CHALMERS

Knowledge dissemination between generations

A multiple case study in three industries with focus on strategies, motivation and young professionals

Master of Science Thesis in the Master's Programme Design and Construction Project Management

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ABSTRACT

Currently, the workforce in Sweden in general, and the same is reflected in the construction industry, is facing a generation shift due to a high amount of retirements as well as high levels of new recruitment of young professionals. This situation causes a challenge of preserving knowledge from senior professionals before the shift is final and the experienced employees have left. This has resulted in a situation where knowledge dissemination directed to the new employees is important in particular due to their relatively large proportion of the total workforce.

The purpose with this master thesis is to examine factors affecting knowledge dissemination with a certain focus on work environment, organizational culture and young professionals. This research has been carried out as a literature review, supported by case studies of five Swedish companies within the manufacturing, IT and management consulting industries. The results showed that certain factors, e.g. feedback, motivation, leadership are of great importance for the dissemination to be successful. It also confirms variances among the examined industries and highlights lessons that can be learned for the construction industry such as a more comprehensive part of feedback in the daily work. Lastly the raise of consciousness about several factors and methods is recommended in the work with knowledge dissemination.

Key words: Knowledge dissemination, knowledge transfer, knowledge sharing, young professionals, intra-organisational, intergeneration

II

Kunskapsdelning mellan generationer

Multipel fallstudie med tre industrier med fokus på strategier, motivation och unga yrkesverksamma.

Examensarbete inom Design and Construction Project Management

HALLMAN, ELINORE & MELANDER, ANDREAS

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SAMMANFATTNING

För närvarande står arbetskraften Sverige, i allmänhet, och även i byggbranschen inför ett generationsskifte på grund av en stor mängd pensionsavgångar samt höga nivåer av nyrekryteringar av unga yrkesverksamma. Med denna situation kommer utmaningen att bevara kunskap från äldre till yngre medarbetare innan skiftet är slutgiltigt och de erfarna medarbetarna har lämnat arbetsplatsen. Syftet med detta examensarbete är att undersöka faktorer som påverkar kunskapsspridning med ett särskilt fokus på arbetsmiljö, organisationskultur och unga yrkesverksamma. Studien undersöker hur tillverkningsindustrin, IT- och managementkonsultbranschen arbetar med kunskapsspridning och lärdommar från dessa skall bidra med förslag till byggindustrin. Resultaten visade att vissa faktorer såsom återkoppling, motivation och ledarskap är av stor betydelse för att kunskapsspridning ska lyckas. Studien bekräftar också skillnader bland de undersökta brancherna och lärdomar såsom en mer omfattande del av feedback i det dagliga arbetet lyfts fram som ett förslag. Slutligen utpekas en ökad medvetenhet om vissa faktorer och metoder som en rekommendation i företags arbetet med kunskapsspridning.

Nyckelord: kunskapsspridning, kunskapsöverföring, kunskapsdelning, unga yrkesverksamma, intra-organisatoriska, generationsöverskridande

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Preface

This master thesis is based on a literature study and a multiple case study looking at the manufacturing, IT and management consultancy industry. Findings show how these industries deal with the challenge of knowledge dissemination within the organisation. Relevant results will be applied to the construction industry by suggesting several recommendations.

This thesis is done at the division of Operation Management together with Skanska's department *Väg och Anläggning Väst.* It has been perform between January and June 2013 by the students Elinore Hallman and Andreas Melander together with supervisor Dan Paulin PhD from Chalmers along with Markus Arfvidsson and Camilla Arnkil from Skanska.

We, the authors, would like to thank all the interviewees who have participated in our study. We would also like to express a great appreciation to our supervisors who initially believed in our idea and supported us all the way with their positivity, thoughtful ideas and helpful feedback!

Gothenburg, June 2013

Elinore Hallman and Andreas Melander

1   Introduction

The workforce in Sweden is currently going through a generation shift, a situation that has been predicted for many years. In 2008 the organisation Kairos Future (Lindgren 2008) wrote an article declaring that in a period of 10 years every fifth working person and every second manager in Sweden will retire. In addition to that a large part of the working force born in the 1940's is retiring at this time; the recent financial recession will likely accelerate the retirements (Byggtjänst 2009).

The on-going development in Sweden is also reflected in the construction industry. Both ends of the demographic spectrum are increasing which can be seen in Figure 1 which compares the 2005 situation with 2010 (Sveriges Byggindustrier 2012).
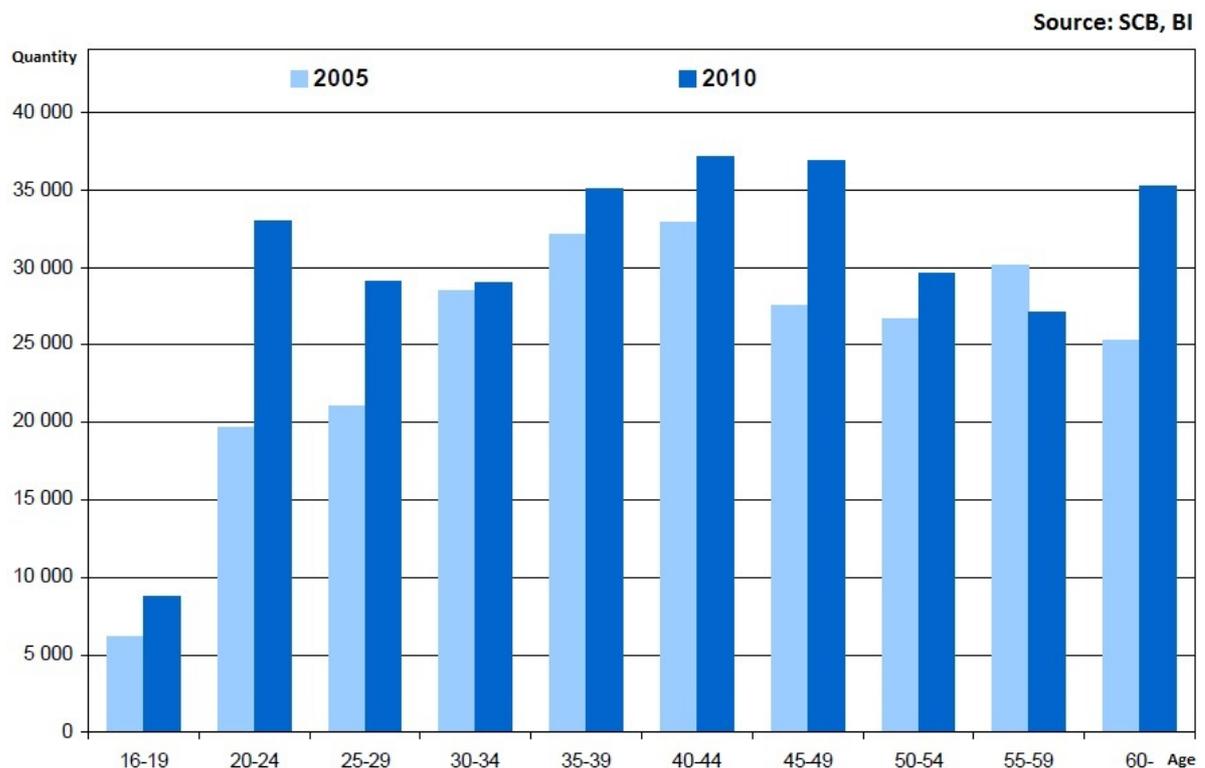
Figure 1 Diagram showing the distribution of working force in the construction industry for different age groups (Developed from Sveriges Byggindustrier 2012).

Due to the construction industry's aging population and quite large portion of people over 60, there have been large retirements during recent years which have led to knowledge depletion. To make up for this loss of experience, some companies have employed large numbers of people in a short period of time. This results in a situation where teaching and sharing knowledge with new employees is particularly important due to their relatively large part of the total workforce.

Considering the current situation of the workforce and the development which is taking place right now, it is important to retain as much experience and knowledge in the organisation as possible before the experienced employees retire. The need for successful knowledge dissemination is of great interest and it is essential to work with both now and continuously. This work includes creating a good working environment and climate which motivates more efficient learning and sharing of knowledge. Companies and corporations that systematically work with knowledge dissemination

to shorten the time required for newly employed to be productive will quite naturally benefit from a long term perspective.

Skanska is one of Sweden's leading contractors with expertise within construction and development of commercial and residential projects (Skanska 2013). The situation in the industry described above is also taking place at Skanska. Other factors such as the procurement of their largest project ever, Nya Karolinska Solna, a hospital in the capital region will require a lot of experienced and competent employees.[1] This can also be an aspect which can increase the absence of experienced employees in other regions that otherwise would share their knowledge with younger employees.

There is a need for the knowledge dissemination to take place right now since the generation shift is currently taking place in the construction industry. Although the literature provides many theories about knowledge management and knowledge dissemination a gap is identified in the field of knowledge dissemination concerning the construction industry due to the response that has been expressed from the industry.

1.1   Purpose

The purpose is to determine which factors can be significant for knowledge dissemination, both from the literature and the selected industries in this study. The thesis focuses on young professionals and how they want to acquire knowledge. It is experience based knowledge, from senior colleagues, that is concerned. Furthermore, how organisations work to meet these desires, e.g. by creating an environment and a culture that motivate and facilitates knowledge dissemination will be examined.

To help ascertain the purpose the following research questions have been formed:

- Which work environment factors can affect knowledge dissemination?
- Which organisation culture factors can affect knowledge dissemination?
- Which factors motivates young professional to learn?

The aspect of young professionals will be tested in the theoretical research model. Furthermore the theoretical framework will be compared with the multiple case study in order to discern if there are any differences. In addition, the three chosen industries will be compared amongst each other to identify ways to work with knowledge dissemination that are noticeable and not commonly used. Overall, the thesis will contribute to fill in the gap of knowledge dissemination in the construction industry with a focus on young professionals. Finally, this thesis will sort out the parts that are applicable to the construction industry and apply the findings to Skanska's department *Väg och Anläggning Väst*.

1.2   Delimitations

The following limitations have been made for this thesis:

- The study will focus on young professionals who have been employed for a couple of years, not newly employed.
- The focus is on experienced based knowledge, also known as tacit and implicit knowledge.
- The result is limited to the interviewed organisations in the chosen industries.

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[1] Regional manager, Skanska, Meeting 7th of May

- Only intra-organisational sharing of knowledge is researched, not between organisations.
- Only Skanska's department *Väg och Anläggning Väst* will be taken into account when applying the results.

2 Theoretical framework

This chapter will examine the already existing information in the field of knowledge management. This is a very broad field and here the selection will concern knowledge dissemination, organisational aspects such as work environment and organisational culture. Also motivation factors among employees and characteristics of the young professionals' generation will be included. These mentioned parts will together form the theoretical framework which is conducted through a literature review.

2.1 Knowledge

First of a definition of knowledge needs to be specified, Cooper (2010) describe a relation between the terms data, information and knowledge. Data can be seen as the first step since it consists of raw measurement, commonly numbers or other values. Data becomes information when the value is put into a context which brings meaning to the numbers and also makes it understandable for the receiver. Knowledge is the state where the information has been through a cognitive process, which is achieved by learning.

In order to study knowledge dissemination in this thesis, the specific kind of knowledge that is referred to also needs to be identified. There are different kinds of knowledge, most commonly referred to as explicit and tacit, which have been coined by Polanyi (1958). Since this thesis concerns the knowledge transfer between the older generations and the young professionals, it is about knowledge that is gained through experience. This kind of knowledge is categorized as tacit, which Nonaka and Konno (1998) describe as intangible knowledge. They describe the opposite kind of knowledge, the explicit, as tangible and easy to articulate and put into manuals, documents and other written forms. It is further explained that there are two aspects of tacit knowledge, known as know-how and cognitive knowledge (Nonaka and Konno 1998). The first aspect can be described as personal skills, such as how to technically perform an assignment. The later one comprises features such as values, ideas, beliefs and the mentality that is strongly rooted in us as well as how we observe the world. These two aspects together form the complex tacit knowledge.

Coff (1997) describes tacit knowledge as embedded in the employees and is seen as socially complex. An effect is that the human assets, the employees which possess the knowledge, are a sustainable advantage in the industry since the knowledge is hard to imitate for competitors (Coff 1997). The view on an organisation's human capital resources as a sustainable competitive advantage has also been raised by Barney (1991). Both Coff (1997) and Barney (1991) supports that it is important to keep the experienced human assets in the organisation.

Another concern is that it can be difficult to identify which particular employee that possesses the tacit knowledge in a team. Due to this it might be hard to justly reward the person who possesses this tacit knowledge, particularly with financial incentives. Failing to recognise the individual's contributions will likely affect the motivation (Osterloh and Frey 2000).

In the field of Knowledge Management there are several terms whose meaning varies in the literature, a problem that is pointed out by Paulin and Suneson (2012). In order to clarify the meaning of key terms that are used in this thesis, a definition of relevant terminology follows.

- **Knowledge sharing:** This is the knowledge shared between individuals (Paulin and Suneson 2012).
- **Knowledge transfer:** This describes when the knowledge is associated to a higher organisational level such as between groups, departments or organisations (Paulin and Suneson 2012).
- **Knowledge dissemination:** In this thesis the term knowledge dissemination is used, which include knowledge sharing and knowledge transfer.
- **Knowledge transfer success:** Success is reached when the recipient to a high degree achieves ownership of, commitment to and satisfaction with the knowledge that has been transferred (Meyer and Rowand 1977; Cummings and Teng 2003).

2.1.1 Knowledge transfer model

Paulin (2013) designed a model encompassing five components to be able to structure the extensive amount of information about knowledge dissemination. This model, which can be seen in Figure 2, will be used to describe and evaluate the subject.
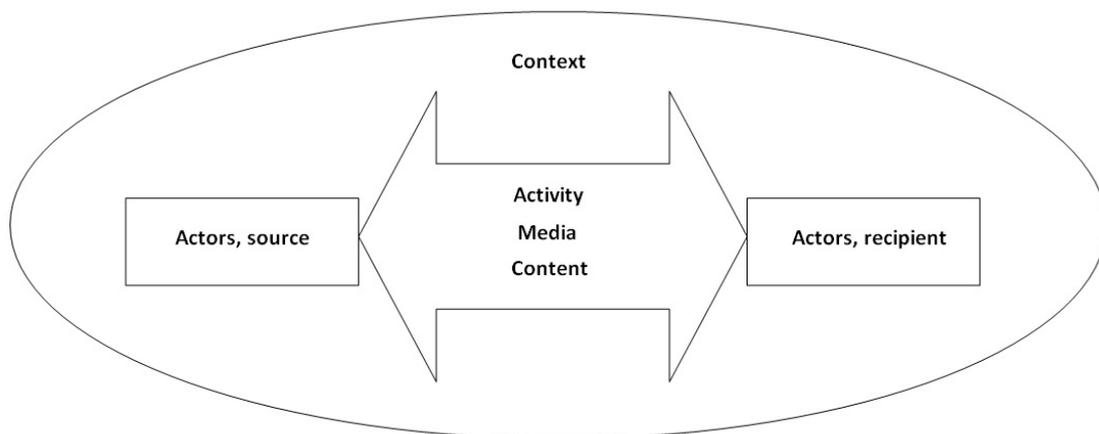
Figure 2 Research model (Paulin 2013, p. 21).

The five components; context, actors, activity, media and content, each consist of several factors that affect knowledge dissemination.

The **actor** component includes both the source and the recipient and deal with the people who are involved in the sharing of knowledge (Paulin 2013). When trying to convey a message, the person who intends to share knowledge has to deal with several factors which will influence the outcome. The ability to put the message into words is inherently difficult (Cummings and Teng 2003), especially when dealing with tacit knowledge, which is by its very definition non-verbalized and intuitive (Polanyi 1966). Furthermore, the knowledge needs to be collected before a message is even formed. How deeply the knowledge is embedded in the organisation, how many knowledge elements and networks that are involved, is also important factors. The psychological and motivational factor will influence the result (Kalling 2003; Minbaeva 2007; Kaufmann and Kaufmann 2010). The reality is not always ideal for dissemination of knowledge in an organisation. It is very dependent on that the sender is willing to part with their knowledge and that the receiver is motivated to claim it and use it. There are more factors such as if the actors use the same kind of language or if there is an age difference that also might affect the knowledge dissemination.

As mentioned earlier, when the **content** is tacit, or implicit, it is more difficult to transfer than if it is explicit. It will likely require more effort and close personal interaction (Pedersen et al. 2003). Explicit knowledge, on the other hand, can be transferred in written form or through electronic media. The type of knowledge, the content, being transferred should influence the media through which it is being transferred. Pedersen et al. (2003) states that while this is normally the case, there are many cases where there is a mismatch between the type of content and the mechanisms of disseminating the knowledge.

The third component of the model is the **media** in which the knowledge is transferred. At present, a lot of knowledge dissemination is done using information technology. A well-structured and holistic information and communication system can increase the efficiency of information and knowledge transfer (Gold et al. 2001). There are, however, many difficulties that arise with IT-systems; for example incompatibility between different systems and the immense amount of information that exist. Moreover, some IT-systems are not suitable for the sharing of tacit knowledge (McNeish and Mann 2010), mainly due to their impersonal nature.

The **activities** related to knowledge transfer depend on the content transferred and the media that is used. For instance the activity which focuses on setting up and establishing an administrative structure to support the transfer may depend on the content, its form and the embeddedness of the knowledge (Cummings and Teng 2003). Whether the activity is formal or informal also affects the transfer. Lawson et al. (2009) conclude that informal settings, rather than formal ones, are more important when sharing knowledge in inter-organisational teams.

Lastly, the **context** in which knowledge dissemination takes place is an overarching part of the model. As the contexts can vary in innumerable ways, there are many influencing factors. The size and the geographically distribution of an organisation; the distance between members and the strength of their personal ties; the lingual and knowledge distances between the actors all influence the outcome and are contextual. Support from management is shown to affect the commitment of employees and that commitment influence the quality of knowledge sharing (Jang-Hwan et al. 2006). Even the perceived support can have a positive influence on willingness to share information.

While age distance is included as an influencing factor for actors, this thesis focus on young professionals and intergenerational knowledge dissemination will have a more overarching view on age differences.

2.1.2 Factors affecting knowledge dissemination

Several factors that have an impact on knowledge dissemination have been identified by Paulin (2013), see Table 1. These are the most commonly occurring factors in the literature field of knowledge sharing and transfer and are divided into its related components in the research model. An additional aspect in the table is that each factor is evaluated in accordance to its type of influence, a + if it is a facilitator, a − if it is an inhibitor and a | if it is an obstacle. The signs that are put into brackets imply that these factors not have the same clear empirical support as the other ones.

Table 1   Factors affecting knowledge dissemination with related component and type of influence (Developed from Paulin 2013).

Factor	Component	Type of influence
Frequency / intensity in transfer activities	Activity	+
Ability to share	Actor, source	+
Absorptive capacity	Actor, recipient	+
Openness. Motivation. Leadership.	Actors	+
Strength in ties between groups. Organisation size. Relationship. Social capital. Social proximity. Available time	Context	+
IT systems	Media	+
Learning culture. Priority	Actor, recipient	(+)
Physical space. Learning/sharing culture. Knowledge Management integration. Organisational priority. Available/suitable space	Context	(+)
Embeddedness. Ambiguity	Actor, source	-
Knowledge distance	Actors	-
Casual ambiguity. Unprovenness. Arduous relationship. Organisational distance. Geographic/physical distance. Distance between norms. Cultural distance. Environmental uncertainty	Content	-
Linguistic distance	Media	-
Articulability. Protectionism	Actor, source	(-)
Age distance. Gender distance	Actors	(-)
Technical know-how	Actor, recipient	|
Trust	Actors	|
Basic infrastructure and sharing capabilities	Media	|
Communication channels. Transfer channels	Media	(+), (-)
Type of knowledge	Content	(+), (-)

2.2   Work environment

Many of the surroundings in the work environment at the organisation affect knowledge dissemination in different ways. This section aims to emphasize areas within the work environment that are important for this topic and that the organisation has formed. The areas presented here are of a physical or formalisation character.

One important area is the physical layout of the workplace which is supported by Granath (1999) who stated that the layout of the workplace can serve as a tool for the organisation to facilitate learning and dealing with change. The workplace can improve the organisational behaviour and smooth the process for the employees to participate. The article of Nonaka and Konno (1998) clarify the importance of having a foundation for knowledge creation in the organisation, a concept they have named *ba*. This concept contains many aspects and can be both physical: offices, dispersed business space and virtual such as telephone, mail, teleconference. It is further pointed at in the article by Riege (2005) that the design of the physical work environment is an important factor for the organisation to consider. There is a risk that the design can limit the knowledge dissemination practices. This is also supported by Paulin (2013) where physical distance is mentioned as an inhibitor. The layout of the office is often based on the organisations' hierarchical structure instead of considering who needs to learn from whom (Riege 2005).

There are also advantages with working in group (Stasser et al. 1995). This is an aspect to take into consideration and take advantage of when planning the layout. Stasser et al.'s (1995) article especially deal with information sharing during discussions and the importance of notifying the participants about everyone's expertise prior to the discussion are emphasized. Notifying everyone is to prevent that the discussion is focusing on already shared information instead of unshared. This since it is indicated that when everyone knows their own expertise status one is focusing more on the unshared information. Stasser et al. (1995) also brings forward Wegner (1986) views on the benefits of sharing information in groups due to that the group works as a memory system. This works in two ways, by the participants own memories and also by the transactive process. This transactive process is regarding when the ones in the discussion become aware about who in the group knows what kind of information. It can be expressed that the transactive process uses the participants' individual memories by construct and reconstruct them.

Furthermore, whether the socialization mechanisms in the group are formal or informal in nature affect the knowledge sharing (Lawson et al. 2009). Matrix reporting structures, collocation or cross-functional teams are examples of formal socialization mechanisms. The formal structures themselves are not what allow good knowledge sharing, rather it is the informal mechanisms used within these structures which influence knowledge sharing (Lawson et al 2009). Their study states that informal mechanisms play an important role in sharing knowledge, for example by communication guidelines or social events. Lawson et al. (2009) even suggest that knowledge sharing cannot be instructed by the organization through formal mechanisms as it requires more subtle levers, such as informal structures.

Many organisations have an established knowledge mapping system which often is some sort of database. This is a tool with the purpose to enable the organisation to take advantage of all the knowledge that their human assets possesses. However there are often difficulties with making these systems work as planned, an issue that is brought up by Lee and Fink (2013) in their article where they describe factors as

frustration and time consuming as typical recurring issues for the users that tries to find the right knowledge within the organisation. Lee and Fink's article (2013) focuses on the creation on knowledge maps, a subject that also is brought up by Davenport and Prusak (1998). Their knowledge map is not the ordinary database filled with the knowledge, it is rather a guide that points to the knowledge (Davenport and Prusak 1998). It is stated by Lee and Fink (2013) that a knowledge map is suitable for dealing with tacit knowledge since it can give direction to the individual that holds the knowledge, also the use of icons and symbols that makes the map clearer and facilitate the user to find the knowledge is encouraged.

Nonaka and Konno (1998) present a process called SECI, consisting of four parts where tacit knowledge is exchanged within the organisation. The first part described is socialization, which aims to create a common place in order to share personal knowledge. It is here employees share tacit knowledge with each other and this is facilitated by joint activities. Joint activities refer to spending time and being together rather than verbal instructions or instructions on paper. To succeed with knowledge dissemination a process of interaction in a physical closeness is required. Another part that is described is externalization, a phase where the appearance of tacit knowledge is understood by others. This relies greatly on the individuals of the group where the dissemination takes place and that everyone becomes a part of the group's mental world. Key ingredients to succeed in this phase are to articulate and discuss the topic, which can be assisted by using different techniques such as visualization, metaphors, words etc. Then the translation of the tacit knowledge from e.g. an expert needs to be thought of to make it receivable for the suggested younger professional. This actually aims to make the tacit knowledge as explicit and easy to understand as possible. The next part is called combination. At this stage the main parts are to communicate the knowledge by using meetings and presentations and also process the knowledge to make it more usable by forming documents. The last part is internalization where the employees shall discover which knowledge is relevant for them and absorb the knowledge by exercises, learning by doing and training. In other words, it finally takes practice and action to fulfil the knowledge dissemination.

2.3   Organisational culture

One key factor for knowledge dissemination to succeed is the organisation's culture, and especially that they have a knowledge-sharing culture (Riege 2005). Senge (1990) writes about organisational learning and puts forward that we are all learners. It is claimed that a learning organisation is competitive and successful (Senge 1900). Among other things, this relies on that almost everyone have experienced the feeling of achieving great results in a team, where actually the feeling have been that the team's goals are more important than the individuals'. Senge (1990) further promotes the five disciplines or approaches of organisational learning; system thinking, personal mastery, mental models, building shared vision and team learning.

The first one of these disciplines, system thinking, stresses the fact that it is important to see the whole picture. Pieces are often separated from something greater in order to make it easier to grasp, but at the same time the knowledge concerning how things are connected is lost. System thinking aims to make the link between pieces clearer and make changes effective. Further on, personal mastery is about our individual vision, energy, patience and having an objective view of reality. All this in order to know what is really important to us and to live our lives in a way that helps us to reach our goals. Mental models are the way we understand the reality and how we act due to

this, it is important to inspect this model and learn about the way we behave, our assumptions etc. The second last discipline, building a shared vision, aims to be able to create a shared vision, goal or image of the future that everyone involved can commit to. The last one, team learning aims to make the team think together and learn from each other in order to improve the team's performance (Senge 1990).

Many aspect mentioned are of a positive character of how to behave to reach successful knowledge dissemination, but obstacles can also arise within the organisation when the potential sender do not want to share his or her knowledge, a phenomenon known as knowledge hoarding (Riege 2005). This behaviour can be based on the perception that sharing ones knowledge makes the individual less powerful, the status will change and that the job security will decrease. This is often connected to an older way of seeing the situation and might be explained by the vision of keeping all knowledge can be a way to make a career (Riege 2005).

One part of the concept of *ba* by Nonaka and Konno (1998) is about creating a culture that promotes knowledge dissemination. This part is about mentality, concerning our shared experiences, ideas and values. This goes hand in hand with Senge's (1990) thoughts of the importance of mental models. Another part that assists the learning process and should be a central process in a learning organisation is feedback. In the learning process, feedback is a very important ingredient that can have a large impact and make learning more effective (Hattie and Timperley 2007). But the content and how the feedback is expressed needs to be considered in order to avoid negative effects. Hattie and Timperley (2007) suggest the following three questions that need to be considered, both of the sender and the receiver, during the feedback process in order to make it more effective. The questions are; where am I going? How am I going? Where to next?

In a study by Dweck (2010) on how a leader should give feedback, concerning a case of teachers and their students, a parallel can be drawn to managers and their employees. The outcome of the study was that it is very important when giving positive feedback to really praise and give recognition to the effort and processes and not only the outcome. Actually, if positive feedback is only given on the results it could inhibit further development for the person. Hattie and Timperley (2007) also raise the aspect of timing of the feedback which needs to be adapted to the situation. Research shows that an immediate feedback is preferred when it is task-orientated meanwhile delayed feedback suited better when it is process-orientated (Clariana et al. 2000).

Mentors and coaches are ingredients that are common at work places with the purpose to support in different ways. There is a differentiation between these roles done by Arnold (2009) where a mentor often is a more experienced person who gives advice and need to have the person's and the organisation's best in mind with a holistic point of view. Other features are to lead with example, share knowledge, might need to make judgements and the mentor is often standing close. The coach's purpose is more to give responsibility and ownership, to not judge and create a space to think where the one being coached can challenge oneself. Often the focus in this case is on a more particular development area. But lastly these two concepts might overlap since many aspects goes hand in hand (Arnold 2009).

2.4   Motivation

In psychology, motivation is about the processes that initiate and drive, as well as decide the level of intensity, of human acts, behaviour and efforts (Kaufmann and Kaufmann 2010). Psychologists who study motivation are also interested in explaining why these acts and behaviour take a specific bearing, and not another one, which leads to questions about the aims and purposes of individuals.

In management, the intensity of an act is interesting due to the fact that it may be able to explain why certain individuals, with the same level of expertise, the same salary and the same tasks can achieve very different results (Kaufmann and Kaufmann 2010). Since motivation may affect intensity, the ability motivate people is important for any organisation and manager.

2.4.1   Needs, expectations and perceived fairness

When studying behaviour in organisations, there are different theories that try to explain the cause of certain behaviours and acts of individuals. Behavioural theory states that that an individual's behaviour is motivated by their needs, such as the need for food motivates one to look for sustenance (Anthony, R.N. et al. 2011). Originally, a quite mechanical view on behaviour with a simple cause and effect system tied to biological needs. It has evolved by linking motivation to social belonging and intellectual progress as well.

Cognitive theory considers motivation to be the result of expectation. If the expected outcome of behaving in a certain way is attractive to the individual, it motivates behaving in that way (Kaufmann and Kaufmann 2010). Furthermore, how likely one expects to be able to accomplish a task will also affect motivation. If a person finds it's very unlikely that they will be able to complete the task, their motivation will likely drop.

Social theories talk about the perceived equality and justice between co-workers as a motivator. It is inevitable that people compare their situation with co-workers, and if one perceives injustice or inequity related to e.g. salary, education level and time employed it will likely affect the motivation of the people involved (Kaufmann and Kaufmann 2010).

2.4.2   Knowledge and motivation

As stated in section 2.1, knowledge can be distinguished as explicit and tacit. Osterloh and Frey (2000) argue that there is extrinsic and intrinsic motivation in a similar sense, where intrinsic motivation is crucial for successful transfer of tacit knowledge.

A common form of extrinsic motivation is a monetary bonus system and is normally done by linking the firm's goals with the employees' monetary motives (Calder and Staw 1975). If the employees feel their needs are indirectly fulfilled by being compensated from outside themselves, they are extrinsically motivated. If an act directly satisfies a need and is done by employees, they can be said to be motivated intrinsically. Ideally, satisfaction should be derived immediately from fulfilling the work itself. Intrinsic motivation cannot simply be added to an extrinsic system, however. Using monetary motivation for example, may even harm intrinsic motivation (Osterloh and Frey 2000). There is a crowding out effect where a reward of money may in the long run decrease the intrinsic motivates and the effectiveness of it. Osterloh and Frey (2000) relate this to parenting and motivating children. Parents intuitively know that offering a reward to their children for completing a task they are

enthusiastic about, will cause them lose their interest after a while. The reward will, short term, be quite successful but will in the long run result in the children only doing the task, homework for instance, when they receive the reward and not through their own desire to do so (Osterloh and Frey 2000). This is the crowding out effect, unfortunately an additional effect may be that the children won't do any work without a monetary reward. For intrinsic motivation to be effective, emphasizing typically soft issues such as personal relations and participation, and organisational forms that incorporate these, are needed instead.

Minbaeva et al. (2003) investigates the relationship between absorptive capacity and knowledge transfer. Absorptive capacity includes acquisition and assimilation; and transformation and exploitation (Zahra and George 2002). To be able to profit from the acquired and assimilated knowledge is had to be realized. The dissemination of the knowledge requires both ability and motivation. It is not enough with one or the other (Minbaeva et al. 2003).

How easy the knowledge is to transfer, for instance, may influence the motivation of both sender and receiver. Particularly if there are tacit elements involved which may require repeated interaction on several occasions (Szulanski 1996). To further complicate the transfer, the willingness of a sender to share their knowledge affects the transfer. The sender of the knowledge may fear losing the ownership and the privilege of owning that knowledge. They may be less motivated to spend the time needed to transfer, or feel the compensation for doing so is too meagre. Since a continuous interaction over a period of time will likely involve personal interaction, straightforward, easy communication and generally good relationship of those involved will be beneficial for knowledge dissemination.

2.4.3   Job characteristics and satisfaction

It is well known that the characteristics and traits of a certain job affects motivation and results as well as the satisfaction one takes from doing the job. A characteristics model by Hackman and Oldham (1976) specifies factors and conditions which will lead to internal, intrinsic, motivation in individuals, which in turn will lead to a better performance. The model systematically maps motivational and de-motivational factors in a job situation (Kaufmann and Kaufmann 2010) and by organizing and comparing these factors you can find how potentially motivating a job is. Furthermore by knowing what motivates and what doesn't by analysing a certain job, it is easier to develop measures for long term motivation and satisfaction.

Hackman's and Oldham's (1976) model includes five central factors in three different groups. The first three factors are skill variety, task identity and task significance which contributes to the experienced meaningfulness of a job. The fourth and fifth are, autonomy, which is about the experienced responsibility of the outcome; and feedback, which is about knowledge of the results of the activities. Summarised by Hackman and Oldham (1976, p 255 -256) it reads:

> "that an individual experiences positive affect to the extent that he *learns* (knowledge of results) that he *personally* (experienced responsibility) has performed well on a task that he *cares about* (experienced meaningfulness)".

Skill variety, task identity and task significance determine the psychological meaningfulness of a job. When a task is challenging enough to require an individual to use skills and abilities more than usual, it is likely that it is more meaningful to that person. Especially when the task requires the use of more than one set of skills at the

same time. This is the skill variety factor. Task identity states that a person is more likely to find a task meaningful if it is holistic in nature. If the task only deals with a small set or part of a product or service, it is not as meaningful as if the whole job is visible. If a person feels that their job affects the wellbeing of others, it is deemed to be more significant and is experienced to be more meaningful. Even if the skill required accomplishing the task is the same as a task which does not affect anyone in particular.

Experience responsibility is tied to the autonomy factor. When the outcome of a task is highly dependent on an individual's own efforts and initiatives, it is highly autonomous. A job that only depends on the quality of the instructions given is not as motivating as if the success and failure depends on personal factors. Lastly, the knowledge of results is tied to the feedback factor and is deemed motivational when an individual gets clear information about the effectiveness of their job.

2.5   Young professionals, Generation Y

Since this thesis focuses on young professionals and how they acquire knowledge from other more experienced employees in the organisation, the following section clarify some of the young professionals' generational characteristics. Young professionals in this thesis are limited to people approximately born between the early 80's and early 90's which in the literature is known as *Generation Y* (Weiler 2004). This kind of divisions by putting labels on different generations in the working force is a way to identify common views on values, work environment and climate for example. If this information is taken into consideration by the organisation it can be a way for managers to meet the employees' expectations.

One of the features of this generation which separates them from the previous ones is that they have spent a large part of their time in front of computers, electronic screens and other technology while growing up. This has resulted in that they constantly absorb information, such as images and words, passively contra the more traditional way of taking in information by reading (Weiler 2004). This is a situation that has been questioned as a problem, that it has made the generation's cognitive skills poorer. Or Welier (2004) also expresses this as a new way for the whole world to disseminate knowledge.

It is further described by Weiler (2004) that students of this generation will only search for information and in particular gain knowledge of new skills if they have the motivation for it. More characteristics brought forward by Martin (2005) are that *Generation Y* is very driven to develop themselves, move from position to position and on the way learn a lot of abilities that will make this progress possible.

The literature (Tulgan and Martin 2001) expresses that feedback is highly desired by young professionals. This covers feedback from managers as well as from colleagues. The feedback is also preferred to be continuous in order to directly get back on track and that positive feedback such as praise, recognition and rewards shall be in close connection to the event (Martin 2005). This generation also expects a lot from their managers and values a good relationship with them. These expectations include that the managers expresses interest and care about their accomplishment in the organisation, an area where feedback can be an effective instrument to communicate this interest. There is an awareness about managers working with feedback are putting in extra effort which in return will generate an increased productivity among the recipients of the feedback (Martin 2005).

It is stated previously in this section that *Generation Y* moves away from taking in information by reading, which can be seen as problematic. Especially due to the fact that many of the potential experts are most likely from the older generation which is more used to communicate in a more formal way. Meanwhile the young professionals are describes as visual learners there are also findings that tells that face-to-face communication is preferred while asking for help (Weiler 2004).

From a learning point of view, more discussions and hands-on activities are highlighted as good alternatives for the younger generation compared to the more traditional way of lecturing (Weiler 2004). Since these are common parts of a workshop which have been a well-established activity in education it can be seen as the method workshop suites the young professionals very well.

3 Methodology

In this chapter we as the authors define and motivate the chosen methods for conducting this master thesis. The description of the methods aims to make it possible to follow how the work has been performed.

3.1 Research method

The methods used in this thesis are listed below together with explanations and arguments of why these specific methods have been chosen.

3.1.1 Literature review

As Bryman (2008) describes it, a literature review is a method to explore what is already known and acknowledged in the field of the chosen topic and by starting with this, unnecessary work can be avoided. In that way this review led to an understanding of the subject and helped to get familiar with the existing research as well as the meaning of many terms. The main purpose with the literature review was to find factors that affect knowledge dissemination and assimilation and also factors that motivate people to learn from others. The perspective of how young professionals think has also been a large area in this thesis.

The literature review is based on research articles as well as books. The main source have been through Chalmers Library's SUMMON as well as different databases such as SienceDirect and Google Scholar. When searching in the databases keywords such as *knowledge transfer, knowledge dissemination, knowledge sharing, Generation Y, motivation, intra-organisation* have been used in different combinations. The selection of articles was further based on its presence in the knowledge management field. A research model for knowledge dissemination by Dan Paulin (2013) was chosen as basis of the theoretical framework and through this a large part of the articles was also found. The books used in the thesis are borrowed from the Public Libraries in Gothenburg and the University of Gothenburg's Library.

3.1.2 Multiple case study - Qualitative approach

Since the aim of this thesis is clarify many how-questions, it is suitable to use a case study, as stated by Yin (2003). This case study is of a qualitative approach since we want to go deeper into our questions with some well chosen interviewees instead of reaching out to a larger amount of people with a questionnaire, which is known as a quantitative research.

Since the generation shift already is taking place in the construction industry and there is a need of methods to preserving the knowledge that soon is leaving the organisation this study looks into other industries. It was decided to look into three different industries to examine how companies in each industry work with intra-organisational knowledge dissemination. This is done with the intention to gain an understanding on how they do, which can then be implemented into the construction industry and in this case Skanska's department *Väg och Anläggning Väst.*

The focus has been on a strategic level as well as on how young professionals thought about knowledge assimilation and what motivates them to improve. The industries that were chosen are listed below together with an explanation for each selection. An overview of the distribution of interviews in each industry is to be seen in Table 2.

- **Manufacturing industry**
  The manufacturing industry is often referred to in the construction industry. They have; for example, different ways of working such as *Lean Production.* It originally comes from car manufacturing and is now a part of the construction industry. Furthermore it is a production based industry, while it is a continuous production rather than unique products, it can be related to the construction industry
- **Software development industry**
  This is an industry which face continuous fast development in new technologies and need to keep up in order to stay competitive. Due to the fast pace software developers need to work with knowledge dissemination continually. Combining this with the industry being rather young in comparison to the construction industry and our focus being young professionals, this motivated our choice.
- **Management consultancy industry**
  The core in the management consultancy business is to provide knowledge to their customers. Their view on how they, on an intra-organisational level, works with knowledge dissemination and sharing knowledge between employees will be interesting input.

Table 2   Overview of the distribution of companies within each industry and between interviewees on strategic level and young professionals.

	Strategic level	**Young professional**
Manufacturing industry	6	2
Software development industry	2	2
Management consultancy industry	2	1

3.1.3   Company document review

In order to address our findings towards Skanska's organisation we have examined an annual employee survey for the department *Väg och Anläggning Väst* from 2012. By doing this we have been able to adapt our suggestions to the division. We have also taken into consideration what the employee situation looks like, in terms of age distribution and years in the organisation by looking into statistics provided by the supervisors at the organisation.

3.2   Multiple case study design

When choosing the companies for each industry already established contacts were used as an efficient way to get in get in touch with the interviewees. If it was possible to talk with both someone working on a strategic level such as some kind of manager and also a young professional was enquired. A young professional in our study is a person who has been working approximately 1-2 years in the organisation. This limitation was done to facilitate that we could focus on knowledge assimilation that comes from experienced colleges and not all the initial knowledge assimilation of basic procedures that comes with being completely new at a workplace.

Before the interviews took place an interview guide was written in order to prepare and also make sure that the same questions were asked at each time and to find a base for the questions in the literature. There were two types of interviews, one about strategies and one focusing on young professionals. Therefore two different types of interview guides were created. These guides are attached in the thesis as Appendix A and B. Before meeting the interviewees a test-interview was done together with one of our supervisors in order to check if the questions were clear and relevant.

A couple of days before the appointed time for each meeting a document with general information about the master thesis and some example questions which could be expected was sent out to each interviewee. This was done with the aim to give the interviewed person an opportunity to prepare. The information document can to be found in Appendix C.

The interviews were of a semi structured character and most of them were conducted face-to-face during a one hour meeting at each organisation's office between the period of March the 15th and May the 8th. In two cases phone interviews were done instead. All interviews were performed in Swedish and were recorded. The structure of the interview was that one of the authors mainly held the interview while the other author took notes. Both authors had the guide as support and it was free for both the interviewees and authors to ask more questions.

3.3   Data analysis

The first action made after conduction each interview was to write down the notes into a document and this document was sent back to the interviewee with the purpose to check that everything was understood correctly. It was agreed that if the interviewee wanted to change, clarify or remove any statement in this document the newest edition of the document was to be used in the research. Transcription has also been used when working with the interviews, which provides for instance, the correct words when using quotes. Although the quotes used in the report are translated from Swedish into English by the authors.

Interpreting and processing our data into results and later analysis was done by support and discussions with the supervisors both at Chalmers and Skanska. As a analytic technique described by Yin (2003) we looked for patterns in the data, both between the literature study and the multiple case study and later on also between the case studies. Further on in the work with the analysis also explanation building (Yin 2003) was made by describing why certain links and patterns occurred.

3.4   Validity and reliability

In order to increase the validity of the study, several sources have been taken into consideration which is an approach supported by Yin (2003). Furthermore to strengthen the validity, the design of the study was set before starting the collection of data and during the analysis there was focus on searching for patterns and logics between the sources as supported by Yin (2003). By interviewing several persons within the industries and organisations the validity is also supported, although as seen in Table 2 the distribution is not completely even and the validity could be increased if more interviews had been done. Also when making statements concerning the different industries in this thesis it must be noted that it only correspond for the involved organisations.

The theoretical framework is based on a literature study and the multiple case study is based on the interviews. Those two sources are used together in order to raise the reliability of the results. Having protocol and recording the interviews have also contributed to the study's reliability (Yin 2003). One aim through making interview guides before the data collection is that the result should be the same if making the interviews again as explained by Bryman and Bell (2007) as an aspect of reliability. Although it must be pointed at that arranging qualitative interviews with people from different organisations might not give the same outcome later on as it depends on who is met and the current situation at the organisation. One other aspect that might affect the repeatability of the study is that the interviews was semi-structured and some follow up questions can then differ from case to case.

4 Case study results

The results from the interviews will be presented below, whereas a comparison with literature and an analysis will follow in Chapter 5. First a short description of the current situation of Skanska will be presented which will mainly be used later in the applicatory part of the thesis. Results from the interviews have been divided into three sections. The first section deals with physical and tangible factors of knowledge dissemination while the second section deals with cultural aspects. The third section is a summary of the interviewees' own recommendations on how to deal with the problem of keeping experience based knowledge in their companies. The reference system used in this chapter differs from previous since these are verbal sources from interviews. A system with numbers here in the text in direct connection with a statement is used which gives the interviewees anonymity. A full reference list is found by the end in this thesis where all numbers are divided into the associated industry and also the interviewees' position at the company are declared.

Each section will start by presenting general answers which all three industries have responded with. To highlight the young professionals focus, the last paragraph in each section will present answers only from these interviews which had a more personal focus rather than which strategies are used.

4.1 Present situation at Skanska

Here the current situation at Skanska's department *Väg och Anläggning Väst* is presented due to factors as age distribution and number of new employees. Information from their annual employee survey will also be taken into consideration in order to see where there is need for improvements within areas that are related to knowledge dissemination. The results of the survey are used by appraising the outcome of questions concerning similar topics in order to summarise what is indicated. This information is based on internal documents from the organisation provided by the supervisors containing statistics for the employees and the division and the summary of the annual employee survey for 2012.

Generally the age distribution at *Väg och Anläggning Väst* looks similar as the one in the construction industry in general, as shown in Figure 1 in the Introduction. A large part of employees is within the interval of 25-34 years and the quantity is significantly decreasing at the ages between the young professionals and the seniors as shown in Figure 3 below. Due to internal documents it is also shown that among the office staff 20 % of the ones between the ages 20-30 were employed during the last three years which makes them potential receivers of knowledge from senior colleagues.
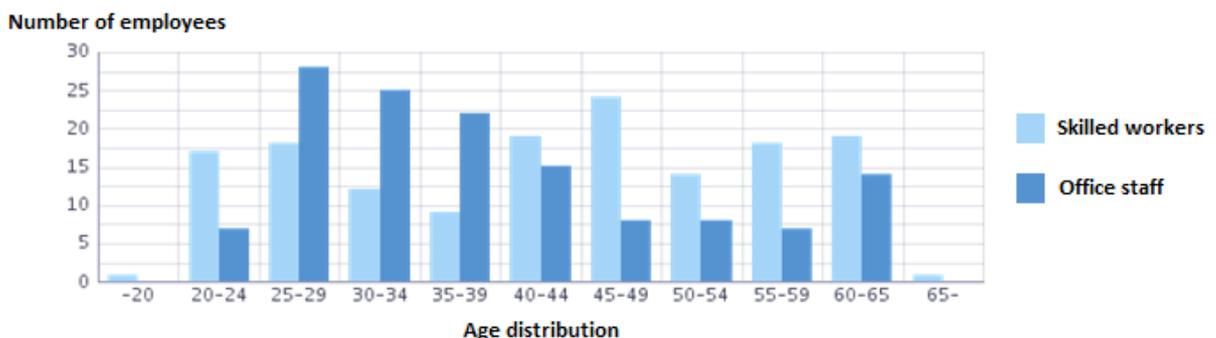

Figure 3   The age distribution at Skanska's division *Väg och Anläggning Väst.*

The survey shows that there is a high perception of that the work between units works very well. The number is lower concerning give and take knowledge, but when it comes to helping each other at the office the number is very high. It is also a high number concerning that the employees are committed to do a little extra if necessary. And due to benefit from each other's experience the number is very high.

Concerning feedback from the closes manager the survey confirms that it has been taking place the last week for almost half of the employees. One question concerned if regularly information about the workplace's profitability is given the answer was rather low and was also decreasing due to previous survey. The motivation among the employees is shown to be high, but with room for improvements. When it comes to development there is also space for improvements, this is also reflected in the answers on if there is possibilities for personal development within the organisation.

The employees think that they have the competence needed to meet the customers but there is a little room for improvements. There is also a development potential due to if the staff has the right experience.

Lastly, many of the factors highlighted here from the survey shows positive conditions for successful knowledge dissemination at the division *Väg och Anläggning Väst.* In some areas there are improvements potential and possibly these gaps can be overbridged by working with knowledge dissemination. Hence the conditions at this certain division appear to be a good starting point for the further work with knowledge dissemination.

4.2 Work environment factors affecting knowledge dissemination

This section deal with factors linked to work environment and knowledge dissemination. Answers regarding factors related to the interviewees physical work environment are followed by how the size of the groups involved in sharing knowledge affect the outcome. Further on, results dealing with factors such as formality or informality are presented.

Physical environment

The main factor interviewees answered when asked about their physical environment was the number of people around them in their office. Most agreed that they wanted people around them to get face-to-face interaction and direct feedback (6, 8, 10, 13). Being able to ask someone directly without having to walk or write an email when facing a problem was also mentioned (10). It is less formal and easier to spit ball ideas in smaller groups (6), of for example 2-4 people (8). If there are too many involved there could be more than one discussion at the same time which is confusing and makes it difficult to focus (8). The noise level was also mentioned as a disturbing factor. Only one interviewee answered that sitting alone was preferred (6), the reason was the ability to shut out everything else and to focus without being disturbed. In addition, certain jobs require the ability to close the door, HR related work for instance (6).

Two other factors about the physical environment were connectivity and flexibility, to do a good work everyone need to be connected with their colleagues. There are several tools that help with being connected, examples such as intranets, HR portals and different communicators are mentioned in every interview in addition to the more common tools such as using emails and phones to share knowledge. Emails seem to

be disliked by most people, one of the young professional's claims (8), the only benefit is that the information is saved. Having a good, and easy to use, communication infrastructure is vital for knowledge dissemination to work smoothly (13). There are also large databases with written information about every aspect of the organisation where you learn on your own or search for information regarding particular problems (6, 8, 10). One interviewee said that he wants to be able to have all this while still being flexible as to when and where he works (6).

Another question asked during the interviews was if they know "who knows what", if a mapping exists of where certain knowledge can be found. In the manufacturing industry this was common in the production units; which machines and parts of the production process a person knew was well documented (1, 2, 3, 4). Otherwise, this kind of mapping was quite limited. In a few places people could personally add their expertise on the company portal (5, 7, 11). The problem with these systems is what level of detail it should be at and that many jobs are difficult to quantify and divide into parts.

According to one of the young professionals (8), the preferred way of sharing information is by speaking with co-workers, and co-workers are also the best "tools" for learning. The closer the tool which is used is to having an actual interaction with someone the better it is (8). Email only uses written words, phone is better and faster if you want to discuss something and video conference is even better as it lets you see the person you interact with. Sharing desktops or looking at presentation at the same time allows for easier understanding, sharing pictures or using the common whiteboard while explaining something also help (10). A specific point one of the young professionals made was using a combination of tools during the discussions is beneficial. Such as describing something and using a whiteboard or a computer model at the same time increases the understanding (8).

The number of people involved in formal knowledge dissemination

When working with explicit knowledge, it is common that larger groups are formed (1, 4, 6, 11). While this works well, some interviewees state that they lose the possibility to closely interact and shape the situation in a way that it fits all individuals (4, 6). When the knowledge is tacit, smaller groups are preferred. If the objective is to reach a certain depth of knowledge (11), to reach an advanced level (7), smaller groups are also preferred because a close relationship is needed and much of the knowledge is unknown or highly advanced and involve many tacit elements.

If there is a clear objective to teach, and not just informal sharing of information, a combination of both ideas is normally preferred. Starting with larger groups to handle the more explicit parts and later progressing to smaller groups of 2-3 individuals when a closer interaction is needed is one suggestion (1, 4). A group, as opposed to being only one individual, always have the benefit of being able to discuss and having instantaneous feedback (5, 7, 11). In regard to practical knowledge, likely explicit, smaller groups are also preferred mainly for the same reasons (1, 3, 4). Being able to discuss, and try in practice what is being discussed is valuable, however it is likely that space is the limiting factor for the number of people if it is an object or machine which is being discussed and worked on.

Most interviewees say that the preferred way of learning depends on the person or persons involved, and the role they play. What the individuals are used to or prefer affect how well they learn (3, 5, 6, 9).

Formal and informal settings for sharing knowledge

Informal sharing of knowledge seems to be prevalent across the board (1, 2, 5, 6, 8). While there are many formal structures in place, such as using mentors or coaches and in-service training, informal collegial knowledge dissemination seems to be the preferred way of handling day to day activities (1, 3, 9, 10). Much learning takes place "on the job" (2) between colleagues while doing normal work and by solving problems that arise (3). It is not practical to plan everything in a formal way (1), people need to be able to act when opportunities arise or problems occur.

One manager states that you cannot have constant formal training and keep ahead of competition, you need to work and train in parallel (2). It is difficult to measure when all knowledge and experience is transferred from a person, however by measuring certain set goals on the recipients end, they do try to formalize the results of the on-going knowledge dissemination (1, 2, 3, 4).

Formal meetings have their place too, production units that use several shifts normally overlap these shifts slightly for a formalized meeting to share information and discuss the current situation at work (1, 3, 4, 5, 6). During the shift overlap that takes place at midday, a manager is usually present as well, as opposed to only the production workers being there, to give holistic input (2). The relevant parts of these discussions and ideas are then transferred from the manager to the next organisational level during their meetings, and so forth. Without some formal structure; for example, when meetings take place, there is a risk of losing many opportunities to share information. One interviewee mentioned that there simply is not enough time to rely on constant informal meetings, while you cannot formalize everything there need to be some structure as to when and where meetings are held. Especially for parts of the organization that very seldom or never meet in their daily environment (1).

Most of the companies try to create an informal culture, in the day to day work and in some of their meetings (4). To get the benefits that informality brings, closer relations and more openness for example, having arranged meetings with an agenda or a desired outcome in an informal environment might help (9). It is more comfortable and allows for "stupid questions" (8), as one interviewee puts it. By getting to know who knows what in these settings, and if an open environment is present, there is always knowledge if you needed it but one or two people or phone calls away (5). Asking is a very natural way of acquiring knowledge, some try to help the natural way of doing, by building a structure around it. For example, by collecting information about who knows what and how to contact these people and making it available on the company internet portal (4, 5).

One young professional state that their younger co-workers are more informal, daring and playful in their work, which is good because undertaking new projects and ideas is a risk they want to take to develop creativity and new ideas (10). Another observation was that older co-workers with more experience tend to stick to what they know and be less inclined to try new tools or software for instance (8), formality and structure is more important to them.

4.3 Organisational culture factors affect knowledge dissemination

This section deals with less tangible factors than section 4.2. It begins by presenting what kind of knowledge the interviewees perceive as more or less difficult to transfer amongst themselves and continues with what is required to take the step to use

information as knowledge. Further on, views on the concept knowledge hoarding are followed by thoughts about how they work with motivation to share knowledge. Last in this section are descriptions regarding what the organisations culture concerning learning and communication is like and finishes by presenting the use of mentors, in-service training and feedback.

The difficulty of sharing different types of knowledge and taking the step from data and information to actual knowledge.

Regarding what kind of knowledge is easier or more difficult to share; the basics of how to do something is regarded to be easy while it is more difficult to share experience. The basic knowledge mentioned has been; for example, mathematical equations for a software-engineer (8). The equations are what they are, and with the similar educational background most programmers possess it is viewed as being simple to transfer to someone else. In the consultancy industry, creating and giving presentations and how to conduct meetings are regarded as a basic part of their vocation and is seen as skills which are easy to teach others (11). For a machine operator working in the manufacturing process, how to do each individual step in a set up for instance is quite easy to do and to teach others (3). Newer machines have step by step manuals (1), the work is hands-on and is repeated often which helps when assimilating the knowledge. Generally, knowledge that is based on objective facts or manuals is easy to transfer and instances where the result is very easy to see, such as drawings or the change of physical parts in a machine is also easy (9).

What is more difficult; for example, is the ideas behind these easily overviewed results. Why an equation is chosen and not another one in this setting, while it may be completely different in another setting. The whole structure behind an idea and what the idea is meant to accomplish. One engineer (8) describe it as being difficult when you have to simplify a complex idea to be able to explain it to someone else, but the simplification cannot justify the whole idea. When having to justify something, or being viewed as credible when giving advice to others, demands experience which is a skill that is not easy to transfer (11). Furthermore, most things that involve feelings, or how something feels, are difficult to share with someone else (13).

In regards to production units in the manufacturing industry there are slightly different challenges. While each individual step in a machine set up; for instance, may be quite easy, the large amount of steps makes it more difficult and take more time to learn (2). Particularly when dealing with old equipment or machines where no guides exist or can be written. An old machine may have been repaired and updated many times over and "behave" in odd ways which require an instinctive sense to master (1). This instinctive sense is acquired by actually working and having long term experience with the machine and is deemed very difficult to write down or to transfer to someone else. One expresses is as if they sell the factory today in the current condition for a cheap price but not with the employees, it will take the new owner many, many years to be competitive (2).

The step to go from possessing information to actually being able to use it as knowledge was one question asked to all interviewees. The consensus to this is that the application of the knowledge is required. If you do not apply your information as soon as possible it will not stick. While it may require some previous knowledge to understand, you have to be allowed to be a part of the work and try it on your own to acquire your own knowledge (8). Being allowed to make mistakes also helps because you learn a lot from your own errors (1). A manager adds that being able to practice in

a safe setting benefit the company, because mistakes in the actual production unit can be quite costly (4). A point made by one interviewee was that the best way to really get to know something is to try to teach it to others (12).

As for the young professionals' thoughts, they agree that the ability to work with and apply knowledge directly is something most answered (8, 10, 13). Putting the knowledge into a context helps (13). One interviewee describes a somewhat iterative process that he prefers (8). At the beginning there should be a presentation to get the basic ideas clear and to get the holistic perspective. After that it is a cycle of talking to people and working on the task. He (8) stresses the point about being able to ask questions and to discuss the problem with someone. Another individual's input may help you to discover what you have missed or if you have forgotten something, and you do the same for that other person, he claims (8).

Knowledge hoarding and how to motivate people to share knowledge

The term and meaning of knowledge hoarding was explained during the interviews and the question was asked, if it existed, to all the managers interviewed. The simple answer was yes, everyone claimed it exists somewhere. Some claim it was a larger problem historically, or that it only exists in certain groups or with few people, but there is a problem with people not wanting to share their knowledge (3). In one case the interviewee (6) mentioned that some individuals who get different roles, internally at their work, have trouble letting go of their old role and commitments. Another problem faced is that a person may not want to share what they know because it will require them to be responsible for it (4).

Since all answered with yes, the follow up question was what was done to prevent it. First, the person doing it needs to be aware that it is taking place, it is not always intentional. The need for control may be an influencing factor for this behaviour (3). Moreover the managers speak about it with the person involved, explaining the need for openness and how it benefits everyone. Withholding knowledge in key positions may make the person with the knowledge invaluable, but it also a risk for the company, making the person aware of the risk involved is also a way to try to motivate sharing (4, 9). Sharing knowledge should be encouraged and be commended when it takes place, rather than using some kind of monetary incentive (1). Several of the interviewees mentioned that when someone has a good idea or solution, they are asked to quantify it and have a presentation or workshop for other members of their company (8, 9, 11). Not only does other people benefit from their knowledge, they themselves have an opportunity to market themselves to a bigger audience (11). If a person has for example stage fright though, they may make a presentation together with someone but letting the other person do the actual presenting (9).

The best way is to have a culture where it is natural that everyone interact and share knowledge with each other. In one case sharing knowledge is such a vital role that it is a part of their internal rules, if you do not share knowledge continually you will not progress within the company (11).

A learning culture, communication and routines

All interviewees perceive their companies cultures as open and sharing. While the companies are perceived as having open cultures, the co-workers can very busy at times, which hinder to possibility to help others (1, 5). Having an open and trusting culture where people are willing to take time to share experiences and knowledge is

therefore important. Consensus is that people will take time to help these days; while historically (4), there were more internal rivalry.

Having an "open door" culture at work seem to prevail in all companies, not only is it alright to ask questions, it is expected and encouraged (9). It does however, require that time is available.

> *I get the feeling that people are not incredibly stressed out, with unreasonable deadlines, here, because then they get more closed off in their job ... often I believe, if you are not super stressed, you are more willing to care about someone else (8).*

One interviewee states that their culture is very relaxed and informal, even though their work is serious (10). Their company promote a prestigeless culture and equality between people is valued highly, they try to show this by always having a common goal for the whole group even if the tasks are divided amongst people. A similar response was given by another interviewee where she states that their company culture does not control how they interact (13). An example was that a more experienced person with a senior role can very well ask a younger person for help and ideas.

Generally, the interviewees claim that if you are willing, you get responsibilities quite quickly in your job situation (1, 6, 8, 13). A part of having those responsibilities is that you are responsible for acquiring the necessary skills too, and thus, having an open culture is important (5). Even if you do not possess the skill or knowledge presently, the experience normally exists within the organisation or close at hand. Proverbs such as knowledge is only two people away, or two phone calls away, are common. In an office setting, one interviewee claimed that he had all the necessary skills in reach by walking less than 50 meters (10). While this is all well and good, without the knowledge as to who knows what, you have to search for the right person, which may take time (4).

Having a good network of people you know, or a network you "belong" to is important and very helpful. Problems arise when you do not have a good network (5). Without proper structure in the organisation, finding your way among groups of people is more difficult (4). While openness within your network, or group, may be common, if you want to join another network you may have to go through people who are already a part of it to facilitate the introduction (5).

One interviewee makes an observation about them valuing skills very highly (9). Possessing knowledge and doing a great job is much admired and they talk about some individuals being very talented. While it is important to value knowledge and give credit where credit is due, when some people are in awe of this talent, it is problematic from a learning perspective (9).

> *Someone may be incredibly talented at what they do. It's almost like there is, is something magical about it. One can get stuck in the view, -you can't bloody well teach that! And I think that is a little dangerous, you have to believe you can spread that magic (9).*

The input from the young professionals was that much of the learning takes place during the day to day work, and that in most cases this is the preferred way (6, 10). It is nice however, to have certain routines to rely on when needed, and always have to option to ask someone. It is for instance, easy to motivate yourself and to be responsible for learning something when you find it fun and interesting (8). It may be

necessary to have routines to get all the needed knowledge though, particularly in areas which are needed but not as interesting to learn.

In regards to the sender of the knowledge, the young professionals agree that patience is important as well as the sender being calm, systematic and matter of fact in their teaching (8, 10, 13). When teaching something, it is important that both parties are clear on what the subject at hand is about. The receiver ought to think about and know precisely what he or she is actually asking (6), and the sender should think about what is actually asked before answering (8). Specialists in particular, are incredibly accomplished in their field and really want to share their knowledge with others, which means it is important to know exactly what you are asking (6).

> *Often an informal 5-minutes-question can become half an hour long because of sprawling away and draw connections to the right and left that might not always be really relevant at the time (6).*

Another issue mentioned is that some teachers take questions too personal and get defensive when asked questions such as why they have done something the way they have (8). Prestigelessness in the sender is really helpful (8). Both parties are responsible for knowledge dissemination to be successful (10).

Coaching, mentoring and in-service training

Every interviewee state that they use coaches, mentors or guides in their organisation. The word chosen to describe the practice may vary but the role fills the same function. A mentor is there to support someone, a new employee (4, 9) or promising leaders (5, 7) for example. The role or function exists in every case in this study; which individuals to have a mentor or how and why the companies do it vary though.

As stated above, there seem to be two different groups that have mentors, new employees and managers or leaders. In the manufacturing industry, both companies have mentors for their new employees in their production unit (4, 5), the role is normally filled by someone with more experience but with the same job. There is a structure for these mentors with, for example, step by step guides (5) and explicit guidelines and goals that shall be fulfilled (2).

The other group is the mentoring of managers or leaders (7), or people the company believe have potential to be good leaders (5). One interviewee says that they want to create a neutral relation between the mentor and the one being mentored. These mentors are there to guide and deal with more informal and tacit elements and soft factors (7, 11). A few companies prefer to use their mentors from outside the department to be able to keep it more informal and neutral in nature. Further effort is put into the individual being mentored (11), there is a desire to personalize and include the person in their own improvement.

An additional way some companies use their mentors is for their employees that visit, or have moved here, from other countries (4, 9). On top of helping with their new role they help with issues that arise outside of the company. Problems such as getting a new telephone, internet connection, TV-licence and less formal issues such as adapting to a new culture and a new situation.

> *It is very easy that you end up alone in a quite empty apartment in the north part of town and feel alone in December, when it gets dark at around 3 ... if we've got a mentor who is there for this person, the threshold for them is a lot smaller(9).*

The interviewed manager claim that "normal" mentoring usually happen informally in any case (9), but that it helps with a formal structure.

One of the interviewees stated that they see their industry as a quite male oriented (11) industry, the same could be observed in the other industries. Therefore some use mentors specifically for women in their organisations (5, 11). One interviewee state that they sometimes use external coaches (11) as mentors and to provide female role models.

Contrary to the softer mentoring described during the interviews, in-service training deal more with explicit and practical knowledge. All companies state that they use some kind of in-service training. For new employees this normally involves learning the tools of the trade and compulsory training such as fire safety and handling of dangerous chemicals (5, 11). In-service training normally continue to more advanced courses further down the line concerning for example practical issues regarding leadership, sales and handling of projects (11). What kind of training is required naturally depends on the role and the need of the individual being trained.

Feedback

Formal feedback is common in all studied companies. Feedback once every year (1, 2, 9) or 18 months between an employee and a manager seem to be the norm (4). This is usually a meeting discussing the past year (9, 10) and goals for the coming year (1). An interviewed manager (9) states that they collect a lot of information before these meetings, feedback from managers, several colleagues and a self-review. The history and information is discussed and gradually you work to the present and future plans. The ability to give and receive feedback; however, is not always easy. Several interviewees says that they need to work on this (2, 3, 9), and use it more regularly since both the managers giving feedback and those receiving it feel uneasy with the process (3).

> *What we today call feedback is basically only information given. For it to be actual feedback, ... , you have to be able to use and act on the feedback (9).*

To help this one need to educate mangers (1, 7) in how to give constructive and positive feedback (7).

Another aspect of feedback is the informal feedback given and received continually. In most cases this happens continually without involvement from management between colleagues (10). In one case (9); however, they use a structured way of giving somewhat informal feedback. By passing work around a department and letting everyone work on it, ideas and feedback is naturally passed around at the same time (9). The manager in question stated that they want to try this in more departments, but that this way of doing it will be difficult to implement in other contexts (9). Even if it is not structure in this way, collegial feedback is still seen very valuable and a useful way of spreading knowledge (8, 9, 10).

While the young professionals agree it is valuable to have a formal structure it is the continuous feedback that is valued more. Feedback which is given in combination with the task feels better, giving feedback five minutes after a meeting regarding that meeting is seen as more valuable than if it is given 8 months later during the formal feedback meeting with the manager (13). The feedback works better if it is tangible. If the feedback is mutual it is even better.

I do not want to receive an email, it should be in person and it should be something concrete. That way you understand, you know why he gives feedback (8).

Several of the young professionals interviewed claim that they see feedback as a driving force (6) for them but, as stated above, it needs to be concrete feedback to actually feel valuable (8).

What motivates young professionals

There are a few different factors that motivate the young professionals interviewed. Everyone answered that they want to be good at what they do, either by being able to do more diverse tasks at work (10, 13), or to do better than before (6, 8). The more you learn and the more you see how things connect and interact, is in itself seen as motivating factors. An additional benefit to growing into your role is that you feel more secure at work (6), one of the interviewees claimed. Furthermore, if you do learn or discover something that others do not, it is motivating to share it and teach others (10).

A few other factors were the ability to influence what you do at work, your role and responsibilities (6). Furthermore, it was mentioned that your co-workers can serve as sources for motivation. Motivation is contagious, one interviewee claimed, if you for some reason are down one day your co-workers can pick you up (8). In a group with good relationships, people help each other. Furthermore, if you say that you will do something, you do not want to let your co-workers down by not reaching up to their expectations or not doing it at all. It can be worse to let down your co-workers than your boss in many cases (8).

Monetary incentives were mentioned as factors, like a bonus or a raise, but in those cases it was stated after that it was never the main motivator (13). A higher salary; for instance, would normally mean you get a higher position at work. This in turn could mean you get more interesting projects and the option to choose which projects, clients and colleagues you want to work with. The extra money is seen as fair compensation rather than a motivating factor in itself.

4.4 Suggested solutions to handle the generation shift from the interviewees

The results below will show how the interviewees reason about a solution to the current situation with the need for knowledge dissemination due to the generation shift. The last question in every interview was:

"How would you like to solve the situation with transferring knowledge from someone who is leaving the company to a younger co-worker?"

While almost every answer has already been given earlier during the interviews, the authors wanted the give interviewees the possibility to combine all their thoughts in one question. This was mainly to see how they reasoned when faced with a more open and holistic question rather than a small part of the problem.

Continuous work

Disseminating knowledge, particularly tacit knowledge, in an organisation takes time. If a company happen to be in the situation with someone leaving and having no structure in place it is already too late (12). More often than not it will become a quick fix thing (4), which will not work particularly well.

The most common suggestion was to allow people to work together, one more experienced person together with a more junior co-worker. Unfortunately, financial factors normally decide which decisions are made and dictate what takes place in a company. Letting people overlap at the same place; for instance, is a cost and thus it is less likely it will take place. Losing the knowledge will likely cost more though (1). It should be a natural and easy process, sharing knowledge, and thus it needs to be a part of everyday work and not just something happening at the end of one's career or in a seminar once every other year.

Well-functioning infrastructure

To help with sharing knowledge there has to be a way to do so. A well-functioning and easy to use IT-infrastructure is essential today. All the companies involved in the study state that they do a lot of documenting during their projects and everyday work, for several different reasons. Having this documentation means that anyone can back track and read about previous work to learn and get ideas. One manager adds that, even though they have all this documentation, very few people actually use them further down the line (12). Furthermore, what you gather is likely general ideas and not an answer to your actual problem. An easy way to directly ask specific questions and receive specific answers is more useful. The focus should be on creating easy ways to share knowledge quickly and when and where it is needed.

People and attitudes

As stated above, it should be natural and seen as a positive characteristic to share your knowledge with others. It is all about the people and their attitudes (12). They make up the culture within the organisation and it is them doing to actual sharing of knowledge. Having good leadership is vital since cultural changes are very difficult to make.

Starts at recruiting

Since creating a new culture is very difficult, it is important to recruit well. One manager stated that they focus more on the prospective recruits' personalities and how they function in groups rather than what they skills they have (12). Skills are easier to teach than trying to fix a person to fit in to a company culture.

5 Analysis

The purpose of the thesis is to determine which factors that can be significant for knowledge dissemination. Furthermore, the thesis also aims to verify how the research model holds up against reality. When comparing the interview results with what the scientific literature state about how certain factors affect knowledge dissemination there are no conclusive contradictory results. A summary of the factors, by Paulin (2013), and whether they are facilitators, inhibitors or an obstacle can be seen in Table 1 in section 2.1.2.

The analysis will be done in three sections where the first one deal with a general comparison between the literature study and the interview results, focusing on the research questions. The second part will cover differences between the three industries and the last part focuses on the young professionals' perspective.

5.1 Comparison between theory and results

This section compares and analyse similarities and differences in the factors the literature state affect knowledge dissemination with the results from the interviews. The section begins with aspects concerning work environment and then follows organisational culture.

Work environment factors

The beginning of Chapter 4.2 dealt with factors regarding physical environment and issues about the number of people cooperating at work. The results from the interviews correspond with the literature on several factors. One example is the case of using open landscape layouts at work. Sitting close together has the benefit of being able to discuss things continuously and immediately when problems arise. The close proximity promotes interaction between co-workers and will create relationship between those interacting. In Table 1, the frequency and intensity in transfer activities are seen as facilitators, the same case with relationships and strength in ties between groups. An inhibitor in the model is geographic and physical distance, where further distance will mean more problematic knowledge dissemination. This ought to correspond with there being benefits with being situated close together which has been mentioned in the results.

In a formal teaching perspective, the actual number of people involved in knowledge dissemination is interesting. The interview results show that large groups work well when dealing with explicit knowledge while smaller groups are better for tacit knowledge. Stasser et al. (1995) points out that information sharing during discussions benefits from everyone knowing the other's expertise prior to a discussion, which is difficult in a large group. A smaller group allows for closer and more personal interaction and by knowing who knows what, the group can better focus on unshared information.

The common place to share information when sitting together mentioned above, creates an informal setting. Spending time together and working together in joint activities helps when sharing tacit knowledge. As tacit knowledge is difficult to put into words, cooperating in the day to day work makes it easier than trying to verbalize something which is implicit. These factors correspond well with Table 1 where for instance embeddedness and ambiguity are seen as inhibitors; i.e. it being difficult to put the message into words. Having an informal and open environment at work, and

learning while working is stated as being the preferred way in many of the interviews. Having a good relationship is seen as a facilitator, as well as openness between the actors.

Having the right tools and a well-functioning IT infrastructure is mentioned as being facilitators both in the literature and the results from the interviews. A few of the more common tools are emails, phones, communicators or video conference for communication. Using databases to store information about finished projects, earlier research and development work or mapping of who knows what is also common. Most companies use some kind of intranet in addition to the databases to share information. Lee and Fink (2013) mention that finding the right information within the organisation can be frustrating and time consuming. Using a knowledge map as a guide to point out who possesses knowledge about a certain problem or project may be better than finding the knowledge in a huge database. Considering that tacit knowledge is difficult to put into words, being pointed to a person who knows the problem and being able to discuss it together may be better than simply reading about an old project.

Technical know-how is stated as a barrier in the literature, a person need to reach a certain level of aptitude to use a new tool or software for instance. The young professional literature also mention that generation Y have different foundation for their IT proficiency, being born and raised with more technical tools readily available, which likely make that barrier easier to overcome.

Cultural factors

Chapter 4.3 initially dealt with different types of knowledge, which is depicted with both a (+) and a (-) in Table 1. The results show that explicit knowledge is in every case regarded as being easier to share and transfer and tacit knowledge being more difficult. Whether the content can be seen as an actual facilitator or inhibitor to knowledge dissemination is not considered here, there are however clear views in the industries as to the difficulty of sharing the different types of knowledge.

Both the interviews and literature studies point out the importance of keeping a holistic perspective, particularly in a team (Senge 1990). It is common that a whole idea or project is split up in smaller pieces which make it less complex and easier to work with. The pieces are likely easier to work with, but it may lead to losing the knowledge about how things connect. Another issue pointed out during the interviews was that while it may be difficult to explain a complex idea, the smaller pieces may not do the whole idea justice (8). In one of the interviews (10) it was stated that the goals are always set for the team even though the individuals in the team work at smaller parts of the whole. This is reflected in the literature where Senge (1990) knowledge dissemination relies on that the participants have experienced achieving results in a team, and the feeling have been that the teams goals are more important.

The interviewees claim that having an open culture with people motivated to share knowledge with each other really make learning easier. Willingness to take time, even though it may be lacking, to answer questions and discuss issues is important. Having an "open door" culture, where it is accepted to ask questions of co-workers and superiors without being reprimanded correspond with the willingness to share knowledge. The open door culture is something every interviewee claim they work with and feel is very important for them to spread knowledge within their respective organisations. These factors correlates with the literature, both openness and motivation are facilitators in Table 1.

In an environment where co-workers share information openly, having a good network of knowledgeable people gets important. If the knowledge or skills that are sought after are in a person, and not in a database, it gets even more important. In a setting where the people possess the knowledge and skill, help is normally close by (4, 10), it does however rely on the knowledge as to who possess what knowledge. Sometimes knowing a person in a group or a network that can assist in joining or acquiring knowledge from that group helps (5).

Not only does learning require the sharing of knowledge, feedback is a very important factor that can have a large impact on knowledge dissemination (Hattie and Timperley 2007). This statement matches the results from the interviews. There has to be a thought process behind the feedback however. Feedback needs to be able to be acted upon, otherwise it is just sharing of information (9). The content as well as how it is delivered can affect the outcome of giving and receiving feedback. For instance, not only the end result should be praised when giving positive feedback, both the process and the effort should be recognized too. Feedback is seen as a facilitator in the Table 1, how it is given need to be considered though so as prevent unwanted effects. If no praise is given to the process of achieving a goal and only the goal itself; for instance, it may affect the motivation of the receiver to work on improving themselves since it only the result that matters. There are more forms of feedback than that of the manager and employee as well. Collegial feedback continuously during the day to day work has been stated in several interviews as being important (8, 10, 11). If the feedback is given directly when the process is taking place or results are shown, it is easier to act on and assimilate than for instance, the yearly review with the manager. Both the formal and more informal ways of giving feedback are seen as valuable tools to learn and improve.

This comparison between the theoretical framework and the case study carried out mostly similarities and these factors that were confirmed from both sources are compiled into a figure to illustrate the main factors that this master thesis found. These factors are presented below in Figure 4 and each one of them has a sign of +, +/- or -. The factors with a + are placed on top and these have a positive impact on knowledge dissemination, the more of these factors the more positive impact. On both sides there are factors with +/- and this can have both a positive or negative impact depending on how it appears. For example IT-systems can be a facilitator and ease communication, but if the system is malfunctioning it has an opposite impact. Lastly the factors with a negative impact are marked with – and found at the bottom.
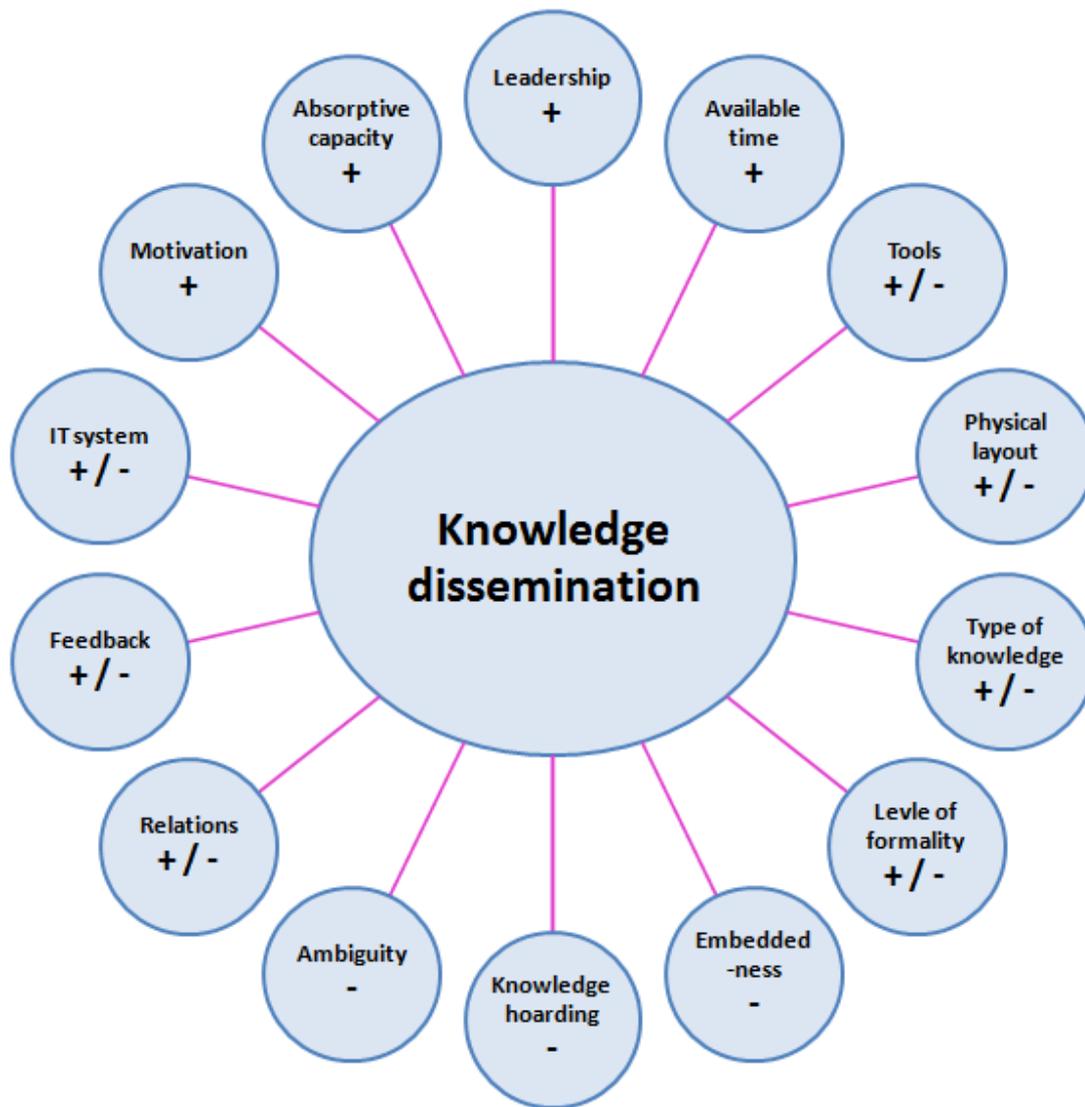
Figure 4   Factors confirmed in both theory and cases influencing knowledge dissemination.

5.2   Variations amongst the three industries

This section goes through the findings from the multiple case study and highlights the main similarities and variations between and within the chosen industries; manufacturing, IT and consultancy.

The current situation in the industry regarding the generation shift

It is primarily the manufacturing industry that has similarities with the construction industry with the aspect of the generation shift. The other two industries, IT and consultancy are not facing the same challenge since their work force is rather young. Due to this the companies in the last mentioned industries are not having a certain strategy with focus on knowledge dissemination of knowledge that is held by employees that are on their way out of the organisation. But there is a certain focus on this within the manufacturing industry where succession planning (4) was mentioned.

At which level within the organisation the effort to structure the knowledge is put

Within the manufacturing industry there are several ways to structure the organisation's knowledge, though the tendency is that the clear structure is in often in close connection to the actual manufacturing process.

It is explained by (4) that they work with strategic competence development. This is a matrix (1, 4) mapping the information about what every division can perform as well as which competences every employee possesses. This aims to enable the organisation to break down this into components and evaluate what the market wants and in particular if something is missing (4). Working in this way leads to a competence development plan where it can be motivated which competence that is critical, it provides a good base that justifies the development.

For the operators there is a structure showing which competence everyone has, consisting of several base steps and development steps (1, 2, 3). These steps define different skills that are necessary to have and for each step taken a financial incentive is connected (1). On the office staffs' side there were not the same clear structure, one example was that the method used was to search for gaps in knowledge among the employees (5). Although a three level of competence rating was another more concrete example for the office staff (1).

In the IT-industry the general solution was that there are some paths to go but the mapping of knowledge was rather vague. The communication division gives support by providing information about whom that possesses certain knowledge (7). There was also some identified roles or key persons to turn to (7, 9). At one place this identification also had the purpose to supply a risk assessment in order to raise the awareness and have a plan if a key person leaves (9).

A database was used at one organisation in the management consultancy industry with keywords about every employee's knowledge and which industries that person knows (11). This, together with a well-developed communication network, creates a setting where an expert that is needed is never more than two calls away (11). Since the knowledge is within the employees and not mapped explicitly the need of a social interaction tool is necessary (12). One example was to have an infrastructure where questions can be posted and that are visible for everyone in a direct and simple way (12).

Employees willing to share their knowledge set up workshops

The IT-industry stood out compared to the others in their way of encouraging the employees to share their personal knowledge in workshops (7, 9). This was a common element in the ordinary work and was highly supported by the organisation (7, 9).

Workshops by the employees also took place within the management consultancy industry and sometimes is was facilitated by using a video conference in order to make it possible due to the fact that they worked geographically distributed (11).

The layout of the workplace

The impression that was given in the manufacturing industry was that they mostly sat in rooms of one or a couple of persons and in a few areas there were office landscapes.

The IT organisations had rather much focus on placing people together that could use each other's knowledge, employees were placed in team working with the same project for example (10). When having open landscape the area was to a high degree

equipped with different pedagogical tools which was used in the daily process to visualise the work.

The strategy to work with knowledge dissemination

Within the manufacturing industry, some areas had strategies and some did not (1, 4, 5). More well developed strategy for the operators compared to the office staff (1). Other situations are that it is a matter of resources and that the strategy for cross-functional and global knowledge dissemination needs to be improved (5). It is also indicated that the strategy at some areas relies on the individual's motivation but that it unfortunately stops there (2).

The IT industry was focusing to broaden the knowledge among the employees in order to prevent the situation of only having experts in different areas (7). The strategy is very much based on what the employee wants to do, but there is at the moment a change process towards this way to work (7). The strategy aims to strengthen the competence within the organisation, it is grounded in research and works very well (9). Feedback in different forms is a large part of the strategy (9).

The management consultancy industry had clear frames and structures on how to relate to knowledge, pass it forward and how to achieve new knowledge is central (11). A culture where knowledge and sharing it is important (11). Another tendency is to move away from e clear structure and still have the organisation to know how to work with knowledge dissemination. This is facilitated by social tools and a well developed infrastructure among with a well established learning culture (12).

The presence of knowledge hoarding

There is a presence of knowledge hoarding (2, 4, 5, 6) in the manufacturing industry. Tendencies that it occurs more among the older operators and that it has its basis in status and the desire to be best (2). The organisation tries to prevent this behaviour by steering away from the individualistic and towards a team orientated approach (4). Effort is put to change this culture (5).

This problematic might appear within the IT industry but there is an active work in order to prevent it by using incentives, motivation and regulation of the ability to develop within the organisation (9). In the case where it takes place the method to respond to it is by creating a learning culture where the individual will come to realize that they all need to learn from each other (7).

Concerning the management consultancy organisations, it was not a feature at the organisation and it is noted that if this occurs it is a part of a larger problem (12). If it would occur it rather is lack of time that takes the form of knowledge hoarding (12). If the problem arises it is brought up in the performance appraisals with the manager and time is made in the work process (11).

The system of working with feedback

In manufacturing, feedback is given at formal meetings once a year (6) or every 18th month (4) and they contain feedback from both colleagues and the manager (1). It is also stated that it is very individual when feedback is given (1) and that it is a development issue for both employees and managers since a general opinion is that it can be considered uncomfortable with giving and receiving feedback (1, 3). It is also stated that feedback is a clear part of the model but it depends on the managers and their skills in giving feedback (5). The individual part of feedback needs to be improved it often occurs that the feedback is given to the entire team instead of to the

right person (2, 3), sometimes the operators not even meet their boss (2). There is also potential to improve the constructive and positive feedback (4).

Within the IT industry the employees are supported to seek feedback within the office by basically walking over to a colleague (9). The organisations work a lot with feedback regarding peer to peer and also between employees and their closest manager but the way they work with feedback still needs to increase and develop (7, 9). There is a course given to employees and managers in how to deliver positive feedback (7), this with the aim to increase feedback and the awareness about it. Further a work strategy bases on rotating the work task and by this give each other continually feedback whilst the work all the time got improved. This was implemented with great success at one division and will hopefully be spread to other divisions (9). The formal feedback occurs one time a year which also includes feedback from colleagues that is weighted into a rating (9, 10).

The organisations in the consultancy industry encourage and motivate their employees to give and seek informal feedback while the more formal feedback was structured at regular intervals (12). Feedback is something that takes place frequent and in direct connection to the event (11).

5.3   Young professionals

The receiving group in this study, the young professionals, are not that different from the older generations. While there are many similarities, there are some variations and some factors which are more highly stressed. Hands on experience counts for much when learning, while it does not differ from the general view, this point have been stressed extra in each interview with the young professionals. Using workshops which include a hands-on activity is better than a traditional lecture for instance (Weiler 2004). Furthermore, the way the young professionals desire to absorb knowledge includes more than the traditional way of reading or listening to a lecturer talk about a subject (8). Using tools as complements to the traditional way is beneficial, such as using images as well as words. For instance, using a whiteboard, sharing a computer screen or using models to better describe or associate a theory to a subject allows for better learning.

Another factor which is focused on is the interaction between people. Again, this is not exclusive to the young professionals, but it was stressed during the interviews which indicate it is valued highly. Weiler (2004) describe generation Y as visual learners, which adds to the idea that young professionals want personal interaction when asking questions, as face-to-face communication includes a visual part. Working in an open landscape environment allows for the option of asking questions, discussing issues directly when faced with a problem. Combining the presentation and workshop as a foundation for knowledge dissemination with the possibility of working alone and thinking about a problem leads to a good setting, while still allowing for discussion.

Generation Y have spent a large time of their lives with technical tools close at hand. In Table 1, technical know-how is seen as a barrier. Given the long experience with technology and not having grown used to a more traditional way of absorbing information, the barrier ought to be smaller for the young professionals than for older generations. While it does take time to learn new software and tools, using IT systems in the day to day work is not a problem. The study indicate that more inclusive and easy to use tools may be called for, large databases for instance, which takes time to

search through is not the first place to search for information (8). Weiler (2004) claim that young professionals will only look for information and gain knowledge when motivated to do so. A few of the interviewed companies use instant communicators which all employees have access to. Stating a question with the communicator may result in quick answers from co-workers who have experience about to problem immediately or point towards a source of information (10, 12). This sort of tool provides instant feedback on a question rather and takes less time than searching through a database.

Motivation and feedback are two factors which are also highly valued and stressed by the interviewed young professionals. Not only is it desired, but expected by generation Y according to Martin (2005). This does put a lot of demands on the managers and their way of giving feedback. Direct and continuous feedback is preferred over the traditional yearly feedback meeting, but does not exclude these meetings. Both the literature and the results state that generation Y desire to be good at what they do and are motivated to develop themselves and their skills. It leads to feeling more secure in their role and at their job. As stated above, young professionals search for information when is needed and are motivated they are motivated to do so. Using feedback to guide and include knowledge which may be useful but not interesting to a particular individual may be necessary. Generation Y want feedback, but also responsibility and influence in their working life. Gaining more responsibility may be more motivating than monetary incentives for instance.

6 Conclusion

The factors that have been taken into consideration in this study were identified in the literature study and those that also have been confirmed in the multiple case study are compiled in Figure 4, and is to be found in the analysis in previous chapter. There are positive factors, known as facilitators which are: motivation, absorptive capacity, leadership and available time. Several factors that could have both negative and positive impact are also pointed as such as: IT-system, feedback, physical layout and type of knowledge. Then there are also a number of factors that are obstacles with only negative impact: ambiguity, knowledge hoarding and embeddedness.

Some of the more significant findings that affect knowledge dissemination, which also will be handled in the discussion, are initially that the actual individual and his or hers characteristics are a major factor that influence the result of the knowledge dissemination. Therefore it is important to have this in mind for organisations when they recruit employees. There are however several factors that the organisation themselves can affect, which mainly concerns having a strategy for knowledge dissemination. The results show that the one industry in this study that stood out in a positive way and that their success in dealing with knowledge dissemination was strongly anchored in the existence of a clear strategy and a strong commitment from the management. This concerns the companies in the IT industry that this multiple case study covered. Several methods and procedures for working with knowledge dissemination were integrated in their way to work such as sharing knowledge arranged in workshops. In one case the responsibility and facilitation of these questions were gathered under one position.

To reconnect to the research questions which were formulated in order to structure this study they will hereby be considered. The first two turned out with similar results when they were examined and thus they are integrated.

Which work environment factors can affect knowledge dissemination? & Which organisation culture factors can affect knowledge dissemination?

The multiple case study confirm the theoretical framework and no conclusive differences were discovered. There are however some variances, or focus areas, regarding the young professionals which need to be considered and new methods may be necessary when considering knowledge dissemination for the generation Y.

Which factors motivates young professional to learn?

The results indicate that a focus on certain factors may result in better learning and knowledge dissemination for young professionals. For example, feedback, intrinsic motivation and good personal relations between co-workers are important for young professionals and an environment which facilitates these needs will likely affect knowledge dissemination positively. Many suggestions on how to meet the challenge with tacit knowledge dissemination, such as good relations and close interaction, goes hand in hand with ways to work that suites young professionals.

7 Discussion and recommendations

This chapter contains recommendations within four main areas that are adapted for Skanska *Väg och Anläggning*. Each one of them is introduced with several findings before the recommendation is suggested. After each suggestion follows a discussion with the authors own thoughts and reflections and also how the suggestion will suite the division due to the present situation that is described in Chapter 4.1.

The knowledge dissemination question have been handled by other authors as presented in the theoretical framework such as Paulin (2013) who presented a table with factors that affects the dissemination. It was recognised that the most commonly recurring component that have influence on knowledge dissemination was actors. Thereby there is a tendency that this is the most important factor, and that knowledge dissemination ultimately is about the individuals and their personal characteristics. Due to the literature concerning *Generation Y* by Weiler (2004) who supports that the young professionals in this generation are very driven by relevance in their work and that they will learn new skills if they have the motivation for it. Martin (2005) also fills in about the ability to develop themselves and are willingness to learn new skills in order to advance within the organisation as typical characteristics. These are all together beneficial features when it comes to knowledge dissemination which is an advantageous precondition when facing the generation shift. But for the organisations to be aware of, the personalities might be a more important factor in this than what the organisations themselves can affect by creating different work environment and organisations culture. Thereby the importance of recruit and attract the right employees is pointed out.

Due to the annual employee survey at the department *Väg och Anläggning Väst* an improvement potential concerning development and personal development within the organisation was found. We as the authors think that an initiative to work with knowledge dissemination in different ways is a possibility for the organisation to give the employees the opportunity for development. Now follows our recommendations to the department.

I. Physical layout

Both the literature and the results show that the physical environment can affect learning and knowledge dissemination. By using relatively easy means good conditions can be created for sharing knowledge. The opposite is unfortunately true as well, it is easy to change the surroundings for the worse by removing facilitators and to building barriers. The physical layout of an office, or rather the setting where knowledge is commonly shared, the day to day work-place, matters.

There are several factors to take in to account when designing the layout for a workplace. The results from the case study do not focus on designing an office layout, but it indicates that there are factors related to the layout that do matter for efficient knowledge dissemination. The number of people, the group composition and the physical distance for instance. The case study shows that the two normal layouts are office rooms or an open landscape with booths or cubicles of different kinds and shapes. It could be claimed that a third layout would be a combination of both for mentioned layouts, which was the case at some of the offices visited during the interviews (1, 4, 5, 7, 8). In an office it is easier to avoid being disturbed by outside factors like noise and movement for instance. Certain roles require confidentiality, such as HR related work, which also benefits from having an office. The opposite would be an open landscape which promotes closer interaction and a less formal

environment between those who are situated close to each other. The downside is that the surrounding noise and other disturbing factors are more difficult to control and it may be more difficult to focus at a particular task.

These results indicate that by considering the layout and the people who sit close together knowledge dissemination can take place informally, even without the formal pressure to do so.

> **Recommendation:** Our suggestion is to use a layout where smaller groups consisting of both people who possess relevant knowledge and suitable receivers of that knowledge close together, in for example an open landscape. If the group works in similar projects or the same project, discussions and sharing of knowledge will take place naturally in everyday work. The idea is to use the layout in a more dynamic way by mixing the groups consciously to get the most out of the relations that will be created. Naturally there have to be a long term perspective to consider, the layout cannot be changed too often, but neither should it be too rigid. Just because a place was chosen when a person arrived as a new employee does not mean that is the optimum place a year later. The layout, the group and the placement is situational and depends on factors not considered in this case study. The study does however indicate that it warrants consideration.

The young professionals in the case study claim that they prefer learning from co-workers and managers in their day-to-day work. It is learning by applying knowledge directly and asking co-workers in an informal setting when problems come up which seem to be the natural way. Having an open layout where smaller groups of people both sit and work close together allow the young professionals to learn from people in an informal setting. The option to be able to use a room to sit alone occasionally should still be there to take phone calls or for peace and quiet for instance, as well as conference rooms for larger groups when large groups need to collaborate. We think that since it is indicated in the employee survey that the willingness to help each other and to some extra if necessary is present that is a positive start. Although it was indicated that the occurrence of give and take knowledge was lower, but in this suggestion surroundings to improve this can be created and since the willingness exists the give and take can be improved.

II.   Knowledge mapping

Mapping knowledge in an organisation is done in many different ways. Factors that have to be considered can be what knowledge should be mapped, who possess' it, where can it be found, what level of detail should be used among other. The results indicate that this kind of mapping is normally done in production units. In the manufacturing companies this kind of mapping is done extensively on the people who work in the production lines and workshops in the factories. While in the management consultancies it is the consultant's knowledge which is mapped, which could be considered their production units. The office staffs knowledge is not being mapped as extensively, or at all, however. The reason may be that the roles are harder to define and much of the job done is decided by the people having the role and not the role itself. As such it is more difficult to specify which knowledge and set of skills that office staff need since it differs between people.

Recommendation: A suggestion is that rather than specifying definitively every part of a role, key words or projects would be better suited to the more varying work. While there may be issues as to who states which keywords are more suited or if a person does indeed fulfil the requirements to have one of those words, it is a way to map out knowledge, experience based and tacit knowledge too. One worry that has been stated with a system like this is that a person with many keywords or skills may be called all day for advice or help, there are no indications that it has been happening in any of the interviews though. The benefit of a system using descriptive key words or phrases is that not only is it quite easy to label explicit knowledge but most tacit skills can be described too. Tacit knowledge is by definition difficult to define, but to describe what it involves in an overarching way is easier, or exemplifying it with a certain project. Furthermore, a short guiding system which show who possess certain skills is much easier to work with, and quicker to use than a complete database. A search on a keyword or project should result in a list of people contact with the skills.

An idea is that since the majority of people working now are constantly connected through their computers and smart phones, connecting the system to an easy to use app may be helpful.

The benefit is that by contacting a person specific questions can be asked, and follow up questions too, directly as the answers can be discussed. Using a database with old projects may result in the same answers but will likely take more time. Besides, there is no guarantee that an old project has the solution which is searched for, no matter how closely it relates to the present one, which would mean the time reading through a project report is wasted time.

As stated above, using colleagues and co-workers as sources of knowledge is a common way of learning in an organisation. It is accepted, and in many cases expected that people ask questions and are available to answer others. Additionally young professionals, who can be assumed to have more to learn than senior colleagues, prefer to work with people rather than just reading a lot of information. Using a system that complement and support already used methods rather than creating less efficient ways seems better. While databases may have large amounts of valuable information, adding data to them and using it is not a part of daily work. The results from the case study indicate that the idea behind project reports and logging all data is perceived as a good one by most people, it is not being used though, for different reasons. In many cases it has been stated that it is a source of frustration and extra work to add information to the databases. Since the perception is that it is not used anyway, it is a waste of time. Additionally a knowledge mapping solution can also highlight if there is a lack of competence needed to meet the customer's need since there is improve potential concerning this in the employee survey at the department.

III.   Overcoming different challenges

One of the challenges that have been distinguished during the research is that it is problematic to put tacit knowledge into instructions etc. which usually is done with explicit knowledge. In order to pass on knowledge many organisations is using

mentors or coaches to support the young professionals, this is considered to be a key to successful knowledge dissemination if some preconditions are considered in this strategy. Feedback has been a central part in this study since it is found to be very important and a motivation factor both in the theoretical framework (Tulgan and Martin 2001) and among the young professional in this study (8, 10). It is also seen in the theory that it is important with feedback in close connection to the event (Martin 2005) hence, a link can be made between when learning from another experienced colleague the presence of feedback will help to improve the process to assimilate knowledge. The benefits with this tool are considered in the following recommendations.

> **Recommendations:** The suggestion to overcome this problem is to put up instructions with more general points that cover the fundamental aspects alternated with advices for common obstacles. An idea is also to inform about potential experts that can be contacted if necessary.
>
> Mentors are already used at *Väg och Anläggning Väst* where the strategy is to work together, there is also mentors program with the focus on development. To make sure that the knowledge dissemination is as successful as possible common work tasks and interests should be considered before the match of senior and young professional when using mentors and coaches.
>
> Feedback should be a regular element in the knowledge dissemination process between senior and young professionals since it will improve the dissemination significantly.

This study has both in the theory and case study shown that it is a great challenge with formalization of tacit knowledge, to e.g. put it into manuals (Nonaka and Konno 1998). Thereby the effort to treat this might be absent in many organisations. But there still is potential in trying to transform this sort of knowledge into some written forms as a part of the dissemination process. The key is to not trying to make it as precise as explicit knowledge since that is the difficulty. Therefore if aiming for a more general guide with the bases and helpful advice, useful manuals can be compiled.

A mentor is considered to be the way to deal with knowledge dissemination between senior and young professionals. The fact that working together gives a lot might not be a surprise but still it is not the case at many places. This overlapping time before a new employee takes over after another should be facilitated by the organisation. To see the long term benefit in preserving knowledge when letting two work in this way instead of short term extra financial costs.

Concerning the feedback factor the responsibility must be equal between the sender and receiver to make this work as well as possible. It is important to encourage questions and involvement. If feedback is new for the people involved or if it is just a small part of their regular work processes, it should be understood and accepted that it might be difficult in the beginning before it feels natural.

IV.   Enact a new position

An observation made during the case study was that at one of the organisations within the IT-industry had a certain interesting position. This person had responsibilities of the organisation's long-term perspectives regarding knowledge dissemination,

education, questions concerning human resources and always with a holistic perspective (9).

> **Recommendation:** To introduce this sort of position at Skanska *Väg och Anläggnings Väst* with the purpose to facilitate all these aspects that are central for knowledge dissemination. There are several posts that could be gathered under this with different purposes, see listed suggestions below.
>
> - This role could collect the existing processes for knowledge dissemination that already exists within the organisation. It is beneficial if this person is more visible and promotes the different options towards the organisations employees, it might be proper to be responsible for a region.
> - Responsible for facilitating feedback processes between the employees and managers and employees in different forms.
> - Arranging workshops that take advantage of the internal knowledge. Make this a natural way to disseminate knowledge from one employee to several others.
> - Succession planning should serve the purpose to predict and plan for the future. It should be encouraged for every employee to have responsibility to prepare other younger colleagues such as it usually is done on a management level.

These suggested areas to be implemented are almost exclusively from the IT-industry where the focus and investment in workshops and feedback stood out. The factors feedback and workshops were further found to be suitable for *Generation Y* that has been the focus in this thesis. Especially feedback is a tool to motivate and get the best out of the young professionals and it would be beneficial for any organisation to develop the processes of feedback. Usually it formally takes place between employee and manager on an annual basis and the more informal feedback might appear between colleagues. Even if the annual feedback already exists the organisation should not settle with this. There is huge development potential in trying to make feedback frequently used, and especially between the employees. It might demand some governance from a management level in the early phase to make sure that it really happens, or as suggested in this recommendation it will be facilitated by the new position. There are most likely needs for education in how to give and achieve feedback that must be noticed and dissolved before starting with this way to work in order to make the most out of it.

Awareness

To wrap up the discussion, a lot of the input indicates that knowledge dissemination is very situational. Successful knowledge dissemination depends on many different factors which in turn may be affected by situations or different contexts. Which factors are more important varies as well as where focus should be. Having an overall awareness of which factors affect knowledge dissemination and how they affect it must be important. The fact that explicit knowledge and tacit knowledge are different and require different methods is something that is not known by everyone working with knowledge dissemination. Knowing the terms and their respective terms is not what is important, but the awareness that there are differences which, unless they are considered, will affect the outcome negatively. As stated several times above,

examples are that explicit knowledge is easier to share by written guides and manuals for instance. Tacit knowledge on the other hand benefit from informal communication, smaller groups and discussions.

Pedersen et al. (2003) empirically show that most organisations do use the expected and preferred, way of sharing knowledge. However, as many as one third of Danish MNCs do not match the particular knowledge with the ideal mechanism for transferring that knowledge. While this is a different setting than what is considered in the rest of this thesis, there are no reasons to believe that Danish MNCs are very different and cannot be representative in a general sense.

We, the authors, believe that by being aware of the differences and having a general awareness how knowledge dissemination works and which factors are important, many mistakes or mismatches can be avoided. An awareness of knowledge dissemination can improve it.

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Interview references

Manufacturing industry

(1) Manager HR & Sustainability, Manufacturing company A, Interview 18th of March.

(2) Manager HR, Manufacturing company A, Interview 18th of March.

(3) Production Manager, Manufacturing company A, Interview 18th of March.

(4) Training managers, Manufacturing company A, Interview 20th of March.

(5) HR learning technologies and methods specialist, Manufacturing company B, Interview 21th of March.

(6) Human Relation Business Partners, Manufacturing company B, Interview 10th of April.

Software development industry

(7) Change Manager, Software engineering company A, Interview 3rd of April.

(8) System Manager, Software engineering company A, Interview 3rd of April.

(9) Line Manager, Software engineering company B, Interview 19th of March.

(10) Technical Artist, Software engineering company B, Interview 19th of March.

Management consultancy industry

(11) Principal Manager, Management consultancy company A, Interview 15th of March.

(12) Managing Partner, Management consultancy company B, Interview 8th of May.

(13) Manager, Management consultancy company B, Interview 8th of May.

Appendix A

Interview guide strategic level

- **Kunskap**
    - o   Beskriv olika sorters kunskap som är lättare eller svårare att överföra.
    - o   Vad krävs för att ta steget från att få information till att använda det som kunskap?

        - ▪ (Egna tankar kring detta är att det krävs självförtroende för att implementera något man lärt sig från någon annan, alternativt bra support och uppmuntran från organisationen – kanske går att hitta teorier som styrker detta från bl a psykologilitteraturen) (Det finns teorier kring barriärer som beskriver det omvända, vilket också styrker detta)
    - o   Är det lättare att ta till sig kunskap ensam eller om man är flera som deltar I inlärningsprocessen?
        - • Motivera svaret.

- **Strategier**
    - o   Inlärning – arbetsmiljö (Påpeka att detta gäller främst mottagandet av kunskap)
        - ▪ Finns en medveten plan/strategi för kompetensöverföring, inlärning?
            - • Hur ser denna strategi ut/Vad görs för att motivera till att lära?
                - o   Ev ledande frågor i fall vi ej får så mycket svar kan vara att nämna val av miljö, rum, redskap (ppt osv). Skiljer det sig beroende på vad som skall läras ut?
            - • När det gäller att använda kunskap, väljer man motivera genom att styra med ekonomiska incitament eller mer mjuka parametrar såsom coachning eller andra incitament
                - o   T.ex. belöningstrappor, lönetrappor
    - o   Inlärningsprocessen, kunskapsöverföring (Sändare först, medium/activity senare)

- Förklara begreppet "knowledge hoarding", förekommer detta?
- Hur kan det förebyggas?
- Hur skapas motivation till att dela kunskap?
- I vilka sammanhang delas kunskap?
  - Informellt, formellt?
  - Aktiviteter?
    - Övningar, samtal, fika?
  - Hur ska kunskap som innehas av medarbetare föras vidare
- Inlärning – företagskultur
  - Hur upplever du att kulturen kring inlärning är här?
    - Hör och gör, efterapning, se och lär etc?
  - Hur kommuniceras det?
    - Samtal eller 1-vägskommunikation. Öppna dörrar kultur?
  - Finns det rutiner på företaget som inte är nedskrivna? Ett sätt att arbeta på som alla känner till, er arbetskultur/jargong.
    - Ex rutiner kring möten, fikakultur, samtal, problemlösningssituationer. Ifall det är relevant, hur överförs sådana "implicita" rutiner i sådana fall?
  - Mentorskap
    - Använder ni er av mentorer, coachning, fadderverksamhet?
      - Hur ser strategin ut?
        - Den äldsta med den yngsta, i nivåer, externa coacher?
      - Hur kommunicerar man inom mentorskap?
      - Vilka verktyg finns som stöd?
  - Internutbildningar
    - Vad kommuniceras under internutbildningar
      - Vilken typ av kunskap är det som överförs?
      - Hur kommunicerar man? Via föredrag, samtal?
      - Vilka verktyg finns det som stöd?
  - Feedback
    - Hur arbetar ni med feedback i olika situationer?

- o   Hur ges feedback
- o   När ges feedback?
- o   Tillåtande kultur?

- o   Finns det någon kartläggning av "vem vet vad" och i nästa steg kartläggning av vilka som är potentiella mottagare till denna kunskap?
  - ▪ Om inte, hur skulle ett sådant här system kunna se ut?

- o   Fråga kring ifall de systematisk arbetar med att behålla kunskap. Tid för diskussion och reflektion. T.ex. Efter lyckade eller misslyckade projekt för att ta reda på vad som gått fel istället för att hoppa in i nästa projekt. Alternativt ifall möjliga seminarier eller konferenser faktiskt diskuteras efteråt?

- **Avslutning**

Avslutande fråga som avrundning och som sammanfattar hela vår undersökning: "Hur skulle du vilja lösa situationen med att föra över kompetens som innehas av någon som är på väg ut ur företaget till någon yngre medarbetare?"

Appendix B

Interview guide young professional

- **Kunskap**
    - o Beskriv olika sorters erfarenhetsbaserad kunskap som är lättare/svårare att föra över?
    - o Vad krävs för att ta steget från att få information till att använda det som kunskap?

        - (Egna tankar kring detta är att det krävs självförtroende för att implementera något man lärt sig från någon annan, alternativt bra support och uppmuntran från organisationen – kanske går att hitta teorier som styrker detta från bl a psykologilitteraturen) (Det finns teorier kring barriärer som beskriver det omvända, vilket också styrker detta)
    - o Är det lättare att ta till sig kunskap ensam eller att man är flera som deltar I inlärningsprocessen?
        - Motivera svaret.
- **Unga yrkesarbetare**
    - o Hur tar du helst till dig ny kunskap? Beskriv vilken sorts/olika sorters.
        - Angående tyst/erfarenhetsbaserad kunskap men vi kan även fråga kring andra sorter också för att se till skillnaderna.
- **Arbetsmiljö**
    - o Vilken arbetsmiljö trivs du i?
        - Alternativt, specificera en arbetssituation så att det blir enklare att svara.
    - o Finns det något som saknas i din arbetsmiljö som hade kunnat göra inlärning enklare?
    - o Vilken hjälp finns på arbetsplatsen för inlärning?
        - (Exempelvis chef, kollegor, support, verktyg, material etc)
    - o Vilka faktorer inom arbetsmiljön påverkar inlärningsförutsättningarna?
        - Vad för aktiviteter/sätt att dela kunskap funkar för dig?
            - (Övningar, samtal, utbildningar, fika etc.)
        - Vilket sätt kommunicerar du helst genom med dina kollegor?

- ▪ Föredrar du informella eller formella sammanhang?
- • **Företagskultur**
  - o Vilka faktorer inom företagskulturen påverkar inlärningsförutsättningarna?
    - ▪ (Hur chefen är, kollegorna, atmosfär, oskrivna regler etc.)
  - o Företagets kultur:
    - • Hierarkisk? På vilken nivå delegeras ansvar ut?
    - • Tillåts misstag?
  - o Hur kan företaget se till att deras kultur möter deras unga anställda?
    - • Finns märkbara skillnader mellan kulturerna?
    - • Vad för skillnad finns i kulturerna mellan unga anställda (mottagarna) och de erfarna med arbetarna (sändarna)?
  - o Finns det några personliga egenskaper som du föredrar/ du tycker underlättar överföringen hos den som innehar kunskapen?
    - ▪ Alternativt, finns det egenskaper som du tycker försvårar överföringen?
      - • Eventuellet att personen inte vill släppa ifrån sig kunskapen?
- • **Motivation**
  - o Vilka faktorer motiverar dig till utveckling (inlärning)?
    - ▪ Vad motiverar till att jobba på att ta in erfarenhet från andra?
    - ▪ Vad för sorts incitament från företaget bidrar till högre motivation?
      - • Ekonomiska eller andra mjuka faktorer (befogenheter, mer ansvar, utmaningar, påverkar själv osv)
  - o Vill du själv vara drivande i frågan att lära från andra eller föredrar du att din chef styr och ser till att detta skall ske?
  - o Vid ett problem som du saknar kunskap för att lösa, hur gör du då?
  - o Hur vill du få feedback / stöttning angående ditt arbete?
- • **Avslutning**

Avslutande fråga som avrundning och som sammanfattar hela vår undersökning:
"Hur skulle du vilja lösa situationen med att föra över kompetens som innehas av någon som är på väg ut ur företaget till någon yngre medarbetare?"

Appendix C

Information for the interview

Ursprungstanken till vårt exjobb är den utmaning som kommer med att bevara kunskap i en organisation vid stora pensionsavgångar, en situation som just nu är aktuell i byggbranschen. Vi studerar båda Väg och Vatten på Chalmers och har alltså byggsektorn som bas i vår undersökning, men har valt att göra en jämförande studie med hur andra branscher arbetar med kunskapsöverföring.

Samtidigt som många avgår i pension anställs många nya och vi har valt att titta på hur just dessa som de senaste åren kommit in i organisationen bäst tar till sig denna kunskap som innehas av dem som är på väg ut ur organisationen. Vidare har vi valt att fokusera på den erfarenhetsbaserade kunskapen, snarare än den kunskap som är relativt enkel att dela genom exempelvis dokument eller manualer.

Vi har valt att ta oss an frågan från två olika håll. Dels ser vi till hur företaget kan skapa förutsättningar för att optimera kunskapsdelning, alltså fokus på styrning och strategier. Och dels inriktar vi oss på den yngre generationen inom företaget för att kartlägga vad som motiverar till inlärning, vilka faktorer som påverkar i arbetsmiljön och företagskulturen.

Exempel på frågeställningar:

- *Hur delas kunskap mellan medarbetare och vilka strategier finns kring kunskapsdelning på företaget? Hur ser dessa strategier ut?*
- *I vilka sammanhang delas kunskap inom företaget?*
- *Hur kommunicerar man? Vilka verktyg finns att använda? Vilka rutiner finns?*
- *Vilken företagskultur finns vad det gäller lärande på företaget? Rutiner kring exempelvis feedback?*
- *Hur motiverar man medarbetare att ta tills sig kunskap, och att dela med sig?*
- *Vad motiverar dig till inlärning?*
- *Hur tar du helst till dig ny kunskap?*
- *Olika hjälpmedel på arbetsplatsen som underlättar inlärning?*