Preparing the public sector for the future: The critical link between succession planning and knowledge management

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Executive summary

This report provides an analysis and evaluation of a municipality´s dealing with the aspects of knowledge management and succession planning against the background of demographic developments and the increased relevance of knowledge. The study was conducted in the municipality of Skövde. Results of data analyzed show that the municipality is not ready for the demographic challenges ahead. So far the municipality seems to follow a sporadic / ad hoc approach rather than a strategic and planned one when addressing the issue of succession planning. Indeed the findings suggest that a muddling through approach prevails and the implementation of measures depends very much on the persons in charge of the respective departments.

This situation is surprising and can be assessed as negligent against the background of the municipality´s average age of staff. Several participants are aware of this unsatisfactory situation; however, given the decentralized structure of the municipality´s departments this awareness has apparently not reached the municipality´s top management with this degree of clarity. The missing implementation of a holistic human resource strategy, of which succession planning must be a critical part, represents the major area of weakness and requires further investigation and remedial action by the management. Recommendations discussed include:

- implementation of a centralized and holistic human resource strategy
- inclusion of knowledge retention as critical part of the succession planning
- existence and application of proper measures to identify critical knowledge to be retained
- awareness of critical knowledge in each department of the municipality in order to keep the ability to act and having access to measures that allow the continuous monitoring of the knowledge at risk

The report also investigates the fact that the analysis conducted has limitations. Some of the limitations include:
data from non-executive personnel are not included and no longitudinal data material concerning the topic under investigation is presented in the study.

Contents

Introduction

Purpose of report

This report presents the results of a study that aimed at gaining a better understanding of how municipalities respectively their actors cope with the aspects of knowledge management and succession planning against the background of demographic developments and the increased relevance of knowledge. According to this aim, the following central research question was formulated: How do the individuals in charge manage the danger of knowledge attrition due to demographic developments? In addition to this central research question, the following sub-questions were posed: Is the risk of knowledge attrition already in the minds of the individuals in charge? Are the individuals in charge aware of the danger of knowledge attrition caused by exiting staff? How does succession planning take place in the municipality? The study was conducted in the municipality of Skövde.

Significance and relevance for Swedish communities

Against the background of knowledge as an ever more important strategic resource in the current business environment and the demographic developments, which will soon lead to a shortage of expertise respectively knowledge, the issue of succession planning calls for more careful consideration. Indeed voluntary turnovers through retirement can lead to serious damages of a municipality´s knowledge stock and therefore its capacity to act. Consequently it is important to proactively reduce the danger of knowledge attrition, particularly in those sectors that are highly dependent on expert knowledge. The outcomes of this study offer Swedish municipalities practical insights and ways of how to cope with this challenge. Forward looking municipalities that manage and distribute their knowledge stock actively are those that can most successful retain their critical knowledge. The study´s main findings are summarized in recommendations which are expected to contribute positively to the public sector. The acquired knowledge from the project should also be of relevance for Kommuninvest as it can provide the necessary basis of policy formulation.

Theoretical background

Background to the study

The aging workforce will soon lead to a number of retirements in government organizations that cannot be compensated for by the smaller number of succeeding individuals / labour (Liebowitz,

2004; Aiman-Smith et al., 2006). Even though the aging workforce means a challenge to every organization, it seems that this matter affects particularly the public sector workforces (Liebowitz, 2004; OECD, 2007). According to figures provided by the OECD, the proportion of workers above 50, at national / federal government level, is at 40% in Sweden.

Knowledge, on the other hand, is nowadays viewed as the key strategic resource needed to stay competitive and develop (Spender, 1996). Consequently, all organizations, regardless if belonging to the private or public sector, need to identify and implement systematic approaches to cope with the demographic challenge and its possible internal and external consequences with respect to the organizations´ capability to take actions and survivability (Delong, 2004). A systematic approach fosters a critical engagement with the challenge ahead which makes possible better decisions while saving costs and time. Therefore it is time to take a proactive approach to company knowledge (Von Krogh et al., 2004). These activities should primarily address knowledge retention and knowledge transfer to reduce the danger of knowledge attrition; the aspects of succession planning and knowledge management are thus of prime importance. If organizations fail to address this challenge, their organizational productivity is particularly at risk in situations when critical staff is leaving which typically does not allow for an immediate replacement (Hall, 1992). Moreover, the exit of long-term and experienced organization members cannot be mastered without certain disruptions (Parise et al., 2006). It is common in organizations that other staff members take the place of a departed employee in addition to their own workload, or the position remains vacant. Additionally, the organization's knowledge base is likely to suffer from knowledge attrition, particularly its human capital and relational (social) capital, as the critical tacit knowledge is mainly in the minds of the leaving organisation members (Droege & Hoobler, 2003). The relational capital is most difficult to transfer as it is besides a professional dimension often based on a personal dimension as well (Massingham, 2008). In addition, it is rather questionable if the latter is possible to transfer, so organisations need to identify and implement suitable approaches to retain this critical resource to have access to it even after the individual has left the organisation. Replacements are further hampered by inflexible, slow personnel systems (Kochanowski, 2011), and inadequate or even missing succession planning (Brunold & Durst, 2012) making the aging workforce challenge even worse. On a societal level, every citizen will feel an inadequate treatment of aging challenge (Kochanowski, 2011). Consequently, Frigo´s (2006) call for the development and implementation of integrated knowledge retention strategies as a key measure to address the challenges at hand is not only timely but crucial as well. Whereas Honkanson et al. (2011) rightly spot that the actions should not be limited to management positions, but need to consider all business levels.

This brief discussion clearly illustrates the close ties between knowledge management and succession planning, and the importance of having suitable measures and strategies in place to address the challenge of voluntary turnover (e.g. retirement). Both topics have been studied extensively. However, in combination this is seldom the case and if mainly private organizations are addressed, the public sector has seldom been studied (Syed-Ikhsan & Rowland, 2004). In the context of knowledge management, specifically the issue of knowledge retention represents an under-researched field of study (Hislop, 2005; Schmitt et al., 2011). Against the demographic developments, this situation can be assessed as unsatisfactory. And it is more than just dealing with retirements. At the other end, a younger and other type of individual is joining organizations equipped with a different set of skills and expectations which require new approaches to recruiting and employee retention (Delong, 2004). Moreover, the number of these following individuals is smaller compared to those retiring (Aiman-Smith et al., 2006) therefore putting additional pressure on any type of organization.

Therefore the study aimed at gaining a better understanding of how municipalities respectively their actors cope with the aspects of knowledge management and succession planning against the background of demographic developments and the increased relevance of knowledge.

The Public Sector

Aging workforce in the public sector is a challenge many developed countries are exposed to. This challenge is amplified by more competitive recruiting and faster turnover among younger employees (De Long & Davenport, 2003), and the situation that public sector organizations tend to have a larger number of older employees compared to private organizations (Armstrong-Stassen & Templer, 2005). This underlines the relevance of having proactive approaches to human capital strategies (Liebowitz, 2004). Studies indicate that in those organizations there are high levels of concern with regard to the cost of staff turnover, particularly management and leadership turnover (Peet, 2012). However, even though the challenges are known, organizations hesitate to implement measures to address them (Rappaport et al., 2003; Armstrong-Sassen & Templer, 2005). With regard to knowledge management, however, some promising news can be reported, as it appears that the public sector too had recognized its benefits and has therefore started with the implementation of knowledge management practices (Luen & Al-Hawamdeh, 2001). Indeed, Liebowitz (2004) stresses that knowledge management should be one of the key pillars of any organization´s human capital strategy. Considering the situation that the public sector operates in a less competitive environment compared to private

organizations (Kaplan, 2013), knowledge management initiatives, which require a long-term perspective, might be more successful.

In the following some findings as to how the public sectors in different countries deal with an aging workforce are presented.

Australia

The Australian public sector has implemented a number of initiatives to cope with the aging workforce, as forecasts, for instance, for New South Wales Land showed that more than 30 % of employees will retire by 2013 (Dumay & Rooney, 2011). The main lessons learned were that it is important not only to determine the knowledge that needs to be retained but also the new knowledge that will be required in order to address future challenges. Additionally, the study underlined the importance of keeping some level of practical experience as a means of addressing the gap between tacit and explicit knowledge. In another study conducted by McCarthy (2005), the aging workforce and the skill set needed by current and future library staff was studied.

U.S.

In 2008, the Federal Office of Personnel Management had projected that almost 4% of the Federal civilian workforce would retire each year for the next 10 years. Even though 25% of these workers were predicted to work past retirement age, a large gap in suitable workers is presented (Kochanowski, 2011). Besides retirement, knowledge attrition in the U.S. public sector has further been amplified by efforts to reduce the size of government. As a consequence many positions left unfilled, jobs were cut due to outsourcing or privatization and investments on training and development were lowered (Kochanowski, 2011). At the same time, job profiles of government positions have changed and are requiring workers with new sets of skills, expertise and education compared to the past. Yet, workers in the U. S. private sector can earn more than in similar government positions reducing the pool of potential applicants (Kochanowski, 2011).

Having a more flexible workforce is proposed as one means to address the challenges of demographic trends. In this context, Liebowitz (2004) highlights the role retirees could play. Following Handy who suggested three types of organizational workers new governments / corporations need (i.e. a core group of managers and skilled workers who lead the organization and provide its stability and continuity; key external resources – individuals and organizations who related to the organization on a contractual or outsourcing basis; and a project-based employee pool – people loosely connected to the organization on a job-by-job basis), Liebowitz

argues that retirees can contribute to each of these types, especially to the second-last and the last one (pp. 424-425).

Canada

Armstrong-Stassen and Templer (2005) studied training and development practices intended to address managerial and professional employees aged 50 and over in private and public organizations from Canada. They found a kind of knowledge-doing gap (Pfeffer & Sutton, 2000) between the practices considered as important and the actual engagement of the organizations in these practices. As main reason the missing employee interest was identified. Based on their findings the authors concluded that Canadian organizations were not well prepared to meet the aging workforce challenge.

Malaysia

Syed-Ikhsan and Rowland (2004) studied the relationship between organizational elements and the performance of knowledge transfer in the Ministry of Entrepreneur Development of Malaysia. The authors showed the relevance of a variety of different organizational elements (such as organizational structure, organizational culture, technology, and people) on either the creation of knowledge assets or the knowledge transfer performance. With regard to the public sector, the study also highlighted the importance of considering political directives (i.e. political influences) with knowledge management activities.

Knowledge retention

Knowledge retention "deals with cases where expert knowledge workers leave organizations after long periods of time" (Levy, 2011, p. 582). According to Martins and Meyer (2012), knowledge retention can be defined as "maintaining, not losing, knowledge that exists in the minds of people (tacit, not easily documented) and knowing (experiential action manifesting in behavior) that is vital to the organization´s overall functioning" (p. 80). In contrast to knowledge management solutions, knowledge retention takes place in a limited period of time and addresses the challenge of transforming an "expert´s most valuable knowledge" to an organizational asset (Levy, 2011, p. 583). This situation creates a huge challenge as the reduced time available complicates knowledge retention even more (Lahaie, 2005). This also emphasizes the need for setting clear priorities (Jackson, 2010).

Critical Knowledge

Knowledge can be explicated differently. For example, the distinction between explicit knowledge and tacit knowledge can be discussed (Nonaka & Takeuchi, 1995). Explicit knowledge consists of the means by which information is made physical, identifiable, and transferable. Tacit knowledge, on the other hand, "refers to the real-time, often subconscious, cognitive, or other processes that is utilized and taken for granted" (Tollington, 2002, p. 10). Previous experiences are combined with these processes to make a decision go forward. Tacit and explicit knowledge should be viewed as "mutually dependent and reinforcing qualities of knowledge" (Alavi & Leidner, 2001, p. 112). Kogut and Zander (1992) divide knowledge into information and know-how. According to these authors, "information implies knowing what something means", whereas know-how is "a description of knowing how to do something" (p. 386).

However, not all knowledge is critical to organizations. Additionally, knowledge that has been relevant in the past may become obsolete over time or it has simply been forgotten because of time elapses (Tan et al., 2006). Therefore, knowledge is in a constant state of change and should be continuously updated. Consequently, critical knowledge is that knowledge which is most at risk of being lost (Frigo, 2006). Lost knowledge can occur at individual, group, or organizational levels, have either anticipated or unanticipated effects, have tangible or intangible impacts and create immediate or delayed costs (DeLong, 2004). DeLong further specifies five ways as to how lost knowledge can undermine organizational strategies:

- Reduced capacity to innovate;
- Ability to pursue growth strategies threatened;
- Reduced efficiency undermines low-cost strategies;
- Losing knowledge can give competitors an advantage;
- Losing specific knowledge at the wrong time increases vulnerability.

Identification of critical knowledge

As not all knowledge is critical to organizations, initial activities should strive for the determination of critical knowledge that is most at risk of being lost (De Long & Davenport, 2003). Or as Delong (2004) puts it "lost knowledge means the decreased capacity for effective action or decision making in a specific organizational context" (p. 21). According to this author, "the capacity for action" represents an organization´s valuable asset and not the access to information. Critical knowledge is more complex, abstract, and context dependent, so the knowledge to be retained is implicit or tacit (Delong, 2004). In the same vein, Parise et al. (2006)

underline that the aspect of knowledge loss is not only about losing a specific expertise but about losing a group´s collective capacity to get things done as well.

The identification of critical knowledge or its visualization forms the critical basis for later activities as without knowledge retention will not be possible. Developing a knowledge map can support the process of knowledge identification. These maps locate important knowledge in organizations and provide information where to find it (Davenport & Prusak, 1998). One approach, for example, is based on four questions: 1) Is the expert who is leaving both willing and capable of sharing his or her knowledge? 2) Is the employee leaving the company entirely or just moving to another part of the organization? 3) When is the employee leaving?, and 4) Is a successor already in place?

Massingham (2008) proposed a conceptual framework that measures the impact of knowledge loss on surviving employees. The framework highlights knowledge loss impacts in the areas of human capital, relational capital, structural capital and social capital. Thus it provides in depth insights into the areas that will be affected because of exiting employees.

Durst and Wilhelm (2013) developed a tool intended to provide better insights into knowledge concentration with certain individuals or in departments. In order to do so, an overall "knowledge at risk"-scale will be calculated. This scale represents the sum of four dimensions respectively values: Human capital, structural capital, relational capital and social capital. At the end the instrument provides a report displaying the overall result ("the knowledge at risk"-score) and the results for each of the four dimensions.

Transferring and retaining critical knowledge

When it comes to the issue of knowledge loss, most firms do not have a systematic approach and the approaches used are few, ad hoc and reactive (Daghfous et al., 2013). In addition, despite the apparent meaning of employees (including managers) to organizations, it is still observable that workforce is considered as easily replaceable (Geisler, 2007). Considering the demographic challenges ahead this proceeding is rather dangerous and organizations are requested to change their approach at short-notice. The retention of critical knowledge, however, first requires a transfer. According to Argote and Ingram (2000), knowledge transfer in organizations "is the process through which one unit (e.g., group, department, or division) is affected by the experience of another" (p. 151).

Regardless of the type of knowledge being transferred or retained, the solutions chosen should be a combination of human and technical solutions (Frigo, 2006). As a mere focus, for example,

on technical solutions will not work, as most useful knowledge cannot be captured in a computer system. Brown and Duguid (1998) assert "the demands for formality demanded by technologies can disrupt more productive informal relations" (p. 105). Therefore, these authors call for more support of the informal instead of just relying on communication technologies.

Delong (2004) however stresses that the good thing with any introduced initiatives may be that the costs of losing critical knowledge become more visible therefore increases the significance of knowledge retention.

Succession planning

Succession is an event that sooner or later confronts all organizations regardless of their size (Dyck et al., 2002). According to Sambrook (2005, p. 580), succession planning refers to the "attempt to plan for the right number and quality of managers and key-skilled employees to cover retirements, death, serious illness or promotion, and any new positions which may be created in future organisation plans". Activities such as selection, development and training of the follow-up as well as activities by the predecessor such as documentation and induction of the successor can be assigned to this process. Succession planning is believed to help affected organizations to address this challenge (Pynes, 2004), as it can provide relevant information about needed knowledge and capabilities. Therefore, succession planning is viewed as an important way to address retirement and its consequences (McQuade et al., 2007).

Succession planning represents a topic that is frequently studied in the private sector (e.g. Sharma et al., 1997; Cabrera-Suárez et al., 2001; De Massis et al., 2008), yet this is not the case in the public sector (Kochanowski, 2011; Frerichs et al., 2012). In the U.S., the financial crisis and its aftermath have contributed to a situation where even the small number of governmental agencies has terminated their plans into more just-in-time processes giving succession planning a very low priority (Kochanowski, 2011).

The link between knowledge management and succession planning

As company succession is viewed as an event for substantive changes in organizations (Virany et al., 1992), the loss of knowledge is a likely consequence of these changes (Treleaven & Sykes, 2005). Therefore, there is need for approaches that actively address this danger.

In the case of succession, the transfer of knowledge represents a critical aspect in view of an organization's continuity (Cabrera-Suárez et al., 2001), as the knowledge of the managers and

some key employees may be the source of an organization's competitive advantage (Barney, 1991). These individuals take with them a "substantial volume of tacit knowledge, operational heuristics, stores and organizational history" (Jackson, 2010, p. 908). The departure of anyone of them could therefore result in a lack of essential know-how important for organizational success and development. This in turn means that besides the financial capital the stock of human capital and relational capital of such an organization will be at risk (Jääskeläinen, 2007). That is the loss of a valuable organization member result in both financial loss and non-financial loss. Consequently, succession planning in order to be successful needs to take a holistic approach. This means that it should not be limited to focussing on the identification and selection of suitable successors but on the transfer of critical knowledge as well. Previous studies have shown (e.g. Brunold & Durst, 2012) that the danger of reinventing the wheel is rather high which can lead to a decreased motivation among the persons concerned.

Given the demographic development organizations are forced to have a proactive approach towards succession planning.

Research method

Given the nature of the research aim set, a case study approach was regarded suitable. A case study is a research strategy which focuses on understanding the dynamics present within single settings (Yin, 2009). Through the mix of data sources, the researcher gains a deeper and clearer understanding of the setting being studied (Taylor & Bogdan, 1998). This approach increases the validity and reliability of the study (Saunders et al., 2007).

The case selected for the proposed study was the municipality of Skövde which is located in Skaraborg (Västergötland, Sweden) and has a population of approximately 52.000 inhabitants. Skövde is situated about 150 km northeast of Gothenburg, between Sweden's two largest lakes: Vänern and Vättern. The municipality consists of the following bodies: City Council, the municipal and boards and administrations. The City Council is the municipality's highest governing body and is elected by the citizens every four years. The council makes decisions on matters related to municipal structure, economy and overall plans. The Municipal directs and coordinates the management of local affairs and oversees other committees' activities. As regards the boards and administrations, the municipality is divided into different areas of operation. Each activity is led by a board consisting of politicians. Subordinate Board is also installed with staff responsible for the operation of the business (www.skovde.se).

Access to Skövde municipality was established through a private contact of the researcher. Ten individuals were involved in the study. These organisation members represented executive staff of the municipality from different areas of operation. Data collection occurred through semi-structured interviews. This type of interview is appropriate when the planned study comprises an exploratory element (Saunders et al., 2009). Although this type of interview is flexible regarding the order of questions - providing the opportunity to explore aspects in greater depth - the discussion is centered upon the research topic which is introduced by the interviewer (Mayring, 1990).

Additionally, an expert interview was conducted with a Professor of Hong Kong Polytechnic University. This expert has several years of experience in the field of knowledge management in general and knowledge transfer and knowledge retention in particular.

The interview process regarding the informants from the municipality was supported by an interview guide consisting of four parts. The questions were a mix of closed-ended and open-ended questions. The latter were used to include an exploratory character. The questions were derived from prior research that looked into the fields of investigation (e.g. Armstrong-Stassen & Templer, 2005; Levy, 2011; McQuade et al., 2007; Parise, 2007). The interview guide was tested on an individual familiar with the topic knowledge management. This course of action led to some amendments to the wording of the questions. The final interview guide focused upon the following points: general facts about the informant and the department he or she represented, the type of knowledge relevant to the department, succession planning and recruitment in the department.

The interviews were conducted in Swedish in December 2013 and February 2014, took place in the interviewees' work environment, were recorded and lasted up to 60 minutes. The recordings were transcribed shortly after the interviews and translated into English. Note-taking during and after the interviews was used as a means to record thoughts and seemingly important aspects related to the phenomena under investigation.

An interview guide also supported the expert interview. The interview questions were designed around the preparation of the public sector for the future, taking the aging workforce as leading theme. The expert interview was conducted online on 3rd February 2014, was recorded and later transcribed as well.

Ongoing data analysis involved reading the transcripts several times to become familiar with the data. In addition, this reading of manuscripts helped to identify specific patterns of each transcript. A database was created which contained all transcripts and which supported cross-case analysis (Eisenhardt, 1989). This was being conducted by the researcher. The researcher

then shared and discussed the findings with a neutral person in order to have an outside perspective included and to reduce the danger of latent normative thinking (Kuckartz et al., 2007). These discussions led to the identification of patterns which were then categorised into themes, with supporting quotes from the interviewees. Overall data analysis was driven by the research questions.

The characteristics of all interviewees are summarized in Table 1.

Interviewee	Position	Date of Interview
1	Head of personnel	2013-12-05
2	City manager	2013-12-06
3	Technical manager	2013-12-11
4	Leisure manager	2014-02-13
5	Member of the municipal council	2014-03-14
6	Nursing and social services manager	2014-02-17
7	Head of building department	2014-02-17
8	IT manager	2014-02-19
9	Head of school department	2014-02-19
10	Head of economic department	2014-02-21

Table 1. Demographic characteristics of the participants

Presentation and discussion of findings

General information about the Municipality of Skövde

Average age of staff

Regarding the average age the participants reported a range between 40 and 50 (more to 50). This indicates that in several departments, succession planning should be a topic of interest and a proactive approach to succession planning should also be in place.

Average employee tenure

The municipality is characterized by slow turnover; the length of service varies from 8-30 years. On that matter, one interviewee talked about "*forever*". Having this situation definitely increases the opportunity of building up internal successors for leaving staff. However, this situation also means that the municipality as a whole and its staff grow old together and therefore increases the danger that possible needed changes (i.e. introduction of suitable knowledge retention measures or succession planning involving external recruiting as well) are not seen or underestimated. Consequently, a kind of organizational inertia may prevail (Hannan & Freeman, 1984).

Relevance of the topic of succession in the department as to date

The participants were asked to assess the relevance of the topic of succession in the department as to date on a scale from very relevant (1) to not all relevant (7). Only one interviewee assessed the topic as "relevant". Most of the interviewees chose the middle position (4). One interviewee assessed it as "not at all relevant". This finding is surprising given the age and the tenure found in the organization.

Existence of replacement regulations

As succession planning applies to any organization, the organizations, specifically the larger they are, are expected to have installed certain replacement regulations as part of their human capital strategy. In the given case, only three of the respondents reported that there are replacement regulations in their respective departments. One reason for this situation was given by one Interviewee who said they had not thought about that before. This suggests that to date the municipality is not really concerned about staff leaving and knowledge attrition / loss. One possible explanation might be that they have not experienced any serious drawbacks. Or those replacement regulations are mainly being associated with executive staff and given the long tenure are not considered as something that needs an institutionalized approach. One interviewee calls for more measures regarding replacement activities, however, underlines that a new attitude is required and wanted.

General perception of aging workforce issue

The aging workforce is considered one of the main challenges organizations will have to deal with in the future. Therefore the interviewees were asked how they stand on that matter and what are possible implications of the aging workforce for municipalities such as Skövde? Implications can be expected both on the organizational level (Interviewees 2, 5, 7 & 9) and on the people level (Interviewees 3 & 4). More precisely, the loss of competences (Interviewees 7, 9 & 10) was mentioned. This loss can show itself as a loss of historical knowledge (Interviewee 10), an approach to profession (Interviewee 9), or a specific knowledge (Interviewee 7). The municipality may experience more and more difficulties in recruiting staff (Interviewees 5, 7 & 2 (in future)). Also a (time) gap between the knowledge of the retirees and the knowledge university graduates has been determined. This gap refers to the situation that any organization has to deal with expertise differences which are mainly a consequence of professional experience between the leaving persons and the new ones entering, and which need investments in time before they can be reduced. Additionally, the situation was mentioned that Skövde is more a remote location which establishes another challenge when trying to keep promising individuals in the region.

With regard to the question of any positive and negative experiences towards the issue of an aging workforce, one interviewee declared that they "*keep control of developments*", whereas another one noticed that younger staff lacks important methods for teaching (e.g. how to read).

Additionally, the interviewees were asked if there were any lessons learned from those positive and negative experiences. One interviewee reported that she got a better understanding of how to handle retirements in different positions. Another interviewee mentioned, with regard to the missing skills, that they are trying to lift up the following employees´ knowledge. It appears that this interviewee addresses the difference between specialist applied skills (demanded by organizations) and general (basic) skills (provided by universities). It was also highlighted the need for alternative approaches when training new staff to become operational and familiar with the new activity: "*...work in a different way for the younger employees and more inexperienced entering. My experience is that they are really good, but you have to handle it in a completely different way.*" This statement underlines the challenge organizations or their human capital strategy in particular is facing. In order to deal with this situation, organizations need to fall back on suitable staff that understands the differences between new employees, particularly younger ones, and is also able to address these differences accordingly. The evidence given concerning age of staff and tenure suggests that the municipality faces a major challenge.

Types of knowledge relevant to the municipality respective its departments

In this part of the interview the interviewees were asked to name the knowledge that is relevant in the department they represented. The findings showed that knowledge was equated with skills and competences. Thereby a distinction between general skills and specific skills was established. As general (basic) skills, skills and competences were quoted that are found with certain professions, e.g. lawyers, economists, community planners, controllers, urban issues, (landscape) architects, physical planner, engineers and technicians (Interviewees 1, 2, 3 & 7). Here skills and competences are addressed that are taught at universities. The specific skills which were identified were manager skills (Interviewee 2), leader skills (Interviewee 3), market and industry knowledge, entrepreneurial skills and an understanding of how young people work (Interviewee 4), understanding of a municipality´s mission (Interviewee 5), specialized expertise in home healthcare (Interviewee 6), business and marketing thinking (Interviewee 10), and a capacity of transferring skills (e.g. reading skills) (Interviewee 9). Interviewee 7 mentioned the importance of having an ability to combine the competences of different professions (e.g. that of a government planner and an architect). Alike Interviewee 8 highlighted the relevance of understanding IT and its contribution to efficiency support and improvement combined with an understanding of the municipality and its activities. Both interviewees addressed the crucial

difference between generalists and specialist knowledge and made clear the type of competences organizations need in order to address present and future business challenges. Reflecting on the specific skills and competences quoted also clarifies that these skills are more difficult to develop as they often require long-term practice and experience. Additionally, it stresses the relevance of having a proactive succession planning.

In this context the participants were also asked to assess their awareness towards the skills / knowledge possessed by the departments´ employees on a scale from very unaware (1) to very aware (6). With the exception of one interviewee who assessed his awareness as "unaware", the other interviewees were of the opinion that they are rather aware towards the skills / knowledge available.

Succession planning in the Municipality of Skövde

In line with the research questions the current practice of succession planning was of interest as well. In the face of an aging workforce and skills shortage, one would expect organizations to implement active measures to address the situation. The findings however reflected a picture that suggests that succession planning in public organizations is rather similar to succession planning in private organizations: it tends to be undervalued (Royer et al., 2008). This finding is astonishing as one would assume a different approach in public organizations (specifically in Sweden given the significant relevance of the public sector): The Skövde municipality is legitimated by the tax-payers so a more strategic and long-term approach would have been expected compared to the private sector (i.e. fewer unplanned events, less competitive pressure and no liquidity problems). Additionally it is surprising as governments highlight the significance of succession planning at national as well as European level. Instead the focus seems to be on personnel recruitment which is in line with prior observations (Massingham, 2008). On that matter, one interviewee reported that from 2015 the municipality will have a central function for recruitment. As yet all departments follow their own approaches. The implementation of such a central function is of course promising, but fails to take account of the other side of this process: personnel turnover.

Based on the evidence, and not surprisingly, there is no municipality-wide succession planning, instead each department is solely responsible for succession planning: "*It is bad. It is bad throughout in Skövde. There is no considered strategy or policy on this.*"

The findings suggest a rather unbalanced approach to human resources management (HRM). Against the demographic trends this will put additional pressure on the people in charge as a proper succession planning policy will need some time until it works properly.

The evidence provided reveals that, in some departments, succession planning only starts once an employee has already left the department. According to one interviewee, at this stage "*the first decision to be made will be whether or not the position shall be replaced. If yes, should an employee with the same skills or different skills being employed?*" This statement points to a rather reactive attitude, as it means that for some time the position in question is vacant, which also means that remaining staff has to take additional tasks (Schmitt et al., 2011). On the other hand, using this approach does not make possible an adequate handover (assuming the post will be refilled).

Reasons for the negligence of a proper approach to succession planning are that some departments have not experienced any lack of supply yet, even though awareness seems to be there that this proceeding will no longer work in the future: "*I can say that I think we have not had so much concern but we have been successful in getting the people, so we do not need to work as hard with the question. But, I believe that this issue will become more topical and important in future. We need to become better at this. Have better plans and better strategies to get it right. Then I think that it is completely in time to take a comprehensive approach on it. We are not bad, but we can become very much better.*" Another reason is that succession is not considered as something of current relevance: "*It is nothing we discuss for the moment because our employees are so young"*. Moreover, succession planning is regarded as something that is not possible in the respective department. The interviewee who mentioned this also highlighted that she was new to the job, and therefore at the time of the interview other tasks demanded her attention.

Some promising actions can be reported as well. One interviewee, for example, quoted that in his department they take advantage of job (task) rotation. He regards rotation as important but also highlighted the time needed in order to do so. The aim with these rotations is that the employees will get a broad picture of the department´s operation in order to avoid that only specialists are there who do not understand the other colleagues and their contributions to the department. They try to focus on positions (functions) instead of people as a means of reducing the dependency on a few persons. That is, that two persons should be able to take over the same function. This approach refers to the management as well, that is, management is shared between different persons so that the capacity of action is secured at any time.

One interviewee distinguished between different types of turnover. In her department one tries to train the successor or to bring the successor faster into the position. As to date their focus is primarily on internal replacements. According to this interviewee it had worked fine in the past. At the moment of the interview they were looking for a replacement of an employee who would give birth very soon and who disposed of certain capacities not available in house which meant a

concern to them. Otherwise, they would ask organization members to work a bit beyond their termination of employment in order to have enough time to find a proper successor.

Reliance on skilled staff

As expected all interviewees declared that they rely on skilled staff. (As illustrated above it is easy to make such a statement, having proper measures in place to retain these skills is another story.) Consequently, one may expect that when the answer to this was affirmative the departments would apply certain methods to retain the staff and their skills.

Methods applied to retain critical knowledge

Regarding the methods the interviewees were presented a list of methods: Document repository, incorporating retirees, mentoring and coaching, organizational learning and training, interviews / videotaping, storytelling, communities of practice (Blankenship & Brueck, 2008). Multiple answers were possible as well as the list of additional methods. Mentoring and coaching was most often quoted (9x), followed by organizational learning & training (8x), communities of practice and document repository (5x each), and interviews & videotaping (focus was on interviews) and storytelling (2x each). Incorporating retirees was quoted once (Interviewee 6). One interviewee mentioned that in her area they are making use of work shadowing. No other additional methods were mentioned.

The finding highlights that the organization is making use of huge number of different methods, even though it is not clear that when these methods are applied that the focus is actually on retaining critical knowledge because the perception of "critical" will vary among individuals. The findings did not indicate that the methods applied to retain critical knowledge varied according to the type of knowledge concerned.

As the Hong Kong public sector (Hong Kong police) is concerned, the expert stated that they have started knowledge retention and sharing mechanisms such as the development of communities of practices and the use of storytelling. According to the expert, communities of practices have worked effectively in the Hong Kong police as a means of addressing the issue of aging workforce.

Filtering the knowledge to be retained for future needs

If one assumes that critical knowledge is important for both the present and future ability to act then one may also expect that the individuals in charge try to filter the knowledge to be retained for future needs. The findings provided a mixed picture. Some interviewees confirmed the existence of such thinking. One interviewee declared "*I can say that I can see that there are some things that are success factors that you need to have*". Another interviewee also acknowledged its existence but had the feeling that it is not really relevant in the future. This may indicate the difficulty of locating knowledge that is still relevant even in the future in environments that are

in a constant change. On the other hand, one interviewee said "*we are bad at that.*" Two other interviewees also denied any actions, and one interviewee reported that his department is working on it, but has not reached an ideal approach yet.

Things that will be lost by retiring staff

The interviewees were asked to name things that will be lost by retiring staff. The statements are summarized in Table 2.

Interviewee	Statements
5	*When you build up such a municipality like this one, which is growing, so many people have been very long in leading positions, officials and in politics. They have grown up here; they have knowledge of the city, the history, the people, and how things are working together and how important relationships are and relationships with the industry. We replace more people and we also get senior managers to us who don't actually live in Skövde. Our cultural manager is from Örebro and lives here during the week. There is a concern if you come here and live here only occasionally. If you are not a part of the community you don't have with you this story.*
4	*One important thing in all key roles, it is the network that you build up.*
8	*Maybe the relationships that disappear. Relationships with the departments. Maybe is it that most often takes the longest time to recover. I can feel this with business knowledge and building relationships, it's really a long-term effort.*
6	*When it comes to basic staff in the health section, there are preconditions. It is a challenge ahead, but there's no great loss. It does not affect the organization. What affects the organization is competent and powerful leadership. It's very difficult to find good leaders today.*
10	*What primarily are being lost are contacts and networks, it is very difficult to transfer to another person just like that. It takes quite a long time. So that is the foremost part of what you lose and also confidence. We work a lot with confidence in our processes. We must have it, and this confidence is situated in each person. It is difficult to transfer.*
7	*It is primarily the story. Our projects we have had in the last two years, everything is connected. It is a very important issue. Since it is this understanding of what you're doing. It is probably that.*
9	*Knowledge of how to teach reading. It is this knowledge loss that I see as a big problem. It has to do with time as well. If you think back 20 years, or when I started as a teacher in the 70's - 80's, then you were one with the class. The teachers cared about each pupil, they knew every pupil, if someone had problems etc. It has disappeared a little bit because so many adults are among the group of children. I think this is a skill which is going to disappear when the older teacher are retiring. We were just talking about what we are going to do about groups where we see that there is a problem. Well, insert a confident retired teacher in lower and middle school because he or she fixes it all. It is secured in his / her knowledge and he / she is confident in how to handle children. Then kids will calm down.*
3	*It is local knowledge. They have a lot of knowledge in their head. They have seen when a water pipe was built and were. Local knowledge disappears at retirement or when people stop working. [...] but you lose a lot of history when people retire.*

Table 2. Statements on knowledge being lost by retiring people

The statements clarify the meaning of "story" with regard to knowledge loss. Additionally, and not surprisingly, internal and external relationships (networks) were highlighted as another aspect that will be lost by retiring people. The finding clarifies that it is the tacit knowledge what matters which is in line with previous findings (e.g. Treleaven and Sykes, 2005). Stressing the importance of understanding the story behind different activities and issues addresses what Dumay and Rooney (2011) specify as practical knowledge, the critical link between tacit and explicit knowledge.

Concerning this matter, the expert highlighted the knowledge that is being lost unconsciously and unintendedly, which would "*impact significantly on the quality of the operations and in particular, the consistency of the decision making, also the quality of the decisions that they so make*". Thus, he addressed the challenge organizations are facing when there is no active approach to knowledge retention and succession planning.

Alternatives for knowledge present

Even though it is likely to assume that all organizations are interested in highly skilled and competent organization members (which was also stressed by the interviewees), sometimes these skills are not available neither within the organization nor outside the organization. So one would expect that the individuals in charge look for alternatives for this critical knowledge. The interviewees were asked about that matter (Table 3).

Interviewee	Statement
5	*Many of the other small municipalities are already working in small groups and interact with different things, e.g. purchase services from each other. And I think that it will be needed. Then if you're going to have a specific service maybe you can find other solutions. [...] and then you have to look at which areas should be prioritized and you get to work preventive and proactive. I think we need to think more in that way. [...] Within 10-15 years we will have much more among small municipalities, which may not be a separate municipality but where you go together.*
7	*No, but it has to do with the expertise knowledge. [...] there is a large turnover in this business.*
8	*Yes, that can I absolutely imagine. There is a market with other IT service providers that we can take on board. We have made use of that. When someone has finished or we haven't had time, demand has been greater than we have been able to satisfy. Then we used the private suppliers, external suppliers.* *Interviewer: A kind of outsourcing? Interviewee: Yes, precisely.*
9	*No. Many people talk about IT development but I don´t think you can just replace a human being by a system. I believe in relationships and communication. I also think it has disappeared a little bit and that you have to get back to it. If you have a relationship with another person then it's easier to learn.*
10	*We buy consultants, of course.*

Table 3. Statements on alternative forms of relevant knowledge

The findings highlight some alternatives to the knowledge that is needed which are collaboration with other actors in the sector and outsourcing. Closely linked to collaboration is the availability of relationships and communication. On the other hand, Interviewee´s 7 statement reveals that these options have limits in the case of scarce skills. This will be proliferated in situations where organizations or departments face higher turnover rates.

Experienced consequences of knowledge loss to date

Following Delong´s (2004) ways as to how lost knowledge can undermine organizational strategies, the interviewees were asked to specify possible consequences of knowledge loss the department had experienced to date. The following options were available: Reduced capacity to innovate, threatened ability to pursue strategies, reduced efficiency undermines strategies, lost knowledge has given other actors an advantage, increased vulnerability and reduced quality of products or services. Here again multiple answers were possible as well as the list of additional methods. Increased vulnerability was most often quoted (9x), followed by reduced quality of products and services (8x), threatened ability to pursue strategies (7x), reduced efficiency undermines strategies (6x), lost knowledge has given other actors an advantage (3x) and reduced capacity to innovate (1x). Additionally, limitation to address future challenges, development of operations and loss of productivity were named.

One interviewee assessed it as positive when someone is leaving: "*Yes, it can actually be positive that someone leaves the department, that can you restart something new. It gives new strength. It's not just negative.*" This statement clarifies that the issue of turnover needs to be discussed in relative terms and an exit of certain individuals might be the only means of starting something new as otherwise the resistance towards change is in between (Starke et al., 2003). The average tenure found in this municipality, however, will seldom allow this.

Type of knowledge loss most challenging

The interviewees were further asked to specify the type of knowledge loss that would be most challenging from their point of view. Reduced quality of products and services was quoted as most challenging (7x). Followed by threatened ability to pursue strategies (6x), reduced efficiency undermines strategies (3x), reduced capacity to innovate (2x) and increased vulnerability (1x). Additionally, business / operation disruption and development of operations were named (1x each). The greater significance concerning the aspects "quality of products and service" and "reduced ability to pursue strategy" is not surprising as they address key issues of any organization. The interviewees' answers are consistent with the expert´s assessment of that issue: "*...they may be losing knowledge in a great way that they didn't realized and obviously this would impact significantly on the quality of the operations and in particular, the consistency of the decision making, also the quality of the decisions that they so make. So these are things that we*

immediately affect in an undesirable way, the quality and the level service a government department can provide to the citizens in the society which is obviously not something that you wanted." The findings indicate that there are no differences of knowledge loss between public and private organizations, as both type of organizations have to make sure that they can perform their operations in a consistent and sustained way.

Recruitment in the Municipality of Skövde

Current practice of identifying and developing future candidates

As succession planning, recruitment and people development must work together in order to make sure that an organization has a smooth transition between people, the interviewees were asked about the current practice of identifying and developing future candidates. Their statements are presented in Table 4.

Interviewee	Statement
5	*...we have a whole day where municipality leaders meet all department managers. We look at the budget. We are also looking at retirements, sickness absence and wages. We have started to talk about it much, much more. Each department puts more time to these questions together with the personnel department. We have those who will retire in three or four years. It's new. We have not thought about it like that before. There is much more, I will not say strategy, but I think we are going there because we see that we need to start thinking about it. [...] and even in house, the potential of people we have in the house. It has almost never been the case that we have recruited. [...] A long time ago the municipality tried to recruit their own staff to become managers. After a while it was discovered it didn't work. All of a sudden they stopped. Then there would only be externals in here. So it was for many years, it was also not good. Now we have seen that we have capable employees, it's great to be able to step up [...] You need to find the right person. We have invested in management training, a program that has been around for the last few years. I think it has happened quite a lot on that matter, we see that we can recruit internally, but for us it is not so difficult to keep our younger ones. We have very many who have worked in the municipality for a long time. In the last few years there has been changes in the public, I think it has got a different view of what it's like to work in a municipality. Previously, it has been fun to work in the private sector and one thought you have better jobs out there. But we've seen the last few years that it has become uncertain. You can lose the job, and therefore the municipality has become a safer workplace.* Since when have these changes been implemented? *The last three, four years. More clearly.*
4	*There is no practice. I have done that myself. When I recently recruited, a board secretary / administrative secretary, it was a girl who had been captain. She worked six years as head of a group of military regiment. Now she has become parent of small children so she wants to take a little step back. Perfect to come here, learn the administrative, how it works, to work four or five years in the office and then she can go out and become the manager instead of persons aged*

	60.
8	*There is a very large internal displacement, it is quite lively at the department. It obviously requires quite a lot of education. We invest heavily in training in order to be able to take a new role. Then it is clear that we place great emphasis on recruitment, we think it is a solemn occasion when we are going to recruit. We are always two of the management team that controls the recruitment. It´s simply important. We want to hire people who we believe eventually can take different roles.*
6	*We work with Ambassador activities that go out to universities and to high schools to describe our business. That's the way we try to market ourselves, to attract people, to show that we exist. This is important, especially for the field of functional impairment, as it is a much unknown working field. That's the way we do and we try to visit health care institutions whenever possible to recruit. As regards payment for certain specialist occupations our salaries are much higher than the ones offered in hospitals and similar. So we attract through salary too. We know from experience that the working environment within the municipality is significantly better than in competing occupations, or competing organizations."*
10	*"We are very careful in our recruitment process for it is so tied to the person's personality and that the person can come into the existing team. We are very careful in recruiting and especially what the person should have for personal qualities and education. We do that. We look at what are our competencies in the group today and what do we need to complement it. So it is based on the personality, experience and training.*
9	*Because the law decides who gets to work in schools, we have … our strategy is that we advertise for qualified teachers. That is what we have to do. Then we would very much like to have maybe more strategies to become more multicultural. We have in all schools students from other countries, but even here we have not had the need yet to decide any proper practice except they need to have the right competence.*
2	*We are on more and more career fairs and we are involved in the university day … we have been in Karlstad, we have been in Paris and London and… Yes, in Gothenburg, there have we also been. Even as I said that we do not have any great concern about this, we must sell us as exciting and attractive. We not only want to have one who seeks, we want more people seeking so that we get the best and then we must be in those contexts. Even if I may have expressed myself initially that it was not a major concern, we recognize the value of these activities and see that we need to be on these places. Show us up and, of course, fight for these talents that emerge in different contexts.* Have there been any changes over time, is it new this approach? *Yes, it is a new approach. We will be even better. We have that in our goal for next year. We write business plans and there we have specified that we should take a step further.*
1	*We have a much clearer policy of recruiting and recruiting procedures. It is quite a strong focus on how we are recruiting. We expect to get the skills we actually need, therefore we work with requirement profiles. …To working with the requirement profile for the people you are going to recruit, we are using more and more external recruitment support for higher posts. If we take the top executives, it's always without exception that external recruitment agencies are*

	included. There are in-depth interviews, there are tests, and there are reference checks the agencies run in a professional manner. We have education, we have a management development program with different courses, a course package. Such a course is precisely about recruiting. A wrong recruiting can… it is an incredibly expensive business. Here we cannot be careless, you have to be careful, and you have to dare to make demands on the recruitment, dare to ask questions, dare to challenge candidates to be correct. …where are the candidates from? *Here in Sweden, Skaraborg, Västra Götaland? Skaraborg you could say is still the main catchment area. As regards architects, urban construction managers then the catchment area becomes larger, Västra Götaland, yes the Gothenburg area, but we also notice that we can reach people in the Stockholm area and that part of the country. …Is it about selling Skövde and selling its mission in an attractive way and there we have become better. I experience that. I hear it also from the candidates who are here, who tell in interviews that they have been attracted by the mission we are addressing.*

Table 4. Statements on current practice of staff planning and recruitment

The statements clarify that the municipality has taken up a more professional and active approach to staff planning, which can be assessed as promising. Regarding the municipality´s size, however, it is astonishing that this has been introduced only recently as one had expected a more professional and coordinated approach. What is striking about this finding is however that these activities are in major disproportion to the municipality´s succession planning activities. The overemphasis on recruitment might be a consequence of the municipality´s low staff turnover which gives them a security that once the new people have entered the municipality they would also stay. This might be a false sense of security as demographic developments (i.e. skill shortage) are quick to change it. On the other hand, this new emphasis on recruitment could also be considered as a response to increasing activities of many cities to position themselves as an attractive residence (http://www.eurocities.eu/eurocities/home).

Troubles in attracting and retaining younger workers

Eventually, the participants were asked if they had troubles in attracting and retaining younger workers as such a situation would suggest that the municipality needs a proactive recruiting policy. Seven interviewees stated no problems as to date. Yet, one interviewee could imagine that this will change in the near future. Another interviewee reported partial problems which refer to one job that is mainly considered as a starting point of a job career and nothing one would remain. The remaining two interviewees reported difficulties. On that matter one of them reported: "*Yes, we have. A municipality is not located at the top of the attractiveness list; it has a brand name that is quite low. However, those who actually start here really enjoy working here. But our brand is low, so it is a little difficult to recruit young people.*"

Given this mixed picture and referring back to the statements regarding the current practice of staff planning one can say that the topic of recruiting younger people is an issue.

Recommendations

Based on the findings the following key recommendations are proposed.

Main recommendation 1: Centralized and holistic human resource strategy needs to be implemented

The implementation of a central function in the municipality is promising, but fails to take account of other important HRM practices / functions. In fact, the municipality needs a holistic human resource strategy that should be aimed not only at the beginning of the HRM process (selection / recruiting) but also at the end of this process (succession planning / people replacement) in order to ensure that a smooth HR strategy is available and that the municipality will keep its capacity to act. Having a holistic HR strategy will also contribute to a better coordination between existing knowledge and new knowledge that is needed in order to address future challenges. Against the background of the topic concerned this strategy needs to be long term if it is to succeed.

The strategy should be closely linked to knowledge management to make sure that latest and relevant knowledge is properly managed in the municipality. This means that in a knowledge economy the management of people and their skills and capabilities goes hand in hand (Gloet, 2006). Depending on the HR practices different KM practices will be addressed.

Figure 1 displays the key components of this human resource strategy. These components comprise classical HR practices / functions, which are selection, appraisal, reward and development. Additionally, and in order to have a holistic approach, the function succession planning / people replacement has been added as only then a complete human resource strategy would be possible.

As discussed by Sambrook (2005), succession planning does not only refer to the selection, development and training of follow-ups, it does also comprises activities that make sure a smooth handover between predecessor and successor is provided, which underlines the issues of knowledge transfer and knowledge storage as well. Moreover, succession planning is not limited to executive staff but involves all organization members as all are relevant to organizational success meaning in turn that organizations are brought to the fore not only from the top (Bjerke, 2013).

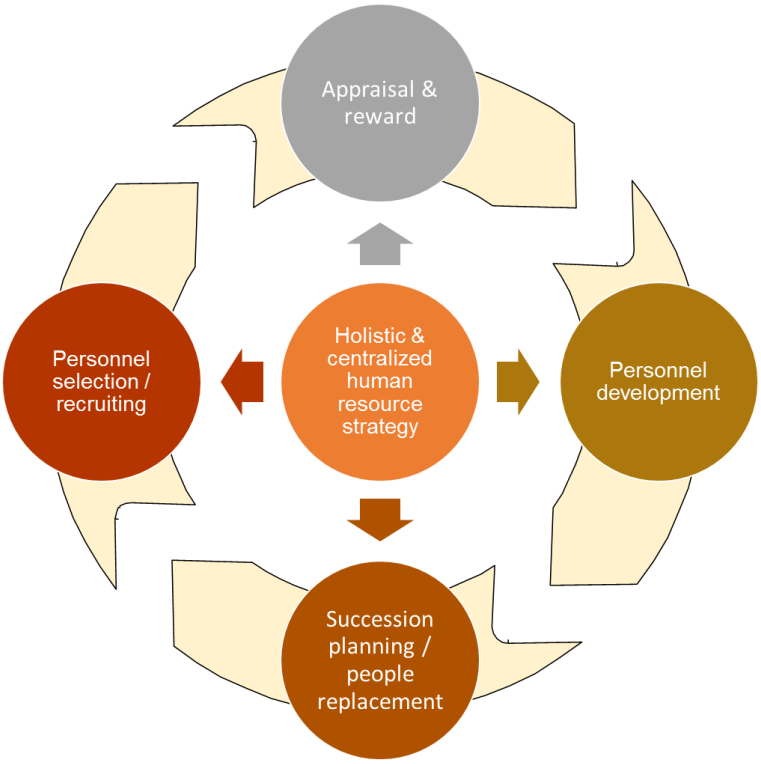

Figure 1. Holistic human resource strategy

As the resources are concerned the Skövde Municipality is considered large enough to establish such a strategy. Concerning the positioning within the municipality the HRM department should be in charge of developing, implementing and monitoring the strategy. This should take place in close coordination with the different departments as they have different requirements concerning their staff. Overall the strategy needs to be backed by a highly committed management to increase the success of all actions.

Recommendation 2 – Knowledge retention as critical part of the succession planning / people replacement function

Knowledge retention comprises all activities making sure that the organization´s overall capacity to act is maintained. It is mainly directed to measures that need to be in place in the context of succession planning or people replacement. As succession increases the danger of knowledge loss or knowledge attrition, these measures need to take a long term perspective. Consequently, the KM practices knowledge transfer and knowledge storage represent crucial issues.

As the municipality´s departments are already making use of a number of different approaches to knowledge retention, they should be taken up because one can assume familiarity with these measures which in turn decrease the time needed for persuasion. However, these measures need to be coordinated in such a way that they go hand in hand with the overall human resource strategy. More precisely, this means that approaches need to be identified and selected that work best in different situations, e.g. different nature of knowledge, available time to succession etc. This clarifies that the municipality should maintain the application of a number of different approaches. It also illustrates that different durations are needed to put different measures in place.

Figure 2 summarizes how succession planning could be organized.

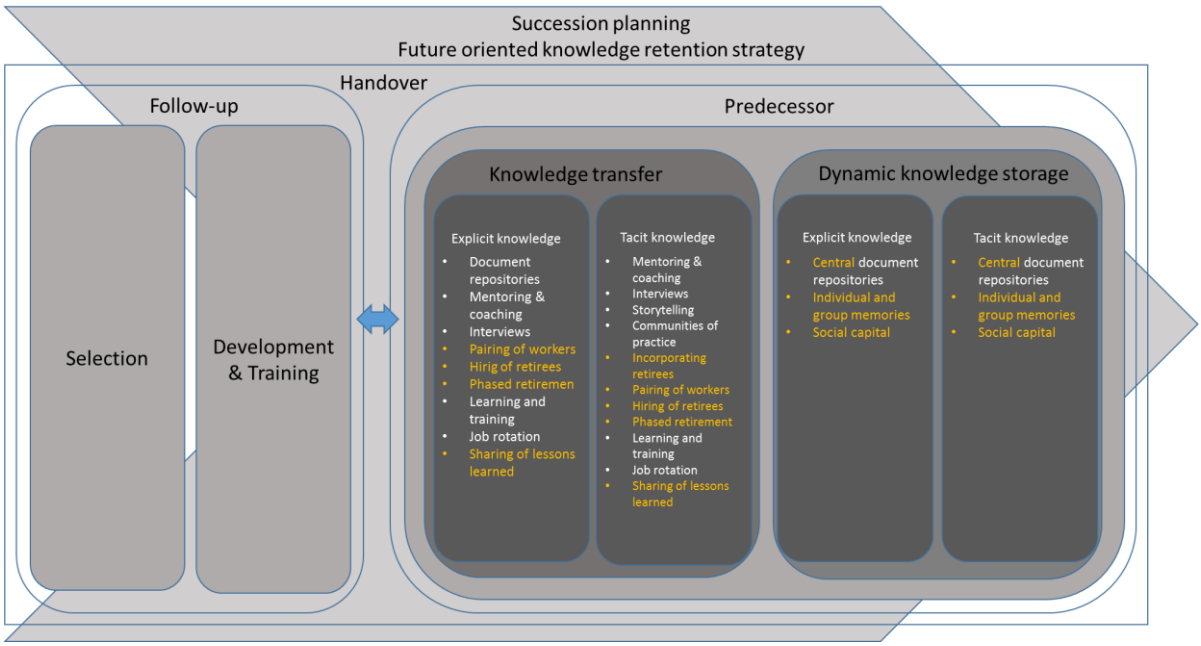

Figure 2. Model of succession planning

Figure 2 highlights the key elements of succession planning and the significance of a thoroughly planned and executed handover to avoid that the municipality will suffer from high levels of stress among the individuals concerned (individual level) and from a progression inhibition of the organization´s knowledge base (organizational level) (Brunold & Durst, 2012). Against the background of this study, the focus is primarily on approaches to knowledge transfer and knowledge storage as these KM practices are considered as critical to cope with both an aging workforce and personnel turnover.

The approaches to knowledge transfer and dynamic knowledge storage listed in Figure 2 present a combination of all the measures that are already in place in the municipality and

measures that have revealed effectiveness in empirical research. The latter are marked in yellow.

Knowledge storage should occur in a dynamic way. That is to say that the municipality should make use of mechanisms that are easy to modify in order to make sure that only relevant and latest knowledge is stored. The application of IT-supported repositories will assist in reaching this aim (Aggestam et al., 2014).

Recommendation 3 - Measures need to be in place that help in identifying critical knowledge to be retained

As stressed in the background section, not all knowledge is critical and therefore a matter of retention. Consequently, the municipality needs to have access to tools that support in identifying critical knowledge that is most at risk of being lost. The study´s findings suggest that the municipality should primarily have a look at knowledge that is needed to deliver the products and services as well as to pursue the strategies set. More precisely, the emphasis should be on specific skills such as management and leadership skills, market and industry knowledge, specialized and interdisciplinary expertise needed in order to conduct certain tasks and which are learned through experience and a specific form of specialization.

This means that the people in charge know what knowledge needs to be retained in order to uphold the departments´ capacity to act, and how this knowledge can be retained if at all. This understanding must be a central part of an overall strategic knowledge strategy that has a clear future orientation and that specifies the different types of knowledge needed to reach the municipality´s goals set. Thereby each department will have its own specific knowledge strategy in order to meet the municipality´s overall goals.

Research suggests different approaches to identify critical knowledge. Special emphasis should be placed on making critical knowledge visible as it will increase the likelihood that certain actions are implemented (DeLong, 2004). The production of knowledge maps can support this intention. Knowledge maps are visualization tools that enable organizations to identify their knowledge and to visualise the relations within and outside the firm (van den Berg & Popescu, 2005). Thereby dynamic knowledge maps are preferable to static ones as the former are expected to make possible tacit knowledge sharing (Woo et al., 2004).

An interesting starting point regarding the identification of critical knowledge might be the knowledge at risk score as proposed by Durst and Wilhelm (2013). The aim of the tool is to provide insights into the concentration of relevant knowledge with certain individuals

respectively in certain departments. The tool´s outcome does not only assist the individuals in charge to understand which organization members are key actors but also helps them to evaluate what makes those organization members critical. Specifically the latter is beneficial, as it provides more concrete information about the type of knowledge which is available in an organization, thus the tool's outcome helps to make knowledge visible. The tool's main strengths is its simplicity, in the sense that the instrument is easy to use and to adapt to different environments, is not based on a complex technology that may cause any barriers and it does not need the performance of training in the run-up to its application. Even though this instrument was specifically developed for smaller firms facing the danger of knowledge attrition due to voluntary and involuntary turnover it can be used by other types of organizations as well.

Recommendation 4 – Each department of the municipality should be aware of critical knowledge for the department´s ability to act and should have access to measures that allow them to continuously monitor the knowledge at risk

Assessing knowledge as important and making it visible is not enough, the responsible persons must also be aware of the implications of exiting organization members, e.g. increased muddling through, higher workload of the remaining members, additional costs through contracting external parties etc. Thus the direct and indirect costs (training the "story") need to be considered. This is an issue that is often overlooked by superiors because of a missing understanding of business operations.

Consequently, a department / an organization does not only need an understanding of critical knowledge and an awareness of the consequences of losing it, but this understanding needs to be lasting as well. It is important that the responsible persons have a continuous overview of the knowledge at risk in the different departments in order to be able to react with suitable measures. The visualization of the knowledge present as highlighted in recommendation 3 provides an important milestone. As this knowledge at risk is in a constant state of change, monitoring it is vital to an understanding of the department´s / organization´s overall knowledge at risk profile. It is advisable that public organizations fall back on risk management approaches found in the financial sector. For example, the risk measure value at risk and its underlying assumptions could be a promising concept.

The tool proposed by Durst and Wilhelm (2013) can also assist public organizations in monitoring their knowledge at risk profiles. Changes can easily be captured in the tool which in

turn makes possible a permanent overview of the current situation in the organization concerned.

Conclusions

Retirement is a normal part of business activity and in the past leaving organization members were simply replaced by new ones. Consequently voluntary turnover was not viewed as something critical (Massingham, 2008). Against the background of knowledge as an ever more important strategic resource in the current organizational environment and the demographic developments, which will soon lead to a shortage of expertise respectively knowledge, the issue of succession planning calls for more careful consideration. Personnel turnovers can lead to serious damages of an organization´s knowledge stock and thus its capacity to act. Therefore, it is important to proactively address the danger of knowledge attrition / loss, particularly in those sectors / departments that are highly dependent on expert knowledge. The significance of knowledge for organizations in order to meet current and future challenges highlights the meaning of knowledge management in the context of succession planning.

The present study has addressed a gap in the existing literature pertaining to how public organizations deal with the link between succession planning and knowledge management to cope with the danger of knowledge attrition initiated by demographic developments, which is important information for managers of public organizations, policy makers and researchers. The study provides insights into data material collected in the Skövde municipality (Sweden). The findings indicate that the municipality is not ready for the demographic challenges ahead. So far the municipality seems to follow a sporadic / ad hoc approach rather than a strategic and planned one when addressing the issue of succession planning. Indeed the findings suggest that a muddling through approach prevails and the implementation of measures depends very much on the persons in charge of the respective departments. Even though initial starting points regarding a more centralized approach are present, e.g. in the case of recruitment, however when one considers succession planning this is not true. This lack is surprising and can be assessed as negligent against the background of the municipality´s average age of staff. Several participants are aware of this unsatisfactory situation, however, given the decentralized structure of the municipality´s departments this awareness has apparently not reached the municipality´s top management with this degree of clarity, so the implementation of a holistic human resource strategy, of which succession planning must be a critical part, has yet to be follow. The situation found in the municipality resembles findings from the private sector concerning succession planning (e.g. Durst and Wilhelm, 2012) and knowledge management (e.g. Ahmad et al., 2014).

The study provides novel insights into the aspects of knowledge management and succession planning in the public sector. The study's most important contribution is the deepened knowledge about the significance of having a holistic human resource strategy in the context of demographic developments. This strategy needs to take into account the relevant HR practices (i.e. from recruitment to succession planning / people replacement) and the crucial link of integrating a KM approach in order to manage an individual´s knowledge during his / her tenure. This knowledge is considered as relevant for education in the fields of knowledge management and succession planning and for organizational development. In addition, the findings of the study add to the literature on succession planning and knowledge management in the public sector by integrating a knowledge at risk angle, which is an emerging field of study (Schmitt et al., 2011). In this context, this study contributes to an expansion of our body of knowledge concerning the consequences of turnover from a knowledge at risk perspective.

The study offers public organizations similar to the Swedish municipality practical insights and ways of how to cope with the challenge of knowledge attrition / loss. Managers of these organizations have much to learn from the results. The study underlines that forward-looking municipalities that manage and distribute their knowledge actively are those that can most successful retain and further develop their knowledge. The recommendations presented could contribute positively to the public sector concerned. The specific recommendations detail which aspects are important in the context of developing a holistic human resource strategy and a model of succession planning that has incorporated the issue of knowledge retention. Managers of public organizations and advisors should appreciate the importance of the different aspects and seek to establish them before being hit by waves of retirement and skills shortage. The recommendations should also be of relevance for policy formulation.

Despite the study´s contributions there are certain limitations that should be considered. The findings are based on a single organization, thus statistical generalisation is not possible. However taking the exploratory nature of the study, one might be able to make an analytical generalisation (Yin, 2003). Another limitation is related to the fact that only executive personnel were included in the interviews meaning that only a limited view of the "manager" was provided. Future research could also include other perspectives, e.g. that of the organization's employees, i.e. those who are close to retirement. A final limitation might be related to the fact that the study was based on a cross-sectional design, thus changes in the organization's succession planning/knowledge management activities have therefore not been the focus. Further research should also address differing public organizations, sizes, and regional / national contexts.

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Appendix

The appendix is intended to provide more detailed information about the theoretical background of this study.

Critical knowledge

Knowledge can be explicated differently. For example, the distinction between explicit knowledge and tacit knowledge can be discussed (Nonaka & Takeuchi, 1995). Explicit knowledge consists of the means by which information is made physical, identifiable, and transferable, for example, on a compact disc or document. Explicit knowledge can be purchased, repeated, reinvented, and stolen. It dwells separately from the individual or the company. Tacit knowledge, on the other hand, "refers to the real-time, often subconscious, cognitive, or other processes that is utilized and taken for granted" (Tollington, 2002, p. 10). Previous experiences are combined with these processes to make a decision go forward. Despite the importance of explicit knowledge, tacit knowledge is believed to be the higher value knowledge (Treleaven & Sykes, 2005), or as Haldion-Herrgard (2000) regards it as the topping to reach excellence in a job. Unless shared with others, tacit knowledge dies with the individual. Tacit knowledge can be acquired through watching and replication, which often represents the way of learning in vocational training (Nonaka, 1994). Tacit and explicit knowledge should be viewed as "mutually dependent and reinforcing qualities of knowledge" (Alavi & Leidner, 2001, p. 112). Consequently, an understanding of both types of knowledge is needed in order to make knowledge exchange happen. For the sake of completeness, implicit knowledge is mentioned as well. This type of knowledge can be positioned between the two other extremes as it represents knowledge that is tacit in nature but could be articulated; however, it has not been articulated yet (Griffith et al., 2003). Kogut and Zander (1992) divide knowledge into information and know-how. According to these authors, "information implies knowing what something means", whereas know-how is "a description of knowing how to do something" (p. 386). Grant (1996) discusses the types "knowing how" and "knowing about", thereby he associates the former with tacit knowledge that is exposed through application, and the latter with explicit knowledge that is exposed through communication. Whereas Geisler (2007) highlights the difference between managerial knowledge and technical knowledge, according to this author the former is the result of "years of investment and learning" (p. 469) and involves the experience and emotions of the knowledge possessor. Consequently, Geisler asserts that managerial knowledge is more difficult to share and acquire.

However, not all knowledge is critical to organizations. Additionally, knowledge that has been relevant in the past may become obsolete over time or it has simply been forgotten because of time elapses (Tan et al., 2006). Therefore, knowledge is in a constant state of change and should be continuously updated. Consequently, critical knowledge is that knowledge which is most at

risk of being lost (Frigo, 2006). Lost knowledge can occur at individual, group, or organizational levels, have either anticipated or unanticipated effects, have tangible or intangible impacts and create immediate or delayed costs (DeLong, 2004). DeLong further specifies five ways as to how lost knowledge can undermine organizational strategies:

- Reduced capacity to innovate;
- Ability to pursue growth strategies threatened;
- Reduced efficiency undermines low-cost strategies;
- Losing knowledge can give competitors an advantage;
- Losing specific knowledge at the wrong time increases vulnerability.

Based on a multiple case study Daghfous et al. (2013) found cost increase, loss of productivity, reduction in customer satisfaction, increased supply chain risks and reduction in core competencies as possible impacts of knowledge loss. Treleaven and Sykes (2005), who studied types of organizational knowledge being lost because of organizational change, showed that the loss of tacit and heuristic knowledge is rather critical as it affects meaningful engagement with clients as well as an organization´s capability of providing effective service. In the organization studied, the organizational change mainly resulted in a loss of staff´s ability to continue social interaction processes and reflectivity, which were the outcome of well-developed personal networks and collective engagements of like-minded individuals. Boone et al. (2008, p. 1232), they talk about knowledge depreciation, point to "ongoing erosion in the knowledge stock" which vary from industry to industry and list amongst others turnover as a possible explanation of this phenomenon.

In a recent study, Daghfous et al. (2013) identified drivers of knowledge loss which are employee turnover, rushed reallocation of workforce, rushed handovers, heavy workloads, outsourcing, resistance to learning, and reluctance to share knowledge. In a study that aimed at gaining a better understanding of the impact of retirements and replacements on the knowledge base, McQuade et al. (2007) identified three top knowledge losses. These are loss of an expert employee with knowledge of the products and processes of the company, loss of customer and supplier contacts, relationships and established trust, and loss of understanding of the informal personnel networks.

Regardless of the typology used, it is rather likely to assume that many types of knowledge are important for the firm (Grant, 1996), and some type of knowledge relevant to one firm is irrelevant to other firms (Spender, 1996). Given the relevance of knowledge to organizations, they need to apply tools that help them assessing the critical knowledge at risk potential.

Identification of critical knowledge

As not all knowledge is critical to organizations, initial activities should strive for the determination of critical knowledge that is most at risk of being lost (De Long & Davenport, 2003). Or as Delong (2004) puts it "lost knowledge means the decreased capacity for effective action or decision making in a specific organizational context" (p. 21). According to this author, "the capacity for action" represents an organization´s valuable asset and not the access to information. Or, put differently "know-how becomes more important than know-that" (Mir et al., 2008, p. 205). This know-how is mainly a result of practice and tacit insights experience provides (Brown & Duguid, 1998). The difficulties associated with knowledge sharing may also be an indicator of critical knowledge (Geisler, 2007). Knowledge can reside in many repositories; the focus of this study is on the knowledge that resides in individual members (Argote & Ingram, 2000). Tacit knowledge is embedded in individual members.

Even though the relevance of knowledge is normally emphasized in organizations, organizations have difficulties in specifying which specific knowledge and skills different individuals actually possess (Van Zolingen et al., 2001), which may reflect the division of labor (Brown & Duguid, 1998).

Critical knowledge is more complex, abstract, and context dependent, so the knowledge to be retained is implicit or tacit (Delong, 2004). In the same vein, Parise et al. (2006) underline that the aspect of knowledge loss is not only about losing a specific expertise but about losing a group´s collective capacity to get things done as well. Consequently, simply disposing of specific knowledge does not make an individual a critical person (van Zolingen et al., 2001). Instead, the specific ties an individual has that are critical to execute knowledge transfer could point to critical knowledge, as the ties´ dissolution could result in a loss of this specific knowledge (Cattani et al., 2013).

The identification of critical knowledge or its visualization forms the critical basis for later activities as without knowledge retention will not be possible. Therefore, the identification stage determines the core competencies that are critical to business success (Liebowitz & Beckman, 1998). This, for example, could be knowledge its possessors use to ensure reliable and safe facility operations (Blankenship & Brueck, 2008). This knowledge may be seldom asked for but could lead to negative consequences for organizations if not present when needed. In the case of Delta Airlines, critical employees are those who met the following criteria: 1) were outstanding performers, 2) occupied positions in which there were no other incumbents or no one was trained as a backup, 3) were considered as a go-to person during crisis, and 4) had great contacts inside and outside of Delta (De Long & Davenport, 2003). This crucial knowledge may also reside in unexpected places (McQuade et al., 2007). As an example, peripheral employees can be named. Those individuals are less visible in organizations and therefore overlooked more

often when it comes to the implementation of succession or similar activities (Parise et al., 2006). Aiman-Smith et al. (2006) consider a simulation and modeling the workforce´s knowledge and capability a suitable approach. The outcomes would then help to take specific actions.

Developing a knowledge map may also support the process of knowledge identification. These maps locate important knowledge in organizations and provide information where to find it (Davenport & Prusak, 1998). One approach, for example, is based on four questions: 1) Is the expert who is leaving both willing and capable of sharing his or her knowledge?, 2) Is the employee leaving the company entirely or just moving to another part of the organization?, 3) When is the employee leaving?, and 4) Is a successor already in place?

Parise (2006) highlights the power of social network analysis (SNA) in order to get a better understanding of who the key players are in an organization and whom they know in terms of critical relationships. Given the meaning of networks nowadays, it is particularly important to get better insights into these relationships, as particular here critical (tacit) knowledge can be expected. Massingham (2008) proposed a conceptual framework that measures the impact of knowledge loss on surviving employees. The framework highlights knowledge loss impacts in the areas of human capital, relational capital, structural capital and social capital. Thus it provides in depth insights into the areas that will be affected because of exiting employees. Durst and Wilhelm (2013) developed a tool intended to provide better insights into knowledge concentration with certain individuals or in departments. In order to do so, an overall "knowledge at risk"-scale will be calculated. This scale represents the sum of four dimensions respectively values: Human capital, structural capital, relational capital and social capital. The four dimensions are weighted as follows: 30% Human Capital, 10% Structural Capital, 30% Relational Capital, and 30% Social Capital. The tool consists of various levels, which need to be filled. For example, information about the age and length of service of the individuals are needed. Regarding the four dimensions, different aspects are addressed. As regards the human capital dimension, for example, the question whether the individual under investigation possesses expert knowledge is of interest. With regard to the social capital the type of knowledge flow (one-dimensional vs. bilateral) is asked. In the context of the relational capital and structural capital, the issues of quality of business relations (the former) and an individual's contribution to the development of the structural capital are covered. The calculation for each individual person is executed once the data are collected. At the end the instrument provides a report displaying the overall result ("the knowledge at risk"-score) and the results for each of the four dimensions. The total score is characterized by various colors (e.g. red and green), which are used to illustrate the quality of risk (Table 5).

Surname	First name	Initial	Age	Length of service	Total score	Human capital	Social capital	Structural capital	Relational capital
Miller	Kathrine	KM	29	5	0.55	0.82	0.70	0.25	0.25
Stone	Walter	WS	56	15	0.41	0.76	0.60	0	0.10
Lynch	David	DL	43	8	0.63	0.76	0.10	1	1
Deresky	Margrete	MD	28	3	0.66	0.58	0.80	1	0.5
Chan	Lynn	LC	55	22	0.75	0.78	0.40	1	1

Table 5. Scoring

As can be seen in Table 5, the tool's outcome helps to make knowledge visible. This improved understanding can enable the persons in charge to establish necessary measures to cope with an excessive knowledge concentration and to prepare and initiate the process of succession before a crisis will arise.

Levy (2011) found that managers or the people in charge should not run a knowledge assessment aimed at understanding if there is an organization risk and in what roles it could present itself. Instead, they should focus more strongly on the knowledge to be transferred and the specification of the scope. Finally, DeLong (2004) highlights the significance of identifying in quantitative terms where the loss of knowledge can affect group and organizational performance.

Transferring and retaining critical knowledge

When it comes to the issue of knowledge loss, most firms do not have a systematic approach and the approaches used are few, ad hoc and reactive (Daghfous et al., 2013). In addition, despite the apparent meaning of employees (including managers) to organizations, it is still observable that workforce is considered as easy to replace (Geisler, 2007). Considering the demographic challenges ahead this proceeding is rather dangerous and organizations are requested to change their approach at short-notice. The retention of critical knowledge, however, first requires a transfer. According to Argote and Ingram (2000), knowledge transfer in organizations "is the process through which one unit (e.g., group, department, or division) is affected by the experience of another" (p. 151).

De Long and Davenport (2003) discuss five frequently used methods for knowledge transfer and capture which are Interviews/Videotaping, Mentoring, Storytelling, Communities of Practice, and Training and Education. Additionally, there are criteria determining the selection of methods. These are 1) the impact of knowledge in question, 2) considerations regarding the

timing of its loss, and 3) type of knowledge represented. Storytelling, mentoring and coaching are considered effective ways for transferring both implicit and tacit knowledge (Delong, 2004).

Rappaport et al. (2003) discuss different strategies and practices organizations can use to weather the aging workforce challenge. First, the organizations should conduct a situation analysis and workforce planning. Then organizations need to create new jobs, career paths, and employment arrangements to address the peril of knowledge loss. Additionally, organizations should consider applying creative recruitment strategies; here social media will play an increasing role. A reconfiguration of training and development will be essential as well. The authors also highlight the need for implementing a knowledge management strategy to manage potential knowledge at risk actively. In this context, they list a number of ways organizations can apply to enable knowledge transfer. For example, the pairing of experienced workers with less experienced workers, creation of mentoring roles, involvement of experienced workers in the design of training programs, rehirement of retirees, use of the intranet as a means to knowledge storage and sharing, and the application of flexible work arrangements to retain experienced staff longer. Finally, the authors stress the alignment of culture to support any strategies. The incorporation of retirees appears to be an approach frequently used in organizations. Even though it further rises the average age in organizations, it helps in coping with the danger of knowledge loss (Rappaport et al., 2003).

Rothwell (2004) listed, amongst others, critical incident interviews and questionnaires as a knowledge retention strategy. These methods are intended at documenting the lessons of experience from the organization´s most experienced individuals.

Liebowitz (2004) who highlights the role of using Federal retirees as a ways of coping with the demographic trends lists several programs for these individuals´ employment, which are phased retirement, retiree job bank, emeritus program, part-time retired annuitant, mentoring program, knowledge sharing forums, rehearsal retirement, job sharing, facilitator of an online community of practice and knowledge capture/retention program.

Gammelgaard and Ritter (2005) discuss four knowledge retrieval approaches to meet the challenges of knowledge retrieval problems: individual memory, databases, social capital, and virtual communities of practice. The authors particularly highlight the role virtual communities of practice can take in supporting efficient transfer of tacit and complex knowledge. This is of particular interest to internationally operating organizations.

Lahaie (2005) lists a number of strategies organizations can use to reduce the danger of both the loss of corporate knowledge and corporate memory which are pre-retirement planning, casual

employment, term/specified period employment, facilitated mentoring, networking and succession planning.

Frigo (2006) also highlights that organizations (here utilities) must use a variety of tools to determine the scope of the effect of workforce changes. These are retirement profiles, tenure profiles and critical knowledge at-risk profiles. These tools are intended to provide initial insights into the challenge at present.

An AwwaRF research project that aimed at defining effective knowledge retention strategies for water utilities developed a top five list of approaches to knowledge retention (Blankenship & Brueck, 2008). In order to identify critical hubs of knowledge the use of social network analysis was recommended. To capture and transfer various types of knowledge four approaches were discussed: document repository, incorporation of retirees, mentoring, and organizational learning and training. Bringing back retired employees enables the organization to retain critical knowledge and to keep productivity. The organization, however, may also decide to hire retired individuals from other organizations, which could bring new perspectives as well as access to best practices from other organization to the firm (Aiman-Smith et al., 2006). An additional approach can be phased retirement, which allows employees to move from full time to part time and/or temporary positions (Aiman-Smith et al., 2006). As mentoring is concerned Aiman-Smith et al. (2006) point out that this approach often fails because of over-structuring and lacking accountability regarding the individuals involved. The authors also highlight a number of practices that have been identified more promising for slowing the loss of knowledge. These are global skills resource management, employee rotation, sharing of lessons learned, communities of practices, storytelling, training and educating programs, improved recruiting relationships, and existence of knowledge management department / knowledge manager.

According to Geisler (2007), who focused on managerial knowledge, the key to preservation is in "establishing interactions that are embedded in the processes of the organization" (p. 472). Four mechanisms accompany this goal: socialization, tutoring, mentoring and continuous reporting. Socialization makes it possible to elicit from the managers the knowledge that can be shared "in the form of generalized stories of victories and defeats" (p. 473). Tutoring can help in retaining specific managerial knowledge obtained from well-defined problems. In contrast to tutoring, mentoring aims at general guidance. Continuous reporting is intended to inform about "what one has learned" (p. 474), any experience following certain events, and to an end of an individual´s tenure to provide information about "(1) lessons learned; (2) problems encountered; (3) how some problems were solved and why, and some were not and why; (4) suggestions, recommendations, and advice to other managers regarding barriers and facilitators to doing the job; (5) how the successor might improve his/her effort and performance; and (6)

the legacy of the exiting manager" (p. 475). In the case of involuntary departure, Geisler suggests to involve incentives to increase the likelihood of participation.

Arif et al. (2009) propose a model that can be used to assess the knowledge retention capabilities of organizations. It comprises four steps, which are 1) socialization, 2) codification, 3) knowledge construction, and 4) knowledge retrieval. Additionally, the authors also specify four levels of maturity of organizations in knowledge retention. The first level refers to the knowledge shared amongst the employees. The second level is about whether the shared knowledge is documented. The third level asks whether the documented knowledge is stored and the final level refers to the accessibility of the stored knowledge.

Levy (2011) suggests three stages to successful knowledge retention. These are 1) scope definition (i.e. prioritizing the knowledge to be retained and the knowledge to be discarded), 2) knowledge transfer (i.e. organizing and sharing existing documentation and documenting undocumented knowledge), and 3) knowledge integration (i.e. the knowledge has to be integrated back into the organizations´ processes and routines). As regards a suitable documentation format, Levy recommends to take into account three factors, which are the epistemological type of knowledge, the complication level of the knowledge, and the existing formats of knowledge within the organization and specific area. The first factor refers to the type of knowledge, i.e. implicit or explicit knowledge. In the case of the former documentation should be based on demonstrations that could be captured via video or photograph. The second factor addresses the ease of knowledge transfer. Some knowledge is easier being transferred when the receiving party can listen and read. The third factor emphasizes that the documentation should be based on existing formats.

Even though a number of different approaches and methods are discussed, Peet (2012) accentuates that less is known about the efficacy or impact of these methods (in her case methods relating to tacit knowledge identification and sharing). In order to addressing this gap, Peet tested a specific approach to tacit knowledge sharing (i.e. generative knowledge interviewing), and explored its short and longer-term impact on knowledge creation and organizational functioning. The study succeeded in showing the usefulness of knowledge interviewing. The participating organization not only was able to reduce the costs relating to talent management and leadership transition, but also was also able to organize its human resource and talent management efforts more efficiently.

Whyte and Classen (2012) examined storytelling as a means of eliciting tacit knowledge from retiring subject matter experts. Knowledge elicitation involves techniques and methods that try to bring out knowledge of a specialist through forms of interaction. The techniques used could

be interviews, data analysis, knowledge audits etc. It has been shown that storytelling is useful for knowledge elicitation. The outcome of this method´s application appears to be supported by a KM taxonomy that helps capturing KM content and thus knowledge creation and knowledge reuse. However, some challenges are connected with its application: the participants´ ability to tell a story in an appropriate manner (some are unable to keep it short, some are poor storytellers) and time (capturing many years of work experience is a time-consuming process which could take months or even years, so storytelling is not a short-term solution).

Regardless of the type of knowledge being transferred or retained, the solutions chosen should be a combination of human and technical solutions (Frigo, 2006). As a mere focus, for example, on technical solutions will not work, as most useful knowledge cannot be captured in a computer system. Brown and Duguid (1998) assert "the demands for formality demanded by technologies can disrupt more productive informal relations" (p. 105). Therefore, these authors call for more support of the informal instead of just relying on communication technologies. Alike, Liu et al. (2010) stress taking advantage of both the codification and the network approach, as the former provides a means of keeping some knowledge in the case that network ties are lost.

Additionally, the culture and the context of knowledge need to be considered (De Long & Davenport, 2003). Moreover, the approaches should address all employees regardless of age, as critical knowledge can reside with younger staff as well and if ignored could also be lost (Rappaport et al., 2003). Eventually, today´s and tomorrow´s learners value other learning methods than past learners. So in order to avoid conflicts between the groups and to increase the successful implementation of solutions, the individuals in charge need to take into consideration different styles of learning (Juliano, 2004). This also implies that there is a careful selection of teacher and learner. Jackson (2010) highlights the fit between the approach chosen and the organization and its people. Thus directing to the relevance of having a contingent approach to planning and implementing an approach. This contingent approach refers to both managerial acceptance, and participation and adoption.

According to Delong (2004), the good thing with any introduced initiatives may be that the costs of losing critical knowledge become more visible therefore increases the significance of knowledge retention.

Factors promoting the transfer and retention of knowledge

The study of factors fostering knowledge transfer has shown a great interest among academics. In the following a list of these factors are presented. These factors will also influence knowledge retention activities.

- *Relational competence*. This refers to the ability of a party to initiate and maintain relationships (Hatak & Roessl, 2013). Hatak and Roessl (2013), who studied the

relationship between relational competence and knowledge transfer in the context of intrafamily succession, showed a high correlation between the two aspects and also that this relationship is highly significant. Relational competence was operationalized as a sum of empathy and solidarity, self-disclosure, persuasive power, social mindedness, ability to communicate, ability to cooperate and ability to handle conflicts.

- *Trust*. It is argued that the transfer and sharing of knowledge is facilitated by the existence of a trusting relationship between the persons concerned (Hislop, 2009).
- *Willingness to cooperate and participate*. The study by Fong and Lee (2009) has indicated the meaning of colleagues´ preparedness to cooperate and participate in knowledge transfer processes.
- *Type of knowledge*. Given the nature of the different types of knowledge, explicit knowledge is easier to capture than tacit knowledge (Grant, 1996; Levy, 2011).
- *Common language*. Without a common language, individuals "will neither understand nor trust one another" (Davenport & Prusak, 1998, p. 98).
- *Culture.* Culture is believed to be the main factor of putting knowledge management activities into action (Alavi et al., 2006). There is a need for a working environment that decreases attrition of high performing employees, given the close link between turnover and knowledge retention (Delong, 2004). A sharing culture should be strived for to reach the intended objectives. Consequently, before any strategy is implemented, there is a need to understand the situation in the organization regarding a knowledge sharing culture (Syed-Ikhsan & Rowland, 2004).
- *Management must make resources and time available for knowledge sharing activities*. It´s is not only about emphasising the relevance of knowledge management, it is primarily about creating space for activities related to KM (Van Zolingen et al., 2001) and providing access to resources supporting knowledge sharing activities (Fong & Lee, 2009).
- *Time*. This may not only refer to the actual transfer process but to any preparatory measures as well. Additionally, studies have suggested that the process of elicitation takes longer than the process of encoding (Jackson, 2010).
- *Senior management directive*. Studies have shown the critical link between management commitment and implementation of knowledge management approaches (e.g. Alavi et al., 2006; Jackson, 2010).
- *Motivation*. Knowledge transfer will also be influenced by the motivation of the source and recipient (Szulanski, 2000; von Krogh et al., 2001).
- *Stickiness*. The term refers to the difficulties encountered in the knowledge transfer process (Szulanski, 1996). Studies have shown that the existence of knowledge stickiness per se does not have a negative consequence of knowledge transfer process. However, once a recipient´s acceptable level is exceeded, higher knowledge stickiness will cause lower knowledge transfer (Li & Hsieh, 2009).
- *Absorptive capacity*. Despite high motivation, the individuals concerned may fail to understand each other or express their tacit knowledge (Cohen & Levinthal, 1990).
- *Context*. Any knowledge transfer and retention activities are expected to be facilitated by having involved the context surrounding the activities (Alavi & Leidner, 2001) as otherwise the danger of knowledge being lost is high.
- *Incentives*. They may be needed to increase the individual's willingness to contribute (Geisler, 2007).
- *Structure*. Knowledge that is embedded in rules and routines has been found to be less vulnerable in the case of turnover (Rao & Argote, 2006).
- *Work can be standardized*. Research suggests that the standardization of work reduces the likelihood that turnover will have a negative effect on organization performance (Rao & Argote, 2006).
- *Moving individuals*. This activity is considered a suitable approach to facilitating knowledge transfer. By this the individual concerned is not only able to acquire new

explicit and tacit knowledge but also able to transfer both types of knowledge to new contexts (Argote & Ingram, 2000).

- *Characteristics of the task.* Research suggests that similarity regarding the number of elements across the tasks increases the likelihood of transfer (Argote & Ingram, 2000).

Using the Delphi methodology, Sun and Scott (2005) identified 14 sources of knowledge transfer barriers, which arise from the four level of learning in the organization (i.e. individual, team, organization and inter-organization). Based on a literature review, Liebowitz et al. (2007) identified nine factors that affect tacit knowledge transfer which are trust, organizational culture, societal cultural issues, early involvement, due diligence, reciprocity, values, motivation to share knowledge, and intrinsic worth of the knowledge to be conveyed.

In another study, which was run in a South African organization operating in the water supply industry, Martins and Meyer (2012) identified nine key factors influencing knowledge retention. These were knowledge behaviour, strategy implementation, leadership, people knowledge loss risks, knowledge attitudes and emotions, power play, knowledge growth and development, performance management, and organizational support and encouragement. Regarding barriers to knowledge retention, time, other competing priorities, missing understanding of how to retain knowledge (Blankenship & Brueck, 2008) and lacking job satisfaction and talent management (Bessick & Naicker, 2013) were found. Jackson (2010), however, showed in a study, which addressed knowledge capturing that these activities can be integrated into everyday life in organizations through the application of simple technologies. Delong (2004) highlight further barriers such as lost knowledge costs are usually hidden; leaders don´t know where the organization is vulnerable; no one owns the problem of lost knowledge; there is no slack for knowledge sharing activities; management must do more than just capture knowledge. Regarding the latter, even though knowledge has been captured and stored it may not be found or interpreted in the right way (Parise et al., 2006). Indeed, very often there is a lack of contextual knowledge preventing the individuals concerned from interpreting extant documents in a proper way (Markus, 2001). In the same vein, Gammelgaard and Ritter (2005) categorize barriers to knowledge transfer into three categories, which are fragmentation, overload and de-contextualization. Fragmentation refers to the situation that knowledge is dispersed everywhere in the organization and therefore "unknown" to the individual organizational member. As a result, relevant and existing knowledge is often non-accessible, increasing the tendency for reinventing the wheel. The issue of overload is an outcome of the activities taken to overcome the fragmentation problem. Overloaded knowledge and information platforms lead to lower usage rates instead of higher ones. Finally, de-contextualization refers to any "situations where

knowledge was located but could not be retrieved due to problems understanding the matter" (Gammelgaard & Ritter, 2005, p. 134).

Another drawback is that some retention approaches do not focus on the network of relationships that is critical to getting work done but are limited to an individual´s knowledge independent of the relevance of the former (Parise et al., 2006). Jackson (2010) stresses that static capture of knowledge is insufficient in addressing the dynamic nature of knowledge as it overlooks that knowledge is in a constant state of change. The study by Fong and Lee (2009) suggested missing support by top management as one of the key factors, besides a lack of time, inhibiting knowledge sharing.

Delong (2004) also discusses five strategies and tactics for re-creating lost knowledge, as it is a common scenario that critical knowledge disappears overnight:

1. In the area where departing experts have left a gap, figure out what knowledge their successor do actually have.
2. Use existing artifacts and documentation to spark ideas and questions.
3. Reconstruct the relevant social network of veteran employees who have left.
4. Hire an outside consultant who is an expert in the area where knowledge has been lost.
5. Re-create knowledge by working on specific problems.

Considering knowledge loss risks in the federal government, Kaplan (2013) sees two main challenges, which are not found in the private sector. Firstly, the public sector is not driven by profit motives and the leadership is not "broadly held accountable as such" (p. 27). Secondly, federal governments are confronted with annual fiscal year budgets which prevent them from having a long-term focus, which contrasts knowledge management activities as they require a long-term perspective.

Succession planning

Succession is an event that sooner or later confronts all organizations regardless of their size (Dyck et al., 2002). Consequently, succession planning should take the highest priority within organizations in order to avoid the situation of "falling into a hole". According to Sambrook (2005, p. 580), succession planning refers to the "attempt to plan for the right number and quality of managers and key-skilled employees to cover retirements, death, serious illness or promotion, and any new positions which may be created in future organisation plans". Activities such as selection, development and training of the follow-up as well as activities by the predecessor such as documentation and induction of the successor can be assigned to this process. Succession planning is believed to help affected organizations to address this challenge

(Pynes, 2004), as it can provide relevant information about needed knowledge and capabilities. Therefore, succession planning is viewed as an important way to address retirement and its consequences (McQuade et al., 2007).

Succession planning represents a topic that is frequently studied in the private sector (e.g. Sharma et al., 1997; Cabrera-Suárez et al., 2001; De Massis et al., 2008), yet this is not the case in the public sector (Kochanowski, 2011; Frerichs et al., 2012). In the U.S., the financial crisis and its aftermath have contributed to a situation where even the small number of governmental agencies has terminated their plans into more just-in-time processes giving succession planning a very low priority (Kochanowski, 2011).

Even though succession planning should play a crucial role in organizations and therefore suitable measures should be in place, it is not unusual to observe that new appointees never meet their predecessors (Kransdorff, 1996). This in in line with findings by Brunold and Durst (2012), who studied job rotation activities in a multinational corporation, which demonstrated amongst others the frustration those appointees are experiencing. The existence of a successor however does not mean that this individual has the same level of knowledge as the predecessor they replace (Massingham, 2008). Besides the different types of knowledge and their idiosyncrasies, cross-generational biases will also affect knowledge transfer and resulting knowledge flows between the individuals (Liebowitz et al., 2007).

The link between knowledge management and succession planning

As company succession is viewed as an event for substantive changes in organizations (Virany et al., 1992), the loss of knowledge is a likely consequence of these changes (Treleaven & Sykes, 2005). Therefore, there is need for approaches that actively address this danger. In the case of succession, the transfer of knowledge represents a critical aspect in view of an organization's continuity (Cabrera-Suárez et al., 2001), as the knowledge of the managers and some key employees may be the source of an organization's competitive advantage (Barney, 1991). These individuals take with them a "substantial volume of tacit knowledge, operational heuristics, stores and organizational history" (Jackson, 2010, p. 908). The departure of anyone of them could therefore result in a lack of essential know-how important for organizational success and development. This in turn means that besides the financial capital the stock of human capital and relational capital of such an organization will be at risk (Jääskeläinen, 2007). That is the loss of a valuable organization member result in both financial loss and non-financial loss. Consequently, succession planning in order to be successful needs to take a holistic approach. This means that it should not be limited to focussing on the identification and selection of suitable successors but on the transfer of critical knowledge as well. Previous studies have shown (e.g. Brunold & Durst,

2012) that the danger of reinventing the wheel is rather high which can lead to a decreased motivation among the persons concerned.

Often critical knowledge is stored in people's minds; consequently, organizations might be at risk without these individuals. This underlines the importance of the codification of individual knowledge as a means to create a structural capital that can be owned by the firm (Subramaniam & Youndt, 2005). However, it has to be stressed that just because some knowledge is stored it does not necessarily mean that it will be found or used in the right way. On the other hand, these storage activities are less helpful in the context of tacit knowledge and relational capital. Thus, only a small portion of the entire knowledge a critical organization member possesses is captured (Parise et al., 2006). Still organization should try to implement replacement measures for those organisation members rich in tacit knowledge and relational capital at an early stage to mitigate the danger of knowledge attrition. Organizations that are able to retain critical knowledge are said to be better capable of acquiring and assimilating new knowledge (Schmitt et al., 2011).

It is argued that the transfer and sharing of knowledge is facilitated by the existence of a trusting relationship between the persons concerned (Hislop, 2009). This kind of atmosphere does not exist immediately but requires a knowledge sharing culture, in which individuals possessing valuable knowledge are motivated to share it with their co-workers (Egbu et al., 2005), and which diminish the "fear of exploitation" (Wunram et al., 2004, p. 271). In this context, Cabrera-Suárez et al. (2001) emphasise the importance of positive mutual feelings between incumbent and successor, otherwise the danger might be there that successors undervalue or reject the incumbent's knowledge. Additionally, work environments that are characterized by less competition among the co-workers may facilitate the willingness to share knowledge (Hislop, 2005). A further aspect that may foster knowledge sharing is company size. Smaller organizations in which functions and names are attached to persons and faces may have advantages compared to larger organizations where anonymity is found.

Given the demographic development organizations are forced to have a proactive approach towards succession planning.

Succession planning in the public sector

Kochanowski (2011) was interested in developing a system that U. S. governments can use to maintain its workforce institutional memory. This system should also ensure a selection and promotion of those leaders that are best prepared for filling critical positions. The system developed consists of a five-phased process: strategic and tactical plan, position/skills inventory, workforce plan, career development and succession plan, and feedback and monitoring.

Dumay and Rooney (2011) studied the reason for, and outcomes of, the New South Wales Land and Property Authority´s Vision 2013 plan to deal with the challenge of a rapidly aging workforce. The authors´ analysis suggests that the expected human capital crisis has not been as worse as expected, as the measures implemented contributed to improved processes and training of new hires, yet this mainly addresses the explicit knowledge. As tacit knowledge is concerned, the findings indicate a gap and thus a risk of knowledge loss.

In the context of succession planning, the issue of speed is relevant; speed in terms of how fast the knowledge is/can be transferred to the successor. Moreover, it is crucial to transfer the knowledge accurately, which is very important in the public sector (Syed-Ikhsan & Rowland, 2004).