions that are presented of the issues mentioned above. In addition, with regard to prior research of collaboration and knowledge management in the transnational team work, this chapter will give a review of early literature on knowledge management and organizational learning, particularly in relation to the international field. Cultural diversity and barriers of learning in transnational environment will be handled as well.

There will be overlapping with different sorts of management issues like Human Resource Management, Change Management, Project Management, Knowledge Management, etc. However, it doesn't play such a big role on where we want to root our point of view, because it is a truism that all sorts of management concentrate more or less on employees' actions and behaviors and this will happen through information and tangible or explicit knowledge. All intangible assets management issues are strongly interlinked together.

## 2.1 Concept of knowledge

One of the central themes in classical epistemology has been the discussion if we have any real knowledge at all. In this chapter I'm not intent to point out the philosophical research of the feature of knowledge whereas I give a review on previous research about how individual's knowledge forms and how it becomes collective knowledge.

### 2.1.1 Definition of knowledge

The literature review offers many definitions for knowledge. It may be viewed from several perspectives. It can be categorized as explicit and tacit, private and public, or organizational and individual knowledge (Rajaniemi, 2005).

Foray (2004) defines knowledge more individual and profound than information e.g. it is an individual's know-how and understanding. According to him, knowledge enables the use of information in different kind of situations. Information by contrast is passive until one who already has knowledge exploits information. Contrary to information, knowledge is difficult to record and it can disappear. Knowledge is often a chain of experienced incidents and thus difficult to copy. We can assume that knowledge has contextual boundaries that limit the use it.

Tuomi (1999) points out that knowledge must exist before information can be formulated or data can be converted to information. Knowledge is individual and does not exist outside of a knower. According to this one can state that knowledge is valueless if the individual does not share or use it. Zeleny (2005) argues that knowledge is related to action and information and becomes knowledge after it is put in use.

Machlup (1983) describes the distinction between information and knowledge: information is a flow of messages or meanings which might add to, restructure or change knowledge. This view emphasizes the theory that individuals modify or create knowledge via own aspirations and principles.

Nonaka (1994) defines knowledge as justified belief which increases individuals' or a group's capacity for effective action and is based on the truthfulness of the concept. Knowledge is then based on trust of the source of knowledge and needs an individual's commitment.

Tom Davenport and Laurence Prusak (1998, p. 5) give a practical definition of knowledge:

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

Davenport and Prusak emphasize that knowledge does not exist outside of knower and is thus the result of individual's cognitive process e.g. trust, belief, assumptions etc.

Zeleny (2005) has described intuitive distinctions between information and knowledge in the following table.

| **Information** | **Knowledge** |
|---|---|
| can be too much | is never enough |
| is a thing | is a process |
| one can have it | one must demonstrate it |
| piece by piece | always a whole |
| right or wrong | more or less |
| individually conformed | socially approved |

*Table 1: Distinctions between information and knowledge (M. Zeleney, 2005, modified)*

Ackoff (1989) states that content of the human mind can be classified into five categories: data, information, knowledge, understanding and wisdom. He has conceptualized a figure called "Knowledge Hierarchy" which demonstrates the connections between five categories (figure 1). Russell describes understanding as a process by which existing knowledge or information can be synthesized to new knowledge and finally to wisdom.

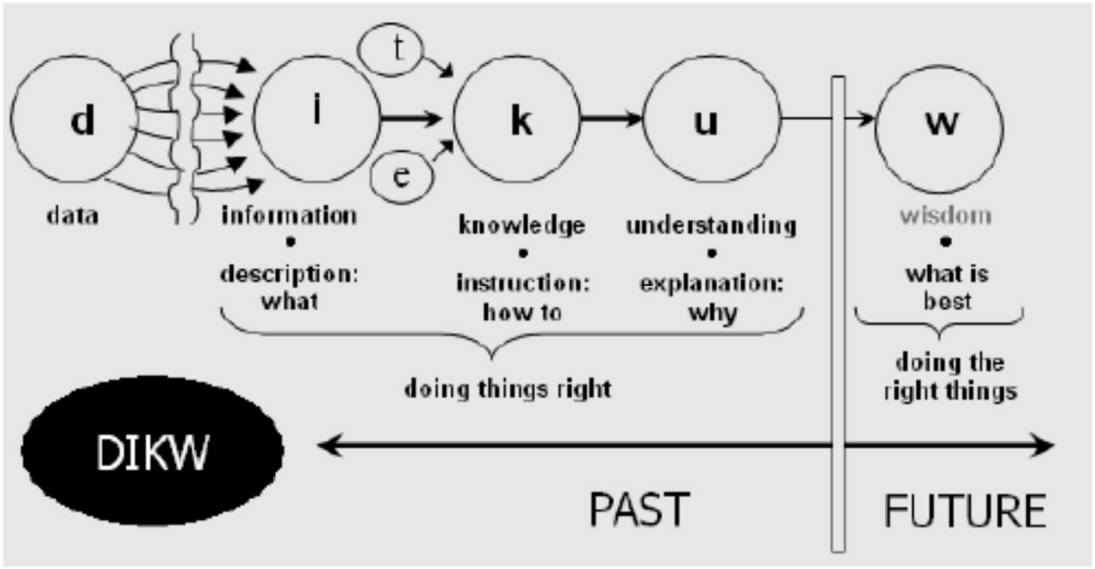


*Figure 1: Knowledge hierarchy (R. Ackoff, 1989)*

Lately, many authors have modified DIKW-hierarchy so that understanding supports the transition from each stage to the next category as we see in figure 2 (e.g. Bellinger 2004; Clark 2004).

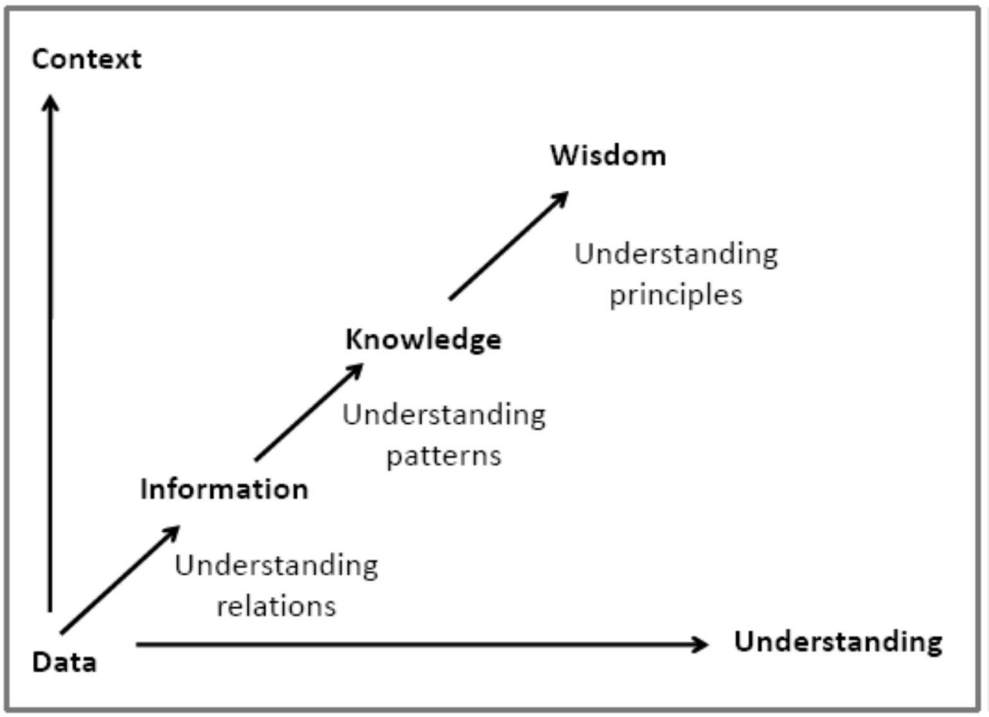


*Figure 2: One view of the DIKW hierarchy (Bellinger, 2004, modified)*

Some major issues rise from the literary review. A great deal of focus is given to understanding the difference between data, information, and knowledge. Information forms from seeds of data that link together. All individuals form knowledge via personal cognitive processes influenced by trust, belief, values, norms, experiences etc. Knowledge form after information is linked with other information and compared with the knowledge that already exists. Because knowledge is personalized, in order for an individuals or an entity's knowledge to be useful for others, it must be

expressed in such a manner that it becomes interpretable by the receivers. Knowledge is not stable; it changes always when we transfer it with other people. In addition, internal knowledge is changing all the time when we use it.

Information is valuable only if it is actively processed in the mind of an individual through cognitive process of reflection and learning. It is also emphasized that knowledge is always context-bound. After all one can assume that there is no absolute knowledge as it always forms via individuals' insight through individual experiences and cognitive process. This is a great challenge for knowledge management.

### 2.1.2 Tacit and explicit knowledge

The common premise among researchers, in the past decades, is that there are two dimensions on knowledge: tacit and explicit. The concept of tacit was first introduced by Michael Polanyi (1962, 1967). His words *"we can know more than we can tell"* define well the nature of tacit knowledge.

Tacit knowledge is strongly of personal kind. It is hard to encode or formalize and thus difficult to communicate to others (Nonaka, 1994). Tacit knowledge is also deeply rooted in action, experience and an individual's commitment to a specific context. In addition to technical skills, tacit knowledge has an important cognitive dimension (Nonaka, 1994). The cognitive element refers to an individual's mental models that we carry internally. These models consist of concepts, images, beliefs, viewpoints, value sets and guiding principles that help people define the world. For example, a carpenter can perform his work well but is unable to articulate exactly what he knows or how he puts it into practice. Sveiby (1997) points out that tacit knowledge is of practical kind e.g. "working knowledge" used to perform a task.

Knowledge structures rely mainly on the social nature of individual or community and form "tacit memo" of individuals (Polanyi, 1966). For instance, cultural assumptions, values, beliefs are mostly unexpressed but implicitly known in particular cultural community, and thus represent the deepest level of knowing as demonstrated in figure 3 (Pirinen, 2000 p. 39). The implicit nature of knowledge is deeply embedded in social behaviors that are almost impossible to turn into explicit knowledge. Its existence can be observed by behavior or performance and sometimes you can just feel it. Thus improvisation and storytelling can be seen as methods to convert tacit knowledge into explicit knowledge.


*Figure 3: Tacit and explicit knowledge (Pirinen, 2000, modified)*

According to Nonaka and Takeuchi (1995) explicit dimension of knowledge is articulated, formalized, and communicated in symbolic form and/or natural language. For instance, manuals and standards contain knowledge on the appropriate operation of the product. This "know-what" or systematic knowledge is readily communicated and shared through print, electronic methods and other formal means. According to Nonaka and Takeuchi (1995) and Sveiby (1997), explicit knowledge is only the tip of the knowledge iceberg, the visible one.

Polanyi (1966) notes that teaching tacit knowledge for others depend on the capability of intelligence by recipients for catching the meaning of the demonstration. One can assume that motivation and trust may highly steer the success of transfer.

As there are two dimensions of knowledge a lot of support must be given for transforming tacit (internal) knowledge to explicit (external) knowledge. We have already noticed that only shared knowledge is valuable especially for a community or an organization. Tacit knowledge is possible to share by using practical demonstrations, narrative explanations and metaphors. The success of this depends on mental synergy between sender and recipients. The term *synergy* derives from the Greek word "synergos" that means "working together".

### 2.1.3 Individual knowledge and learning

People possess different types of tacit and explicit knowledge and use knowledge in unique ways. Individuals use different perspectives to solve problems and make solutions based on practices and beliefs. Knowledge is defined as a state of individuals' knowing gained through experience or study. It is the sum of understanding on what has been perceived, discovered, or learned. (Alavi and Leidner, 2001)

Individual's knowledge and ability to perform particular tasks grows through practice, in many cases through trial and error. This kind of expertise knowledge can be called

individual's competence. According to Sveiby (1997, p. 35; Pirinen 2000, p. 41) an individual's competence consists of

- *knowledge acquired through information and formal education*
- *skills acquired mainly through training and practice*
- *experience acquired through reflecting on past successes and mistakes*
- *value judgments about right and wrong*
- *a social network of relationships.*

Sydänmaanlakka (2002) has described the levels of individuals' knowing, as seen in figure 4. He states that it's possible to learn after one is aware of his ignorance i.e. opens one's mind for learning. This requires willingness and motivation to adopt particular information whether it is demonstrated or told.

A dilemma is that the less you know the more you believe that you know. There is an old Zen story of a student who comes to visit the Zen master. The master graciously offers tea for the student, which he accepts. The master begins pouring the tea, and then keeps pouring the tea into the cup until the cup overflows and the tea spills all over the table. "Stop, stop!" the student exclaims. "Why are you doing this?" "You are like this cup," the master replies. "You are already so full of what you know that I cannot add anything to it." The knowledge era is like the story. After one understands this it's possible to gather information and use the knowledge in practice. After one is getting familiar with knowledge it's possible to improve it. This issue is also a threshold when sharing knowledge between individuals. One must understand a context before it is possible to motivate to new information and probably to update the old ones. Like we have noticed, knowledge is changing all the time and we need to update it and sometimes even abandon old knowledge. (Allee, 1997)

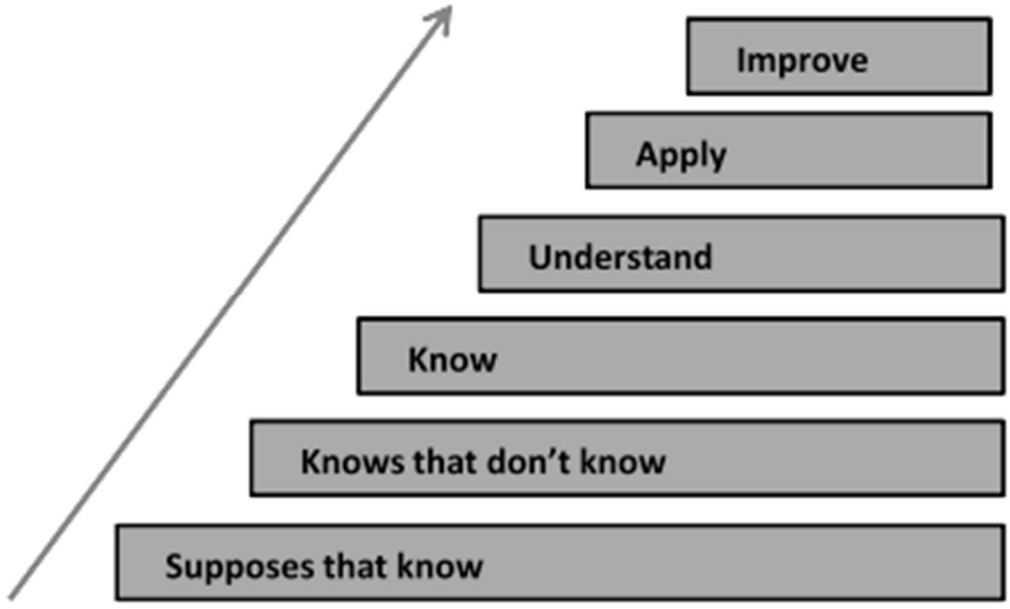


*Figure 4: Stairs of learning (Sydänmaanlakka, 2002 modified)*

Zeleney (2005) states that all individual have a private comfort zone, she calls it "microcontext" i.e. we want to keep things simply for us and maintain them through our familiar models and habits. Other contexts or models are unfamiliar, frustrating

and demanding; we do not feel “at home”. She points out that only through action we can embody and construct our microcontext. We need to step out of our comfort zone for embracing new skills. According to her, “only when our microcontext breaks down (through the unusual or the unexpected) or when we enter unfamiliar and novel territory, our ability to act is challenged”. (Zeleney 2005, p. 45)

Also David Kolb (1984) emphasizes the importance of experience for individual’s learning and competence creation as we can see in the figure 5.

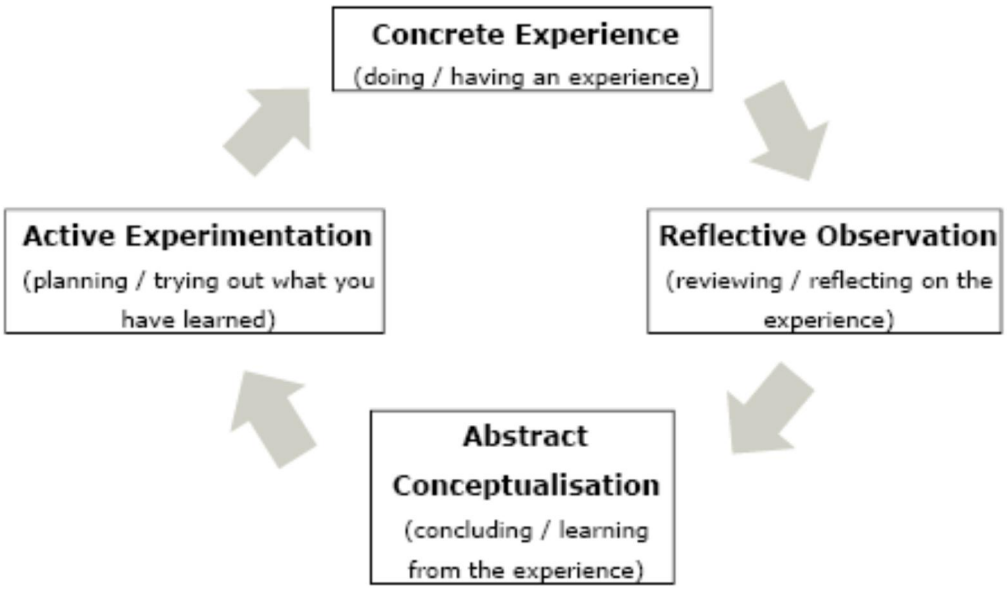


*Figure 5: Learning cycle (Kolb,1975, modified)*

After all, we can assume that individual needs social contacts e.g. teachers, mentors, parents, friends, colleagues, i.e. people that they can trust for learning and adapting new skills. Through experiences we can improve our knowledge and competences. Nonaka (1994) concentrates especially on the meaning of socialization for sharing knowledge between individuals and groups.

### 2.1.4 Collective knowledge

A collective knowledge forms a basis of human beings’ successful history and it is no doubt a key element of our survival story on this planet. Even though the basic of knowledge value is changing very slowly we still update our collective knowledge all the time. This is lifeblood for companies in a more and more competitive business environment.

Knowledge can be viewed as existing in the individual or the collective (Nonaka, 1994). Individual knowledge is created by and exists in the individuals whereas social knowledge is created together and is inherent in the collective actions of a group.

The complex linkage of tacit and explicit knowledge suggests that only individuals with a requisite level of shared knowledge can truly exchange knowledge. In other words, if tacit knowledge is necessary to the understanding of explicit knowledge, then in order for Individual B to understand Individual A’s knowledge, there must be

some overlap in their underlying knowledge bases (a shared knowledge space) (Ivari and Linger, 1999; Tuomi, 1999). One must already be aware of the context of knowledge.

Brown and Duguid (1998) highlight that knowledge creation is better served by close ties in a community of practice since individuals share a common language and would be more at ease discussing ideas openly and challenging the ideas of others. Such communities develop a shared understanding or a collective knowledge base from which knowledge emerges. Cultural impacts have great influence on shearing or creating knowledge; we will return to this issue later on this study.

Collective knowledge can form when we reflect and test our ideas together. We need to have a common target that all are committed to. The overlap between individual's experiences and knowledge is important when improving collective knowledge and innovation. On the other hand, a fresh sights and ideas often come from the outsider because they can give a new approach or viewpoint on existing problems. This view supports to assume that people from different cultures are able to see problems from multiple points of view, thus creating fresh knowledge and innovations together.

### 2.1.5 Knowledge sharing

Knowledge sharing is an activity through which knowledge i.e. information, skills, or expertise is exchanged among people, a community e.g. Wikipedia or an organization e.g. Intranet (Allee, 1997). Knowledge flows by formal track via e-mail and intranet etc. or it can flow through informal ways like on a coffee-brake. We share knowledge also through performance or modeling like during team work between an expert and younger engineer. Knowledge sharing can happen when two or more people have a common interest, target and motivation; otherwise we can talk about information sharing. (Allee, 1997)

As we have already noticed knowledge is divided in two dimensions, tacit and explicit. These need different kind of methods to transfer between individuals. Nonaka and Takeuchi (1995) point out that as knowledge is shared, it passes through four different modes of knowledge conversation. In these four modes, the flow of knowledge moves from tacit to explicit to tacit once again, through the knowledge spiral of knowledge. They call this process "SECI". The spiral of knowledge is presented in figure 6. According to Nonaka and Takeuchi (1995), the modes of the SECI are:

**Socialization**
Most of the individual's knowledge is tacit and cannot be explained by certain words. Tacit knowledge can be shared through observation, imitation, face-to-face communication and practice. This mode of sharing experiences directly is called socialization. The change of knowledge is "from tacit knowledge to tacit knowledge".

**Externalization**
When people translate "conceptual" tacit knowledge by verbally using such techniques as metaphors, models and dialogue, it is called externalization. The change of knowledge is "from tacit knowledge to explicit knowledge". Externalization gives

space for innovation as well, thus dialogue is an important channel for sharing knowledge and experiences.

**Combination**
Combination is a process where adapted knowledge is standardized and sorted into a knowledge system. Combination ensures that the form of knowledge is easy to use and share through organization or other social groups and is fit for the existing knowledge system. The change of knowledge is “from explicit knowledge to explicit knowledge”.

**Internalization**
Internalization is "learning by doing" and sharing mental models and technical know-how. Explicit knowledge is embodied to tacit one and increases practical knowledge for individuals and become asset for the organization. The change of knowledge is “from explicit to tacit knowledge”.

Nonaka emphasizes that movement through the four modes of knowledge conversion forms a spiral, not a circle. The spiral becomes larger in scale when it moves up through the ontological levels, as seen in figure 6.

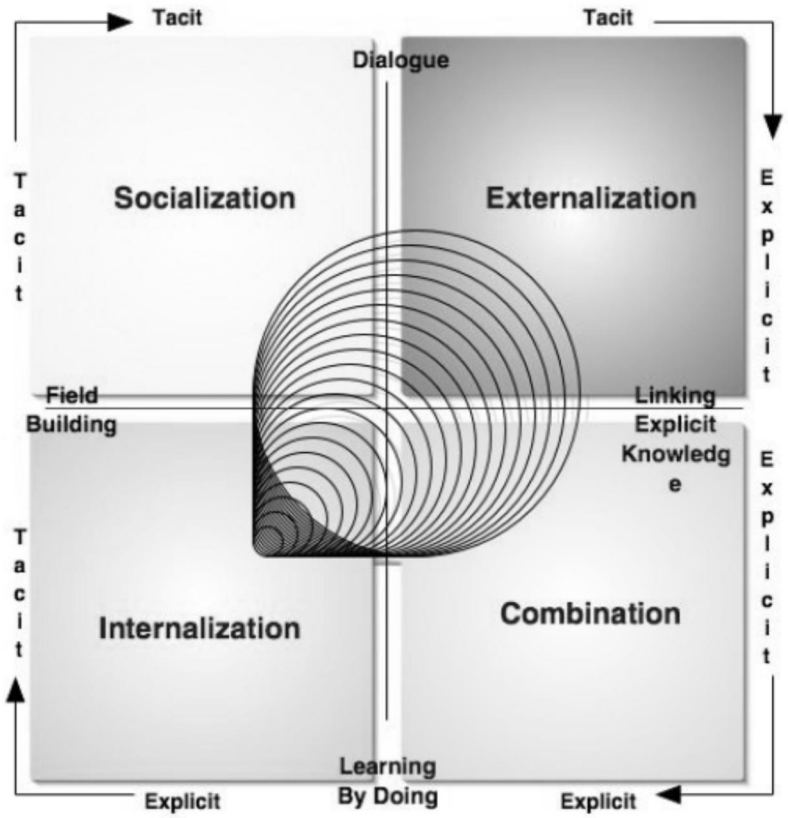


*Figure 6: The spiral of knowledge creation (Nonaka and Takeuchi, 1995, modified)*

Because tacit knowledge includes mental models and beliefs in addition to know-how, it is important that during socialization and externalization people feel confidence for the one who is sharing the knowledge. After all, the benefit of the knowledge is one’s vision and thus needs reinventing of the knowledge from other people. (Nonaka, 1994)

Glisby and Holden (2003) point out that cultural factors vary in each country and this affects the variation of knowledge transfer trough dimensions, especially trough socialization. They emphasize that for instance converting knowledge through socialization is easier in countries in which one of the cultural features is “high collectivism”.

Another classification of knowledge processes can be found in literature. E.g. Alavi and Leidner(2000); Davenport and Prusak (1998) made approach of knowledge processes by focusing on the lifecycle of knowledge within an organization. The common classifications according to them are: knowledge generation (creation and acquisition), codification (storing) and transfer (sharing).

However, as we have all experienced, knowledge does not always flow within the domain of formal organizational mechanisms, such as report structures. Often knowledge is shared through informal mechanisms, trough social relationships among employees. Especially adoption of organizational culture i.e. way of doing business, may mainly happen through informal network. We have learned that knowledge sharing needs confidence among people. Still the question arises: how do we know how accurate or valuable particular knowledge is? This is one reason why an organization needs to guide the knowledge flow by different knowledge management systems.

### 2.1.6 Knowledge creation and collective learning

The knowledge creation has become a vital issue for organizations in the nowadays business world. Employees have their skills, knowledge and experiences, and one key issue is the individuals’ and organization’s ability to learn and adapt to new situations (Pauleen, 2007). It’s not enough that organizations keep knowledge and learning in a certain level: on the contrary, they need to create new knowledge in order to keep the organization one step ahead of its competitors. For example, the most successful organizations are shifting strategies based on anticipation of surprises. (Savage, 2000)

We have approached the concept of knowledge from the viewpoint of autopoietic epistemologies (originally introduced by Maturana and Varela 1972). *Autopoiesis* is a Greek word which means “self-production”. A biological cell is a common example of an autopoietic system “as it possesses all features that define a first-order autopoietic system, that is, it is autonomous, it is operationally closed, it is self-referential, it has its own organization and its own structure, and it is capable of structural coupling with its environment”. (Rodrigo Magalhaes 2004, p. 57) Autopoietic approach of knowledge creation emphasizes the importance of tacit knowledge; encoded knowledge represents only a small part of existing knowledge. As knowledge resides in mind, body and the social system, bodily experiences are of high importance.

When people share knowledge trough different modes mentioned above, knowledge will be updated by recipients and new knowledge forms. Individuals update the old internal knowledge via own experience and aspiration, meanwhile a collective learning through interaction creates new knowledge. Thus spiral of knowledge demonstrates how existing knowledge is getting new forms after knowledge sharing. Individuals and groups improve and apply the knowledge for increasing its value, in

other words people create knowledge toward their targets and purposes. Albert Einstein has been said to state, “we cannot solve the problem in the same level of knowledge that we have created them”. Knowledge creation is a continuous process of dynamic interactions between tacit and explicit knowledge (Nonaka, Toyama and Konno, 2000).

Nonaka, Toyama and Konno (2002) define knowledge creation as “a continuous, self-transcending process through which one transcends the boundary of the old self into a new self by acquiring a new context, a new view of the world, and new knowledge”. (Gottschalk, 2005 p. 21) They also emphasize that knowledge creation is not possible without understanding the context of knowledge.

Whereas Nonaka (1995) draws on his experiences from Japanese businesses, Argyris (1992) and Senge (1990) base their view on experiences as management consultants in big Western companies. Many of their recommendations are similar, especially as they all focus on the importance of thinking about processes and connections. Senge (1990) argues that organizational learning is only successful when it is based on an understanding of how the whole organizational system is connected, rather than focus on individual parts. This emphasizes of thinking that well implemented and adopted organization’s vision will support the organizational learning.

Argyris (1992) further develops the idea of learning by distinguishing between single and double loop learning. The objective of single loop learning is to bring organizational activity back on track. Learning is mostly trial and error. This is no doubt important, but it does not foster organizational innovation. On the other hand, double loop learning is the ability of the organization’s members to think critically and creatively about the underlying frameworks. Learning requires self-conscious reflection. (Allee, 1997)

Flood and Romm (1996) describe the idea of triple loop learning which involves principles that go beyond insight. It is “learning how to learn”. This emphasizes not only learning through former mistakes and experiences but also finding new approaches for problem solving. We cannot only improve same things better and better but we need to find different methods for doing things because this strategy can lead to “blue ocean“. We need to start asking “why” because it is a simple way to ensure that our processes are still valid or it is time to change or abandon them. (Allee, 1997; Zeleney, 2005)

In chapter 2.1.5 was presented knowledge spiral (Nonaka and Takeuchi, 1995) which defines how the knowledge flows through a social group or organization. Figure 7 demonstrates the knowledge transfer across levels of knowledge such as individuals, groups, organizations and collaborating organizations. A group or organization gives the meaning of tacit knowledge created by individual level and broadens it to upper ontological levels through the four modes of knowledge conversion. Meanwhile the organizational knowledge is adopted and exploited on the lower levels.

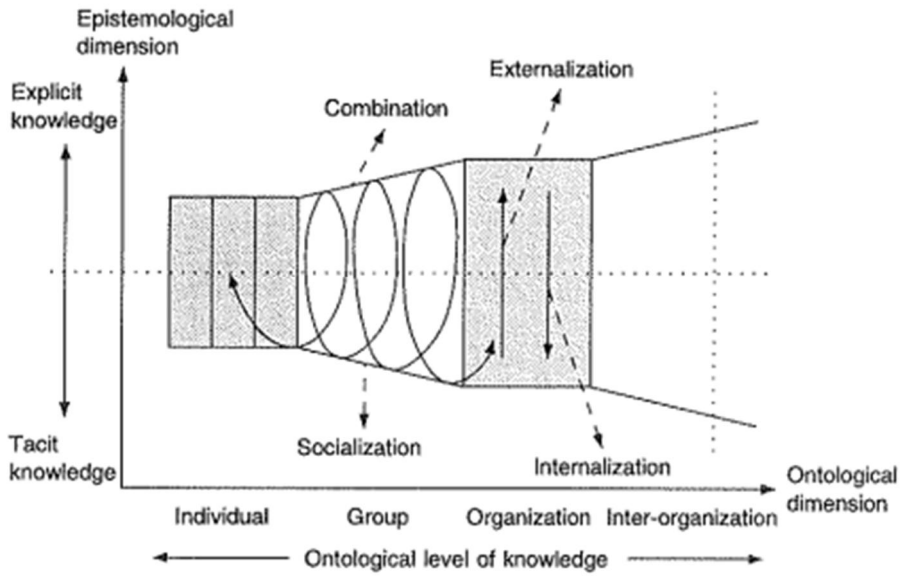


*Figure 7: The spiral of organizational knowledge creation (Nonaka and Takeuchi, 1995, p. 73)*

As the knowledge is a very complex combination of information that partly comes from individual's experiences, common assumptions, beliefs and visions we need to build an organizational learning culture that supports people toward common target i.e. organizations mission and vision. If we think about national cultures and how they have been formed we can notice that the culture is born in the way that it serves the people in the most appropriate way. People need to feel safe, comfortable, and the way of living must be meaningful otherwise people move away or conflicts arise. One can assume that same rules are valid in the organizational culture.

Senge (1990 p. 7–10) points out five disciplines that boost organizational learning and help understand the cognitive processes of learning. The five disciplines are:

- ***Personal mastery*** *is a discipline of continually clarifying and deepening our personal vision, of focusing our energies, of developing patience, and of seeing reality objectively.*
- ***Mental models*** *are deeply ingrained assumptions, generalizations, or even pictures of images that influence how we understand the world and how we take action.*
- ***Building shared vision*** *a practice of unearthing shared pictures of the future that foster genuine commitment and enrollment rather than compliance.*
- ***Team learning*** *starts with dialogue, the capacity of members of a team to suspend assumptions and enter into genuine thinking together.*
- ***Systems thinking*** *is the fifth discipline that integrates the other 4.*


*Figure 8: Five learning disciplines (Senge, 1990, modified)*

There are many supporting technologies for knowledge creation and sharing that organization's use. In many companies the employees have on-line access to the information they need. Companies use different kind of management systems for maintaining customers, markets, projects, competences and human resources etc. Virtual project teams have become a common way of managing international projects. This means that team members can take care of their own part of the project by sitting at home just been plugged to internet or project web page whereas another team member is working on the opposite side of the world. In addition to information "hard" technology, we still use in many ways soft technologies. The examples of soft technologies are such as collaborative planning, meetings, knowledge sharing forums, and learning methods like benchmarking. (Allee, 1997)

Many scholars point out that organizational knowledge is connected to every other issue of organizational life such as group psychology, individual and social cognitive process, communication, economic forces, politics, technology, management structure etc. This is a great challenge for knowledge management and strategy in organizations (e.g. Argyris, 1978; Allee 1997; Prusak, 1997). This means that there is no any ideal pattern to manage knowledge that suits all companies. It is good to remember that valuable knowledge change all the time among modern technology, customer and environment needs. Because knowledge has a certain lifespan, renewing knowledge is essential for retaining competitive advantage.

### 2.1.7 Knowledge management

We have already seen that knowledge is a messy combinations of information, emotion, cognition, assumptions, beliefs etc. Knowledge has a lifespan as it changes, improves or just gets obsolete. We can assume that knowledge leaves its own lifespan,

and we can only predict how it behaves. We want to estimate what kind of knowledge or intelligence is the most valuable for certain society, group or organization. It is very difficult (or even meaningless) to control knowledge behavior and creation but we must try to steer it toward a particular target, vision and mission.

What is knowledge management? Edwards (1994) states, that in KM, it is useful to make a distinction between raw information and knowledge. Raw information may be widely available, but only some organizations will be able to convert the information into useful knowledge and to exploit this knowledge for reaching their aims. The processes by which they do this are known as KM (Knowledge Management) strategies.

Knowledge management is considered with questions of knowledge production, reproduction, dissemination, employment and logistics. The aim of every action on the basis of knowledge management is therefore (Schuppel, 1996, p. 228):

- *identifying and building the essential competitive knowledge potentials*
- *efficient use of existing and established organizational knowledge*
- *elimination of knowledge and learning barriers.*

Traditionally, KM has concentrated mainly on generating knowledge and data or codifying knowledge. Zeleney (2005, p.39) gives a rough description on the focus of traditional KM:

- *Producing (creating) new knowledge internally, within corporation.*
- *Improving formal and informal flows of knowledge among individuals and teams.*
- *Codifying knowledge to facilitate its transfer, learning and sharing.*
- *Tapping into external sources of new knowledge.*

Desouza (2002) notes two dimensions of management. One is viewed as a technological initiative approach. It focuses on the use of information technology to manage knowledge in organizations. This means the implementation of knowledge management systems that codify knowledge and create knowledge networks. Even though information technology is a key enabler to organize information it is still only a part of knowledge management. Another dimension is called humanistic approach. It is a human centered perspective in which the focus is on managing individuals and groups to foster knowledge sharing and creation. The principle of this approach is to motivate people to share know-how which enables improved organizational performance.

The assumption seems to be that if knowledge is not something that is different from data or information, then there is nothing new or interesting about knowledge management (Fahey and Prusak, 1998). One can argue that unless knowledge is held initially by an individual, it is of little value for organization. We must also remember that when a knowledge worker or expert can change his job or get retired when he leaves with his intellectual capacity. While the first generation focused on systematizing and controlling existing knowledge and knowledge sharing within an organization, the second generation of KM strategies has shifted towards enhancing the conditions for innovation and knowledge creation. (McElroy, 2000)

We can assume that it is easier to manage the information technology of knowledge than collective learning. On the other hand, it is good to remember that information technology develops very fast thus investments to them expand rapidly as well. For instance, information technology of a modern car costs more than raw material of a vehicle. Information technology is also more and more vulnerable against external threats. This is already a great challenge for IT security.

Let's return to Argyris' (1992) notion of two dynamics of learning methods. Whereas the first generation of KM strategies concentrate on 'single loop learning', aimed at correcting and modifying practices in order to fit in with an established policy, the second generation of KM strategies focuses in 'double loop learning' which aims to increase the organization's capacity to think creatively and act innovatively. It's easy to see the efficiency of double loop learning method, and we have seen in practice that it is a vital method for helping an organization to battle toward organizational intelligence. Anyhow, there are still many black points on how to manage knowledge. How can we ensure that our KM methods really are the most valuable for boosting organization toward common targets? How can we really create an effective organizational learning culture that all members are willing to commit? What tools do we need for encouraging individuals to participate in this target? How can we create a common organizational language? As we have already seen, there are several sociological and psychological issues in the iceberg below the water level.

Levitt and March (1988) are not so optimistic about the capability of organizations to manage knowledge effectively and to learn from past experiences. Instead, they point out the considerable limitations that impede organizational learning. These contain the complexity of organizational experiences, human habits, hierarchical structures, routines, and differing interpretations by different sub-groups within an organization. This no doubt creates challenges for KM in multinational organizations. However, in contrary to this we have also seen that different kind of experience and different sub-groups can find new viewpoints of current problem by approaching the problem together. Is this just what Albert Einstein highlighted: that we need to step to another level of knowledge in order to solve the existing problem? It is however easy to agree that a hierarchical organization structure does not work in business-focused companies and that's why it is quite rare nowadays. Nevertheless, a type of organizational management structure has impacts on supporting collective learning and knowledge management. This actually emphasize to think of all management issues – change management, human resource management, and knowledge management – together as we nowadays live in a knowledge technology society rather than in an information technology society. (Zeleney, 2005)

Schein (1992) ponders on many of the same issues as Levitt and March (1988), but in a more optimistic way. He emphasizes that the limitations to learning within an organization can be overtaken through good leadership. By good leadership he means the ability of the leader to guide the organization through various stages of a change process, to cover distress, and direct the organizational culture in a positive way throughout this process. Thus the role of a knowledge manager is more like being a supervisor of a group than a leader.

However, knowledge does not always flow solely within formal organizational channels. Malhotra (2001) argues that the most important learning processes within an organization are actually those that cannot be managed. Innovation is often created

through informal dialogue and networks of individuals interested in the same issue. Malhotra (2001) invites organizations to support this creativity by building a culture that encourages people not to fear incomplete information, to trust their own judgment, and feed input into formal structures. This is also an effective natural way to use "lateral thinking" for problem solving. Informal knowledge sharing needs trust between the sender and the receiver. Thus informal network is composed of social and personal relationships between individuals.

### 2.1.8 Trust in knowledge management

Within the scholars' literature, trust has often been noted to have a crucial role when organizations aim at successful knowledge management practices. The common definition of trust is that "trust is based on expectations of other people's willingness and ability to fulfill our needs and wishes" (Huotari and Iivonen, 2004, p. 8). Even though there are many dimensions of trust in literature, my approach here is to concentrate generally on dimensions that promote knowledge creation and sharing between individuals and in an organization. These dimensions of trust can be called interpersonal trust and organizational trust (e.g. Rotter, 1967; Gilbert and Li-Ping Tang, 1998; Abrams et. al., 2003). Trust is one of our deep rooted values and part of the culture we come from, thus it is important to take account of it when implementing organizational culture. In Davenport's and Prusak's words (1998 p. 34):

> *Trust can trump the other factors that positively affect the efficiency of knowledge market. Without trust, knowledge initiatives will fail, regardless of how thoroughly they are supported by technology and rhetoric and even if the survival of the organization depends on effective knowledge transfer.*

Trust is a key issue when we implement the shared knowledge in action. Trust and commitment are needed when individuals share knowledge whether it is verbal or practical. Kelloway and Barling (2000) emphasize that trust has a pertinent connection with employee motivation and job satisfaction. Fukuyama (1995, p.26) notes that trust is "…the expectation that arises within a community of regular, honest, and cooperative behavior, based on commonly shared norms, on the part of other members of that community". Trust enables constructive interaction between interdependent members of an organization or a team and thus creates collaboration. A corporation needs trust not only internally among employees but externally among cooperators, customers, sub consultants, other societies, families etc.

Raub and Romhardt (2000) highlight that if the employees trust that the organization tolerates mistakes, they are more willing to share knowledge with each other. A common gap of knowledge sharing is that individuals are not willing to share knowledge if they cannot trust that recipient can use knowledge in a correct manner and understand the context of the knowledge created. If organizational policies and instructions clearly support knowledge generation for the group, then members' trust for the knowledge creation increases. On the contrary, if distrust is present, members become scared, cynical and cautious to share required knowledge with the group and knowledge generation is blocked (Ford, 2001). Trust is essential between members of community of practice (Davenport and Prusak, 1998). This emphasizes that we need benevolence-based trust that allows knowledge flow without fear of damage to self-esteem or reputation.

An important task of an individual's relationship and collaboration is that people trust each other and that common practice and policy support this. Similarly, people need to trust the codified knowledge and technology that support knowledge sharing. On one hand, the recipient needs to trust the information received or gathered from the system; on the other hand, the individual whose knowledge is codified needs to trust that others don't use the information in an improper context. Therefore, sharing codified knowledge contains a risk for both parties (Kramer, 1999). We cannot always be certain what happen to the information after we have delivered it through phone, e-mail or IT. The organizational policies and rules need to concentrate on reducing this risk and also highlight the importance of ensuring the context and practicality of particular information. For instance, a team member can ensure the functionality of particular information by asking opinions from other team members i.e. from third parties. This highlights that we need to improve the system that supports competence based trust. We can assume that shared language and vision (strategic or process-based) promote the organization to form organizational trust. A common language reduces the possibility of misunderstanding and increase the confidence between employees. A shared vision is essential in cross-national team work because it ensures that team members interpret the project goal similarly. Even minor differences in expectations between team members can cause significant problems for the project success. In addition, the organization structure should be transparent thus open communication and sharing of critical information is essential issue to support trustworthiness (Mishra and Morrisey, 1990). People cannot be forced to share activities in a sustainable manner, but the level of trust in a corporation, among its employees, sub-units etc. seems to have direct effect on the communication flow and knowledge sharing within and between business units. (e.g. De Long and Fahey, 2000; McAllister, 1995).

Krogh, Ichijo and Nonaka (2000) define knowledge as "justified true belief: When somebody creates knowledge, he or she makes sense out of a new situation by holding justified beliefs and committing to them". They also have proposals for creating trust for knowledge management. These are:

- *Create a sense of mutual dependence*
- *Make trustworthy behavior part of the performance review*
- *Increase individual reliability be creating a map of expectations*
- *Sharing personal information for smaller groups*
- *Use symbolic gestures for interdependency.*

It seems that impact of trust for knowledge creation cannot be underestimated. Good relationships among employees are essential and they can be promoted by formal and informal network. Non-work connections make other people more approachable and safe. Organization structure needs to support confidence creation between individuals by establishing shared vision, language and open communication culture. The employees need benevolence-trust and managers need to support organization's trustworthiness tendency by their own valued behaviors and examples. This will create the employees willingness to be accountable for trust. After all, trust is always the employees' own choice and nobody else cannot force the employees to trust one other (Stauffer, 1999). This emphasizes the thinking that collaboration must be one of the key visions in an organization.

## 2.2 Knowledge management in transnational corporation

> *National differences and antagonisms between peoples are daily more and more vanishing, owing to the development of the bourgeoisie, to freedom commerce, to the world market, to uniformity in the mode of production and the conditions of life corresponding thereto. (Karl Marx and Friedrich Engels, The communist manifesto. Harmondsworth: Penguin, 1848/1985)*

So far I have presented an overall view of the concept of knowledge. Even though I cannot help forthcoming the overlap with the issues mentioned above I think that for me this approach is a vital path toward the conclusions of this paper. After all, all issues are interlinked together when we talk about knowledge, not depending on the chosen approach. That's what learning is: we all have our own method to split information and make it understandable for ourselves.

Knowledge management in transnational corporations is even more complex than in national companies. Davenport, De Long and Beers (1998) point out eight key factors that must be considered in successful knowledge management programs: *links to economic value, technological and organizational infrastructure, culture, language, motivation, knowledge transfer and management support*. The same factors are vital for international companies as well, but issues behind these factors multiply considerably depending on how many countries the corporation works with and in which country the project is situated. We see things and other cultures from our own limited perspectives and this unfortunately leads to misunderstandings. To perform successfully, transnational organizations must aim to achieve worldwide innovation, global integration, and local distinction simultaneously (Haas, 2006). It seems that building an effective knowledge management system is a learning process itself. We need to expand our knowledge assets and meanwhile to try managing global knowledge. Later in this paper I will concentrate on the barriers that influence a successful knowledge management in the international field.

The knowledge-intensive work on a transnational sector is mainly project based and it is carried out by project teams involving members from several countries (Cristina and Cohen, 2003). Transnational projects need always tailor-made knowledge which focuses on successful outcomes for the customer and company. Because of different cultural background as well as levels and types of experiences of team members, their effort to the critical processes of acquiring and applying knowledge may vary accordingly (Jackson, Joshi and Erhardt, 2003). The roots of knowledge are sitting in the larger social context of a national or global environment. According to Hoecklin (1995), cultural differences can lead to "management frustration, costly misunderstandings, and even business failures" if they are not properly taken account of. For controlling the situation in which the members see the project from different kind of context the knowledge management strategy must aim to shrink "contextual distances" so that the team members can create shared meaning and productive collaborations (Slaughter, 2004).

Today, customers on different sides of the world don't want unified service, but rather products and service that meet their specific needs. The knowledge management based view of the company's advances for this issue is to instruct personnel to share knowledge globally and customize it locally, and meanwhile emphasize a structural

imperative to establish formal and informal mechanisms that encourage worldwide learning (Grant, 1996). In practice, a central point to this view of the knowledge-based transnational organization are the structures and processes of the task units that conduct the daily work, which are often project teams.

For acting locally the organization needs local experienced people in their project teams. This usually means that the project team contains of some individuals with extensive global experience and others with considerable local experience and relationships.

Even though the project team work creates local tailored knowledge there are always knowledge and information that is useful afterwards. There might be units that are battling with similar kind of issues, and experience-change can support the problem solving. That's why it is important that the experience of project and knowledge will be shared with other employees in local units after the project. This is vital because new experiences and new viewpoints may contain seeds of wisdom that enable new innovations. In addition, storytelling and informal networking are an important source of motivation and help to create transnational organization culture. Davenport and Prusak (1998) mention an effective way of transferring culturally embedded knowledge: convincing narratives.

Team members function as bearers of global knowledge; at the same time, they estimate how to convert global knowledge usable in their units after the project (Subramaniam and Venkatraman, 2001). Knowledge coordination is a vital topic for the whole transnational corporation, especially for headquarters. Gupta and Govindrajan (2000) argue that enabling, facilitating, and coordinating the corporation's knowledge stock and flows are the most important tasks of the headquarters with KM point of view. Strategy and international management scholars increasingly view the creation, dissemination, and utilization of knowledge as critical to addressing these strategic imperatives (Lagerström and Andersson, 2003).

Pauleen (2007) explains the influence of national culture on organizational KM process and knowledge sharing based on existing scholars of the subject. The model suggests that the impact of national culture on organizational KM is both direct and indirect as shown in figure 9.

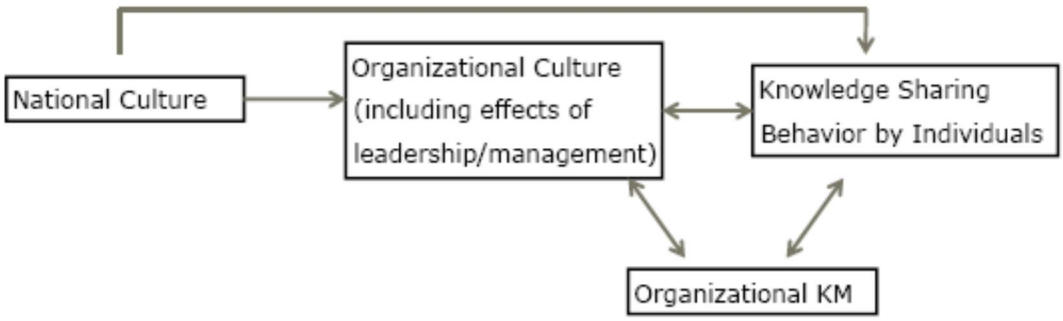


*Figure 9. National culture, organizational culture and KM (Pauleen 2007, p. 13, modified)*

According to Pauleen (2007 p. 13), the main propositions of this model state the following:

- *National culture will directly affect KS behavior in individuals through its influence on the values and attitudes of individuals. The influence of national culture will be seen in how individuals perceive their roles and responsibilities with regard to knowledge sharing as they interact in organizations, groups, teams, and dyads.*
- *Organizational culture may mediate the effects of national culture on KS behavior in individuals through its influence on the values and attitudes of individuals.*
- *Leadership and management values, attitudes, and behaviors with regard to KS behaviors may have particularly strong influence on both organizational culture and individual KS behaviors.*
- *Purposeful organizational KM may influence both organizational culture and individual knowledge sharing behavior.*

The role of people is crucial and a complex part of the successful knowledge management. The knowledge strategy needs to take account of individual's behavior and cultural background. It is not an easy task to change the employees' way of doing things because people want to stick in comfortable routines (Argyris, 1990). To change routines will also require willingness from the individual. People need to feel that they are an important part of the organization and their participation is challenging and rewarding (Coffee and Jones, 2001). The organization structure needs to support this target. Pauleen and Murphy (2005) remind that an effective KM system built in some particular culture doesn't necessarily work in other cultures. This means that structure of KM should be flexible enough and probably contain some culturally tailor made issues as well to generate most value for local customers. Nevertheless, it seems that understanding of the cultural influences and cultural contexts is crucial in understanding and implementing successful KM in a corporation. KM management is also management of human resources and the role of leadership is important for implementing KM in practice. Leaders could be called mediators of the relationship between national cultures and coaches of employees in this context.

### 2.2.1 Definition of transnational corporation

Generally defined, a transnational corporation is a corporation that makes business or operates in more than one country. It can be called a multinational corporation (MNC) or transnational corporation as well. In this context, one can prefer the word *transnational* as it gives an image that knowledge, employees i.e. human capital cross borders and creates larger units of knowledge.

According to Nohria and Ghoshal (1997), the transnational corporation is an organization that forms from geographically dispersed units, engaged in various activities essential for meeting local market demands.

The most common structure of MNC is that headquarters is situated in one country and other countries work as subsidiaries. Strategically this structure is very challenging to manage as all subsidiaries work in different kind of culture with their

customers, policy, specific instructions and qualifications. In addition, the differences depend on the type of industry or business. This means that below common strategy there must be tailor-made local approaches to meet commonly set strategic goals.

Figure 10 gives an idea how the MNC's network forms (Andersson, 2003). The subsidiary creates their competences to meet local clients' demand. At the same time MNC network gives possibility to increase resources by using counterparts from other countries. Meanwhile the MNC's cooperation can create new innovation thus provide extra value for the local client and possible new production or services. On the contrary, we can assume that if the impact of headquarter is too forceful it may distract the subsidiaries' autonomy of creating local knowledge. It seems that the subsidiary must retain enough autonomy for acting locally, and meanwhile the MNC must have benefits for creating global knowledge. It's been argued by Forsgren and Pedersen (1998) that autonomy has positive influence on the performance of subsidiaries for creating their intellectual capability and for providing resources to new business opportunities.

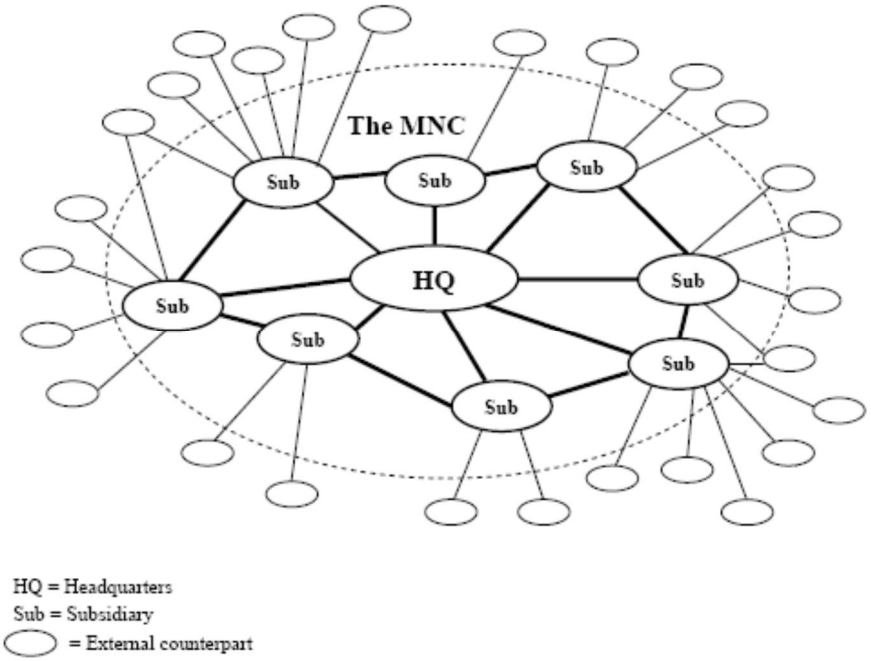


*Figure 10: Form of MNC network (Maria Andersson, 2003)*

The local experiences and innovations create new viewpoints and possibilities to transnational corporation. Even though that knowledge is more or less bound to local context it contains technical and practical issues that might be modified and reused in different kind of circumstances. Some practical manners can be copied straight away if they give additional value or facilitate the process. Andersson and Forsgren (2000) point out that the autonomy of subsidiaries increase their affect within the MNC of creating their own business networks.

Gupta and Govindrajan (1994) note that there are three key dimensions of transactions that the headquarters need to coordinate within the MNC: capital flow, product flow, and knowledge flow. According to them, the knowledge creation across the MNC units is the most important flow in an MNC.

### 2.2.2 Knowledge creation in transnational corporation

As we noticed in above presented figure of network approach in MNC, subsidiaries are linked to each other and their network markets in multiple, complex patterns and more or less in unique ways. Even though each subsidiary is creating certain competences and capabilities through local needs, the knowledge flow between subsidiaries and headquarters is essential for creating innovation and global competitive advantage. No unit or organization is perfect in knowledge point of view, and knowledge updating and creating are vital points for keeping competitors behind. It is a truism to point out that the possibility of creating innovation and new spearhead services are much bigger in transnational corporations than national ones because several kinds of knowledge inputs come from different kind of context and circumstances. For reaching the "blue ocean" the headquarters need to create global organizational knowledge culture in which all units understand its value and are willing to aim this common goal steered by the corporation business strategy.

Grönroos (2006) emphasizes that in addition to clear vision and strategic framework the common organizational language must be implemented so that all individuals navigate with the same star through the same destination. This doesn't mean just linguistic forms but standardized systems of information sharing. This facilitates the knowledge flow between individuals and reduces misinterpretations in communications. (Collison and Parcell, 2002)

Because the greated knowledge is context specific it is significant to point out the issues that restrain the knowledge sharing through subunits (Björkman and Forsgren, 1997). One challenge is tacit knowledge that cannot be shared through information technology and is difficult to share with others who are not directly involved in its creation (Holm, Johanson and Thilenius, 1995). Another challenge is to find out the value of specific knowledge created by other units and convert it for helping other purposes. These knowledge-related barriers are closely associated with the capability of the recipients to adopt and understand how to transform the knowledge in practice (Szulanski, 1996). The capability to exploit local knowledge relies mainly on organizational forms that support global knowledge creation (Gupta and Govindarajan, 2001).

Even though the main role of an unit is to create knowledge beneficial for local needs, it must bear in mind that parallel to it, all units act as knowledge suppliers and recipients of transnational corporation. This is definitely a win-win situation for all units as the knowledge flows to all directions and gives fresh viewpoints for all. The global competitive advantage of the corporation rests mainly upon the ability to introduce local-made knowledge and to modify it profitably into global knowledge available throughout the corporation. (Bartlett, Doz and Hedlund, 1990). The challenge that must be handled is to ensure that experiences and knowledge from previous projects are captured and available for reuse. A practical problem is the temporary structure of project teams which disband at the end of the project in many times so rapidly that there is no time to reflect and capture information and knowledge. Since there is no time for reflection of lesson learned, new project teams need to undergo the learning cycle again and again. (Sommerville and Dalziel, 1998)

Nowadays successful transnational companies have noticed the value of knowledge transparent organization. Knowledge does not only flow inside the organizations but

also out from the corporation and is thus free for use for other companies and customers (Allee, 1997). At the beginning, this may sound an unhealthy way to act but, as we remember, knowledge is interwoven and context bound, created by certain organizational culture, thus this know-how type of knowledge is almost impossible to imitate outside of organization (Pirinen, 2000). Knowledge is a combination of assumptions, data, information and experience. It is easy to see the value of knowledge, but for outsider it is almost impossible to understand the whole picture i.e. what is behind it. This knowledge flow out from the organization could be part of corporation's strategy in the sense that it enhances the global development and the image of the corporation. It enhances the global development and the organization's image as well. Practically thinking, this may boost the benchmarking and knowledge flow toward the organization and also pay the attention of customers and possible cooperation companies in a positive manner. A target is to move to the next innovation before the competitors have imitated the previous one. (Allee, 1997)

What kind of tools does the corporation need for supporting knowledge creation and taking account of the obstacles that knowledge sharing and creating involve in the corporation? We have already noticed the importance of a common goal and strategic pattern, supported by common language and understanding of core terms (Grönroos, 2006). Because of the distribution of global roles and responsibilities the need of effective intra-corporate communication tools increases. Consequently, standards for information sharing between units are needed with a common communication structure (Davenport and Prusak, 2000). The communication structure must encourage individuals or units to direct communication and dialogue. It's been said that direct links between units increase the recognition of relevant knowledge (Nohria and Ghosal, 1997). On the other hand, whoever can help to find out the unit or team that has been struggling with similar kind of problems, and this can be founded through formal or informal network. Kimball and Rheingold (2000) explain that "the online social network provided a venue for storytelling, showcasing, projects and best practices that could be leveraged to create new knowledge resources". Thus the benefits of social network and relationships cannot be underestimated.

Gupta and Govindarajan (2000) highlight the importance of knowledge transmission channels and the MNC's capability to assimilate knowledge and received value of the shared knowledge. Subramaniam and Venkatraman (2001) emphasize the value of cross-national teams to transfer cross-border knowledge through MNC, and especially tacit or sticky knowledge. Kirjavainen (1997) points out that collective learning in teams is possible if self-criticism and questioning is embedded in routines of teamwork. According to Orlikowski (2002), everyday mutual practices of organizational members create collective knowing to global organization. This can be seen in practice: exchanging employees across units is a practical method to share knowledge and to improve individual's and units relationships.

The multilayer knowledge flow enables innovation creation and competitive advantage for MNC. Vicari and Troilo (1998) highlight the MNC's ability to solve unknowable situations by creating conditions to maintain compatibility with its environment and to evolve through innovation. Sometimes learning from errors can be the only way to find solution. According to Vicari and Troilo (1998, p. 211), "the error is distance between expected events and perceived events, the deviation from the expectations of the firm". Thus learning from errors is a practical way to improve

processes and avoid making same errors in a future. This emphasizes the importance of the learning method called “lesson learned”.

Altogether, successful knowledge management needs to support team work and transfer of best practices. Furthermore, community of practices and human management need to support team work so that the center of excellence comes to reality (Birkinshaw, 2001). In this context, the organizational culture needs to encourage risk-taking and allow mistakes for solving new situations. Meanwhile, the structure of KM must be transparent and motivating so that people will find previous experiences and information on projects. People need to have time and space necessary for knowledge sharing and lesson learned and leaders must support all this with own examples. (Cohen and Prusak, 2001)

### 2.2.3 Collaboration management in transnational project groups

The importance of collaboration knowledge is well described in Hall’s study (1971, p. 51) through the “Lost on the Moon” problem. Hall found that

> *[w]hen a group’s final decision is compared to the independent points of view that the members held before entering the group, the group’s effort is almost always an improvement over its average individual resource, and often it is better than even the best individual contribution.*

In addition, we can assume that afterwards the participants bear new knowledge that can be valuable in another context with another group. In this subchapter, I concentrate on former scholars of transnational teams behind the projects. How to combine the best team and produce the best practice for the customer and for the corporation? The effect of national cultures on the functioning of international work team depends on management processes. As Adler (2002, p. 147) describes the importance of managing diversity, *‘‘Only if well managed can culturally diverse groups hope to achieve their potential productivity’’.*

Transnational project groups work in various business contexts. They are temporary structures gathered from different units to achieve the expected goal by experience and competence from team members. The project groups can be physically located in one site and members meet on a daily basis. On the other hand, the project team can be of virtual kind and members can participate in the project by working in dispersed units. Because a transnational team may consist of members from different cultures, one important issue for corporation management and strategy is to form corporation culture that helps networking inside the team and between other individuals of the organization. The ability of transnational project teams to perform effectively relies on understanding the context of the project (d’Iribarne, 1996). In addition, the customers are part of the local cultural context and share certain worldviews, including a specific way of managing business processes (Adler and Smith, 1982). Awareness of different cultural contexts and related modes of behavior has great impact on the team effectivity and it illuminates possible problem solutions as well. In order to reach a motivated team spirit the common project culture and shared understanding of the project goals and supportive system architecture must be created. (Boutellier, Gassmann and Zedtwitz, 2008)

The most important factor toward a successful project is the selection of team members. Individuals who have lived and worked in the country in where the project is situated and who speak the local language bring beneficial country knowledge to the team. For performing in a most excellent way a team must have internal knowledge about local economy, politics, culture, business protocols, manners and infrastructure etc. (cf. Lord and Ranft, 2000). Barham and Heiner (1998) point out that putting inexperienced local management in charge of the project contains fewer risks than using an experienced expatriate who doesn't know the local situation. The expatriates bring certain skills and specialized knowledge essential for the project. They need to have relevant competence and references to the functional requirements of the work (cf. Obstfeld, 2005). All team members have their own work background with assumptions of team work i.e. rules how to behave, communicate and make decisions. This makes a team's composition critical, since success of the team work depends on the ability of individuals to cooperate with others through social interaction by sharing and creating global knowledge (Chatman and Flynn, 2001). This highlights the importance of common corporate language for avoiding forthcoming communication barriers (Grönroos, 2006). Additionally, it enables the effective use of information technology for sharing codified knowledge (Gupta and Govindarajan, 2001). A vital point is to understand cultural differences and the importance of common norms and methods of working together (Marmer Solomon, 1998). As a summary we can assume that a corporation knowledge management structure must support the creation of corporation language and common culture and also understand the value of cultural differences for the corporation. We have already noticed that cultural differences can be seen as an organizational resource, and corporation culture must develop and recast them in a manner that supports the corporation's strategic aspirations (Holden, 2002). This will foster cross-cultural learning and participation.

Tong (1997) points out that if the cultural diversity is seen as a competitive advantage of the corporation, it will emphasize the releasing synergies from international and national diversity.

Team norms have been noted as an important tool to manage the team members' behavior (Chatman & Flynn, 2000). Members need to be aware not only of their own specific task in the project but of the common way of decision making and problem solving. There should be overlap of team members' responsibilities so that the members will get a shared sense of the project progress (Pirinen, 2000). They must also understand their role of delivering knowledge to other units and the corporation as a whole. The manager who selects people to the team must have a clear vision on the assets expected from the transnational project team. Team members must have social skills in addition to core competence skills. The team must contain members who have experience in motivating and supporting other members, which helps to create collaborative atmosphere among members (Holden, 2002). Holden also notes that the team members need to have participative competences for effective interaction inside the team. Good cooperation between team members increases coordination and knowledge flow within corporation and helps to form forthcoming group constellations (Lagerström, 2001). A team leader has an essential role of motivating other members, and in addition, cross border managers must be motivated to interactively keep contact and share experiences between each other (Gupta and Govindarajan, 2000). Brase (2001) points out that management behavior has direct impact on the work spirit and all cultures have their own stereotypes of good leaders

and leaderships. This highlights the importance of improving corporation structure and strategy so that they support cross border communication and the learning of behavioral differences of cultures.

A challenge of corporative knowledge creation is to find the way that makes context based knowledge reusable and facilitates to find out useful knowledge in another context. This issue needs to be taken account of when a company improves the networking structure (Bartlett and Ghoshal, 1989). The well-functioning network structure can prevent misinterpretation and low usefulness of knowledge. The success of the knowledge sharing and reimplementation rest upon the shared understanding of where the valuable knowledge resides and upon the facility to utilize it (Arvidsson, 1999). After all, the success of collaboration resides strongly on the individual's commitment and motivation of common purposes.

When working in a transnational project team, with different backgrounds and in a different culture, it is obvious that there will be conflicts between team members. This can be seen also as a possibility to widen the individual's comfort zone (cf. Eisenhardt et al. 1997). According to Eisenhardt et al., the conflicts can be divided into three types: substantive, procedural and affective. Affective and procedural conflicts are emotional and can destroy relationships among team members and the project progress. On the other hand, emotional conflicts are easy to notice and the parties can react rapidly to solve them. A clear structure of communication, project process and management that support open mindedness and good team spirit will minimize the risk of emotional conflicts. However, emotional conflicts need to be solved as soon as possible by discussion with the manager and the participants of the problem. Substantive conflicts deal with facts and can be managed through task-solving together with clear arguments and management. (e.g. Pirinen, 2000; Mäkilouko, 2003)

In a leadership sense, Mäkilouko points out four major strategies to manage cultural diversity in work teams that are: (2003, p. 85)

- Cultural synergy
- Cultural ethnocentrism
- Cultural polycentrism
- Cultural geocentrism.

The synergy means that a leader tries to combine the strengths of all cultures that exist of the team. According to Mäkilouko (2003) the main issue is to learn together i.e. to solve different expectations, learn from each other and to reach common agreement about teamwork. This is mentioned to be effective in Europe because some of the prevailing values are similar kinds.

The ethnocentrism means that leaders are task oriented and see the world solely on their own perspective and do not consider other cultures points of view. Mäkilouko argues that ethnocentrism leadership concentrates on avoiding confusion by better planning and informing. This has been said to be a starting point in multicultural leadership especially if number of the cultures in the team is high.

The polycentric means that leaders treat different cultures with respect, are willing to learn cultures and shape the leadership style to agree with cultural preferences.

The geocentrism means that the leadership style is similar kind world-wide.

There are many factors that have influence on the successful collaboration management in transnational environment. We have noticed the importance of selecting the best team. Corporation knowledge and language must be created, as well as common work culture. Corporation's business strategy and organization structure must support knowledge creation and knowledge sharing and vice versa. This is not an easy task and needs to be improved all the time. We must gather experience and have concrete results of KM for ensuring that we are heading to the right direction. Even though we can cope successfully in a certain transnational project, it doesn't necessary mean that our knowledge strategy works as planned. We need to ensure that employees are sharing and reusing knowledge to improve business processes. Also, we need to ensure that our knowledge management implementation works, and find out it's possible weak points. Appropriate measurement framework is essential for finding out what we need to adapt, improve or change. (Allee, 1996)

### 2.2.4 Challenges of knowledge creation in international environment

Multinational companies face many challenges while operating with employees who work in multiple countries. Several barriers may hamper the knowledge management to achieve its goals and best practices. In this chapter, I'll give an overall view on the cultural and individual differences among multinational team members and conceptual barriers which can hinder knowledge sharing and co-operation between employees, team members and sub companies. In addition, the integrated technologies of sharing knowledge may contain blocks that hinder effective knowledge flows. The various reasons why people hoard their knowledge may be multi-dimensional and there is no any "holy grail" that gives a thorough solution for managing forthcoming barriers. Still, recognition of the possible barriers plays an important role in the success of an organization's knowledge management strategy.

The principal ways in which cultures differ around the world are essential for understanding differences between national and global management (Adler, 2002). This is important for understanding not only the team members' behavior but also for internationalizing operations in a successful manner. In a strategy approach we need to be aware of cultural impacts on cooperation. We need to take into account cultural differences if we try to form a common corporation culture for a multinational company or even common rules for cooperation and knowledge sharing. (Mäkilouko, 2003). This way, we can avoid conflicts which may arise because of cultural, geographical and temporal boundaries.

A common definition for culture is that it is an integrated pattern of human knowledge, belief, attitude and behavior that depends on the capacity for symbolic thought and social learning. Culture is unique to each society and it is shared by members of the social group and forwarded to new members of the society (Adler, 2002). In 1976, Edward T. Hall developed an iceberg analogy of culture. If the culture of a society is described as an iceberg, Hall stated, there are a few aspects visible above the water, but the largest part is hidden beneath the surface. These issues are reflected in the ways that a society, people, and economy operate. All organizations build their own culture as well, as is shown in figure 11.

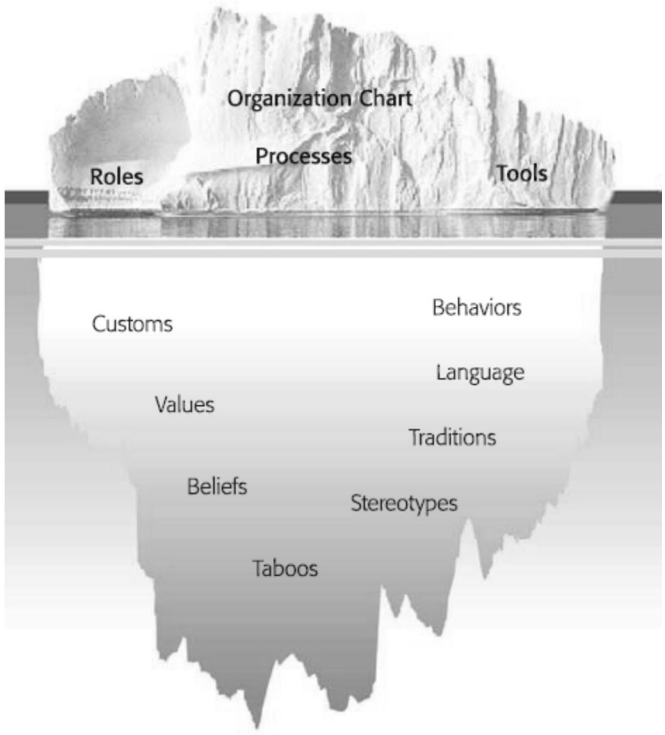


*Figure 11.The cultural iceberg (Hall, 1976, modified)*

In addition, people are part of many cultural organisms. Hofstede (1994 p. 18), for instance, defines six such broad levels of culture:

- *A national level according to one's country (or countries for people who migrated during their lifetime)*
- *A regional and / or ethnic and / or religious level and / or linguistic affiliation level, as most nations are composed of culturally different groups and / or ethnic and / or religious and / or language groups*
- *A gender level, according to whether a person was born as a girl or boy*
- *A generation level, which separate grandparent from parents and children*
- *A social class level, associated with educational opportunities and with a person's occupation or profession*
- *For those who are employed, an organizational or corporate level, according to the way employees have been socialized by their work organization*

A common misinterpretation is that people are believed to be similar and that all cultures are basically similar (Mäkilouko, 2003). Hofstede (1973) conducted a study in 40 countries that was expanded to more than 60 countries. The subsequent studies have yielded similar results, pointing to stability of the dimensions across time. In his study of national work related values Hofstede (1984, 1991) found five dimensions of culture:

**Power distance**

Power distance is the incident in which the less powerful members of organizations or institutions assume and expect that power is distributed unequally (Hofstede, 2001). This is probably a fact in all societies but it is obvious that some of them are more unequal than others. The power distance index (PDI) is higher in countries or

organizations with a more authoritarian hierarchy e.g. in most Asian countries and in Russia.

**Individualism vs. collectivism**
The second dimension defines how tight relationships individuals have for the society they belong to. In individualistic cultures, people are expected to develop and express their individual personalities and to choose their own relationships. In collectivistic cultures, people are defined and act mostly as members of a society. (Hofstede, 2001)

Paradoxically, individualistic cultures tend to believe that there are universal values that should be shared by all, while collectivistic cultures tend to agree that different groups have different values.

Many of the Asian cultures are collectivistic, while Anglo cultures are mainly individualistic.

**Masculinity vs. femininity**
Hofstede defines a masculine vs. feminine dimension by how different societies cope in different ways in work goals. In so-called "masculine" cultures, main values for people (whether male or female) are competitiveness, assertiveness, ambition, and the accumulation of wealth and material possessions. In so-called "feminine" cultures, people emphasize “softer” values like relationships and quality of life. (Hofstede, 2001)

For instance, Japan and United States are masculine countries while Scandinavian countries have feminine characteristics.

**Weak vs. strong uncertainty avoidance**
According to Hofstede, this dimension defines a degree to which members of a certain society feel uncomfortable with uncertainty about the future or in an unstructured situation. Unstructured situations are unexpected, unknown, surprising and different from usual. In cultures with strong uncertainty avoidance, people prefer explicit rules (e.g. religion and food) and formally structured activities, and employees tend to remain longer with their present employer. In cultures with weak uncertainty avoidance, people prefer implicit or flexible rules or guidelines and informal activities (Hofstede, 2001). In addition, employees tend to change employers more frequently.

Uncertainty avoidance in Japan and Russia tends to be very high while in Scandinavian countries the UA-index is moderate and in India very low.

**Long vs. short term orientation**
The fifth dimension is incorporated into Hofstede’s research from Michael Bond’s (1988) study (The Chinese value survey) on long-term and short-term orientations in 23 countries. This dimension defines the importance attached to future versus to past and present. In long-term oriented societies, people value actions and attitudes that affect the future: persistence/perseverance, thrift, and shame. In short-term oriented societies, people value actions and attitudes that are affected by the past or the present: normative statements, immediate stability, protecting one's own face or profit, respect for tradition, and reciprocation of greetings, favors, and gifts.

Asian countries are highly long term oriented while Scandinavian countries are short term oriented cultures. (Hofstede, 2001)

As noted above, an organization forms its own culture with values, behaviors and beliefs. A multinational organization attempts to form its own global unified culture by improving common strategy, goals and standards. Still the local customers, standards and cultural features must be considered in the KM strategy.

Other issues that hinder cooperation and knowledge creation are conceptual barriers among people from different cultures. Internal or external blocks can constrain creative thinking and prevent innovative ideas for being accepted and implemented. The most frequently occurring conceptual blocks studied by Gary A. Davis (1998) and common issues that may help to overcome the unwanted situations are described below.

**Perceptual blocks**
These are obstacles that prevent us from clearly perceiving the problem, meaning or relationships. We stereotype problems i.e. we see things the way that we expect to see them. We do not have an ability or even willingness to see things from various viewpoints. Perceptual sets are rooted in our unique experiences.

Several authors have noted that formal and informal interactions with employees encourage people to share knowledge and experience (e.g. Gold et al., 2001; Allee, 1997). This helps people to gain new insights and implement them in practice. Free task-solving-together atmosphere will support this. We need to step out from our comfort zone so that we can find new solutions (Allee, 1997).

**Emotional blocks**
These blocks degrease people's freedom to express new ideas or approaches to problems. People are afraid of making mistakes or making a fool of themselves, especially in a new group. Also temporary feelings such as anger fear or hate may have influence on creative thinking.

Organizations need to encourage the employees to open communication and problem solving. Organizations need to support a working culture that tolerates mistakes. People need to feel safe of taking risks and introducing new approaches to solving problem without fear of jeopardizing people's job security (e.g. Martins and Terblanche, 2003, McDermott and O. Dell, 2001). This is essential when creating new innovations.

**Cultural blocks**
We place ourselves due to the culture or society to which we belong. Cultural blocks reject to accept that other societies or groups may see and desire things in a different way. People protect familiar habits by thinking that "our way is right" or "we don't say or think that way". They refuse to accept that there are other ways of doing things.

A common term for describing this attitude is "not invented here" (NIH). Davenport and Prusak (1998) define the "not invented here" mentality, saying that it creates a barrier for using knowledge that is created within another group or culture.

Formal and informal networking helps people to know each other. This creates trustworthiness between individuals (E.g. Bowles, 1999; Von Krogh, Ichijo and Nonaka, 2000). Shared experiences encourage people to communicate with each other. People need to be aware of cultural differences, and the organization's strategy and knowledge management system need to support creating a corporative culture, open-mindedness and respect of cultural differences (e.g. Holden, 2002). People need to have enough time for communication and networking; otherwise they may hoard the knowledge because of time restrictions (Gold et al., 2001).

In multinational companies, a typical cultural block is lack of common language, which may cause errors and misunderstanding in communication. Both verbal and written communication is a highly important issue for effective knowledge sharing (E.g. Davenport and Prusak 1998; Grönroos 2006). Pirinen (2000) points out the importance of regular check among team members that all have understood a certain task in a similar way. Even in one country, same words may contain several meanings.

**Environmental Blocks**
These blocks are due the disturbance in our surroundings, real or anticipated. Environmental blocks may influence the individual problem solving behavior positively or negatively. For example, some people can do complicated calculations without ignoring disturbances from surroundings, while other people need quiet and peaceful environment. Another, and quite common, situation is that company's spatial arrangements are not built from a knowledge sharing and team work point of view but rather in an old fashion i.e. in a hierarchical way (Probst et al. 2000). Environmental blocks may play a key role in international projects. This may be seen as part of culture shock. (e.g. Ward, Bochner and Furnham, 2001)

This suggests thinking that working environment needs to be built from knowledge creation approach: team rooms, meeting rooms and informal facilities are placed so that they are functional and fit for purpose without disturbance from each other.

**Intellectual Blocks**
These blocks can occur when we are not able to adopt information in the way required to problem solving. People can also deny the possibility that a better solution can be achieved using a different specialty. People can worry about their work position and personal professionalism and they may not have courage to address the problem to other people who have the needed skills for problem solving.

People need recognition and a feeling that they are important for the organization (Järvenpää and Staples, 2001). People don't necessarily recognize the potential benefits of knowledge sharing. Organizations need to build a knowledge sharing culture that emphasizes this potentiality and importance of knowledge flow between individuals and the whole company i.e. that people see this as a win-win situation. It seems that people are willing to share their knowledge if they feel the process to be important to their work and they can trust the recipient of knowledge. For instance, managers can encourage people to cooperation rather than sit on ideas for fear of their intellectual property. People must have a free feeling of collective responsibility for knowledge sharing. (McDermott and O'Dell, 2001)

**Expressive Blocks**
This is the inability or willingness to express ideas clearly to others. We may restrict our abilities to share our ideas and thoughts with others.

Too often employees don't see the connection of individual knowledge and organizational knowledge. People may be uncertain about the value of shared knowledge. O'Dell (2001) emphasizes that knowledge sharing must become part of the organization's core values and a natural part of daily work. The organizational KM strategy needs to support people to see the value of knowledge sharing and how it helps the individuals' daily work and common goals (McDermott and O'Dell, 2001). McDemott and O'Dell (ibid.) also argued that it is better to implement a knowledge management strategy via existing values of an organization rather than try to adjust the existing culture to fit the new knowledge sharing goals and strategy. This might be the reason why people are not willing to use knowledge sharing web sites if they don't fit in the daily business and existing culture (Riege, 2005). An excuse often heard from employees is that they don't have time to use it.

Another challenge for organizations is the employees' long-term commitment to the company. It's a truism that when an experienced employee changes jobs, a lot of tacit knowledge and personal relationships go with him or her. A well implemented knowledge and competence sharing strategy can help to overcome this situation. (e.g. Stauffer, 1999; Riege, 2005)

These kinds of cognitive or behavioral blocks can occur even in daily work situations between familiar colleagues or customers. It is a truism to point out that the situation is highly complicated when working in a transnational environment with people from different cultures.

Nigel J. Holden (2002) made a research on testing the values of cross-cultural management from the knowledge management point of view by studying five international company's business cases that had failed. Holden (2002, p. IX and 13) highlights six various "factors which increase cross-cultural problems, and restrain the transfer of values, knowledge and experience from one cultural ambience to another":

- *The generation of uncertainty between interacting parties*
- *The critical role of trust*
- *The significance of historical factors and timing*
- *The complexity of cross-cultural knowledge embedded in particular situations*
- *Some components of cross-cultural knowledge (such as trust) are not cultural*
- *The limitations of "normal" Western business logic to explain rationally what is normal business practice in non-Western countries*

As a summary from above, it is far from easy to make effective cooperation between employees from different countries. So many issues may hinder communication or creation of relationships. For instance, a misunderstood e-mail message can cause frustration, errors in work and make team work ineffective. (Harris, Moran & Moran, 2004)

It is a great target for corporations to implement best practices for knowledge shearing. All organizations are unique and thus knowledge sharing goals and knowledge management strategies will vary greatly. A knowledge sharing system

with its technology and facilities needs to support the employees' daily work meanwhile employees must have understood the benefits of knowledge sharing. This mutual balance between the knowledge management system and organizational culture with overall company goals may be the key element when creating a knowledge sharing and corporative culture. In addition, the KM strategy must have a clear link to business strategy, vision and mission.

## 2.3 Summary

To summarize, the implementation of KM in transnational corporations faces many challenges that need to be taken into account when battling in a more and more competitive business environment. It is important to notice that there are two kinds of knowledge: explicit knowledge that is easy to be codified, discussed and adopted by other people; and tacit knowledge which is tangible and based on individual experiences and capability to know things and put them in action. Tacit knowledge is possible to convert into explicit by using methods like demonstrations, story-telling and mentoring. Because tacit knowledge is based on individual practices and skills it is the most valuable knowledge for the organization. The KM strategy needs to support the transforming of tacit knowledge into explicit knowledge that is usable for all employees.

All individuals form knowledge via a personal cognitive process that is influenced by trust, belief, values, norms, experiences etc. The social nature of knowledge – such as cultural assumptions, values and beliefs – is mostly unexpressed but implicitly known in a particular cultural community, and it thus represents the deepest level of knowing.

Collective knowledge forms when we reflect and test our ideas together. The success of knowledge sharing and collective learning is based on individual willingness and contribution. Trust and commitment are needed when individuals share knowledge whether it is verbal or practical.

The knowledge management in transnational corporations has two dimensions: it is about creating knowledge and shaping practices for local needs, and creating common corporation knowledge that is reusable globally. The input to the business strategy will be that the corporation can act globally by using global knowledge and individual experiences and provide tailor-made services for local needs. This is no doubt the most powerful asset for the transnational corporation in the global market competition.

There are many factors that have influence on successful collaboration management in a transnational environment. We have noticed the importance of selecting the best team for the projects. Corporation knowledge and language must be created and formalized as well as common work culture toward the best practice. A supportive knowledge sharing technology must be formalized and made easy to use on a daily basis. The KM strategy and organization structure need to encourage a free knowledge flow through formal and informal channels. The KM needs to concentrate on ensuring that knowledge will not disappear after the project but is reusable to be modified again and again. The knowledge has contextual boundaries; to be able to reuse it we need to develop it for local needs. This means that knowledge and

practices will improve all the time and the competitiveness of the corporation will remain.

Transnational corporations need to be aware of cultural differences and to concentrate on removing cultural barriers between country units, sub companies and transnational project team members. Building a common corporation culture with standardized knowledge sharing structure will support this approach. The KM should be clearly linked to business strategy and it should work as a practical facilitator of vision when a corporation aims toward mission. It is highlighted in past studies that KM culture needs to support existing cultures and primary values of employees because the basis of knowledge value is changing very slowly and rely on the national culture which deeply affects the way people process information. This means that people need to notice the value of the KM so that it facilitates daily work, makes it more meaningful and interesting and meanwhile supports individual development. People need to feel valued, that they are part of the transnational organization and that their effort is challenging and rewarding.

# 3 Purposes of the development and research subject

The purpose of the development work was to evaluate the Company's transnational corporation and how the existing knowledge management methods support this. The research method used in this study was structural and was executed by using a qualitative questionnaire and participant observation. The research approach has been constructive (e.g. Kasanen et al., 1993; Lukka and Tuomala, 1998; Eskola and Suoranta, 2000) by means of problem solving in a real-life organizational setting from a knowledge management point of view. Target of the study is to find out how well a knowledge management strategy is implemented for a daily basis practice of employees and how it is possible to improve the adoption of knowledge management strategy (KMS). The outcomes of the survey are compared to the theory part of this study in order to prove the theory right or reveal differences. This chapter presents the research methods, case and development work.

## 3.1 Presentation of the case

The Company is one of the leading consultant engineering companies in Europe employing nearly 10000 experts worldwide. During the last ten years, the company has grown rapidly and meanwhile has become increasingly international. The company is operating worldwide and has over 200 offices in 21 countries. The official business language is English. The main owner of the company is a foundation.

The Company is a multi-disciplinary engineering, design and consultancy company providing services on seven main service areas: Buildings & Design, Infrastructure & Transport, Energy & Climate, Environment & Nature, Industry & Oil/Gas, IT & Telecom and Management & Society.

The company is still growing mainly through acquisitions and has for example around 1300 employees in Finland in nearly 30 offices.

Since the new millennium, one of the main targets of the company has been to create circumstances that support transnational integration and knowledge sharing between sub companies i.e. global expertise is tailor-made for local needs. The company has created common intranet pages, with yellow pages enabling fast links to find people e.g. to know-who-knows, and informal network tools with shared desk etc. In addition, the cross border network units have been created for supporting cooperation and knowledge sharing through country business units while some of the business units are global. A lot has been done for people to have a good possibility to get to know each other and share ideas and experiences together. Meanwhile, the company can develop a knowledge-based business in a more and more competitive direction by using the best practices. The knowledge management strategy was introduced in 2009 in purpose of guiding employees toward a knowledge based company's goals, vision and mission.

The company has expanded rapidly during the last decade; the common history is very short and thus the shared experiences of transnational cooperation are limited.

Because the consultant company's business is based on knowledge about the service areas it provides, it is a truism to point out that a knowledge based company's success is based on how successfully knowledge is shared inside the company and implemented in services and markets.

## 3.2 Presentation of research and development

In this study, the research approach has been a constructive method (e.g. Kasanen et al., 1993; Lukka and Tuomala, 1998; Eskola and Suoranta 2000). As a member of Bridge Business Network's competence development group I have gathered notes and information in meetings. The scope of the meetings has been the improvement of transnational cooperation and global business in the case Company. The used research method can be called Participant Observation. A key principle of the method is that one may not merely observe, but has a role in the group observed from which to participate in some manner (Eskola and Suoranta, 2000). The face-to-face meetings have been executed twice a year in 2010–2011 and with 6 to 30 participants.

Another method used in this study was to provide a research questionnaire for the members of the Bridge Business Network. The questionnaire follows the form of Thematic Interview i.e. semi-structural method which contains certain themes and the respondent can freely emphasize the issues preferred (Eskola and Suoranta, 2000). The reason for this method was to avoid too limited or tight-framed options of answers.

The Bridge Business Network (BBN) is defined as a Business and Competence network within the field of bridge consultancy in the entire company. The Bridge Development Board (BDB) forms the head of the BBN. The BDB consists of a member from each bridge business country unit and of a chairman. The main purpose of the BDB is to shape global business by improving knowledge and competence sharing between country units and by using best practice in forthcoming international or national projects. The competence network has been divided into three competence development groups (CDG), with the aim of improving global competences in a same policy as the BDB. The CDG groups will report to the BDB. In practice, the bridge consultancy business can be dialed with two areas: new bridge design and maintenance and management of existing bridge stock. That is why the CDG work has seen as a crucial part of business network.

As a member of bridge competence group since 2007, I have built my own worldview about the bridge business network. With this experience and formal and informal conversations with colleagues, I felt that the case study is familiar enough for me for doing this study. All sorts of company data have been available for helping this study. In addition, business directors have supported this work by giving a helping hand when needed.

## 3.3 Data collection process

In this chapter I will describe how the data was collected, evaluated and how the conclusions were reached.

### 3.3.1 Reviewing processes, methods and material

Before the study, I had a three years' experience in the bridge business network. The field was familiar to me and I felt that the subject of this study was worth studying. The documents of the meetings and other company literature were reviewed meanwhile working with the theoretical background of the study.

The participant observation was executed four times during 2010–2011. The scope of the face-to-face meetings was global business: improving corporation and knowledge sharing and learning through country units. These two-day meetings consisted of formal and informal parts with participants from all competence or business network country units. The official part of the meeting was usually split in two: the first part of the meeting consisted of brainstorm in smaller groups, and the second part was the general presentation of outcomes from group work. The outcomes of the meetings are part of this research field.

Another survey method was the questionnaire forwarded to all BBN and GDG members as well as for some senior managers of the company that has bridge consultancy experience in the international field. The structure of the questionnaire was semi-structural, which contains certain themes and the respondent can freely emphasize the preferred issues. The questionnaire was forwarded to 39 people and in total 17 people from the target group gave useful and valid answers in the survey. The whole questionnaire can be found at Appendix 1 at the end of the study. The general outline of the questionnaire is as follows:

At the beginning of the survey I gathered background information of the respondent regarding status of the work and former experience in international projects. The aim was to categorize the respondents from a competence and experience point of view. The next step was to encourage the respondent to imagine a transnational project that he or she is taking part in, whether it is from real life or not, depending on the respondent's experiences and competence. The imagined project team could work virtually or in the field e.g. in a project office, or it might be a mix of them. The aim was to find out the ideal work circumstances according to the respondent's point of view. The topics were:

- project description
- project team
- project work and cooperation
- knowledge sharing
- customer
- learning and competence sharing inside the team
- how to work as best practice.

The questionnaire was made in English but the respondents had the possibility to give the answers on their mother tongue.

## 3.4 Analysis of results

In this study, the material is gathered from the case Company, and survey's results are gathered from the BBN members and other bridge experts inside the case Company. The analyzing process is based on the researcher's professional expertise and on the theoretical background gathered during the development work.

The results were analyzed from a context-specific point of view, and the main focus has been to evaluate tools for cooperation and knowledge creation that enable the best practice in transnational projects for the case Company.

## 3.5 Main purpose of the development process in case Company

The target of the development work was to create a framework for transnational cooperation for the case Company from the knowledge management point of view. My primary approach in this study was to focus on the three topics of the company's knowledge sharing mission that briefly are

- *…by combining our knowledge and services as One Company, we become the best in our markets... which enables us to ..excel together with our customers;*
- *…our combined world class expertise will allow us to become involves in the…challenging projects and thereby attract and motivates the best people;*
- *By sharing our knowledge...we will continue the...tradition of team work, having fun and being proud of the good we bring to society.*

The purpose of the survey was to gather viewpoints from the target group about how effectively the knowledge management strategy was adopted in the daily business and improvement suggestions for it if needed. The bridge consultancy work can be seen as a process that starts from a client's contact and ends to successful outcomes with client and consult. The process itself can be divided into customer relationship management and project work, and to improving the capabilities to generate best practices for creating value for customers, employees and entire company. That is why the framework to all of them is needed and will be reviewed in this study.

# 4 Results

This chapter will present the outcomes of the constructive survey. Totally 44 % of the target group members gave answers to the questionnaire. In parallel with the results of questionnaire I'll review the answers and notes from the BBN meetings and particularly from the meeting held in 2010 with totally 34 members from BBN, CDG and bridge unit managers. The topic of the meeting was to improve the BBN work; participants, divided in four groups, concentrated on this issue. I have only used the comments when they are appropriate to the subjects of the questionnaire.

It is obvious that there was overlapping between answers to different topics in the questionnaire. This is understandable because transnational project teamwork is an entity in which all issues affect each other.

## 4.1 Experience of international projects

At the beginning of the questionnaire the respondents were asked to describe their personal experiences in international projects. Fourteen from the seventeen respondents informed that they had former experience in international projects. Eleven respondents have experience in working in a team that contains people from different countries. However, all cases had a local client and third parties thus international projects and cross-cultural work were somehow familiar to fourteen respondents. Three of the respondents informed that they don't have any experience in international projects but they have participated in BBN meetings.

## 4.2 Best Practice in transnational projects

The next step of the questionnaire was to find out how the respondents see the ideal transnational project work and what issues are needed for working as best practice. The four given approaches are explained in the topics below. As the competence area of the respondents varies the respondents were able to choose the case project freely whether it was from real experience or imagined.

Six of the respondents concentrated on new bridge design and four respondents focused on existing bridge stock that contains field inspections or repair design or establishing a bridge management practice or all them. Seven respondents did not specify the project but informed that the case is a big international bridge consultant project.

The comments and ideas from BDB and CDG workshops are described in parallel with results from the questionnaire.

### 4.2.1 Transnational project team

In this topic the question for the respondents was to describe how an ideal transnational project team consists. The common view was that the team members should be well experienced and competent for achieving the project's goals. The size of the team must be convenient: too big groups should be avoided. On the other hand it was stated that the group should contain younger engineers as well i.e. "new faces". The members from different countries with different backgrounds and needed competence were recommended. However, some of the respondents argued that team members from only a few countries make the project work more effective.

Local experience and language skills were seen important and it is recommended that the project manager and at least some team members should be from the country that the project is situated in. Local partners should be used if needed. It is proposed that the team must be aware of local circumstances, especially rules and law. Local relationships help the project work.

It was noted that people need to know each other before a certain project will be executed. The BBN workshops were said to be a good tool for this but they do not cover all possible participants for a certain transnational project. Trust and synergy among team members were highlighted. Clear project rules, structure and workflow were seen to be essential and to support the creation of confidential team spirit. In addition to professional skills, it is recommended that all members enjoy the transnational team work, with open-minded attitude towards different cultures. The team must be well prepared for the project and aware of the cultural shock that usually comes on some level. Also back-up resources for the team should be appointed.

High willingness and motivation to transnational teamwork were said to be important and support the commitment to project goals. It was recommended that the company should prepare a list of employees who are willing to work in transnational projects. The list should contain the employees' professional background, competences and qualifications. During the BBN workshops it was noted that a common approach to transnational projects is missing and should be clarified in the near future.

The employee exchange was mentioned to be a good way for networking and sharing knowledge. It enables to get familiar with different working methods and cultures. Also internal seminars and courses were argued to be a good channel for networking. These would support the idea that people know faces before the transnational project execution and decrease a possible threshold to keep contact. Another option noted, to shape preparedness for transnational projects, is to start in a host country where the main purpose would be company's internal R&D.

One issue that was said to hinder the preparation of transnational projects is that key experts are busy in their daily business in the home country. If the work situation is good enough, it might be difficult to focus on long-term business strategy.

### 4.2.2 Team work and cooperation

In this topic the question was to describe what kind would be the ideal project work from the cooperation point of view.

It was said to be important that the company takes a “One Company” approach to transnational project management. This meant that documents, internal and external agreements, communication channels, structure of project web, etc., should be standardized. According to respondents, this makes the practical work easier and reduces time wasting and misinterpretations.

Regarding the team members’ position during the project, the common view was that the project team should work in the same project office at least at the beginning of the project. There should be “intense period of collaborative thinking, drawing, modeling, and talking followed by more targeted work by individuals”. A very common note was that working in the same office at the beginning is essential: that way each team member gets to know the scope of the work and his/her own responsibility in the project as a whole. For the shared project goal and for each individual’s contribution it is essential that the team spirit will be confidential and committed. Working in the same office reduces the possibility of misunderstanding and misinterpretation. If the project team works in a certain company’s office, then it is recommended that strong participants from the host country reduce possible resentment from other members i.e. the local practice comes more understandable. This is called “evaluation sessions” led by the project director. The supportive members can work via home office.

After the common target and individual’s role are implemented into practice and common language is shared, the group can work as a team. Depending on the project and the individuals’ role in it, some of the members can continue to work via home office but it was emphasized that the “key players” must stay close to the client. Occasional meetings after that were still recommended. In addition to face-to-face meetings, daily conversations and contact should be held via video conference, skype, phone and e-mail. Also the use of project web was highly recommended. Video or face-to-face meeting should be organized “through each phase of the project to sort out difficulties and to make sure that everyone has the same knowledge and understanding about the task”.

For ensuring that all members are interactively of aware how the project proceeds, the reporting should be regular and contain issues like progress, schedule, budget, actions, and decisions made. Quick reaction to possible forthcoming problems is vital and risk evaluation must be updated constantly. The team must stay motivated during the entire project. Teamwork rules and responsibilities and shared vision should be clarified and described in an early stage of the project and the team leader with regular meetings should ensure that the vision stays clear during the project.

### 4.2.3 Knowledge and information sharing

In this topic the respondents were encouraged to imagine the best way of knowledge sharing during a transnational project. For creating best practice and good team spirit it was emphasized that people need to get familiar with each other in early phases of

the project. The team members need to get an idea about what kind of professional background the other members have. Narrative presentation of early experiences is recommended. This was said to build relations and cooperation within the team. Working in the same office supports this approach and face-to-face discussions and task solving together were mentioned to be the best methods for knowledge and information sharing.

It was recommended that the members should be interested in learning other members' methods of working and task solving because it improves the knowledge flow and the unity of the team. It also reduces misinterpretations and enables task solving together as well as knowledge creation. The team leader has an essential role in the team performance. All team members must internalize their roles regarding the project i.e., "what they are expected to contribute and produce". A common language and structural form for the project must be implemented. People must be encouraged to make questions and participate in conversations. This was said to be a good way to start to work as a team.

Trust and respect among team members is said to be important not only from the knowledge sharing point of view but for the whole success of the project. Transparent rules of team players were emphasized and the project director should encourage people to open discussion with no regimented hierarchy. The project director must act merely as a coach who encourages members to work together and innovate. It was said to be important to take care that nobody stays outside the team. The project director should "involve everyone in decision making but within a clear vision for the final ends".

If the project contains field inspections or supervision of construction phase, participation in the field work was seen as a good way of learning. Also feedback from the field was said to be an important channel to shape practices.

The best knowledge sharing channel was said to be face-to-face conversations. However, this is not always possible and thus video conferences, skype, project web and other easy-to-use forums were recommended. Regular knowledge flow for all members of the team was seen essential. Important issues for the project must be written down to a memo and shared to all members. The project web must be updated interactively.

According to respondents, depending on the size of the project the critical issues and risk assessment must be revised together regularly e.g. once a month. It was highlighted that transnational projects always contain surprises and unexpected situations that the members are not familiar with. It is essential that these kinds of issues are discussed together. Also the importance of "lesson learned" was emphasized; this reflection could be carried out in the monthly meetings. In addition, "all documents should be archived for future use". This valuable information can be situated in the intranet or on another web site that is available in the company.

### 4.2.4 Customer relationship management

In this topic the respondents were asked to describe the methods and practices for customer relationship management during the whole process of a transnational

project. This topic was also discussed in a BBN meeting; a summary of the results is reviewed here.

A constant and close relationship with the client was said to be important. The client should be aware of who we are and what we are capable of doing. A good common quality of the services was said to be vital for marketing and company's image. In addition, it was recommended that working methods and services should be improved to unify direction and thus act and give the picture of "One Company". It was also noted that the company should be visible and actively participate in professional conferences by writing articles and making presentations. This enhances both marketing and networking. In addition, the company could establish national and international workshops for certain customers and cooperators.

The company needs to be aware of what kind of biddings are going on and what happens on the market globally. It was recommended that responsible people for searching international projects and markets must be nominated. It is emphasized that the use of business network pipeline should be more effective than so far. The needed certifications and used standards should be surveyed so that the proposed team is able and competent to participate in bidding. Because the company is seeking new markets all the time, it is obvious that experience and relationships with local customers may be poor or missing at the beginning. Local partners were said to be essential if the project or markets are situated in a new country or geographical region. It was highlighted that the local circumstances must be explored before the execution of the project, preferably during the marketing phases. Local contacts were argued to be an important channel to gather information from customers, culture, geography, economy, policy, etc. Another issue that was pointed out is the importance of understanding the customer's needs. As one respondent put this, "Often we get too occupied in finding the best technical solution, but forget about other aspects like economy etc." It was highlighted that the transnational cooperation is easier to start by working in a familiar country where the client and local circumstances are already known for some team members.

One proposed approach for marketing and improvement of common practices was to find out strategic projects in which the outcomes are not necessarily economical funds from the project but rather marketing and reaching potential business countries and meanwhile competence sharing within team members and country units. The main focus of the strategic project can also be internal R&D with marketing in some of the countries that the company has already strong purchase in.

If the transnational project is situated in a country where the company already has an office the starting points are easier because the client is already familiar with the host office employers. It was thus highlighted that existing relationships must be used and the project director should be from the host country and already know the client. Also local contact persons must be used in the project, if needed. Another issue highlighted was that a common understanding with the client about the contents and goal of the project must be ensured and there must be enough dialogue between the client and the key members. The structure of the project and contents of agreement must be clear for both parties. For ensuring the consensus it was noted that the conversations are better to be carried out by using the customer's mother tongue. It was reminded that the cultural background of the client can be highly different from that of the project director and other team members and it is important to be open-minded and aim to

form constant relations with the client. This was noted to help consensus and make free discussion easier during the project. There will always be unexpected situations and constant relations helps the problem solving together. However, regular and prompt feedback with detailed comments on design options from the client is vital for the process. Constructive discussions about the progress were wanted. It was noted that the relations at their best enable free discussion, innovative suggestions and joint decision-making.

The goal of the contract must be clear for both parties and it is essential to negotiate with the client about the critical points of the project and any changes in them. For instance, “pressure from time and bad economy removes the focus which should be the project itself”. It was noted that the project office should be situated close to the client, so that face-to-face meetings are easy to organize even on a tight schedule.

### 4.2.5 Learning and competence shearing

In this topic the respondents were asked to give viewpoints on the methods that enable learning and competence creation during a transnational project. During the BBN meetings this has been one of the main topics, and a summary of the results from the answers and comments is reviewed below. Generally speaking, it is slightly complicated to separate the concepts of *learning* and *competence shearing* from *knowledge* and *information sharing* because they are strongly related to each other. However, the respondents gave good insights about the possibilities to create a best practice for transnational projects and meanwhile to improve knowledge and competences in them.

It was proposed that the project team needs to spend couple of days together before the execution of the project i.e. to have a kick-off meeting. They should get to know each other and also have common informal experiences before the project. This was said to be a profitable way to ensure that people really get along with each other. Like one of the respondent noted, “Knowing people is the first requirement for a successful collaboration and for being able to ‘trust’ people sufficiently in order to use other people outside your own offices as key persons in an offer”. A kick-off meeting also builds the team spirit.

The team leader and “a technical specialist should give a good and profound starting lecture for the project”. The commitment and understanding of one’s own role as a team player and willingness to contribute to common goals was said to be vital for the success of the team work and the project. The entire project organization with individual responsibilities, competences and communication paths should be well defined and adopted. This was argued to be the first step for successful cooperation during the project. Working in the same office i.e. “in speaking distance” was noted to be the most effective enabler of learning and competence sharing. The team leader should be a competent expert from both a professional and leader skills point of view. It was proposed that the team should consist of experts and younger engineers and “make sure that less experienced members will be assigned responsibility for parts of the project”. The experienced team members need to be available for questions and also for design check, i.e. they should understand their role as mentors for younger engineers.

One of the respondents emphasized that team members must forget unit boundaries and concentrate on working as a best team. The “One Company” approach encourages this mentality. Working together and solving tasks together creates knowledge sharing and innovation. As one of the respondent described, “Cross pollination of individuals’ knowledge and expertise within a team should be encouraged”. People need to be open to wider possibilities and be willing to learn from other people’s solutions i.e. “analyze different solutions and try to figure out why some solutions and methods are used in some countries and not applicable in others”. Team members should be aware of the project’s progress; regular information spreading with short presentations was emphasized. Information should flow interactively. This enables that team spirit stays trustworthy during the project and keeps the motivation high. Spreading knowledge interactively was proposed to be effective also from the back-up system point of view e.g. if some of the members get sick and is not able to continue in the project. Also the team members who are working via home office must get daily updates of the progress and vice versa. Ready-built information sharing systems were emphasized to make the knowledge dissemination easier. A good way of motivating and sharing knowledge is to give the whole picture of the project to the members e.g. “...team members shall be part in work both in the office and on site”. Short work-shared sessions were argued to be useful in appropriate circumstances.

It was highlighted that shared practical experiences are the best way of competence creation and learning. Especially things that went poorly and possible disaster issues are important learning methods. Thus a “lesson learned” session after the project was recommended. This is the meeting in which people can freely and constructively discuss what was good or bad in the project and how to shape behaviors and methods for and in forthcoming projects. According to respondents, all documents should be archived and ready to be reused in future projects.

# 5 Strategic architecture of Knowledge Management in transnational projects

This chapter will present how the theoretical part of the study and outcomes of the constructive survey are related to each other. By combining the theoretical part and the results of the survey the frameworks for implementing the KMS will be reviewed below. The basis for the successful implementation of the KMS seems to be a clear structure and each individual's awareness of why and how they should support the organization. The employees must understand the vision of the KMS and the value of it. The employees need to find out the context between the KMS and the organization culture i.e. the KMS should link to existing values of the organization culture. The KMS should not change but facilitate and support the culture by making daily work easier and more interesting.

## 5.1 Framework work for customer relationship management

From the knowledge management point of view it is vital that the company knows its clients and vice versa. Geographically, the customers can be divided into two segments: those who are situated in a country where the company already operates and those who are situated in a country where the company does not have an office. The first group of clients is usually called key customers because all offices generally focus on home markets. The relationships with local customers are usually in good shape and the main target is to retain good relations and fulfill the customer's needs and meanwhile to improve and suggest new services that have added value to the customer. On the other hand, there are many potential markets in countries where the company does not have an office. Thus the customers are often unknown or at least the working experience with them is missing. The faces can be familiar from international conferences or from other contexts. These two kinds of clients and marketing, in geographical sense, need a different kind of input. It was however pointed that it is important to know also potential markets and clients. Furthermore it was noted that the local economic situation, policy, infrastructure and other circumstances need to be known well enough before it is possible to evaluate the potentiality of the markets and needed investments for marketing. Also the risks on potential markets need to be assessed. This means the evaluation of local circumstances with a long-term approach e.g. is the market potential for long-term business or just for one-off projects. Further assessment should be done about the possible effects to the company image; for instance, does the market fit into Company's policy regarding the responsibility of protecting human rights. This all emphasizes the importance of gathering extensive information about local circumstances before any further effort.

Because the company employees have different kinds of background it is possible to find a contact person with the client from inside the trans-units i.e. the expert who knows the client and local circumstances and probably can speak the local language. That way the customer contact and marketing is easier to maintain. However, in many cases local partners are needed and a network with potential partners is important for facilitating relationships with customers and probably for executing a possible project

as well. It was highlighted that the customer's cultural background can be highly different than that of the company's contact person and key players, and this may causes barriers for starting cooperation if the company is not well-prepared for the local cultural manners. One disastrous customer contact can destroy the relationship building for a long period and repairing this is not easy. That is why it is essential to study the cultural background and values of the client. As Nigel J. Holden (2002 p. IX and 13) puts it, "The limitations of 'normal' Western business logic to explain rationally what is normal business practice in non-Western countries".

It was emphasized that a good method to shape cooperation and to improve services and competences are the so-called strategic projects. The approach of the strategic project can be internal R&D that was mentioned above. The safest way to execute this kind of strategic project is in one of the company's home countries. Depending on the type, the strategic project may contain a workshop with the customer. In many cases the R&D project gives extra value to the customer as well. A strategic project usually contains a marketing aspect and networking with customers. Thus it is a way to get key customers familiar with the experts from the company's other country and may ease future cooperation with them. As a summary it can stated that in addition to the project itself, the values from the project would be outcomes from R&D, marketing, customer satisfaction and relationships. I will return to the concept of strategic project later in this study from a knowledge sharing point of view.

Another approach of the strategic project is to conquer a new market area. This means that the company forms a strategic approach for winning a project in a new country where the company has not made bridge business before. This is another possibility to make cross-country cooperation by organizing a competent transnational team, making cost-effective tender and being aware of the shared risks of the project. The value of the project will be in shared experiences of transnational project work, new customer contacts and probably a new market area. Strategic projects contain several kinds of approaches, but the rest are out of the context of this study.

An issue that the respondents stated was to formalize services to "One Company" direction. For instance, the common procedures were seen to be important because they widen the customer's understanding about what the company can globally do and is capable of. Another issue proposed was to arrange international workshops for key and potential customers. This is an excellent method to show the customers the company's capability to manage different kind of services and what kind of services it can offer to customers as "One company". Presentations from different countries give an image that the company is competent to solve different kind of tasks globally, and as a global player with wide experience the company is willing to produce new innovations and extra value for local needs. The company has been visible in international conferences by making presentations and stands. This tradition is essential in future because the company seeks new markets all the time and professional visibility is important from the networking and marketing point of view. The company should act as a one of the leading experts in all circumstances, and thus the company should be visible and meanwhile to increase an image as a best partner.

As a summary from above and from other outcomes from the survey the next action would be recommended:

**Appoint people responsible for surveying the potential global markets with:**
- bidding competitions
- local clients
- local partners
- local circumstances e.g. economy, policy, infrastructure, human rights
- local certifications and standards
- getting familiar with local culture and values
- arranging marketing meetings with potential partners and clients
- benchmarking the global competitors
- making opportunity (risk) assessment for ensuring the potentiality of the certain market region.

The information must flow interactively between the key persons, for instance between BDB members and service area directors. All relevant information must be readable from certain intranet page, CRM, and e-mail if emergency actions are needed. This "knowledge switchboard" would work under BDB.

**Act as "One company" and the best partner in all kind of situations:**
- common brochures
- arrange international workshops and conferences
- make the global competence of the company visible for local clients
- make presentations and participate in international conferences
- arrange strategic projects for near markets and potential markets
- shape the best practice to local needs with global knowledge, and keep the client satisfied i.e. service excellence
- use the global competence to produce value-added solutions for local customers i.e. new spearhead services
- make company knowledge available to customers.

**Shape the use of CRM tools and keep it updated:**
- capture knowledge about customers
- key customers
- potential customers
- local partners
- contact person vice versa
- be aware what customers need
- background information about customers and other important local information
- people in charge of each country who ensure that the CRM tool is updated
- the "knowledge switchboard" updates global potential clients and markets.

The measurement of performances would support the CRM, and it is easy to find different measurable approaches and put targets for them, like:
- number of new customer contact
- number of new markets
- company' status compared to competitors
- the customer satisfaction (feedback)
- number of new spearhead services

- number of strategic projects
- local partner survey
- number of presentations in international conferences, etc.

## 5.2 Framework for transnational project teamwork

Based on the findings of the survey and theoretical background of the study, I will now describe how cooperation in transnational projects can be improved and project teamwork can be shaped toward best practice. In addition, I will define how to prepare transnational projects from the knowledge management point of view.

Cultural differences can hinder the cooperation in many ways. They may destroy the teamwork or reduce the relationship with the client and other parties. Even in Nordic countries the national stereotypes vary considerably. The Finns for instance are highly task oriented and independent while the Swedish want to solve problems together in consensus and enjoy teamwork and meetings. That is why it is important to learn about cultural differences: it enables the creation of a "One Company" culture in which different kinds of background are a value for the company. At its best this culture gives different kind of approaches for creating new innovations. A workshop that concentrates on cultural differences and creates a track for common language would ease transnational cooperation. The concept of cultural shock is worth discussing in the workshop. It was highlighted by respondents that a "One Company" approach should be adopted for transnational project management. This means that documents, agreements, design programs, information channels, and methods to sharing knowledge should be standardized. It would make project work easier and the material would be reusable again and again. The project stages of work progress – timing of decision-making, approval of documents, etc. – should be standardized as well. This would support the creation of a common corporate language and culture. Many studies emphasize that a well-functioning network structure can prevent misinterpretation and low usefulness of knowledge (e.g. Bartlett and Ghoshal, 1989; Allee, 1996; Grönroos 2006). In addition, a good communication plan with basic rules reduces confusion and frustration among team members.

If the project is large and has participants from different technical areas and partners it is not meaningful to sift all information for all members. In these kind of situations a project web with convenient subfolders reduces the information overflow. In addition, project controllers can be used for distributing information to the right places. Despite standardized project management, the building of relationships among team members needs to start from the beginning for all projects. For facilitating the relationship-building and best practice it is recommended to build continuity of the team i.e. aim to use the same team basis repeatedly.

Exchange of employees was noted to be a good way to learn different cultures and practices of working. All countries have different kind of methods for conducting daily business and the expectations of customers vary as well. The norms, instructions and requirements vary and make it difficult to use experts from other countries. That is the reason why the needed certificates and requirements should be gathered and it should be planned how the company manages this challenge. In addition to employee exchange, another good way to prepare transnational projects is strategic projects

including workshops for employees. This kind of R&D project is a practical method to share competences with tacit and explicit knowledge i.e. people learn from doing and solving tasks together. Meanwhile the trust among employees and ability to cooperate will increase. For instance (Nonaka, 1994) defines knowledge as a justified belief which increases individuals' or groups' capacity for effective action and is based on the truthfulness of concept.

It was highlighted by the respondents that people need to know each other before the project execution. It is vital that people get a kind of shared experience and establish relations before concentrating on real work. People want to know the background of each other and not only the professional point of view. You must have an idea about the competences of other people for sharing knowledge and insights with the team. This means that people must trust each other in order the shared information to be meaningful and the recipients to be capable of using it. Because the success of a project requires all participants' effort it is very understandable that the people need to trust all contributions toward the common goal. In addition to professional background, shared interest outside the office helps to create trust. If the people have for instance same hobbies it is easier to establish relations. This is one of the reasons why mutual presentation was recommended. A kick-off meeting for the project is a good way to ensure that team members will cope with each other.

The willingness to participate in transnational projects was regarded important because it ensures that people are motivated and willing to commit to teamwork. Depending on the project, different kind of skills and experiences are needed. In some cases the most difficult issue could be to find an expert who speaks a certain language for instance. That is why a list of willing people should be provided. In addition to professional CV, the list should contain other important issues that can be useful in certain projects: countries one knows well, contacts, cultural knowledge, international driving license, etc. Like in sports, each player needs to understand the importance of his/her own role in a team for achieving common goals. The team will need well-experienced expatriates, who have been working together before, local members and also new players, future experts. This will ensure that the number of potential team members increases and the company has good basis for more and more competitive and globalized markets in future.

Team leaders have the most important role: they ensure the best teamwork for reaching the goal of the project and value for the customer. In the meantime, the team leader should function as a team coach and encourage the team members to free discussion and task solving together. The team leader will ensure that team spirit stays high and all members give the best contribution for the common target. Another option is to use a two-leader concept in which one leader concentrates on task-related matters while the other leader is responsible for building and maintaining good relationships in the team (Mäkilouko, 2003). The role of mentors should be emphasized in all principles of the project. For ensuring that all individuals are suitable for a certain project it would be a good idea to arrange face-to-face interviews for the candidates before the project, especially for new candidates. This is a good way to ensure that the employee is capable of spending even a long period in an odd culture by working with people from different kind of cultures.

For the team to reach the best practice it was highlighted by the respondents that the team should work in the same office at least for so long that the practices of the

teamwork are adopted. There should be key players who know the local circumstances and have convenient relations to the customer. This is also vital from the knowledge sharing point of view and will be handled more closely in the next chapter.

According to the text above and outcomes of the study it is proposed that for ensuring the team members' and the company's readiness for transnational projects at least the following actions should be considered:

**Ensure that the company has resources for transnational projects:**

- survey the employees who are willing to participate in international projects
- compose a list of willing people with their backgrounds
- use a program that enables to make easy sort lists from candidates according to competences, personal skills, certificates, etc.
- survey the needed certificates in the market and make plans for necessary education
- shape projects models for different kind of needs.

**Ensure that the candidates are aware of cultural differences and know each other**

- arrange a "One company" workshop for the candidates
    - personal presentations
    - cultural differences and stereotypes in the company's countries
    - tools to cope from the culture shock
    - motivate by telling stories from transnational projects, also disaster ones (what went wrong)
- encourage the employees to exchange
- use the strategic projects for facilitating the cooperation
- create trustworthy spirit with candidates

**Build a "One Company" culture by standardizing the transnational project management**

- standardize agreements and documents
- standardize transparent structure for transnational project management
- standardize communication channels and methods
- standardize project web with structure
- standardize information sharing methods
- standardize stages of a project progress
- create a common language
- standardize supportive programs
- prepare a guide: "The role of team players"
- facilitate best practice
- make all experiences and documents available for reuse
- enhance flexibility to react to local needs

**Build a best team for transnational projects**

- a team leader with leadership and coach skills
- a two-leader concept for large projects (task-related matters and relationship building)
- a project director from the host country if possible
- experienced experts

- local language skills
- familiar with local circumstances
- already built relations to the client
- expats
- younger engineers
- supportive and substitute members
- organize a kick-off meeting and ensure that the members fit the team
- build continuity in the teamwork
- arrange an interview for new candidates before the project
- the project team's "calibrate period" in the same office.

The measurement of performances could be for instance:

- number of candidates
- number of certificated candidates sorted by market areas
- number of new certifications needed abroad
- number of exchange employees
- number of transnational projects
- number of first-time team members
- feedback from the standardized project management
- feedback from the projects

For implementing this kind of issues it is recommended to appoint a group that concentrates on transnational projects and is responsible for its development. First step would be to gather a list of willing candidates. The second step would be to prepare a guide "The role of team players" and to arrange a "One Company" workshop.

## 5.3 Framework for knowledge and competence sharing in transnational projects

In this chapter I will concentrate on the outcomes of the survey and theoretical basis from the knowledge and competence sharing point of view. Finally, I will give a proposal on how the outcomes could be implemented in practice in the company.

Before the project execution the vision of the project and each individual's role in it must be clarified. A kick-off meeting will ensure this and also create motivation and commitment among the team. Even though the members may have shared project experiences, a kick-off meeting is a good way to go through the process and risk assessment together. A starting lecture would be part of the meeting with visualization of the project.

It was emphasized that working in the same project office with discussion distance would be the best way to share knowledge. Different backgrounds of the members enable to use versatile approaches in task solving and solution finding, and also facilitate to create innovations. The team leader must encourage the members to free and lateral discussion and joint decision making without hierarchical or cultural barriers. Still the vision of the project must steer the discussion. The team members should work in the project office together long enough so that a common language and confident team spirit are implemented. There should be some overlap in the

members' responsibility areas, because it creates a shared sense of responsibility about the project process and supports the coordination of the project. This ensures that members understand the context of discussions and are able to adapt and use the knowledge most effectively without communication barriers. Depending on each individual's role in the project some members would continue to work via home office; the communication by phone or e-would still be easy. Critical issues need to be documented not only for avoiding misunderstandings but because of quality requirements and because of the information flow to other members and parties.

While the team members concentrate on doing their own business, especially the experts need to understand their role as mentors for younger members. On the other hand, the younger members may know the local circumstances better and can help other members with it. Hence, all kind of knowledge flow and support is fruitful and facilitates the teamwork. Working together is said to be the best way to learn and share tacit knowledge, and the mentoring will support this. According to Nonaka (1994), tacit knowledge can be shared through observation, imitation, face-to-face communication and practice.

The synergy among team members is the task that needs constant maintenance. It is obvious that a long period abroad with same faces may have impacts. Depending on cultural background and differences in personality some people are more impulsive or sensitive than others. This is good to bear in mind. Also the project will cause unexpected situations. It is important that these kind of issues are discussed together. The role of team leader is essential for putting the members back on track. The two leader method is another option to maintain good leadership among team members. However, this needs support from other team members as well. All team members have influence on the welfare of the team and thus it is important that all take responsibility of fostering it. Another issue needed to take care of is trust and confidence among the team. People need to trust each other to make knowledge flow. The team leader should encourage members to free discussion. Raub and Romhardt (2000) highlighted that if the employees trust that the organization tolerates mistakes, they are more willing to share knowledge with each other. Joint decision making and open-mindedness with other members in addition to clear responsibility areas of the team members support good team spirit. The "One Company" attitude also gives effort to this.

Regular meetings with a briefing of progress, schedule, budget, actions and other topics will ensure that the project members know and understand the whole picture of the project's progress in similar way. For the members who are not working in the project office, the participation in the meeting would be trough a video conference. Other channels for holding meetings are skype and phone or company's other cooperation tools. All data and documents must be updated to project web. The team leader must ensure that everyone has the same knowledge and understanding about the task. Standardized information channels and communication formats ease the knowledge sharing.

Critical issues and risk assessment of the project must be revised together during meetings. This is important because the impact on the whole process would be possible and cannot be underestimated. The lesson learned should be part of the regular meetings and meanwhile it is an effective way to shape best practice. Lesson learned and story-telling are said to be good methods to convert tacit knowledge to

explicit knowledge. As scholars emphasize, an individual's knowledge and ability to perform particular tasks grow through practice, in many cases through trial and error and through avoiding same errors in future (e.g. Sveiby, 1997; Pirinen, 2000). That is why the lesson learned is important and should be archived for future use in forthcoming projects.

Common understanding with the client about the contents and goal of the project is the first perquisite for the success of the project. Face-to-face meetings with client should be organized often enough so that the project goes on an agreed track. The conversation should be managed by language which is familiar to the customer and a memo from the meeting should be written in the same language. In addition, the memo should be translated into English for the team members and for future use.

According to the text above and to the outcomes of the study it is proposed that for improving the collaboration and knowledge creation among team members, at least the following issues should be considered:

**Create synergy among team members**

- arrange a kick-off meeting for the project
- arrange a starting lecture with risk assessment and visualization of the project
- define clear responsibility areas for all members with partial overlap
- maintain good relationships and commitment
- maintain motivation and contribution
- enhance working together in the project office
- see cultural differences as a strength
- solve adversities and conflicts immediately and in a constructive way
- be flexible and open-minded
- encourage to free and lateral discussion without hierarchal barriers
- trust and be trustworthy
- develop "One Company" attitude and standards to prevent confusion and frustration .

**Create innovative team spirit**

- join the decision making culture
- use versatile approaches for task solving
- support individuals' intercultural competences as an enabler of innovation creation
- tolerate mistakes
- use mentors to share tacit and explicit knowledge
- create a common language
- standardize "One Company" information channels and communication formats that are easy to use.

**Keep team members updated on the project progress**

- regular meetings and brief presentations
- encourage to active participation in meetings
- give the whole picture of the progress to all
- update the risk assessment together
- lesson learned to part of the meetings
- reciprocal feedback

- use video conferences, skype and phone, and keep supportive team member and other parties updated
- write memos from meetings, important contacts and other topics
- update the project web interactively.

**Keep the customer updated on the project progress**

- regular meetings by using a language which is convenient for the client
- ensure the common understanding about the contents and goal of the project
- write a memo and translate it into English
- maintain a good relationship with the customer.

The measurement of performances would be for instance:

- feedback from the projects
- number of new innovations
- relationships among team members
- reusability of the project performance
- performance of the supportive information and communication technology.

The building and maintaining of an innovative team spirit relies highly on the team leader's management and social skills. However, the mutual relationship creation of the team requires all team members' contribution. That is why it is essential to clarify the team norms to the team candidates. A workshop for the candidates of transnational projects and guidance on "the role of team players" will support this in addition to implementation of "One Company" format for the issues mentioned above.

## 5.4 Validity and Reliability of the survey

The term "validity" is mainly used in quantitative research (e.g. Winter, 2000; Tuomi and Sarajärvi, 2004). Qualitative research is not a certain or universal concept but rather a contingent construct fixed in the processes and intentions of particular research methodologies and study (e.g. Winter 2000; Eskola and Suoranta, 2000). In contrast to quantitative research, there are no standardized tests that prove the validity of qualitative research. The collection of theoretical basis and the analyzing of data are based on the researcher's own experiences from the field of the study. In this study the researcher works on a daily basis in the circumstances that the development work deals with. Through discussions, meetings and questionnaire used the researcher has got clear vision of the study.

Qualitative research is characteristically tailor-made for certain development work and thus it may not be useful in other projects (Stenbacka 2001). This makes the concept of reliability difficult to use in a context of qualitative study as it is impossible to differentiate between the researcher and the method used (Stenbacka 2001). According to Eskola and Suoranta (2000) a good quality in qualitative research is acquired through definition of the whole process and enabling conditional intersubjectivity. In this context the result of the study is however possible to exploit not only in the case business network but also in other business networks within the case company.

The theory basis collected in this study is consistent with the case Company's knowledge management strategy and is commonly used in studies that focus on investigating knowledge creation and cultural differences related to international companies' daily practice. It gives a comprehensive view on different kind of issues that have influence on the scope of this study and meanwhile gives tools for the researcher or reader to make sense of relations with theory and practice.

The target group contains all employees of the company that have been working in the BDB, CDG. In addition, the questionnaire was forwarded to bridge managers and some other competent experts in the Company. It is possible to question the reliability of the outcomes of the questionnaire since the amount of respondents was 44 %. That's why the participant observation in meetings has been used as a second research method. It also makes possible to gather comments from all target group members.

The questionnaire used in this study was semi-structured and it gave the respondents flexibility to approach certain questions. However, the answers matched well to each other and the summary of the answers was easy to analyze. It seemed to be obvious that the respondents knew well the context of the questions.

# 6 Conclusion

This chapter summarizes the main research findings and links them into the theoretical section of the study. The road map of the development suggestions will be provided. The chapter also discusses the recommendations for future research arising from this study and it concludes with a summary.

## 6.1 Discussion and main findings of the study

The results show that the theoretical part of the study supports the respondent's assumptions about transnational cooperation. Meanwhile it gives an explanation what kind of issues can hinder cooperation and on contrary support it. This chapter gives a summary of the theoretical part of the study and the research findings and provides a review on how the theoretical part supports the findings of the research. A road map of the development suggestions will be introduced in appendixes.

### 6.1.1 Customer relationship management

Good customer relationships are vital for companies' success. According to Adler (2002), customers are part of the local cultural context and share certain worldviews, including a specific way of managing business processes. The ability of transnational project teams to perform effectively relies on common understanding of the context of the project with the client (e.g. d'Iribarne, 1996; Mäkilouko, 2003). This highlights the importance of gathering the best team for certain circumstances, including local experience, cultural awareness and language skills. Existing customer relationships should be used: it enables constant communication between the team and the client and increases the confidence between parties of the project (e.g. Mishra and Morrisey, 1990; Nonaka, 1994). The company should be visible and actively participate in professional conferences by writing articles and making presentations and thus maintain the relationships with customers. The framework for customer relationship management is introduced in chapter 5.1.

### 6.1.2 Transnational project team

The concept of the best team varies depending on the current project. Nevertheless, trustworthiness, social skills, and communication skills along professional competence has been said to be the most important features of the team members. According to Kelloway and Barling (2000), trust enables constructive interaction between interdependent members of a team and thus creates collaboration and motivation. The confidence is needed not only internally among employees but externally among customers, sub consultants, etc. Because trust is a key issue when shared knowledge is implemented into practice (eg. Pirinen, 2000, Huotari and Iivonen, 2004), it is important that team models facilitate the confidence creation. A common and well-functioning communication structure and common team norms will support the confidence creation. (e.g. Bartlett and Ghoshal, 1989; Allee, 1996; Grönroos 2006)

For performing in a most excellent way a team must have internal knowledge about local economy, politics, culture, business protocols, manners and infrastructure etc. (cf. Lord and Ranft, 2000). Barham and Heiner (1998) point out that putting inexperienced local management in charge of the project contains fewer risks than using an experienced expatriate who doesn't know the local situation. Expatriates bring certain skills and specialized knowledge essential for the project. They need to have relevant competence and references to the functional requirements of the work (cf. Obstfeld, 2005). The needed certifications and used standards should be surveyed so that the proposed team is able and competent to participate in bidding.

The principal ways in which cultures differ around the world are essential for understanding differences between national and global management (Adler, 2002). People need to be aware of cultural differences, and the organization's strategy and knowledge management system need to support creating a corporative culture, open-mindedness and respect of cultural differences (e.g. Holden, 2002). The cultural differences should be studied before the project for reducing misunderstanding and confusion during the project.

Brase (2005) points out that management behaviors have direct impact on work spirit and all cultures have their own stereotypes for good leaders and leaderships. This highlights the importance of selecting leadership styles and management skills that are facilitating the success of team performance in the most appropriate manner (e.g. Gupta and Goyindarajan, 2000; Lagerström, 2001). In some cases it would be necessary to use the two-leader tactic, in which one leader concentrates on the task and the other on relationships. This method can save time and money if the team is big and very multicultural (Mäkilouko, 2003). The team members should be open-minded and keen on learning about different cultures. According to Hoecklin (1995), cultural differences can lead to "management frustration, costly misunderstandings, and even business failures" if they are not properly taken account of. The framework for a transnational project's team work is introduced in chapter 5.2.

### 6.1.3 Knowledge and information sharing

Sveiby (1997) points out that tacit knowledge is of practical kind e.g. "working knowledge" used to perform a task. Tacit knowledge is strongly of personal nature and it is hard to encode or formalize and thus difficult to communicate to others. (Nonaka, 1994). Working in the same office, face-to-face discussions and task solving together were mentioned to be the best methods for knowledge and information sharing. According to Nonaka (1994), tacit knowledge can be shared through observation, imitation, face-to-face communication and practice. This mode of knowledge conversations is called "socialization". Because tacit knowledge includes mental models and beliefs in addition to know-how, it is important that during socialization and externalization people feel confidence for the one who is sharing the knowledge (Nonaka, 1994). This emphasizes that the team members should have social skills and social relationships should be built in the early phase of the project, for instance during the team building events i.e. kick-off meeting. For the team to reach the best practice it was highlighted by the respondents that the team should work in the same office at least for so long that the practices of the teamwork are adopted. For facilitating the relationship-building and best practice it is recommended to build continuity of the team i.e. aim to use the same team basis repeatedly.

The entire project organization with individual responsibilities, competences and communication paths should be well defined and adopted. Brown and Duguid (1998) highlight that knowledge creation is better served by close ties in a community of practice since individuals share a common language and would be more at ease of discussing ideas openly and challenging the ideas of others. For controlling the situation in which the members see the project from a different kind of context, the knowledge management strategy must aim at shrinking "contextual distances" so that the team members can create shared meaning and productive collaborations (Slaughter, 2004). There should be some overlap in the members' responsibility areas; this creates a shared sense of responsibility about the project process and supports the coordination of the project (Pirinen, 2000). This ensures that members understand the context of discussions and are able to adapt and use the knowledge most effectively without communication barriers.

Cultural differences can be seen as an organizational resource, and corporation culture must develop and recast them in a manner that supports the corporation's strategic aspirations (Holden, 2002). This will foster cross-cultural learning and participation. Tong (1997) points out that if the cultural diversity is seen as a competitive advantage of the corporation, it will emphasize the releasing synergies from international and national diversity. That is why it is important to learn about cultural differences: it enables the creation of a "One Company" culture in which different kinds of background are a value for the company. At its best, this culture gives different kind of approaches for creating new innovations. Exchange of employees was noted to be a good way to learn about different cultures and work practices. R&D projects are another practical method to share competences with tacit and explicit knowledge i.e. people from different cultural background learn from carrying out and solving tasks together. Meanwhile the trust among employees and ability to cooperate will increase.

Team norms have been noted to be an important tool to manage the team members' behavior (Chatman & Flynn, 2000). Members need to be aware not only of their own specific task in the project but of the common way of decision making and problem solving. Each works collaboratively toward a mutual and beneficial vision of the project. The role of the expatriates as a mentor for rookies is essential from the knowledge sharing and collective learning point of view (Pirinen, 2000). The leadership style varies depending on the leader's experiences and number of cultures among a team. The main target of the leadership is to create a motivated and confidential atmosphere among the team members which enables the best practices for achieving the project goal (Mäkilouko, 2003).

In order to reach a motivated team spirit, a common project culture and shared understanding of the project goals and supportive system architecture must be created (e.g. Govindarajan, 2000; Boutellier, Gassmann and Zedtwitz, 2008). Standardized information channels and communication formats ease the knowledge sharing and the project work. As scholars emphasize, an individual's knowledge and ability to perform particular tasks grow through practice, in many cases through trial and error and through avoiding same errors in future (e.g. Sveiby, 1997; Pirinen, 2000). That is why the lesson learned is important and should be archived for future use in forthcoming projects.

Transnational projects always need tailor-made knowledge which focuses on successful outcomes for the customer and company (e.g. Adler and Smith, 1982; Pauleen and Murphy, 2005). Common understanding with the client about the contents and goal of the project is the first prerequisite for the success of the project. The framework for knowledge and competence sharing in transnational projects is introduced in chapter 5.3.

## 6.2 Suggestions for future research

Even though this study has focused on developing the bridge business networks performance in transnational projects, it is a truism to point out that there may be multiple business units involved in the same project, such as ground engineering, road engineering, and landscape architecture. The outcomes of the study are also useful for other business networks in the case Company. However, the outcomes of large transnational projects and evaluating market risks, project risks and technical risks would be very valuable for the case Company.

## 6.3 Summary

The aim of the study was to establish a strategic framework on how transnational project work and collaboration can be improved within the Company from the knowledge management point of view. This study focused mainly on the steps that need to be taken in the Company to implement knowledge management as a core capability for transnational projects and meanwhile to create a global knowledge culture in the Company. It can be stated that a standardized structure of project management and team norms are essential when working in a multicultural environment. Transnational project work needs multiple kinds of skills from individuals, and it is important to map out willing employees and prepare them for working in a different culture with people from different cultural backgrounds. The mutual relationship creation and synergetic management of cultural diversity are the main tasks that build trust among team members.

By examining previous literature on the subject and comparing it to the outcomes of the structural research used in this study, the strategic frameworks for customer relationship management and transnational teamwork with knowledge creation are presented for the Company.

According to the outcomes of the study, it seems that employees have not reacted to the importance of preparing for global competition by improving global knowledge on local needs. One issue that was said to hinder the preparation of transnational projects is that key experts are busy in their daily business in the home country. If the local work situation is good enough, it might be difficult to focus on long-term business strategy.

The assets of transnational collaboration are not rooted in the daily work. A common corporation knowledge management strategy that is integrated into company’s culture and existing values is the key issue for the global success of the company. National cultural values must form the base for the entire corporation culture. That is why a

transnational corporation has a great possibility to become and stay one of the leading knowledge Companies in the world.

A knowledge management strategy needs regular testing and modification. In addition, the KM strategy should be clearly linked to business strategy and it should work as a practical facilitator of vision when the Company aims toward its mission.

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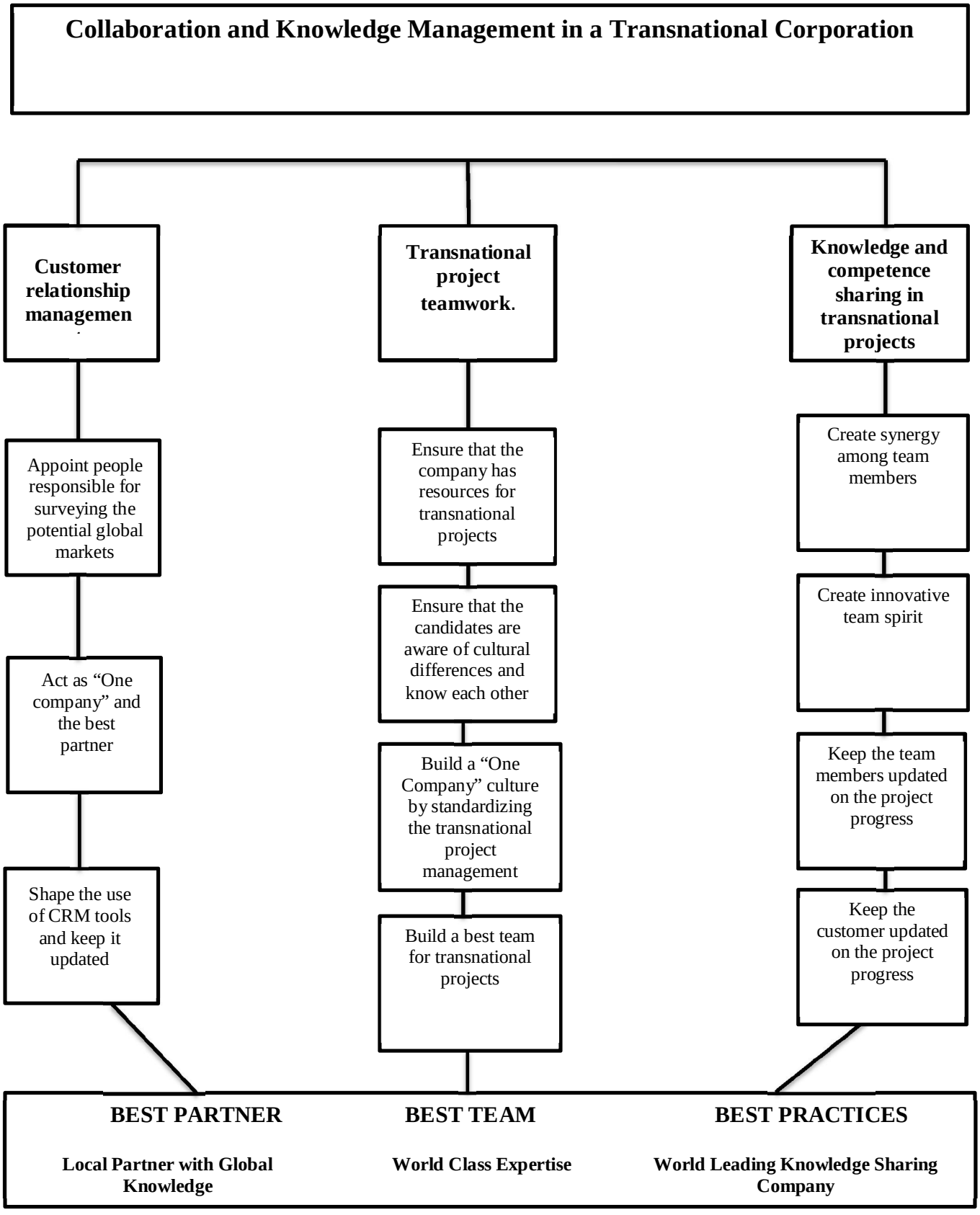
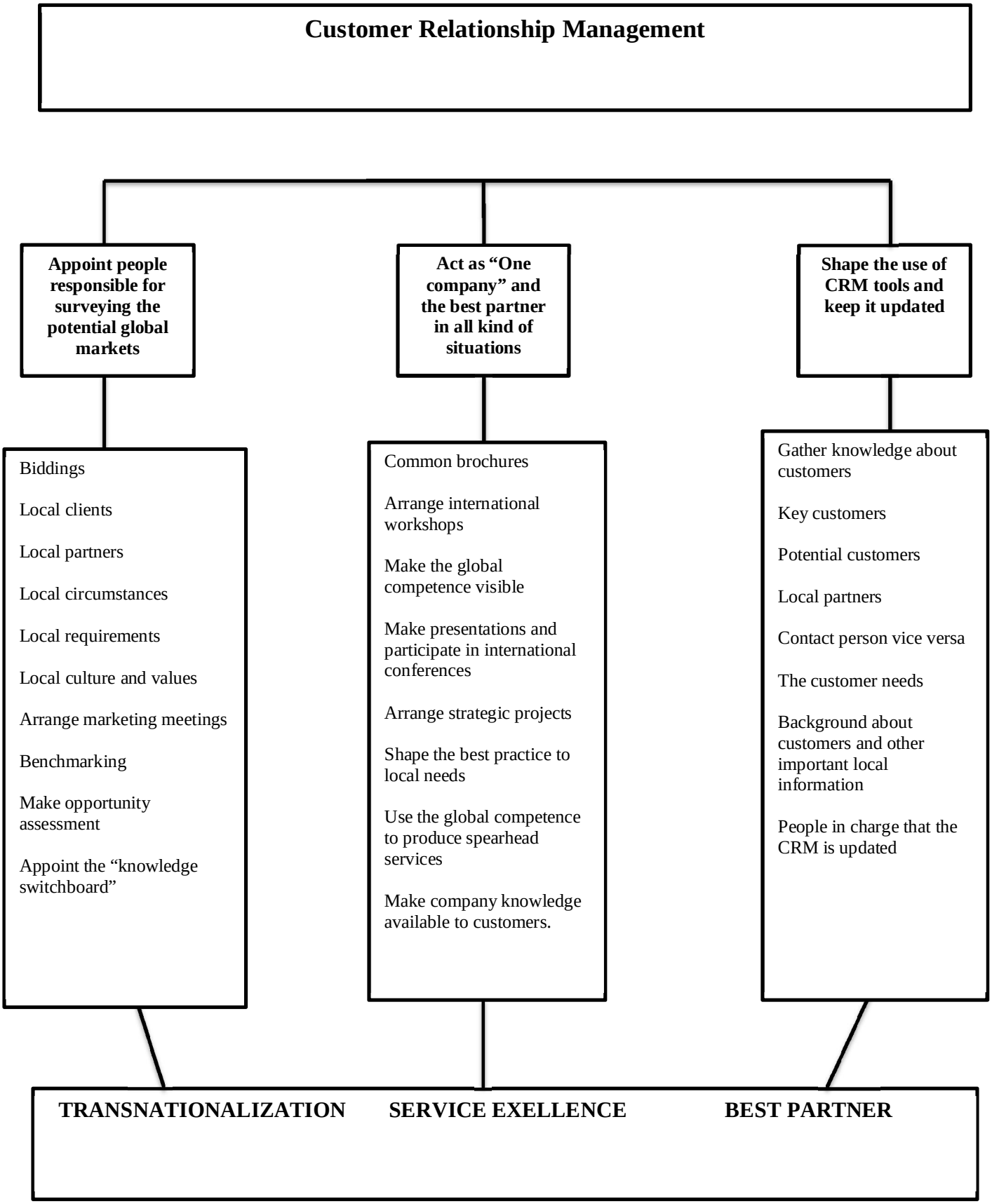
# Appendix

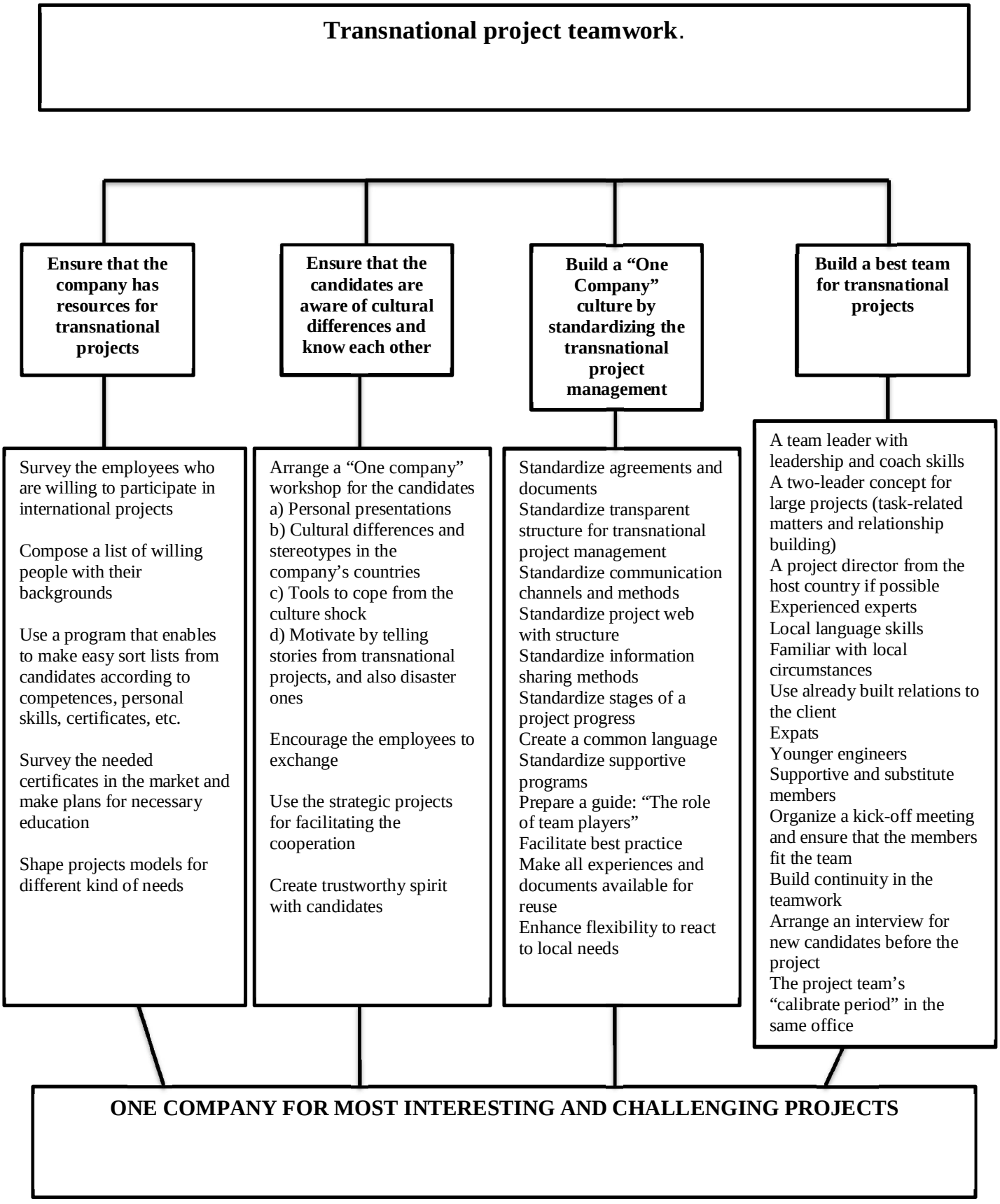
**Appendix A**


Collaboration and Knowledge Management in a Transnational Corporation
Customer relationship managemen
Transnational project teamwork.
Knowledge and competence sharing in transnational projects
Appoint people responsible for surveying the potential global markets
Act as "One company" and the best partner
Shape the use of CRM tools and keep it updated
Ensure that the company has resources for transnational projects
Ensure that the candidates are aware of cultural differences and know each other
Build a "One Company" culture by standardizing the transnational project management
Build a best team for transnational projects
Create synergy among team members
Create innovative team spirit
Keep the team members updated on the project progress
Keep the customer updated on the project progress
BEST PARTNER
Local Partner with Global Knowledge
BEST TEAM
World Class Expertise
BEST PRACTICES
World Leading Knowledge Sharing Company

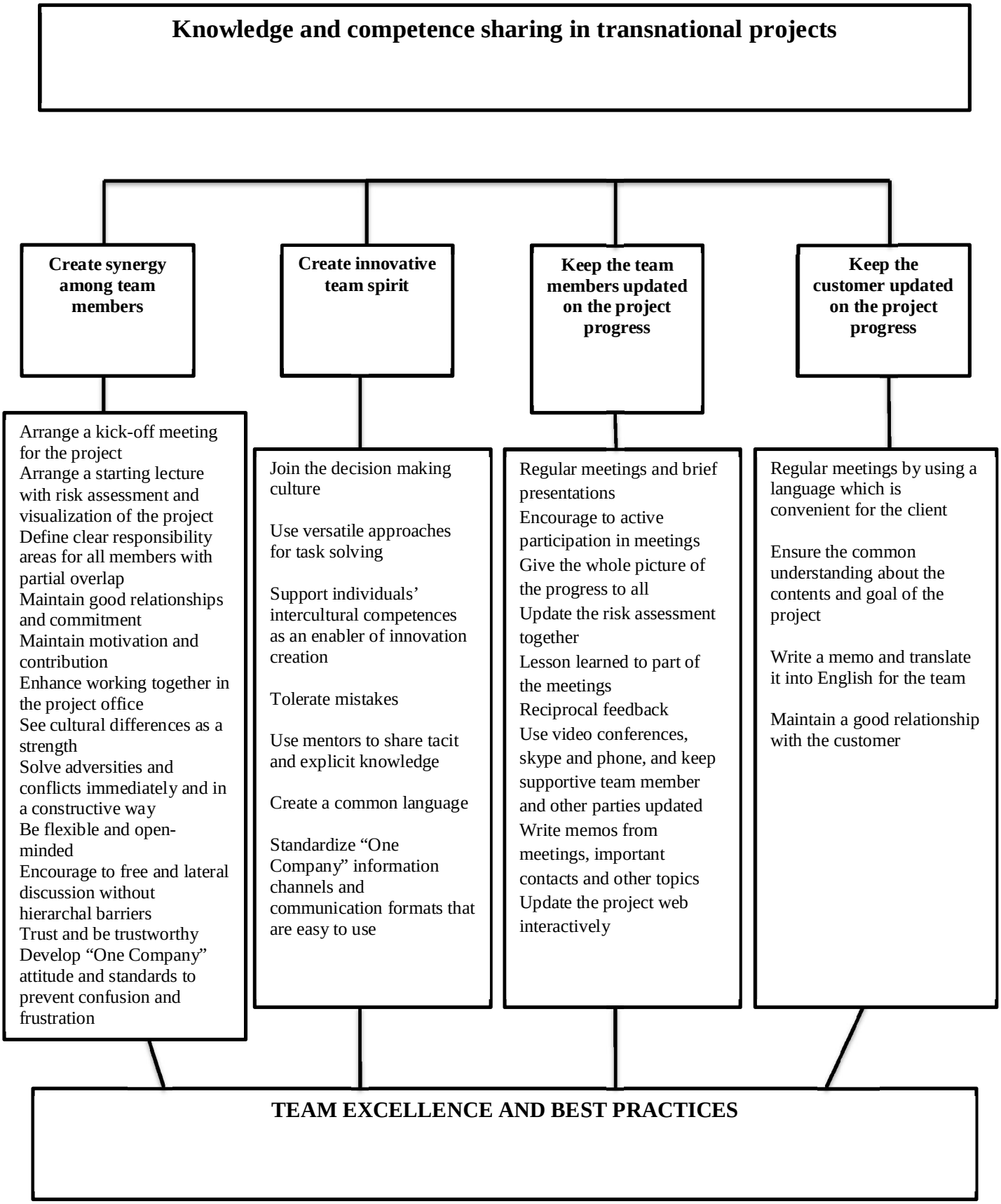
**Appendix B**


Customer Relationship Management
Appoint people responsible for surveying the potential global markets
Act as "One company" and the best partner in all kind of situations
Shape the use of CRM tools and keep it updated
Biddings
Local clients
Local partners
Local circumstances
Local requirements
Local culture and values
Arrange marketing meetings
Benchmarking
Make opportunity assessment
Appoint the "knowledge switchboard"
Common brochures
Arrange international workshops
Make the global competence visible
Make presentations and participate in international conferences
Arrange strategic projects
Shape the best practice to local needs
Use the global competence to produce spearhead services
Make company knowledge available to customers.
Gather knowledge about customers
Key customers
Potential customers
Local partners
Contact person vice versa
The customer needs
Background about customers and other important local information
People in charge that the CRM is updated
TRANSNATIONALIZATION
SERVICE EXELLENCE
BEST PARTNER

**Appendix C**


Transnational project teamwork.
Ensure that the company has resources for transnational projects
Ensure that the candidates are aware of cultural differences and know each other
Build a "One Company" culture by standardizing the transnational project management
Build a best team for transnational projects
Survey the employees who are willing to participate in international projects
Compose a list of willing people with their backgrounds
Use a program that enables to make easy sort lists from candidates according to competences, personal skills, certificates, etc.
Survey the needed certificates in the market and make plans for necessary education
Shape projects models for different kind of needs
Arrange a "One company" workshop for the candidates
a) Personal presentations
b) Cultural differences and stereotypes in the company's countries
c) Tools to cope from the culture shock
d) Motivate by telling stories from transnational projects, and also disaster ones
Encourage the employees to exchange
Use the strategic projects for facilitating the cooperation
Create trustworthy spirit with candidates
Standardize agreements and documents
Standardize transparent structure for transnational project management
Standardize communication channels and methods
Standardize project web with structure
Standardize information sharing methods
Standardize stages of a project progress
Create a common language
Standardize supportive programs
Prepare a guide: "The role of team players"
Facilitate best practice
Make all experiences and documents available for reuse
Enhance flexibility to react to local needs
A team leader with leadership and coach skills
A two-leader concept for large projects (task-related matters and relationship building)
A project director from the host country if possible
Experienced experts
Local language skills
Familiar with local circumstances
Use already built relations to the client
Expats
Younger engineers
Supportive and substitute members
Organize a kick-off meeting and ensure that the members fit the team
Build continuity in the teamwork
Arrange an interview for new candidates before the project
The project team's "calibrate period" in the same office
ONE COMPANY FOR MOST INTERESTING AND CHALLENGING PROJECTS

**Appendix D**


Knowledge and competence sharing in transnational projects
Create synergy among team members
Create innovative team spirit
Keep the team members updated on the project progress
Keep the customer updated on the project progress
Arrange a kick-off meeting for the project
Arrange a starting lecture with risk assessment and visualization of the project
Define clear responsibility areas for all members with partial overlap
Maintain good relationships and commitment
Maintain motivation and contribution
Enhance working together in the project office
See cultural differences as a strength
Solve adversities and conflicts immediately and in a constructive way
Be flexible and open-minded
Encourage to free and lateral discussion without hierarchal barriers
Trust and be trustworthy
Develop "One Company" attitude and standards to prevent confusion and frustration
Join the decision making culture
Use versatile approaches for task solving
Support individuals' intercultural competences as an enabler of innovation creation
Tolerate mistakes
Use mentors to share tacit and explicit knowledge
Create a common language
Standardize "One Company" information channels and communication formats that are easy to use
Regular meetings and brief presentations
Encourage to active participation in meetings
Give the whole picture of the progress to all
Update the risk assessment together
Lesson learned to part of the meetings
Reciprocal feedback
Use video conferences, skype and phone, and keep supportive team member and other parties updated
Write memos from meetings, important contacts and other topics
Update the project web interactively
Regular meetings by using a language which is convenient for the client
Ensure the common understanding about the contents and goal of the project
Write a memo and translate it into English for the team
Maintain a good relationship with the customer
TEAM EXCELLENCE AND BEST PRACTICES