



CHALMERS
UNIVERSITY OF TECHNOLOGY

Knowledge sharing in public sector organisations

A case study of Swedish county councils

Master's Thesis in the Master's Programme International Project Management

NIKLAS STREIJFFERT

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Department of Architecture and Civil Engineering
Division of Construction Management
Chalmers University of Technology
SE-412 96 Göteborg
Sweden
Telephone: + 46 (0)31-772 1000

Department of Architecture and Civil Engineering Göteborg, Sweden, 2017

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ABSTRACT

This study investigates how Swedish county councils preserve knowledge and manage knowledge sharing within their organisation. The study examines how these organisations cope with transferring knowledge among new recruits and employees as well as cope with project knowledge. The study was based on a qualitative research method with an abductive approach. A literature study was conducted and the theoretical framework covers key terms such as knowledge, knowledge management, knowledge management strategies, organisational knowledge and learning, organisational culture and leadership, knowledge management process, information technology, and techniques of knowledge management. A case study was performed and eight semi-structured interviews were conducted with open-ended questions. The interviews were conducted with facility managers, consultants, project managers and head of division. Empirical findings show that when the organisations share knowledge to new employees this is most common done through mentorship, working in teams, and various introduction programs. In contrast, it also revealed that there are no such activities in some cases. Many employees possess years of experience and individual specific knowledge. It has also become more common for people to change jobs more frequently, which makes it more important to retain knowledge within the organisation. The organisations would like to have more contact with other regions. Unfortunately, this is an activity that misses out due to lack of time. Finally, it shows that there exists no formal knowledge sharing among projects. It was concluded that personalisation prevails over codification. Generation change is a common problem and is well aware of. Knowledge leaves the organisation with employees who are leaving. There is often no document management plan and tools are based on each person and project. Collaborate with other regions to some extent, but it is seen as an area with great development potential. No systematic process or standard to transfer knowledge between projects is present. Informal networks seem to be remarkably valuable for knowledge sharing and a project knowledge database is something that is requested. Two main barriers to knowledge sharing are lack of time and the uniqueness of a project. Recommendations suggest that better collaboration with other regions should be developed, implementation of lessons learned and knowledge sharing system. Finally, develop a unified document management plan and a culture that supports knowledge sharing.

Key words: Project Management, Knowledge, Knowledge Management, Project Knowledge Management, Public Sector Organisation

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Preface

This master thesis has been carried out during the final part of the master's program International Project Management. The research has been executed in collaboration between Chalmers University of Technology, Gothenburg Sweden, and Northumbria University, Newcastle United Kingdom, in order to the fulfilment of a dual award in the master's program International Project Management and Project Management. The thesis was conducted by Niklas Streijffert and the author has a background in Mechanical Engineering - Industrial Business Administration and Manufacturing (B. Sc).

Firstly, I would sincerely like to thank my supervisor Abderisak Adam and examiner Göran Lindahl at the Chalmers University of Technology for guidance and support during the project. I really appreciate your time, insights, engagement, and knowledge. It has been a huge support in order to fulfil this thesis. Furthermore, my opponent Michael Sundberg is highly appreciated for his valuable insights, discussions, and help throughout the entire project.

Finally, I would also share my thankfulness towards the respondents in the interviews for the contribution of their time and thus shared their knowledge and experience regarding the project subject.

Gothenburg, 2017

Niklas Streijffert

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1 Introduction

The aim of this chapter is to introduce the selected research area and highlight its relevance, interest, and importance. It gives an overview of key studies that are directly relevant to the research being conducted. Lastly, this chapter outlines the research aim, research questions, scope and limitations, and structure of the thesis.

1.1 Background

Knowledge is not a new topic, it is an age-old subject and has been around for a long time. Lately, organisations have realised that a better approach to knowledge in the organisation is important to succeed in today's society. The value of knowledge is often discovered while it is gone and the organisations have come to understand that knowledge is a core asset. Knowledge can introduce the organisation to what they need to know, what they know and how to cope with it (Davenport and Prusak, 1998). A common explanation of knowledge is the information possessed by a person, by a group of persons, by extension or by a culture (O'Toole, 2011). Furthermore, knowledge is described as the combined expertise as well as efforts of alliances and networks and is a highly personal and human asset (Smith, 2001). Within the minds of people, knowledge is created where data becomes information and the knowledge are categorised, modified, combined, and recognised. Moreover, it is possible to capture knowledge and transcribe down on paper, type into a computer and store in a database or apply directly to work. Knowledge can be transferred, hence, it is recycled, and enlarged and modified by people who interpret each other's versions (Arora, 2011) According to Wah (1999) in any organisation the knowledge is mostly contained within the heads of its individuals. To solve a problem, people need knowledge and according to Hanisch et al. (2009) knowledge includes experience, information, skills, and capacities. Broadly speaking, knowledge can be subdivided into explicit and tacit knowledge (Nonaka and Konno, 1998; Uriarte Jr., 2008).

Various technologies have made it easier to interchange knowledge and information. It has made it simpler to collect and store knowledge in repositories and disperse to desktops. In order to use these technology tools, it is important to fully understand how knowledge is developed and shared. Only then can it provide its full potential to enhance knowledge (Davenport and Prusak, 1998). Arora (2011) states that with help of technology, it has become easier to recapture knowledge since knowledge can be discovered from a search using phrases or key words. Due to changes within the organisation such as change of culture, merging of organisations, reorganisation, downsizing important knowledge is lost or hidden behind new information. Furthermore, valuable resources, knowledge, experience, and skills will be lost when people leave the organisation. Collected knowledge might never be used as the employees who remain within the organisation may be relocated into new positions. Hence, there is a large risk when experienced people leave the organisation that important knowledge will be lost, particularly tacit knowledge (Smith, 2001). Generation change in the labour market is constantly happening and is not a new phenomenon. However, the generation change in Sweden is larger than ever. More people leave the organisations in contrast to newly added employees. It is emphasised that the public sector has the biggest departures. Hence lots of vital knowledge leave the organisations and new people enters with new views and approaches (Arbetsförmedlingen, 2010).

1.2 Research aim

The aim of the study was to investigate how Swedish county councils preserve knowledge and manage knowledge sharing within their organisation. The study examines how these organisations cope with transferring knowledge among new recruits and employees as well as cope with project knowledge.

1.2.1 Research questions

This master thesis seeks to address the following questions:

- How do public sector organisations share and preserve knowledge within the organisation?
- How do public sector organisations transfer knowledge to new employees?
- How do the organisations cope with project knowledge?

1.3 Research scope and limitations

The scope of the research was to get insights in to how knowledge sharing is managed in six Swedish public sector organisations and how knowledge is transferred within the organisation and among projects. Furthermore, it also investigates how knowledge is transferred to new employees. The study was implemented over a specific time frame corresponding to one semester and was conducted in several public sector organisations. The interviews were located in Sweden and held in Swedish, which is a point of consideration. Thus, a limitation of the study is the generalizability of the findings to other settings, as the exchangeability to other organisations may be limited. However, the study is based on a sample of eight interviews. The findings and conclusions of the study must be viewed in the context of the participants, interviewees as well as the organisation they represent. Lastly, the attitudes towards the selected study topic can vary across cultures.

1.4 Research methodology

The study was based on a qualitative research method with an abductive approach. A literature study was conducted in order to generate a better understanding, knowledge, and depth regarding the selected topic. The theoretical framework has been based on selected key terms: knowledge, knowledge management, knowledge management strategies, organisational knowledge and learning, organisational culture and leadership, knowledge management process, information technology, and techniques of knowledge management. In order to gather empirical data semi-structured interviews were conducted with open-ended questions and document provided by the interviewees were examined. To manage, structure, organise and analyse the composed data, a computer-assisted qualitative data analysis software was used, NVivo.

1.5 Structure of the thesis

The thesis is divided into seven chapters. Chapter 1 focuses on a general introduction to the research area and highlights its relevance, interest, and importance. Followed by an overview of key studies that are directly relevant to the research being conducted. Lastly, this chapter outlines the research- aim, questions, scope and limitations. In the second chapter, the theoretical framework is presented. It aims to explore previous research and give a theoretical understanding of the research area. The third chapter describes the steps undertaken to address the aim of the research.

The aim of this chapter is to justify methods employed during the study in terms of research strategy, research design, data collection and data analysis. Further, the chapter ends with reflections regarding reliability and validity as well as ethical considerations of the study. Chapter 4 provides the empirical findings based on the conducted data from interviews and the documentary analysis. In chapter 5, the empirical findings are examined and discussed in relation to existing research as well as to the research questions. Chapter 6 provides the conclusion that emerged from the research. Lastly, the final chapter presents recommendations and suggestions for further research.

2 Theoretical framework

This chapter presents previous research done and aims to provide a comprehensive theoretical background regarding the selected research area. The chapter includes theories and explanations on topics such as knowledge, knowledge management, knowledge management strategies, organisational knowledge and learning, organisational culture and leadership, knowledge management process, information technology, and techniques of knowledge management.

2.1 Data, Information and Knowledge

Davenport and Prusak (1998) emphasise that the three terms data, information and knowledge often create confusion as to what the different words mean and how they differ. Even if it may sound simple it is important to highlight that these three terms are not interchangeable. “Knowledge is neither data nor information, though it is related to both, and the differences between these terms are often a matter of degree” (Davenport and Prusak, 1998, p. 1). Data is described as facts about events in a discrete and objective way. Data is normally stored in a technology system within modern organisations (Davenport and Prusak, 1998). Data is described according to Uriarte Jr. (2008) as a word, number or letter without a context and it emphasised that without a relationship among the collected data it is not information. In contrast, information can be seen as data that has a purpose and is relevant. Information is a message that has a receiver and a sender. Information is used in order to change the way a receiver recognises something. It has an impact on the receiver’s insight and outlook (Davenport and Prusak, 1998). The context has an impact for data to become information, the relation among the collected data or between the data and other information. In short, information is data dependent on a context, which gives it meaning. (Uriarte Jr., 2008). Three aspects that make data into information are the purpose, relevance, and context. Unless the information is used in the organisation or is giving meaning it has little value (Pascarella, 1997). In order to extract and interpret useful information, human intervention is usually needed (Lee Sr, 2000). Knowledge is regularly seen as deeper, broader and richer than information and data (Davenport and Prusak, 1998). Knowledge is defined as the following: ”Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organisational routines, processes, practices and norms” (Davenport and Prusak, 1998, p. 5). Figure 1 presents the data, information, and knowledge hierarchy.

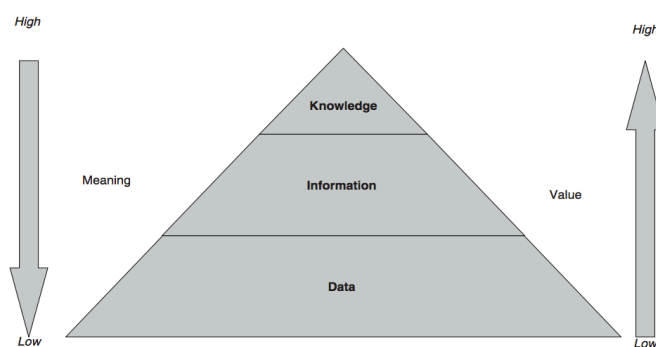


Figure 1 Data, Information and Knowledge Hierarchy (Chaffey and Wood, 2005)

”To define knowledge in a non-abstract and non-sweeping way seems very difficult. Knowledge easily becomes everything and nothing” (Alvesson, 1993, p. 1000). A person who possesses knowledge and knows a lot about a particular context or field becomes a knowledgeable person. However, the knowledge about the culture and environment a person are in may be devalued if it is taken outside of its context. It is highlighted that new value sometimes needs to be generated in order to be successful in a new organisation since knowledge can lose its value in that environment. New employees in an organisation experience unfamiliar and unknown situation. A person is considered to be knowledgeable when that individual possesses knowledge regarding the work tasks and undergoes experience (O'Toole, 2011).

2.1.1 Tacit and explicit knowledge

Knowledge can be classified broadly into two kinds of knowledge, tacit and explicit knowledge. ”Explicit knowledge is that contained in documents or other forms of storage other than the human brain” (Uriarte Jr., 2008, p. 4). Explicit knowledge can be communicated in numbers and words. It can be transferred in the form of scientific formulas, specifications, manuals, and other forms of data. This form of knowledge can easily be transferred among individuals in a formal and systematic manner (Nonaka and Konno, 1998). According to Wyatt (2001), explicit knowledge contains relationships, fact, policies, and rules. It is further explained that these can be codified in electronic or paper form and simply be transferred. Furthermore, it is emphasised that explicit knowledge is mentioned as systematic knowledge or ‘know-what’ and are mostly shared and communicated through electronic methods, print or likewise. Explicit knowledge can be reused and instead of reinventing the wheel many similar types of problem can be solved once it is codified (Smith, 2001).

Moreover, according to Nonaka and Konno (1998), tacit knowledge is challenging to communicate and transfer to others since tacit knowledge is difficult to formalise and is very personal. Subjective insights, hunches, and intuitions are examples of this knowledge. ”Tacit knowledge is that stored in the brain of a person” (Uriarte Jr., 2008, p. 4). Tacit knowledge is further described as knowing more than we tell or like riding a bike, the ability to know what to do without thinking about it. Tacit knowledge is not found in manuals, files, books, or databases and tends to be local (Smith, 2001). To convey tacit knowledge to other individuals, people use analogies, demonstration, metaphors, and stories. To that end, the listener can interpret the actions, evaluate the stories and consequently usefully apply tacit knowledge according to their own jobs (Smith, 2001). Tacit knowledge can be transmitted through apprenticeship and face-to-face contact as it underlies personal skills (Wyatt, 2001). Tacit knowledge is further divided into two sub-dimensions, technical and cognitive. The first mentioned dimension is usually referred as the ‘know-how’ and embraces informal personal skills or crafts (Nonaka and Konno, 1998). If a person possesses a specific body of knowledge or certain skill this fall into the group of technical tacit knowledge (Smith, 2001). In the cognitive dimension, knowledge is highly incorporated in us, such as values, beliefs, mental models, and schemata (Nonaka and Konno, 1998). From face-to-face contacts, like stories, mentoring, casual conversations, apprenticeships, and internships a lot of information is transferred to tacit knowledge (Smith, 2001).

2.2 Knowledge management

Knowledge management can be described as a set of practices a certain organisation uses to store, use and share knowledge (Hanisch et al., 2009). In order to avoid

repeating mistakes from the past, an organisation can use its previous knowledge. Therefore it is vastly important for an organisation to capture its knowledge in order to make the knowledge available and optimise its usefulness. Knowledge can come from either internal or external origin, from a range of different sources, like conferences or books. It is possible to capture experience in various ways and most of the time an organisation usually document these as 'lessons learned' (APM body of knowledge, 2012). How knowledge is captured, evaluated, stored, provided and used are steps in the process of knowledge management. Knowledge management is a continuing process in order to find useful information to share within the organisation. Knowledge management helps employees seek the best practice while it reuses and leverages the existing knowledge within the organisation (Smith, 2001). However, it is explained that an organisation often lack to organise this into a well working format and due to that other employees cannot easily reuse it. The APM body of knowledge highlights two main challenges about knowledge. These are the difficulty to encourage its use and the difficulty to assemble it. The process is often seen as time-consuming, both the sharing of knowledge and the searching for it. To facilitate knowledge management a system can be used with procedures in order to capture the relevant knowledge. In that case, the employees can be encouraged to store data from previous projects and gather knowledge in the beginning of a new project. Additionally, existing knowledge can be reused and the working procedure will be more efficient (APM body of knowledge, 2012).

“Knowledge management is the systematic management of information and learning. It turns personal information and experience into collective knowledge that can be shared throughout an organisation and a profession” (APM body of knowledge, 2012, p. 22). According to Anantatmula (2007), the results of efficient knowledge management are the following: improved communication, enhanced collaboration, improved employee skills, better decision making, and improved productivity. Knowledge management is described as a valuable and important asset to an organisation. In order to function well, knowledge management needs strong leadership from top management to support it (Anantatmula, 2007). Also, if knowledge management is managed well, it can reduce risks and increase efficiency because organisations have the possibility to avoid known pitfalls and reuse proven approaches (APM body of knowledge, 2012). Cost, effort and time are three things an organisation can save by reusing its existing knowledge. Different methods are used to manage different type of knowledge, e.g. codification can be used to cope with explicit knowledge while personalisation is a way to manage tacit knowledge (Hansen et al., 1999). According to Smith (2001), there are several essential aspects of knowledge management; speed, cost and information technology tools. Yet, only when people within an organisation have direct access to a knowledge source and truly use it does the knowledge database become valuable. For an organisation to become successful in sharing knowledge, it is essential to promote a culture that supports that and create business processes accordingly. Furthermore, not only is the content important but in order to create a well-working structure of transferring knowledge, employees need to be able to interpret it and use it in a correct way. Also, the business process is vital for the organisation so the knowledge can be controlled. To develop an effective knowledge management approach strong leadership, planning, measures of results and motivated participants are important. Interactive learning is an important part of the knowledge-sharing environment, which can occur from both through communication with colleagues or work experience. Lack of time is a major

difficulty in knowledge sharing and organisations need to come up with ways for external and internal experts to share their knowledge (Wah, 1999).

2.2.1 Project knowledge management

Project knowledge management can be seen as a linkage between project management and knowledge management, i.e. knowledge management in projects (Hanisch et al., 2009). According to Hanisch et al. (2009), the objectives for project knowledge management can be divided into five areas; learning by repetition, avoiding duplication of work, harmonising of methods/standardising, promoting innovation and allocating resources. Several challenges can arise due to the uniqueness and temporality of a project (Hanisch et al., 2009). “The increasing knowledge-intensity of work contents and the projectification of businesses give rise to a need for the management of knowledge in and between temporary organizations” (Lindner and Wald, 2011, p. 887). Before a project starts, it is favourable for the project team to have a knowledge base available where they can obtain lessons learned and a develop procedures for integrating them into new projects. Also, communication with other project managers and performing a research regarding similar projects can be used to gather experience (APM body of knowledge, 2012). Hanisch et al. (2009) mention several success factors, namely: organisation, methods, culture, communication and, information and communication technology. Success factors in project knowledge management are summarised and presented in table 1.

Table 1 Success factors in Project Knowledge Management

(Hanisch et al., 2009, p. 155)	Culture and communication	ICT	Organisation	Methods
(Anantatmula, 2010, p. 248)	People	Technology tools	Processes	
(Lindner and Wald, 2011, p. 885)	Culture and leadership	ICT	Organisation and processes	
(Johansson et al., 2013, p. 298)	Culture	Process	Technology	

2.2.2 Knowledge management strategies

Hansen et al. (1999) discuss two different strategies to share tacit and explicit knowledge in knowledge management. The two different strategies discussed are codification and personalisation. The codification strategy is about collecting the relevant knowledge and then codifying and storing it in databases and artefacts (Hansen et al., 1999; Kasvi et al., 2003). The knowledge is, therefore, easily available for anyone within the organisation to reuse, it can thus save money and time. The knowledge is collected and made independent from a certain person and codified into documents and then reused for different purposes (Hansen et al., 1999).

In contrast, the objective of personalisation strategy is not to store the knowledge in databases. Within an organisation, a lot of the knowledge is closely linked to a certain person and shared preferably face-to-face (Hansen et al., 1999; Kasvi et al., 2003). The personalisation strategy is therefore aimed to communicate knowledge among people. With assistance from information technology networks knowledge can be communicated. Knowledge networks such as discussion forums can be used to

transfer, exchange and communicate knowledge among employees (Hansen et al., 1999). In table 2 below, two different knowledge management strategies are presented.

Table 2 Knowledge management strategies (Kasvi et al., 2003, p. 572)

	Project memory system	Project memory
Codification strategy	Traditional and new information and communication technologies (e.g. documents, databases, email)	Explicit and declarative knowledge (e.g. specifications, instructions, definitions)
Personalisation strategy	Memory representations, personal interaction (e.g. mental models, dialogues workshops, seminars)	Tacit and procedural knowledge (e.g. competences, values, norms)

An organisation with a more standardised approach and routines of confronting problems or managing tasks the codification strategy is more suitable. In contrast, an organisation that is more unique in the way of managing tasks or encountering problems the personalisation strategy is more suitable (Boh, 2007).

2.3 Organisational knowledge and learning

The foundations of organisational knowledge are the organisations individual members private knowledge thus organisational knowledge is knowledge that is transferred between organisational members (Koskinen, 2010). “Then organizational knowledge allows for shared distinction making in observations made by organizational members of events, situations, and objects that are internal and external to the organization. These distinctions are created and maintained in conversations between organizational members and hence allow for new knowledge to develop in a self-referential manner” (Koskinen, 2010, p. 86). Organisational learning has been defined in various ways by scholars, however, a common definition is that “organizational learning is a change in the organization that occur as the organization acquires experience” (Argote and Miron-Spektor, 2011, p. 1124). Organisational learning is a dynamic process that occurs over time and helps the organisation with continuous improvements and adoptions (Noruzy et al., 2013).

2.3.1 Knowledge conversion

Through dynamic interaction among explicit and tacit knowledge, personal knowledge can become organisational knowledge (Uriarte Jr., 2008). The SECI model is one of the most common knowledge frameworks, see figure 2. Knowledge creation is explained as a spiralling process of interactions among tacit and explicit knowledge (Nonaka, 1994). In order to create knowledge within an organisation, Nonaka and Konno (1998) argues that tacit and explicit knowledge are part of a four-part process: Tacit to tacit – Socialisation, Tacit to explicit – Externalisation, Explicit to explicit – Combination and Explicit to tacit – Internalisation. Socialisation includes sharing tacit knowledge through joint ventures between and among people. Transfer knowledge through direct conveyance and knowledge is created via shared experience. Learning by imitating, observing and practicing, this may, for instance, be through a mentor. Individuals can obtain tacit knowledge without verbal communication (Nonaka and Konno, 1998). Within socialisation, tacit knowledge is shared from one person to another person and thus that knowledge becomes a part of their own tacit knowledge (Uriarte Jr., 2008). Externalisation includes both tacit and explicit knowledge and refers to when tacit knowledge is articulated into explicit concepts and is communicated (Nonaka and Konno, 1998). An example of externalisation can be to

develop a new production process (Uriarte Jr., 2008). Combination is when explicit knowledge is structured into knowledge systems. New knowledge is created through the combination of separated existing explicit knowledge and new knowledge is shared among individuals throughout the organisation via meetings and presentations. Internalisation is about embodying knowledge. Explicit knowledge is embodied into tacit operational knowledge (Nonaka, 1994; Nonaka and Konno, 1998). Learning by doing or using is a good example of internalisation. Operational manuals for working procedures is a typical way to use explicit knowledge within internalisation (Uriarte Jr., 2008).

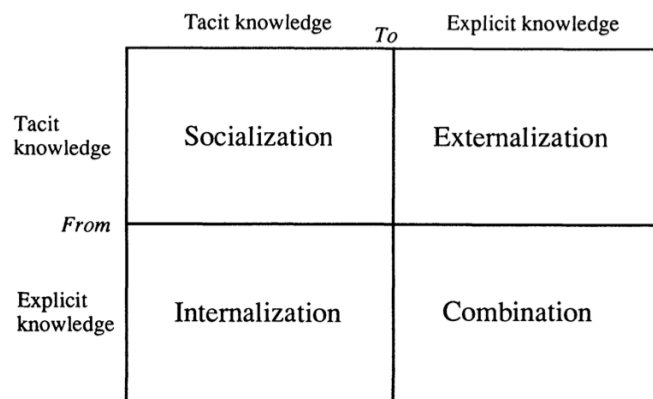


Figure 2 Modes of knowledge creation (Nonaka, 1994)

2.4 Organisational culture and leadership

Issa and Haddad (2008) further argue that organisational culture that encourages knowledge sharing is an important factor in knowledge management. A definition of organisational culture is as followed “shared beliefs, values, and practices of a group or groups within the organization” (Anantatmula, 2010, p. 242). Once an organisation has a supportive culture it needs to inspire its employees to constantly share their knowledge (Wah, 1999). In order to succeed with knowledge sharing it is important to encourage employees to remove the old school thinking that people are being measured by what knowledge they possess. That way of thinking only leads to knowledge hoarding and does not facilitate knowledge transfer. A way to encourage knowledge sharing within the organisation is to use a reward system. To that end, the organisation indicates that knowledge sharing is something they value and it is a part of the culture (Issa and Haddad, 2008). “Knowledge culture is by far the most important factor of success” (Lindner and Wald, 2011, p. 887). Furthermore, Chaffey and Wood (2005) emphasise that in order to encourage knowledge sharing within the organisation two approaches can be used, incentives and rewards. Training is one way to induce a culture within an organisation in order to generate a more open collaborative atmosphere (Civi, 2000).

Top management is important and they need to support, care and enhance knowledge. They also need to create an organisational culture where knowledge can freely emerge (Nonaka and Konno, 1998). A strong leadership and great support from the top management is necessary for knowledge management. Since human inertia is a major problem for knowledge management. Often employees do not know what type of

knowledge they lack, therefore the organisation needs to coach and inform the people what to capture. A strong leadership can only contribute a certain part, therefore, it is a great advantage for an organisation to recruit people who are able to work and collaborate in teams. Communication plays a vital role in knowledge sharing (Wah, 1999). Organisational culture has a great impact on knowledge sharing within the organisation. It is important to have support from team members and managers to cultivate and maintain a culture of knowledge sharing. Further, the practices should support the organisational values and trust is an important factor in knowledge sharing (Mueller, 2015). Trust within the organisation is a key factor in knowledge management. It is essential for employees to believe in their companions and also trust their competence and commitment. If the receiver of the knowledge does not believe that the source is trustworthy and capable, the shared knowledge will most likely not be accepted. People will start to feel interpersonal trust and share their knowledge within an organisation with policies that encourage knowledge sharing (Issa and Haddad, 2008). According to Chaffey and Wood (2005), openness and trust are essential in a knowledge sharing culture. “Trust is essential to an organization because it improves positive behavior, encourages network relations, reduces conflicts and transaction costs and improves the creation of a good working environment” (Issa and Haddad, 2008, p. 184).

2.5 Knowledge management process

“Process can be defined as a group of systematic related actions directed to meet a specified result or end” (Anantatmula, 2010, p. 241). A process is typically designed in order to increase the efficiency and meanwhile fulfil the determined outcomes. In order to assist organisational and individual learning as well as offer training to new people, a knowledge management process can be implemented. The process is often integrated within the organisational processes and is suppose to create knowledge, share knowledge, and deploy knowledge in the organisation as well as external parties if necessary. “One of the important goals of a knowledge management process is to convert tacit knowledge into organizational explicit knowledge and make it available in the right format and context to facilitate learning at individual and organizational levels” (Anantatmula, 2010, p. 241). There is a relation among the process and the organisational culture and the process ought over time gradually be integrated into the organisation culture. The knowledge process varies in a small amount among various authors. Table 3 presents a compiled view of the knowledge management process according to various authors. According to Uriarte Jr. (2008), knowledge management must include for elements. These elements are knowledge creation and capture, information storage and retrieval, knowledge sharing and enrichment, and knowledge dissemination.

Knowledge is created continuously in any organisation or group and it is essential for knowledge management to capture the created knowledge. It is emphasised that knowledge creation is the most difficult part to manage in the process. However, in order to utilize new knowledge, it is necessary to capture it once knowledge is created (Uriarte Jr., 2008). Within knowledge management, knowledge sharing is one of the most vital procedures (Issa and Haddad, 2008; Uriarte Jr., 2008). Because of the unwillingness to share information knowledge sharing becomes a challenge to the organisation. Loss of knowledge sharing contributes to loss of organisational development. (Issa and Haddad, 2008). The sharing process includes at least two parties (Issa and Haddad, 2008; Mueller, 2012). Moreover, knowledge sharing

includes one sender and one receiver. It can be among organisations, groups or persons. The party that has the ability and willingness to share knowledge is defined to be the sender. In contrast, the receiver is the party that is able and willing to grasp the shared knowledge and use it combined with its existing knowledge (Mueller, 2012). In order to not lose knowledge when an employee leaves the organisation, it is often encouraged to share possessed knowledge, especially tacit knowledge. An organisation often invests in technology to capture and store knowledge in order to remain knowledge within the organisation. Captured knowledge can, therefore, be reused in the future (Issa and Haddad, 2008).

The third element is information storage and retrieval of knowledge management. Organisations must ensure that transfer or obtained knowledge is clearly available to anybody within the organisation. In order to achieve that knowledge easily can be retrieved it can be stored in centralised locations with sufficient provisions e.g. databases or file systems. In many cases, it is necessary to structure the information in the organisation in order to facilitate information use and retrieval. Since the information in many organisations is relatively unstructured. If documentation in an organisation is unstructured, valuable information cannot easily be found (Uriarte Jr., 2008). Lastly, the final element is knowledge dissemination. Knowledge needs to be efficiently scattered, otherwise “the development impact of knowledge will remain limited” (Uriarte Jr., 2008, p. 64). Disseminating knowledge requires converting tacit knowledge into explicit knowledge. In that case, it can be shared easier and more broadly. In some organisations, the employees often preserve their knowledge by themselves and only share the acquired knowledge carefully. In such organisations it is important for the management to create an environment of learning, understanding, and corporation as well as encouraging knowledge sharing within the organisation (Uriarte Jr., 2008). In table 3 below, the knowledge management processes is presented according to various authors.

Table 3 Knowledge Management Processes according to various authors

(Anantatmula, 2010, p. 248)	Knowledge acquisition and creation	Knowledge organisation	Knowledge storage, retrieval and transfer	Knowledge presentation and application
(Lindner and Wald, 2011, p. 880)	Generation	Storage	Dissemination	Retrieval
(Liebowitz and Megbolugbe, 2003, p. 192)	Knowledge identification and capture	Knowledge sharing	Knowledge application	Knowledge creation
(Kasvi et al., 2003, p. 572)	Knowledge creation	Knowledge administration	Knowledge dissemination	Knowledge utilisation and productisation
(Uriarte Jr., 2008, p. 68)	Knowledge creation and capture	Knowledge sharing and enrichment	Information storage and retrieval	Knowledge dissemination.
(King, 2009, p. 5)	Knowledge creation and acquisition	Knowledge refinement and storage	Knowledge transfer and sharing	Knowledge re-use

2.6 Information technology

A large quantity of knowledge, information and data can be embodied in electronic form. Within organisations, information technology tools can be used in order to

assist knowledge management such as data mining, decision support tools, computer support work reasoning, case-base reasoning as well as communication and networking technologies (Issa and Haddad, 2008). “The support by information technology tools has proven to be a necessary but not sufficient factor for the quality of project knowledge management” (Hanisch et al., 2009, p. 154). For an organisation to better create, share, organise and apply knowledge in an effective manner information and communication technology (ICT) is essential. Furthermore, knowledge management solutions that manage both explicit and tacit knowledge must be supported by an essential communications infrastructure for example virtual workplace, e-mail environment or a portal or likewise. In a knowledge management system, three main technology foundations are desired. The three are the following: organise content, search information, and locate appropriate expertise (Uriarte Jr., 2008).

2.7 Techniques of knowledge management

Communities of practice

Communities of practice are not a new notion, the concept has existed for a long time and it can either be formally reorganised or not. Communities of practice exist everywhere in our lives and a person can belong to several of them. It can be at school, at work, in our hobbies or at home (Wenger et al., 2002). Both outside and inside the organisations people have created communities. Within organisations, communities of practice have developed that are accountable to find and share best practices, help community members work better, and stewarding knowledge (Hasanali et al., 2002). According to Boh (2007) communities of practice consists of individuals that are brought together that share similar interests or are in a similar practice. ”Communities of practice are groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (Wenger et al., 2002, p. 4). People within a community of practice find value with their interactions but does not essentially work together every day. Generally, they share insights and information as well as give each other advice. Moreover, as members spend time within these communities they typically discuss their ambitions, their situations, and their needs. Problem solving is a core activity. Finally, they explore ideas and discuss common issues (Wenger et al., 2002). Communities of practice within the organisation can be seen as a group that is positioned together in order to increase creativity and learning (Cox, 2005).

Mentoring and Storytelling

A mentor can be seen as a guide that possesses a comprehensive knowledge base. They assist as informal teachers that help the receivers in sharing their knowledge. If the receiver absorbs and learn from their mentors they are more likely to learn faster and perform better (Swap et al., 2001). Storytelling is a technique of knowledge disclosure that can share knowledge within the context of its usage. In order to transfer a complex message simply, storytelling is a well working technique. Dalkir (2011) expresses that storytelling occurs in all organisations. Purposeful and managed performances of storytelling are a good tool for the revelation of knowledge in organisations. Moreover, storytelling in also a good method to transfer tacit company knowledge and values (Dalkir, 2011). It is advantageous to tell the story naturally to transfer experiences and learning points. Storytelling exists basically in almost every organisation and helps the learning be memorable, put it in a context and also more persuasive (Dalkir, 2011; Swap et al., 2001). Storytelling expresses a richer

context through their stories and therefore it is possible to transfer the tacit part of knowledge. Through storytelling, vastly experienced persons gave the opportunity to share that person's valuable knowledge among others in the organisation. Good storytelling can change individuals attitude and performance to create and share more knowledge (North et al., 2014).

Lessons learnt

An organisation can learn from earlier practices and hence learn from itself. In order to achieve that, the organisation must capture important experiences and dispense it across the organisation. In that way, employees can adapt existing knowledge and use it at the right time (Uriarte Jr., 2008). Within an organisation, similar errors or mistakes can be made in various projects. Due to a reproduction of knowledge a project can learn from similar previous projects and avoid unnecessary mistakes (Koskinen, 2010). An existing lesson learned system is improving the organisations memory as well as support the process of grasping and distribution of the knowledge. Lessons learnt is especially important in organisations where errors can be vastly costly. If such a system is used the organisation can save money and avoid future mistakes (Uriarte Jr., 2008).

Knowledge maps

For an organisation to control who knows what in the corporation, knowledge mapping becomes a process that can be used. In this process, employees possessed skills, knowledge, and experiences are listed, this is then compiled into a database. Through knowledge mapping, the organisation can evaluate existing knowledge, where the expertise is as well as if knowledge is missing somewhere (Neef, 2005). It is an effective way to localise experts in a quick and easy manner, these experts can share their knowledge and provide advice with their peers (Uriarte Jr., 2008). Knowledge mapping assists employees to navigate, retrieve and store desired information and data throughout the organisation (North et al., 2014).

Document management

Within most organisations, documents are the most common repository of knowledge and information. Nearly all activities can produce documents, such as contracts, project proposals, agreements and so on (Uriarte Jr., 2008). A document that contains information and knowledge can be codified in various ways, such as manuals, reports, memos, and minutes of meetings. Document management is a comprehensive system that manages the lifecycle of a document (Chaffey and Wood, 2005). The volume can easily be large and have a huge variety. An organised and systematic approach to managing these documents can both save the organisation money and effort. Good document management can assist the organisation to become more effective. In contrast, poor document management can increase ineffectiveness due to that employees waste several hours in order to find needed information (Uriarte Jr., 2008). "Document management systems will capture and store documents in a structured file system, allowing users to browse or retrieve documents" (Chaffey and Wood, 2005, p. 262). In order to manage a document management system, it must be communicated to all employees what type of knowledge that should be stored and organised within the system (Chaffey and Wood, 2005).

3 Methodology

The aim of this chapter is to justify methods employed during the study in terms of research strategy, research design, data collection and data analysis. The chapter ends with reflections regarding reliability and validity as well as ethical considerations of the study.

3.1 Research strategy

When implementing a study, it is essential to select a general orientation to the conduct of the research. Qualitative and quantitative research is two well-used research strategies (Bryman, 2012; Fellows et al., 2015). The two methods have stark differences in terms of ontological concerns, the role of theory and epistemological issues. A qualitative research can be seen as a research that primarily emphasises words when collecting and analysing data rather than quantification. This study consisted primarily of interviews and analysis of documented material. The data was conducted from texts, stories and words rather than an analysis of statistical and numerical data, hence a qualitative research strategy was selected for the study (Bryman, 2012). Moreover, Fellows et al. (2015) explains that an exploration of the subject is undertaken in a qualitative study. The method tends to be exploratory since data and information are collected in order to emerge theories and gain a deeper understanding of a particular phenomenon. Qualitative research is mostly directed toward making perceptions and identifying general patterns. In contrast, quantitative research tends to be explanatory. The study is given precise objectives and aims with hypotheses and propositions that will be tested (Fellows et al., 2015). Fellows et al. (2015) emphasise that irrespective of which research method that is selected the research needs a systematic approach. The planning is essential and requires meticulousness. A rigorous record keeping is essential since the amount of data tend to become large (Fellows et al., 2015).

Bryman (2012) summarises some the critique against qualitative research. He claims that qualitative research is too subjective since the person who conducts the study decides what to focus on. Also, it has an unstructured format and therefore it is difficult to replicate. Problems with generalisations can occur since the samples do not represent all cases. Lastly, it is highlighted that it is often unclear what the researcher actually did, and therefore it lacks transparency (Bryman, 2012). The impact that the researcher contributes to the study must be examined and taken into account. The researcher can affect the data collection and results. It can occur subconscious or conscious, either way, it must be considered (Fellows et al., 2015).

3.1.1 Research approach

For this study, an abductive approach was selected for developing the theory. With an abductive approach, it is important to describe and understand the environment from the participant's perspective where the study was conducted (Bryman, 2012). "With abduction the researcher grounds a theoretical understanding of the contexts and people he or she is studying in the language, meanings, and perspectives that form their worldview" (Bryman, 2012, p.401). Bryman (2012) notes that abduction is an approach similar to induction. In contrast, abduction is grounded in the reliance on understanding and explanation of the worldview of the participants. A qualitative research approach involves social actors and the understanding of their subjective meanings. Therefore, the epistemological position during the study was

interpretivist, since it views subject matters relating to the social science, i.e, people and their institutions (Bryman, 2012). Finally, the ontological position will be the social constructionist ontology, since it “asserts that social phenomena and their meanings are continually being accomplished by social actors” (Bryman, 2012, p. 710).

3.1.2 Case Study

A case study design was selected for the study because a case study includes intensive and detailed analysis of a single case. It could be a person, a group, a project or an organisation. Interviews are conducted with key actors in the subject area of the study. Commonly, documentation data can be used together with the collected interview data (Fellows et al., 2015). In this thesis, the case study was used concerned a study about a specific type of organisation (i.e. Swedish county councils). When conducting a case study within a qualitative research design, qualitative interviews of a certain organisation, person or project i.e. a single case is commonly used (Bryman, 2012). The case study approach is not without disadvantages and critics. One problem that is emphasised is that the information is difficult to cross check. The generalizability of the studies constitutes a major problem with case studies. The findings are not always possible to adapt and generalise to other settings (Bell, 2010). This study was conducted in collaboration with a project group responsible for developing the Program of Technical Standard Process (PTS). A project aimed at developing a planning and development model for healthcare environments integrated into the PTS system. The purpose is that the results should serve as a support during the planning phase.

3.2 Literature review

In order to investigate previously conducted research on the topic and to gain a better understanding of the topic, a literature review was conducted (Bell, 2010). The theory from previous studies within the area must be reviewed critically (Fellows et al., 2015). A literature review was conducted for the study in order to generate an improved understanding of the selected topic. The literature review was based upon selected key words such as knowledge, knowledge management, knowledge management strategies, organisational knowledge and learning, organisational culture and leadership, knowledge management process, information technology, and techniques of knowledge management. The selected literature was mostly research publications, primarily published books and journal articles.

3.3 Data collection method

When conducting a research, data can be collected according to various methods. The methods entail different approaches in terms of how open-ended or structured the implementation of the method is. Selected method depends on the research questions and research orientation. Certain studies need a more structured approach to gather data such as structured interviews and questionnaires. While others entail a more open-ended approach, such as semi-structured interviews (Bryman, 2012).

3.3.1 Interviews and documentation

According to Bryman (2012) interviewing is probably the most commonly used data collection method within qualitative research. Furthermore, interviewing is a flexible method but it is time-consuming, likewise for the transcription and analysis of the interview. There are several various types of interview-based studies, with

unstructured and semi-structured interviews being the two main types of qualitative research (Bryman, 2012). In order to obtain the empirical data, two different data collection methods have been performed during the study. To generate a deeper understanding of the research topic several interviews were conducted during the study. A semi-structured interview model was used, meaning that developed questions were open-ended and in a general form, which made it possible for the respondent to answer in a more transparent manner while allowing the interviewee to develop further questions based on the response. The interview guide contained a set of main questions about the topic matter with several probe questions that was used only if deemed necessary. Interviews are adaptable and according to Bell (2010), this is a major advantage. The interviewer has the opportunity to probe responses, follow up ideas and get a better understanding of feelings and motives. It is possible to clarify or develop the response and it can reveal information a questionnaire response would miss (Bell, 2010). In addition to this, an analysis of documentation has been performed on documents provided by the interviewees and documents obtained from the counties respective website. The documentation provided by the interviewees was collected in order to map out and analyse current working procedures at different locations within the organisation (Bryman, 2012).

3.3.2 Interview setting and context

All of the interviews were conducted in Swedish, as it was the native language of both the participants and the researcher. The interviews took place at each respondent's workplace and were of the type face to face following a semi-structured approach. The interviews lasted on average between one to two hours and were conducted with suitable participants in each county, such as project managers, facility managers, consultants, and head of division. In addition, telephone interviews were conducted when the opportunity for face-to-face interviews was not available. In table 4 a list of participated interviewees is presented.

Table 4 List of participated interviewees

Interviewee	Organisation	Role	Type	Time
Respondent 1	A	Facility Manager	Face-to-face	90 min
Respondent 2	A	Project Manager	Face-to-face	70 min
Respondent 3	B	Facility Manager	Face-to-face	90 min
Respondent 4	B	Project Manager	Face-to -ace	80 min
Respondent 5	C	Project Manager	Face-to-face	70 min
Respondent 6	D	Consultant	Telephone	60 min
Respondent 7	E	Business developer	Telephone	65 min
Respondent 8	F	Head of division	Telephone	50 min

3.4 Transcribing interviews

All performed interviews during the study have been audio recorded and transcribed. Bryman (2012) clarifies that transcription is when a recorded interview is translated into written text. Audio recording is supportive and can be beneficial in the sentence of alertness of the interviewer. Within a qualitative study, the researcher is often interested not only in the respondent's answer but also in the way the respondent says it. It helps the interviewer to be available, follow up with sub-questions, probing and prompting whenever necessary. As mentioned earlier in section 3.3.1 transcribing interviews is time-consuming, however, audio recording has several advantages

(Bryman, 2012). The act of transcribing interviews continuously throughout the working process could be seen as a first step of the analysis. Key words, differences, and similarities can be detected from the conducted interviews (Bryman, 2012). All participants in the conducted interviews were asked for permission before the audio recording was carried out. To make the large amount of collected data more manageable during the study NVivo were used.

3.5 Data analysis

Qualitative research usually rapidly increases to a large database and this is seen as one of the main difficulties (Bryman, 2012). Analysing qualitative data needs to be conducted systematically since the data often is difficult to analyse (Fellows et al., 2015). Collected data in form of documentary provided by the participants as well as interview transcripts were analysed continuously during the study. As mentioned in the previous section, in order to manage, structure, organise and analyse the composed data a computer assisted qualitative data analysis software (CAQDAS) was used, NVivo. Transcribing interviews continuously through the working process could be seen as a first step of the analysis (Bryman, 2012). A thematic analysis approach was used, thus, core themes were a criterion (Bryman, 2012). In order to review and interpret the interview transcripts, the process of coding was used. By using the process of coding it was possible to categorise the compiled data in the selected themes. Words and shorter phrases were selected and key information of the conducted interviews was then divided accordingly. To that end, coding made it possible to identify links between different cases, data reduction, and interpretation of captured data (Bryman, 2012). However, Bryman (2012) emphasises the loss of narrative flow and losing the context of what was said as a criticism of coding.

3.6 Research reliability and validity

Reliability and validity are two important criteria's when performing and evaluating social research (Bryman, 2012). Regardless of the procedure of conducting data, it is important to consider to what degree it is likely to be valid and reliable. Reliability is about whether the research generates similar results during constant circumstances at any given time (Bell, 2010). "Reliability is concerned with the question of whether the results of a study are repeatable" (Bryman, 2012, p. 46). In contrast, validity is explained as a more complex concept. Validity is according to Bell (2010) if the research describes or measures what is supposed to do. "Validity is concerned with the integrity of the conclusions that are generated from a piece of research" (Bryman, 2012, p. 47). Validity includes several different types; measurement or construct validity, internal validity, external validity, and ecological validity (Bryman, 2012). Bryman (2012) stresses the importance of research reliability and validity when conducting a case study, since issues regarding the external validity and generalisations are a common criticism of that particular study design. A qualitative study can be assessed in other ways and Lincoln and Guba (1985) suggest trustworthiness as an addition. "Each aspect of trustworthiness has a parallel with the quantitative research criteria. *Credibility*, which parallels internal validity – that is, how believable are the findings? *Transferability*, which parallels external validity – that is, do the findings apply to other contexts? *Dependability*, which parallels reliability – that is, are the findings likely to apply at other times? *Confirmability*, which parallels objectivity – that is, has the investigator allowed his or her values to intrude to a high degree?" (Bryman, 2012, p. 49).

3.7 Ethical considerations

Bell (2010) highlights some ethical aspects that need to be considered when conducting interviews. It is essential to inform the participants about the purpose of the research and that the participants understand their rights in terms of confidentiality and anonymity (Bell, 2010). This study took this into consideration, in order to respect the anonymity and confidentiality of the respondents, participants are anonymous in the report and their names are not disclosed. Also, the data generated by the participants were treated with confidentiality.

It was ensured that the respondents were participating in the study voluntarily. Furthermore, the respondents were informed about the purpose of the research and were provided with a copy of the interview transcript if they wished to receive it. In order to address this in the study, a participants consent were obtained using a standard 'Research Participant Consent Form' from Northumbria University. Furthermore, data was stored and destroyed securely in accordance with University guidelines.

In the dissertation, the participants are identified as respondent 1, respondent 2 ... respondent 8 in order to maintain anonymity. In section 3.3.2 it is possible to access what role each respondent possesses. Additionally, the different counties are identified A, B ... F because of the same purpose as mentioned above.

4 Empirical findings

In this chapter, the empirical findings are presented from the conducted interviews. In response to the research questions, the chapter presents the results by presenting each organisation individually.

4.1 Organisation A

Respondent 1

Within the organisation, employees have a background from several different areas and numerous have also developed years of experience. When the organisation is to recruit new employees, it is important to find the right people with relevant background. In this process, it appears that at certain times there is lack of applicants to recruit with relevant knowledge. First of all, it applies to positions in larger projects. The larger projects require long and relevant experience that maybe minor projects do not require. There are few people who have built up that long experience. Therefore, in some cases, the organisation may hire a more junior person than expected.

When a more inexperienced person is employed, it is important that they get the right support and get the possibility to grow into the role. It was found that initially at work the new employees would work next to more experienced employees and learn the working procedures from those who had worked in the organisation for a long time. It may take some time before a new employee begins to contribute to the organisation, but it is important to give them the right support and space. In order to get acquainted with the knowledge of the work, new employees are working in teams together with more experienced in the organisation. Often a new employee works with one or two more senior employees. This makes it easier to hire a new graduate.

"Get support from experienced people, both experience of how the organisation works, and experience from running projects, and if you having the school skills fresh, you only get help putting it into practice in the organisation you have ended up in"

The interview revealed that there are a large number of senior workers who have worked in an organisation for a long time. If such a person terminates, it is important to provide documented knowledge of what has actually been done during their employment and which tasks are managed on a regular basis and how to handle them. It was mentioned, however, that there was no standard routine to deal with this situation.

"And it is very delicate in these groups, with us in general and we are very many who are very knowledgeable without replacements and without backup, everyone is not. But some roles are and it will be very noticeable when someone ends"

According to R1, it is important to appear as an attractive employer in order to attract new personnel, there is a great competition in the labour market and this is something that R1 thought they would have been better at. Providing a clear role description and area of responsibility is considered as a motivation for new employees.

During the periods when new recruitment stands still, relevant external personnel are hired to cover that vacancy. Hiring external personnel is done to a large extent. There are pros and cons of both parts. Additionally, this can be relevant in the organization, for example, if the organisation does not have a full-time position. Also, it may be a matter of principle, if the organisation wants in-house staff or consultants. It is up to each manager to cater and consider what they consider is best suited in different situations. Employing external personnel can differ greatly within the organisation.

It is emphasised during the interview that the organisation has on-going knowledge development strategies for all employees that they conduct once a year and try to encourage them to acquire some different specialist skills. The special skills are distributed in the organisation so all staff is not experts in the same field so they can share their specialised knowledge. The interviews revealed that this was received differently depending on the individual. Some employees see it as a development opportunity and to build on their knowledge. In contrast, in some cases, more senior people feel satisfied and are not as susceptible to acquiring new knowledge. Moreover, it was found that there is no systematic exchange of knowledge through collaboration with other county councils. The interviewee described that an internal investigation was conducted with other county councils and that this initiative was taken by a single individual. It emerged that there were several similarities as well as some differences between the different counties. In some cases, the same roles were named differently as well as some work procedures in the different county councils. On the other hand, it appeared that it exists a network that one can participate in, but then it is up to each one to make it useful.

“I have been part of a network /... / and then I have been inquiring and tried to understand how everyone else is working and it has been a great entrance when you reorganise and try to take the best of how others think”

It is challenging to share knowledge among different geographical teams. In the past, the groups have been quite autonomous and solved the task in different ways. But the organisation is working hard so the different teams work more alike. It is emphasised that the organisation tries to get rid of the areas different cultures and as well as increase the exchange among the geographical teams. The organisation has established ‘development teams’ where these teams can meet and discuss. But there is no systematic system for this approach in the organisation. This was built on individual’s own initiative that they have to sit down together. This approach is mostly appreciated. In contrast, there are some workers with long experience that have developed their own way of approaching tasks. There can be some contrast when changes occur and it could be some pride involved as well.

Respondent 2

There is a generation change and employees retire. There is a demand upwards in the organisation and a number of knowledge challenges arises. During the interview, it is explained that two younger employees attend a relevant Project Management education and work as assistant project manager to grow into the role of project manager.

“They must create their toolbox, how to cope with the role of a project manager / ... / but then you should have the practical part”

It appears that it is important not to employ young people too early in roles that require much experience. Although they have the theoretical knowledge, this must be combined with practical knowledge. It is emphasised that some roles require several years of experience and it is essential to grow into the role in order to be self-employed. To be educated in the long-term in the process of gaining practical knowledge, the assistant project managers participate in projects. Gradually they receive new tasks, but they always have support from several senior and more experienced employees. Employee conversations are also conducted continuously to review and correct the progress in the process. It is explained that people nowadays change jobs more often, which leads to changes in the organisation.

Depending on a person's background and experience, different amounts of support are required. During their working hours, experience accumulates and creates a toolbox that is used to solve various problems. However, if you do not have this, you need more support to solve certain situations with various aids. In projects, templates and checklists are used to keep track of what to achieve and what has been completed. This toolbox is good to support in the beginning, knowing what to do in chronological order and then move on to the next phase when a task is completed.

“You have a list, a chronological order, what you have to do now, before I go to the next phase”

It was emphasised that each project is unique, it will never reappear. Moreover, it is explained that a project manager cannot be familiar with everything and all problems.

“The problem is that many times, from there to there it can be x number of years. Some leading people who were driving from the beginning are not included anymore they have quit during that time. Then others come in and see the problem or matter from a different perspective”

“A project is unique as well as the current project organisation”

During the interviews, it was found that documents are handled and stored in both binders and computers. Furthermore, it was stated that none of these were complete. It is thought that the computer is a very good tool but can also have a negative effect in some cases. It is easy to rely too much on technology, and if some documents are placed in the binder's etc. mistakes can easily be made. In this area, the organisation is not one entirely concurrent. For each project, there are websites that handle various documents. The risk is that the handling becomes too extensive and in some cases it may lead to documents not being saved in a particular folder or similar.

4.2 Organisation B

Respondent 3

The organisation has grown rapidly and the projects have become increasingly larger. This means that you must, of course, have people who can handle them. Without the accurate knowledge, correct decisions cannot be taken. To ensure that right knowledge exists in the organisation that can handle the big growth, the organisation

currently employees a lot of people. When people are hired, the organisation attempts to match the education profile with the service. But experience in relevant areas is something that is a big advantage. People in the organisation often work in clusters with several individuals creating a team around a workplace. This is done to cover wide-ranging tasks. Many projects may have different focuses, which means that different projects require different skills. It is up to the managers to come up with what is needed, who is responsible and define roles based on the need.

“It is a great challenge that the generation change is going on while we have such an incredible boom in the industry, it is a bit unfortunate coincidence”

It is explained that it is common when talking with younger people in recruiting interviews that they are told that they are taking too much responsibility towards what they are actually capable of. This leads to immense stress among the younger ones. It is important that you get support from older colleagues and managers otherwise there is a great risk of losing interest. This may lead to serious mistakes. In order to attempt to support this process, the following is expressed:

“You can find that you work in teams, so far as you can only work together. Just knowing that you are not alone in a situation or in a project or something I think is lowering the stress level. And learning from each other is really important”

The organisation tries to develop a team that they believe in the long term. But then situations arise where quick decisions must be taken. Vacancies may occur when people become ill or quit. The organisation tries to work with a structured way of working to get new employees into the organisation more easily. An overview is made of the processes and working methods in the region in order to be able to match the different parts. This can lead to new employees getting increased support and structure.

In the topic, if there are methods in order to transfer old existing knowledge and learn from that. Then it was emphasised that often the projects are very long and extensive, in that case, a reference project, in fact, can be old. From start to finish it can be a few years sometimes. So even if the project is finished today it may be based on old specifications.

“I would like to have more contact with other regions. I know we meet sometimes but I think we all have the same problem we have so insanely hysterical calendars so it is not always possible to get together, you cannot really stop and reflect or plan that field trip or what it could be. We could be much better at that”

At one time the organisation acquired knowledge feedback from an older project. It was a similar project that just had been conducted relatively nearby. So the department wanted to take the opportunity to learn from that project and apply it in two new projects.

“I think both time and money can be saved if we did not need to go back to zero every time”

Additionally, it were found in this case that there were some resistance from the “operation / client side”. They often wanted the organisation to not look at older projects because they claim that they build something else now, that the project is unique. While the organisation wanted to see what had been done before.

“Regardless of whether we think it is good or not good or what we think. At least, we have a common platform, something to being based on, referring to”

The knowledge transfer was conducted through a workshop where the old and the new projects were gathered and discussed. However, it appeared during the interview that it is unclear whether documents and notes are available or documented from this moment

“We should share between us so to say and take advantage of each others successes”

Regarding a digital system that facilitates collaboration among county councils and that can help to learn from each other, it was expressed that it would be beneficial. However, it is important that these partnerships and forums do not get too open. Some documents and documents are socially important information, and it is important that not everybody can get access to them. Further, it is important to be thoughtful of what documents that should be in such a forum.

Respondent 4

To ensure the right knowledge can depend on a variety of factors, such as time, complexity and accessibility, among other things. Certain special projects require some knowledge so that a targeted procurement is done based on the project’s needs.

Consultants are hired from the major consulting companies in the city. Then you do not just ask regarding price but also what skills and experience they have. The organisation tries to get the best possible knowledge. It is expressed that there is tough competition for consultants on the market at the moment and it may be extremely difficult to get consultants who have the right experience in the projects being carried out.

With the generational change that takes place in the market, it is not always possible to get highly experienced project managers. Based on the consultancy perspective, the organisation tries to assist and sometimes select people who are more inexperienced in the projects. This is explained as a form of learning. Generation change is a challenge, and the department sometimes works with trainees, to get people started.

“Based on what we find what the need is, from that one must try to put together the best knowledge”

Each project’s unique record is used to match the right knowledge. However, this can change during the journey as well, and it may mean that the organisation needs to

quickly complement with new knowledge accordingly because the conditions have changed.

“It is an on-going process, so you can always get new knowledge and resources depending on what is going on during the trip here, it is rarely that a organisation looking the same in the first stage as in the final stage, it is changing all the time. People come and go and you need to add new ones and some have to leave”

The organisation is changing all the time and it is important that one can adapt accordingly.

“Today it is extra important, because people today come and goes at different companies and it gets a lot of turnover on people and it becomes even more important to try and constantly connect new resources and find them”

Working in a standardised way is good, but it does not solve everything in an organisation. To enter as a new employee require a standardised form of work and it is a good help, but you cannot get overconfidence with these tools.

“They do not solve everything for you either, it is the same as in its simpler form that many ask if we want templates for everything, but that can not solve everything, especially in a project you can not solve all situations with templates because things happen which occur outside the templates. It is about being there to people. There shall be people to ask in the organisation and people to get help from. We work with mentors for the new employees so we have some older experienced to ask”

Furthermore, in the interview, it was explained that contact with other regions and individuals that have similar roles occurs in even and uneven intervals. Furthermore, the organisation had a lot of study visits from other regions that wanted to see similar projects that they had been facing. As for the topic of tools when projects are completed to restore lessons learned, it was expressed that there were limitations in this area:

“Well, I can say that they are quite, not fully developed so to speak. There are meetings for experience feedback etc. meetings but not as much as you should do. But the great benefit of the experience you bring is whether you can use in a similar upcoming project. It is like reducing the long start-up distance when you start with new consultants who might never have been in a similar project before”

It appeared that due to lack of time these processes are not developed, and it is also harder to terminate a project than to start one, since, when a project is completed a new project often begins.

“It can certainly be done much better, but this it is where we are now and it is always a dilemma with projects. Often when you finish a project, you often start a new project at the same time as well”

Furthermore the process to collect data after a completed project is well organised. It is well described what is to be done in that area. But handling knowledge and lessons learned is something that is missing. Collaboration and field trips are mostly used in larger projects. In addition to this, they also meet in forums and discuss projects and relevant topics. Nevertheless, it is expressed that this is an area with great improvement potential.

“That I can miss by the way, that we do not have a better follow up system. From all the projects that we conducts all the time to have a knowledge bank from executed projects”

Current document management is about finding the right tools, what you really need.

“The hard thing is that they are most often short-term, new systems emerge and then something else is implemented and then you should save information there”

It becomes very disorganised when the organisation has different tools for storing documents. You have a tool that has been used for a while and then it changes, which sometimes makes it difficult to navigate correctly among all the different tools. Furthermore, it is expressed that:

“Want something you know works in the long run, a structure that you can recognise in the next couple of years”

If the information is stored in many different locations, you can easily lose valuable information. It may be that you do not have access to that system or know how it works. To manage project documents, they now have a system they work with. But then there is older information on other different modules that have been stored there historically. There is a great variety on how to approach this in the organisation.

To manage project documents, there is no specific system that everyone uses to enter information. When the organisation works in a project, there are various project portals that are used. Each of the projectors works with their own tools, which results in a great diversity of tools.

“But there is no uniformity, it is more project-specific. There are a few different that are chosen in different projects. It depends on who is involved and what they have for experience and what they think is appropriate”

4.3 Organisation C

It was stated from the interviews that there is no formalised process for building up knowledge. It was emphasised that knowledge was acquired individually and therefore social interactions with people with likewise job task was performed.

“You try to have a network, people you can meet and who are interested”

During the interview, it emerged that more research from previous projects should be done to save time and money. It appears that the project manager has asked if

someone has looked at previous projects or similar projects from other countries and made an experience transfer based on it. But that usually never took place.

“If all projects will find out for themselves, it will take a lot of time. Is there no one who can check how someone else has done?”

It appears that there are no systems and procedures in order to be able to report the knowledge gained in a particular project.

“Everyone shall sit down and invent all the wheels themselves”

It also emerged that there is no formal network for corresponding roles in other county councils and that there is no official forum for this. It appears that there are theme days that the interviewee participates in. Hence these days they meet the same people frequently to discuss similar thoughts. These days is explained as knowledge increasing. Collaboration, conversation and exchange with other county councils exist to some extent. Also, meetings within the department take place between project managers, but this is an area that can be much better. Even these processes are not formalised and take place on a more informal basis.

“To realise at the early stage that it is important to preform field trips and go around and look. Look at what exists, what we want and what we do not want. What is interesting to us, do benchmarking, outside world watch”

During the interview, a discussion arises on how to solve this problem. Who should be responsible and organise such activities.

“A project office should we have. Where you help each other and do not sit too much alone in the boat. You must be in operation but you need to be able to get to this project office”

The organisation perform more projects now than have been done before and the projects are exceedingly more comprehensive and large. It appears that the members of the organisation need to cooperate more between projects. A more experienced person that may have recently completed a project can help similar projects.

“The organisation could be a bit more helpful to each other. There is something missing here, it is a bit too much deal on your own “

In addition to this, deficiency is found in templates, guidelines and standard documents, which would be appreciated if these, would be improved, for easier and faster execution of work.

It is highlighted from the interview that those who are part of a project have had continuous work meetings with a clear agenda. This is a process that worked well and all involved have been gathered into a working group.

“We have been working a lot in groups, in the same room. Then we have been part of different groups and what has been so good, is that as soon

as you have a question for someone else you just go to that group and talk”

People have been invited to work within a context where they are not normally responsible. They are thus able to get insights in how their colleagues work. There are many people from different areas that gather and discuss common interests, problems and solutions. This is explained as knowledge increasing and that they can share each other’s knowledge. However, during the interview, it emerged that this is not formalized or systematised process. The process was developed on its own initiative.

There is a large project database where all documents are stored and it emerged that there is no requirement on how to document. However, data retention occurs after a decision has been made. All documentation that happens before is what each individual has in his own computer. It turns out that if someone needs to replace someone and needs to access the information, it is at each individual computer. Without access to that computer, the new employee would have to start over from the beginning. It is emphasised that some people within the organisation possess too much important knowledge.

“I posses far too much knowledge in the project”

4.4 Organisation E

It is expressed that they do not have a systematic process for knowledge transfer, not more than the corridor. They use a program abbreviated PTS in order to collect some standard solutions. During the interview, it appears that there is no systematic process of retrieving knowledge from other projects and regions. It seemed that some of the organisations were examining external projects and conducting study visits. However, there is no knowledge bank for projects in order to collect knowledge from previously conducted projects. There are persons that possess individual project knowledge. In contrast, it was emphasised that it would be very interesting with a database where you can compare with other regions how they have done, if the organisation were to do something that was previously done in another region. It was expressed that it would be interesting to look at how these recent projects were conducted, how they thought and performed in those projects.

“In some way, a database or something where one easily can see each other and gain advantage of it. How do they think, what have they said in their feasibility study and so on”

In some certain cases, knowledge has been adapted from older similar projects. However, it is explained that it is up to the person to deal with this matter rather than it being built in the process.

“We are not so good to take advantage of each others experiences”

It is a similar situation with how they use other tools within the organisation it depends on each individual own choice. The collaboration with other regions does not occur often nor is it in a structured and formalised way.

“Not as much as we have hoped, but we will try to start up more structured networking. We have more of our individual contacts here and there that one talks with sometimes”

Working in a county council can be challenging and can be experienced as slow and that there are many different stakeholders.

“I think you would be in need to support a more robust system and culture for how we will work in the projects”

When the organisation employs an experienced person, they most likely may bring their own tools, but these may not be adapted to the fact that there are so many stakeholders. However, the organisation must be able to complement these peoples' experiences with processes that the organisation has put in place that is aligned with their conditions.

“Support these knowledgeable people, but we fall a bit to do that, we have guidelines and concept programs that are not always followed. We have procedures and processes that try to support in this complex environment “

Finally, during the interview, it was expressed that they have a document management plan. It was emphasised that they used a project portal for documents in their projects. People within the project will have access to all documents and later those who will take over the project after will be invited to proceed with the project.

4.5 Organisation F

It emerged that the organisation worked with the program PTS and acquired knowledge from there. This is a job that the employees do mostly by themselves. They have no clearly incorporated strategic planning in this or coordination. It is highlighted that it would be beneficial with standards to use in order to avoid the same discussions on similar projects.

“No, we do not actively work with knowledge within our organisation but our / ... / goes to network meetings or forums, that is how to capture knowledge”

Due to there having been such a large and rapid growth there are tasks that have not been met in the organisations. The organisations must constantly work with those tasks that have to be solved at the moment.

5 Analysis and Discussion

The intent of this chapter is to present and discuss how the findings are linked to the findings of previous studies. The chapter is structured to follow the research questions and empirical findings are examined together with the theoretical framework. The chapter begins by discussing and analysing knowledge sharing to new employees and then proceeds with headings that concern knowledge sharing within the organisation and project knowledge.

5.1 Knowledge sharing to new employees

From the interviews, it was indicated that there is no formal outlined knowledge management strategy. However, this is might often be the case in organisations nowadays. Even though there is no clear and stated strategy to manage knowledge there are still indications of such activities. From several interviews, it was highlighted that when new employees are recruited to the organisation it is essential to support and introduce them into the organisation. In order to manage knowledge sharing to new employees, it was emphasised that the most common activities were: introduction program, mentorship, trainees and working in teams. Initially, new employees work next to more experienced colleagues and learn the working procedures. In order to obtain knowledge, new employees are working in teams together with more experienced in the organisation, often with one or two more experienced employees. It appeared from several interviews that they usually use mentors to introduce new workers. This was done to introduce people faster into the organisation and always have someone to seek advice from. Such knowledge that is transferred in such manner is explained in the theory as tacit knowledge. Tacit knowledge is according to Nonaka and Konno (1998) challenging to share and communicate to others. Moreover, each individual store tacit knowledge within themselves (Uriarte Jr., 2008). The knowledge sharing of tacit knowledge to new employees is aligned with Wyatt (2001) that explains that tacit knowledge can be transferred through face-to-face interaction and apprenticeship as it underlies personal experience and skills (Wyatt, 2001). Similarly, Smith (2001), highlights that tacit knowledge can be shared via face-to-face contacts, mentoring, apprenticeships, internships, and casual conversations. In reviewed litterateur on mentorship explains that a mentor can be seen as a guide that possesses a comprehensive knowledge base. They assist as informal teachers that help the receivers in sharing their knowledge. If the receiver absorbs and learn from their mentors they are more likely to learn faster and perform better (Swap et al., 2001).

From this, a pattern has recognised that transfer of knowledge to new employees is mostly performed based on the personalisation strategy. Hence, within the organisations personalisation prevails over codification. On the other hand, even though personalisation is more common, codification strategy is present as well. Thus it is a mix between these two strategies but one is more prominent. Codification is primarily used with aids like templates, checklists, guidelines, process aids etc. This supports employees in order to work in a more standardised way and know what to do in a chronological order. Explicit knowledge is identified as "Explicit knowledge is that contained in documents or other forms of storage other than the human brain" (Uriarte Jr., 2008, p. 4). This way, the organisation is sharing knowledge aligned with the ways identified by Nonaka and Konno (1998) where explicit knowledge can be transferred through words and numbers or be conveyed in the form of scientific

formulas, specifications, manuals, and other forms of data. Explicit data is explained as reusable and easier to share. Even if these processes exist in the organisation, solid introduction program and the like, it is not always necessarily used consistently all the time. Due to lack of time, the organisation misses out on managing these structured procedures. Often this kind of intended introduction is neglected since the high demand in the market new recruits usually goes straight into an on-going project. This aligns with the theory presented by Wah (1999) which highlights interactive learning as important in knowledge sharing. The author further explains that time often constitutes a major difficulty with respect to knowledge sharing.

5.2 Project knowledge

In order to ensure right knowledge among the participants in the project depends on a variety of factors. Each project has its own specific requirements. Factors involved can be time, complexity and accessibility. Here it is emphasised that most of the knowledge is contained within the members of the organisation. It is explained that employee's gains experience over the years and creates this individual toolbox, which is used in order to solve various problems. Thus, it is primarily personalised knowledge that is used for the most part. In addition to this, codified knowledge is also used, in projects, templates, and checklists among others similar aids. This is mostly due to the fact that most projects are unique and complex. As made evident by Boh (2007), codification strategy is most suitable for an organisation with a more standardised approach and routine of confronting problems or managing tasks. In contrast, the personalisation strategy is more suitable for an organisation that is more unique in the way of managing tasks or encountering problems. A problem that is described is that many projects often are executed over several years. It is rarely that an organisation is kept intact throughout the entire project life cycle. During the execution of the project, employee's leave and new people are brought in. Also, the knowledge required may be different as changes often arise during the execution phase. Hence, the organisation needs to adapt accordingly. Codified aid, standardised and systematic approach to solve problems is not always the answer, especially not in a project. In some cases, it certainly works well. In all projects, situations occur which cannot be solved with only codified knowledge. It is explained that it is important to have colleagues or other people to ask within the organisation that can give their support. Due to the unique character of a project, it is not possible to be familiar with all problems. According to Hanisch et al. (2009), various challenges can arise due to the uniqueness and temporality of a project. An emphasised challenge regarding the transfer of existing knowledge and learn from that in project situation is that projects often are very extensive. A project that is completed today does not necessarily contain useful data. In such situations, the reference project might be old and executed based on old specifications. Despite this, it is stated that both money and time may be saved if the organisation in a better way acquires knowledge from similar projects. With such approach, the organisation has an opportunity to not always start from the beginning of every project. This is in line with APM body of knowledge (2012) that argues that knowledge management can increase efficiency because the organisation thereby has the opportunity to avoid known pitfall and reuse proven approaches.

Handling knowledge and lessons learned is something that is not well developed. It is expressed that this is an area with great improvement potential. It appears that there are no systems and procedures in order to be able to report the knowledge gained in a particular project. This was argued by Uriarte Jr. (2008) organisations can learn from

earlier practices and therefore learn from itself. In order to achieve that, organisations need to capture vital experiences and distribute it across the organisation. In that way, existing knowledge can be adapted and reused. This was also addressed by Koskinen (2010), similar mistakes can be made in countless projects. A project can learn from similar previous projects and avoid unnecessary mistakes due to a reproduction of knowledge. The main challenge is time. Due to lack of time, this kind of knowledge sharing is neglected. This aligns with the theory that states that such activities often are time consuming. A developed system can be used which would facilitate these activities (APM body of knowledge, 2012). The rapid growth in the organisation is also mentioned as a challenge. Sharing knowledge is often done through an ad hoc manner such as the corridor, individual networks and likewise. Tools and how to handle situations in a project are often based on individuals and projects. It is often based on experience and it must be developed a more robust system and culture how to work in a project. To deal with this it is expressed in the theory that strong leadership from top management is needed and that it is well supported in order to function well (Anantatmula, 2007).

To work in a county council is challenging since it entails working with many different stakeholders and the working procedures need to be developed accordingly. In order to deal with many of these questions, it was discussed during one interview that project management office could be a good support. It is explained as a composed group that organise and support projects in the county councils. Notably, in one case, a work workshop was carried out in order to gain feedback from two older projects that had been conducted nearby. The department wanted to learn from those projects and used that knowledge in the two upcoming projects. It seems that such activities are rarely used within the organisation. However, it emerged from the interview that it was unclear if notes were made and if they were stored in some form of common databank.

5.3 External specialists

Several interviews confirmed that the organisations to a large extent employ external consultants. It was further explained that employing external personnel could differ greatly within the organisations and it was up to the managers to decide. Consultants are hired from the major consulting companies in the cities. When employing external specialists, the organisation does not just ask regarding price but also what skills and experience they possess. The organisation tries to get the best possible knowledge. There is tough competition for consultants on the market at the moment and it may be extremely difficult to get consultants who have the right experience in the projects being carried out. Based on the consultancy perspective, the organisation tries to assist and sometimes select people who are more inexperienced in the projects. This is a form of learning. Generation change is a challenge, and at the department, they try based on certain positions with the format trainees, to get people started. As stated in the theory, knowledge can come from either internal or external sources (APM body of knowledge, 2012). It is expressed during one interview that there is no structural way to manage knowledge when a consultant is leaving the organisation after a project. Thus, valuable knowledge is walking out of the organisation almost daily. This is described as a challenge in the theory and the organisations need to come up with ways for external and internal experts to share their knowledge (Wah, 1999).

5.4 Extensive experience, retention of knowledge and generation change

In recent times, people are changing jobs more often than previously. This is something the organisations' members are fully aware of. Generation change is not a new phenomenon and it is constantly happening in the labour market. More people are currently leaving the labour market than entering it. It is emphasised that the public sector has the biggest departures (Arbetsförmedlingen, 2010). There is an emphasis among most of the respondents that the on-going generation change is challenging for the organisations. A large share of the current employees has been with the organisation for a very long time. During these years, they have developed and come to acquire significantly valuable experiences. If such a person terminates, it is important to provide documented knowledge of that specific vacancy. Despite this, there appeared to be no systematic or determined way of handling these departures in the organisation. Consequences of this are of course that there is a risk of losing extremely valuable and useful knowledge that the individual has built up throughout all these years in the organisation. To that end, the new person who then takes over this job must start over from the beginning and the organisation will lose time and money. The challenge of the high turnover of the workforce stemming from the increase in people switching jobs more often was described in one interview as a relatively new problem. A few years ago, people stayed within the organisation until retirement. The knowledge stayed in the organisation during all that time until that person's retirement. Because of this, the organisation did not develop structured ways of maintaining knowledge. Due to the rapid growth of the organisations, they are in need of developing tools to support this change and one organisation is beginning to develop such tools. In order to manage this in the short term, that organisation developed a functional structure. This process has been difficult because of the cultural differences among different departments. Smith (2001) emphasises that there is a large risk when experienced people leave the organisation that important knowledge will be lost. But he also highlights that it is not only when a person leaves the organisation that knowledge can be lost. It can also be lost from a department when employees who remain within the organisation are relocated into new positions. In these situations, it is specifically tacit knowledge that will be lost (Smith, 2001)

5.5 Opportunity for knowledge development

It is emphasised that one organisation has on-going knowledge development strategies for all employees that they conduct once a year where they try to encourage their employees to acquire some different specialist skills. The special skills are distributed in the organization so all staff are not experts in the same field so they can share their specialised knowledge geographically. The interviews revealed that this was received differently depending on the individual. Some employees saw it as a development opportunity and a way to build their knowledge base. In contrast, in some cases more senior people felt satisfied and were not susceptible to acquiring new knowledge. In contrast, it was stated from one interview that there is no formalised process for building knowledge. It was emphasised that knowledge is acquired individually and therefore social interactions with people with similar job task were performed.

5.6 IT tools and documentation management

During one of the interviews, it was found that documents are handled and stored in both binders and computers. Furthermore, it was stated that none of these were

complete. It is thought that the computer is a very good tool but can also have a negative effect in some cases. It is easy to rely too much on technology, and if some documents are placed in the binder's etc., mistakes can easily be made. In this area, the organisations are not one entirely determined. For each project, there are websites that handle various documents. The risk is that the handling becomes too extensive and in some cases, it may lead to that documents will not be saved in a particular folder or similar. From the literature, it can be aligned to the explanation of document management as a comprehensive system that manages the lifecycle of a document (Chaffey and Wood, 2005). In contrast from another interview, it is explained that the current situation is about finding the right tool. It is clarified that there exist several different tools presently within the organisations. New tools are implemented relatively often and one adapts accordingly. It is important to find the right documentation tool for the organisation in order to gain as much value as possible. But it is emphasised in the literature that "The support by information technology tools has proven to be a necessary but not sufficient factor for the quality of project knowledge management" (Hanisch et al., 2009, p. 154). Hence, information is stored in various places. It becomes very disorganised when the organisation has different tools for storing documents and it makes it difficult to navigate correctly among all the different tools. It was stated in one interview that it would be beneficial to have a consistent tool that works in the long run. Currently, the organisation has a project system to manage project document but there is older information on other different modules that have been stored there historically. It is revealed that it is a great variety on how to approach this in the organisation. It has been proven in previous studies that the volume can easily be large and have a huge variety and poor document management can increase ineffectiveness due to that employees waste several hours in order to find needed information (Uriarte Jr., 2008). To manage project documents, there is no specific system that everyone uses to enter information. When the organisation works in a project, there are various project portals that are used. From one interview, it was argued that it depended on the project and the people that were involved. There are several tools that are used in different projects and it up to each one to determine which should be used. The persons chose the tool that they have experience from and are comfortable with. To conclude, each of the project members works with their own tools thereby creating a wide range of tools.

From another interview, it appeared that there is no requirement how to document. Most of the document is stored in each individual own computer. Which will be complicated if someone else is in need of a certain document. Likewise, it is not a good approach if a person will take over someone's work tasks. Without access to that computer, the new employee would have to start over from the beginning. This contributes to a lot of employees possessing too much materials by themselves which may have devastating consequences if something were to happen to that individual. The employees need help in determining what should be stored in a common document repository in order to ensure that right knowledge is shared. As stated in the literature, in order to manage a document management system, it must be communicated to all employees what type of knowledge that should be stored and organised within the system (Chaffey and Wood, 2005).

In contrast to this, during another interview, it was stated that they had a document management plan. It was emphasised that they used a project portal for documents in their projects. People within the project would have access to all the documents and

later those who will take over the project after will be invited in order to proceed with the project. It did not appear during the interview whether this was for that specific project or for the entire organization. Well-performed document management systems like this can be beneficial for the organisation. It is explained in the literature that an organised and systematic approach to managing these documents could both save the organisation money and effort. Good document management can assist the organisation to become more effective (Uriarte Jr., 2008).

5.7 Collaboration among regions

One interviewee described that market research was conducted with other county councils, but this initiative was individually taken. The aim of the investigation was to understand how other organisations have developed their work and how the roles were assigned, and if possible, to identify the best approach and use it in their own organisation. It emerged that there was several similarities as well as some differences. In some cases, the same roles and/or work procedures were named differently in the various county councils. It was stated that the organisation would like to have had more contact with other regions. But the problem was that this took a tremendous amount time to do. This was an activity that the organisations could apply much better. To that end, it appears that there is no systematic process of retrieving knowledge from other projects and regions. Collaboration, conversation, and exchange with other county councils exist to some extent. Also, meetings within the department take place between project managers, but this is an area that can be much better. Even these processes are not formalised and take place on a more informal basis.

Several interviews showed that collaboration between project and county councils is something, which most want to develop and make more use of. In that case, a project can take help from recently executed similar projects. In order to collect and share knowledge with other regions, study visits could be used. In such situations, the involved participants would discuss old and upcoming projects. How to store knowledge and lessons learned from executed projects had not been developed. It was explained that they sometimes performed meetings for experience feedback. This observation can be explained through APM body of knowledge (2012), in order to gather experience, communication with other project managers and performing a research regarding similar projects can be used. It was argued that a digital system that facilitated collaboration among county councils would be beneficial. It can then be easier to learn from each other. Another interviewee stated that a database could be interesting with old projects, emphasising that it would make it easier to benchmark with other regions.

5.8 Teamwork

During one interview, it appeared that the project had developed a working group and that all involved had been gathered. This was something that was conducive to knowledge development; as soon someone had a question it was easy to approach the responsible in regarding area because everyone was located in the same room. People were invited to work within a context where you are not normally responsible. They were therefore able to get insights into their colleagues' work. There were many people from different areas that gather and discuss common interests, problems and solutions. However, during the interview, it emerged that this is not formalised or systematised process. The process was developed on its own initiative. The process is also not documented and it was stated that this process is presumably quite unique.

5.9 Knowledge among diverse geographical teams

It is challenging to share knowledge among different geographical teams. In the past, the groups had been quite autonomous and solved tasks in different ways. But the organisation is working hard to make sure that the different teams work more alike. The organisation works to reduce the cultural differences as well as to increase the knowledge exchange among the geographical teams. They had established 'development teams' where these groups could meet and discuss. But there was no systematic system for this approach in the organisation. This was built on an individual's own initiative, i.e. that they had to sit down together. This approach was for the most part appreciated. In contrast to this, there were some workers with extensive experience that had developed their own way of approaching tasks. This could create a rift when changes occur and there could be some pride involved as well. Culture is mentioned in the literature as one of the main activities for efficient knowledge sharing. Once an organisation has a supportive culture, it needs to inspire its employees to constantly share their knowledge (Wah, 1999). In order to succeed with knowledge sharing, it's important to encourage employees to remove the old school thinking that people are being measured by what knowledge they possess. That way of thinking only leads to knowledge hoarding and does not facilitate knowledge transfer (Issa and Haddad, 2008).

5.10 Informal and formal networks

It is concluded from several interviews that the respondents or colleagues within the organisations participate in various network meetings. Such events gave the possibility to investigate and discuss how others are performing similar tasks. But this is up to each individual to take part in. These activities can be aligned with communities of practice in the literature. According to Boh (2007), a community of practice consists of individuals that are brought together that share similar interests or are in a similar practice. Furthermore, people within a community of practice find value with their interactions but do not necessarily work together every day. Generally, they share insights and information as well as give each other advice. Moreover, as members spend time within these communities they typically discuss their ambitions, their situations, and their needs. Problem solving is a core activity. Finally, they explore ideas and discuss common issues (Wenger et al., 2002).

In contrast, it was stated from one interview that there is no formalised process for building knowledge. It was emphasised that knowledge was acquired individually and therefore social interactions with people with similar job task was performed. It is highlighted that these networks are really important even though they are informal because formal networks do not exist. Furthermore, during one interview it emerged that there was no formal network for corresponding roles in other county councils. There were however specific days in the year during which the interviewee participated in networking events. Hence, more recently it has become possible for individuals in that organisation to discuss similar thoughts. More recently, activities for promoting and taking part in knowledge sharing have improved.

6 Conclusion

The aim of the study was to investigate how Swedish county councils preserve knowledge and manage knowledge sharing within their organisation. The study examines how these organisations cope with transferring knowledge among new recruits and employees as well as cope with project knowledge.

To ensure knowledge in the recruitment of new candidates, it is required that the new employees match the job profile with a corresponding education and where experience from similar jobs is an advantage. In order to transfer knowledge in the organisation, they work in teams, offers mentorships and sometimes trainees. Knowledge is then available among the organisations members at different levels and it is possible to interact with others. Teamwork is based on diversity and the organisation wants to develop trust and collaboration among peer employees. Introductory activities are usually found in the organisations but the procedures are often neglected due to lack of time or do in some cases not exist. Knowledge sharing is primarily conducted through face-to-face interactions. It occurs through workgroups, networks, ad hoc conversations in the hallway and so on. Codification is used with templates, checklists, and guidelines. The knowledge is mostly managed through people rather than technology tools. There is no common knowledge network that provides help to the employee's different projects. From this, it is clear that the approach of knowledge management is further towards a personalisation strategy, since, personalisation prevails over codification. The organisations are using more procedures to create knowledge instead of reuse. In many cases, the organisation must use its personal knowledge to deal with the customer's needs. The organisation is working in a highly dynamic market. Every project is stated to be unique and the customers most often want to create something that has not been executed in the past. Furthermore, the generation change poses a common challenge. This is something that the organisations are aware of. Several challenges are associated with this. Lack of people with right competencies is in some cases a problem that leads to more inexperienced being employed which makes it more important for knowledge management in the initiation phase. It could be concluded that knowledge leaves the organisation with employees who are leaving, as well as, external consultants. It was highlighted that there is a lack of procedures to cope with this problem. Often employees' possess valuable information and knowledge that is individually stored. This needs to be codified in order to not lose valuable knowledge in connection with an employee leaving. Furthermore, today, people are changing jobs significantly more often. Therefore, the organisation loses a lot of knowledge and subsequently take in more inexperienced people. Although the organisation in some cases has a solid introductory program and the like, the pressure from the market is often too high. The organisation has no time to handle these structured procedures. A new employee does not get the intended introduction before the work. As soon as they get hired they often go straight into projects. There is no time for introduction and this is something that is often neglected. Moreover, it was revealed, that for the most part, there were no explicit documentation plans available. Also, available tools were based on each person's preferences and on individual projects. Collaboration with other regions exists to some extent, but this is seen as an area with great development potential. Moreover, there were no systematic process or standard to transfer knowledge between projects and informal networks seem to be remarkably valuable for knowledge sharing. Finally, a project knowledge database is something that is missing and is considered as a valuable tool.

7 Recommendations and further research

Recommendations

Lessons learned

The first recommendation is to capture lessons-learned at the end of a project. Lessons learned constitute a great aid that one can use throughout a project. A project could determine if they have a positive or a negative outcome. This can be valuable information in the future. Either a new project can use a similar approach and therefore do not need to recreate the wheel again or they can refrain from taking a specific approach and thereby avoid spending more resources on a failing approach. Such activity can, for example, affect time and cost. In order to get the best result from this, it is essential to document throughout the entire project. In the end of a project, there needs to be a review of the documentation and a development of a lessons-learned document. This document should be easy to access for all county councils in a centralised system. New projects can take advantage of this knowledge and possibly benefit from it.

Knowledge repository and knowledge sharing system

Another recommendation is to implement a knowledge repository and a knowledge sharing system. This should help the organisation to organise their knowledge. The knowledge should be easily shareable and accessible among all employees.

Unified document management plan

Since it was emphasised that documents are stored at different portals and therefore valuable information can be lost, a unified document management plan is another recommendation. It must be clarified how valuable it is to document throughout the entire working procedure, what to document, and where to store it. It is important that every employee has easy access. It must be clearly stated how, where, and what to document. An advantage may be that all regions have a common system, which makes it easier to collaborate. Well-structured and comprehensive handling of documents and knowledge reduces dependence on personal knowledge.

Collaboration with other regions

The final recommendation is to more widely collaborate with other regions. Since no competitiveness is present within the public sector, all regions can learn through knowledge sharing and collaboration between different county councils. This is an opportunity that the regions should take advantage of and make more use of. Increased collaboration would benefit the organisations and they would possibly become more efficient as well as save resources. Finally, it is vital to create a culture that supports knowledge sharing.

Further research

Recommendations for further study are to continue to explore the topic with a comprehensive survey in as many county councils as possible. The survey can be based on the results presented in the report. Furthermore, one might investigate if a centralised project management office may be useful in this situation and possibly stand as an effective solution.

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