Identifying and Utilizing Competence in Expert Organizations
How Do Companies Know What They Know

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Within recent years, there has been discussions on the lack of competence and lack of competent applicants to support the growth of businesses especially in Finland. Companies are reporting increasing amounts of employment mismatch which is seen hindering growth and innovation. The importance of competence is largely recognized but how much and to what extent companies do know about their existing competence resource?

The goal of this study is to examine how organizations identify and assess competence and find ways to improve the utilization of the existing competence resources. The focus is on knowledge intensive expert organizations and a total of seven representatives of this kind of organizations were interviewed for this study in the fall of 2019.

The results indicated that organizations already possess a good set of competence related tools and practices. However, in order to gain full advantage of the existing resource a holistic viewpoint to competence as a strategic asset and competence management should be attained. This would likely increase the quality of actions and information related to existing competence. Better understanding of the existing competence resource would lead to more informed decision-making enabling more strategic approach to competence management.

In the future technology is likely to change the existing practices in competence management and provide more comprehensive tools for strategic decision-making.

Key words: competence, competence management, identifying competence, hidden expertise, knowledge intensive organization, capabilities, skills
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1 INTRODUCTION

1.1 Background

In the information and service community, the success of a business is more and more dependent on efficient management of competence. (Laakso-Manninen, 2003a, 4). Taking care of competence is one of the core duties of any human relations management (HR), which is ultimately responsible for ensuring there is enough competence resource to support the success of the entire organization. (Viitala & Uotila, 2014, 98).

Within recent years, there have been numerous discussions on the lack of competence and lack of competent applicants especially in Finland. Companies are reporting increasing amounts of employment mismatch which is seen hindering growth and innovation. (Karkkola, 2019; Viljanen, 2019). In 2017 the Finnish government launched a call for action with Talent Boost, a joint cross-sectoral program, to attract and harness the talent and expertise of internationals to support businesses. (Työ- ja elinkeinoministeriö, 2017).

The importance of competence is largely recognized by companies and even seen as a critical asset but managing competence in a systematic way will require some attention in the future. (Deloitte, 2019).

Competence is built inside the structures, groups and within the individuals of the company and is often quiet and slowly evolving. The way in which competence is understood within an organization reflects the practices on how competence is managed (Viitala & Uotila, 2014, 98).

A single position will rarely require the use of all skills and competencies of an individual and therefore it is likely that competence is partially left unused (Kupias, Peltola, & Pirinen, 2014, 50-51). If the individual does not recognize competence, he or she may not be able to utilize the existing resource. (Sydänmaanlakka, 2015, 153). The same notion goes to organizations, if the organization is not aware of the existing competence or is not able to utilize it, valuable resources are neglected.
The notions of lack of competent workforce and lack of talent is a topical issue and is commonly seen problematic. Finland is a country of high level of education and advanced technological tools allow us to reach our colleagues easily even if they are on the other side of the world.

Therefore, it is interesting to look at the processes and structures used to track and identify competence. How much and what is actually known of the existing competence resource and if there are methods to develop the way competence is identified and utilized. Competence is not only gained by attracting but also retaining and harnessing the existing resources.

1.2 Objectives of the study

The objective of this work is to look at competence management practices within companies and to see what kind of processes or systems companies have in order to identify and utilize the existing competence within the organization. What kind of processes have been developed for identifying and utilizing the existing competence resource?

Competence of a single employee is largely underused resource with various skills, knowledge and experiences acquired in the past often neglected by organizations. Untapping the hidden expertise of employees could reveal great potential. But only the known competence can be utilized. (Kupias et al., 2014, 51).

The target is to learn how and what do companies know about the talent and expertise of their employees. Even though the concept of competence and managing competence is complex, the questions are related to relatively common situations in business management. For example, how do companies in large reorganizations know what kind of competence they already possess and what kinds of existing competencies are available for development? What kind of competence is not in the core of business operations but could potentially grow into something completely new?
The focus of this work will be on expert organisations where there presumably is a concentration of competence resources. Expert organizations are also likely to already have existing processes to identify and evaluate competence in an efficient manner and are therefore considered relevant in terms of this study.

The objectives and purpose of the study is:

- Find out how organizations identify and assess competence
- To find ways to improve the utilization of existing competence resources within expert organizations

### 1.3 Structure of the study

Structure of this work consists of four sections, a theoretical framework, methodology, results and summary.

The theory section will guide the reader through concepts of competence gradually moving into an organizational context. First a theoretical framework is presented with a focus on competence which is looked at from different points of view. First part of the theory will look at concept of competence and discuss different elements of it, finishing with a conclusion of competence which will define the viewpoint of this study. The second part of theory will discuss about knowledge intensive expert organizations and give a definition to what is meant with an expert and knowledge intensive organization within this study. Third and last part of the theoretical framework will look on competence management and practices related to identifying and utilizing competence.

After gaining understanding of competence and competence management within the context of this study, the methodology is presented with a description of the process of this study.

In the third part the results are presented. The last part of this study provides suggestions on best ways and describe elements that best support the identification and utilization of competence in expert organizations.
2 COMPETENCE

2.1 Defining competence

Competence or professional competence is often recognized by colleagues and peers. As we are trying to understand competence and find ways to identify it, we should be able to determine and recognize the factors belonging to competence. One cannot measure or develop something that cannot be defined.

The term, competence is vast, rather vague and there are various viewpoints which can be used. Before going further into the topic, it is necessary to define and narrow down what is meant by competence. In the following we will approach the concept of competence from four different angles, competence of an individual, elements of competence, how competence is constructed and finally how competence is shown from a performance point of view. This is done to ensure versatility in the context of competence is taken into consideration.

Competence according to (Kupias et al., 2014, 50) is a combination of knowledge, skills and attitudes all of which become visible through skillful and appropriate actions and can be viewed through an individual, team or through an organizational viewpoint. This notion is supported also by Otala (Otala, 2008, 50), who adds further detail and defines competence as a formation of skills, knowledge, experience, networks and contacts, attitudes and personal attributes, which help individual to perform in different tasks. All of the above result into a good work performance.

As illustrated in the figure 1 above competence is a set of individual traits which construct into a unique competence profile. All these elements are connected to the personal qualities such as motivation, energy and other personal traits of an individual which guide the development and orientation of competence. (Virtanilahti, 2009, 23-26).

Based on these descriptions we can result in a definition by Viitala (Viitala, 2005, 113), who sees competence as qualifications that individual possesses to answer the needs of a specific work or a task. To make a distinction between competence and skills, Viitala explains that skills refer to special knowledge and expertise that can be taught and applied to perform a specific task. Capabilities on the other hand are a broader set of metaskills that can be utilized in the working life and competence is more directly oriented towards a specific task or job.

2.2 Elements of competence

Competence constructs from elements that can be divided into three different dimensions (see figure 2). Skills, the sensorimotor dimension, knowledge, the cognitive dimension, motivation, the affective dimension and finally attitude. The
affective dimension consists of motivation which is seen as a dynamic fast changing element and attitude which is seen as more constant gradually changing element. (Viitala, 2005, 113-115).

An alternative viewpoint to competence is to look at the elements of competence from an organizational or an industry point of view. This will help in determining the factors by which competence can eventually be evaluated from. The qualifications which construct competence in an organizational context can again be divided into three different categories; overall qualifications which are useful for the individual in any organizational context, profession-specific qualifications, which contain for example information related to certain field of research and task-based qualifications being more specified for example with knowledge and experience of certain research methods or particular laboratory tests. (Viitala, 2005, 113-115).

2.3 Constructing competence

Competence is not only attained through education nor is it purely information-based knowledge. As mentioned before, it is a combination of traits, skills, knowledge and experience that cumulate through time and are applied in a particular environment according to the existing requirements. (Kupias et al., 2014, 50-51). As competence is a gradually developing entity it can be visualized as a five-tier pyramid reaching to the heights. See figure 3. Here competence is grad-
ually taking shape in the first tier with personal qualifications also called the normative qualifications which construct a base for future development. Innovative qualifications enable the individual to have flexibility, creativity and ability to react to unfamiliar issues. Social qualifications consist of communication and abilities related to empathy and interaction. The fourth tier; organizational qualification relates to understanding of the business environment and the final fifth tier rising all the way up into a field or profession specific qualifications and competence. (Viitala, 2005, 113-116).

![Pyramid of competence](image)

FIGURE 3. Pyramid of competence (Viitala, 2005, 116)

The final approach to competence is provided by Sydänmaanlakka (Sydänmaanlakka, 2015, 153) who completes the viewpoints on competence by taking more goal and strategy-oriented approach. See figure 4. Sydänmaanlakka’s approach connects competence and effectivity and thereby provides a good illustration on how competence and strategy are directly connected. Within the business environment there are elements such as company culture and other supporting structures that will have an effect on operations but eventually competence is the starting point of any effectivity of a business or an individual, which can ultimately cumulate to effectivity in long-term.
FIGURE 4. Defining competence (Sydänmaanlakka, 2015, 153)

Competence is shown through action and the ability to use one’s capabilities in the most efficient manner in accordance to the situation at hand. There is a difference between knowing, understanding and being able to apply of which the latter is proof of competence and should be supported within an organization. (Sydänmaanlakka, 2015, 152-154).

2.4 Organizational competence

Competence of an organization is an organism that cuts through the entire system. Competence of an organization is the shared vision that guides the operations. It can be an idea of an entity or a way of doing which is seen important and of value. (Otala, 2008, 53). Organizational competence is a competence creating and utilizing system which is connected to individuals, groups and organizational structures and it manifests itself by the flexibility and variety of means towards changes. (Viitala & Uotila, 2014, 99).

Competence is often scattered throughout the organization and needs structural support to ensure that all efforts are directed towards the completion of common goals. Even within expert organizations the supporting structures can be more important than competence of a single individual (Otala, 2008, 53) and often organizational competence is more than sum of its parts and will eventually change alongside the changes in strategy (Viitala & Uotila, 2014, 99). To be able to provide support, one must understand what organizational competence is and understand the elements that affect the entity.
2.5 Elements of organizational competence

Similarly, to the elements of competence discussed previously in chapter 2.2 Sanchez (Sanchez, 2004, 521) describes organizational competence through dynamic, systemic, cognitive and holistic aspects, which all have their unique effects on the competence of an organization. See figure 5.

![Diagram showing dynamic, systemic, cognitive, and holistic aspects of organizational competence]

**FIGURE 5. Elements of organizational competence**

Dynamic aspect describes the organizations capability to respond to the changes in both internal and in the external environment by maintaining its creativity during the changes. Systemic aspect describes the organizations capability in understanding its systemic nature towards its competitors and its ability to coordinate and control its assets accordingly. Cognitive aspect of the elements of competence focuses on the ability of the organization to manage the cognitive processes which are targeted towards both maintaining operations and potentially creating value in the future. The final, holistic aspect of organizational competence focuses on the ability of the organization to understand the complete nature of the environment with its stakeholders that are all partially intertwined. (Sanchez, 2004, 519-521).

All the elements described lead to understanding of the organic nature of operations which eventually creates the ecosystem of organizational competence. The elements are complex and theoretic but introducing them is seen important in understanding the importance and comprehensive nature of competence in efforts to identify them later during this study.
2.6 Five modes of organizational competence

Sanchez (Sanchez, 2004) compiled five aspects or “modes” of organizational competence to provide understanding on organizational competence. All modes are interrelated and therefore construct an organic competence model of an organization. The modes are:

1. Cognitive flexibility to imagine alternative strategic logic
2. Cognitive flexibility to imagine alternative management processes
3. Coordination of flexibility to identify, configure and deploy resources
4. Resource flexibility to be used in alternative operations
5. Operating flexibility in applying skills and capabilities to available resources

(Sanchez, 2004)

The main findings based on Sanchez’s five modes can be summarized as organizations flexibility and availability to access its resources in alternative ways to enforce various means for action.

The viewpoint Sanchez introduces to organizational competence is close to the idea of learning organizations, of which the main idea is that individuals possess all the necessary elements to make educated decisions which best suit the purpose when given a clear goal. This systemic approach enables flexibility and alternative viewpoints for operations allowing individuals to recognize and utilize the best possible means and resources to reach common goals.

Now that we have defined competence and taken a closer look at it from various points of view, we are able to go further with the discussions on how organizations are able to manage competencies.
2.7 Competence within a scope of this study

To conclude a summary of competence is given to open the viewpoints to competence as understood within this study. Illustrated in figure 6 below.
Competence is a combination of skills, knowledge and motivational elements that connect to the environment with personal traits supporting the manifestation of them. All elements intertwined; competence gradually develops with its surroundings compiling into a unique combination of tools one has in use.


Once connecting with an organizational context, competence will begin to reshape its form and connect with the surroundings. Organizations capability to understand, reshape, alter, support and guide these elements and the unique combinations will eventually determine its success within the ecosystem.
3 KNOWLEDGE INTENSIVE EXPERT ORGANIZATIONS

3.1 An expert

In comparison to others, an expert possesses more formal information and practical knowledge, is educated, trained and often creative in methods used when working. (Kupias et al., 2014, 56-57; Sipilä, 1991, 19). An expert is self-regulating, constantly developing, capable in analyzing and making conclusions. She or he independently develops his or herself and constructs plans which will ultimately resolve the issues in question. (Kupias et al., 2014, 61; Sipilä, 1991, 20-21). The traits and requirements of an expert are becoming more common in working life and are not only connected to knowledge intensive work. Versatility in competence, willingness and motivation for continuous development are key elements of experts in working life. (Otala, 2008, 23).

Competence of an expert is related to the flexibility and diversity in options to perform one’s job to ultimately create value as was also suggested by Sanchez in the previous chapter the five modes of competence.

3.2 Knowledge intensive expert organization

An expert organization is an organization where the work largely consists of on complex analysis, planning and development. The organization strives towards innovation and there are high levels of education amongst personnel. Majority of the employees are in an expert position and the organization is often dependent on its employees whose expertise are difficult to replace. (Sipilä, 1991, 23-25).

Knowledge intensive expert organizations are high on intangible human assets. These types of organizations are commonly flat, show high levels of networks and have continuous flows of information. Employees are independent subjects and often also considered being independent. Therefore, employees are expected to manage themselves, show entrepreneurial mindset and ability for self-motivation. (Troberg, 2003, 45).
The increase in knowledge intensive and expert work will change the way information and knowledge moves around organizations. Technology alone alters working life immensely and new kinds of solutions are needed just to meet the new demands. In expert and creative work value is created within the interaction. This is something no one can lead beforehand. When value is created in interaction it is greatly dependent on communication and personal contacts, which cannot be led with traditional methods. (Jarenko & Nylund, 2019).

When talking about leadership in knowledge intensive organizations and leadership of expert employees the word knowledge is often emphasized. When concentrating on knowledge alone there is a risk that the producer, translator and processor of the asset is human. Knowledge is everywhere but the key factor is the ability to understand, combine and process it to a higher level. Here people are the one making the difference. The next step in knowledge and competence management is to turn towards people. Tacit knowledge is within people. Deeper understanding of the nature of tacit knowledge and the utilization of it requires understanding on how memory, thinking and information processing works within humans. Knowledge intensive organizations are human-centered organizations and withhold multiple complex elements that are still found difficult to manage and understand. (Troberg, 2003, 47).
4 COMPETENCE MANAGEMENT

The interest in competence within management thinking rose in the 1980’s when companies were started to be seen as unique resource entities. During the following decade, in the 1990’s the focus deepened, and management thinking focused on analyzing and conceptualizing competences within organizations. (Sanchez, 2004, 518).

4.1 Competence management

Competence management is a broad leadership context and contains all the elements and purposeful actions that are used to develop, reinforce, reinvent and acquire competence required by strategy. As shown in figure 7 competence management, as competence itself, is a multilevel phenomenon into which individual competence is also directly linked. (Viitala, 2005, 14-16; Virtainlahti, 2009, 68).

The true value drivers of any organization are the systems and practices which cherish competence, support learning and encourage to seek and find alternative solutions. (Otala, 2008, 24) The goal of competence management process is to continuously develop organization’s competence resources and learning in ways that enable the organization to fulfill its goals. The entire process stems from vision, strategy and goals. (Sydänmaanlakka, 2007, 131).

Before the development plans for competence are made, it is important to understand the current state and locate the existing competence resources. After this the desired future state is described and the competence structure of an organization is broken down to specified strategic development plans which are then linked into practice. Future vision of the state of the organization is a critical part of the development. If one does not determine the desired outcome or know the starting point one cannot plan the route to get there. A clear vision and understanding of current state are needed to begin to understand the needs and focus areas of the future. (Viitala, 2005, 15-16).
4.2 Managing competence resources

Every company and organization know how much capital they have and where they are currently located. Majority of organizations are also aware of how much capital is needed to pursue necessary actions and where these assets can be attained from. Productivity of actions and investments are monitored at the highest management level, but why is it that competence as one of the key resources especially in expert organizations is rarely attaining the necessary attention?

In order to harvest the existing competence resource, competence needs leadership. Without leadership competence will not evolve together with the business and by that create an actual resource. At this point it must be noted that competence management is not a value itself but rather a tool to reach a desired goal. (Otala, 2008, 81).
Competence needs to be led in a similar manner as other resources within a company. Competence resource needs to have goals and the effectivity of actions made need to be systematically monitored and evaluated. This calls for leadership structures and processes also for competence management. Figure 8 shows a structure for managing competence. Competence needs to be made visible and verbalized with common terminology or purpose structure in order to create shared understanding of what competence is within the organization. (Otala, 2008, 81-82).

![Plan for competence development](image)

**FIGURE 8.** Competence management process produces development plans and monitor the state of competence resource (Otala, 2008, 94)

Having a competence strategy or a strategic architectural structure to guide decision-makers to acquire and redirect existing competencies is a crucial connection between today and the success of tomorrow. It will help managers to imagine the future state of operations and thereby reach a better understanding of what the current status is and where the resources are needed in order to reach goals. (Hamel & Prahalad, 1994, 117-121; Otala, 2008, 142).
4.3 Managing strategic competence

Strategic competence is the kind of competence that is vital for realization of the company strategy. This kind of competence is often described as core competence. (Viitala, 2005, 63). Core competencies are connected to vision through the future added value they will produce to the organization. An analysis based on core competencies is a process where management alters their viewpoints on clients, technology and development into clear choices on what the focus areas of the business will be in the future. With these new focus areas, new core competencies are recognized. These core competencies will then lead the way on how the vision will be actualized. It is good to understand that strategically vital competence is always connected to a certain task. The tasks needed for the future will be chosen based on the strategic choices the organization makes when deciding on the focus areas. The entire personnel development system is possible to be connected to the organizational strategy through enforcement of core competencies. Given the organization will base its strategical development on defining, mapping the existing and picturing the future core competencies it will provide a strong developmental basis for its future operations. (Laakso-Manninen, 2003b, 30-31).

Strategically valuable competence is a dynamic phenomenon and one of its unique elements is connected to the social element of competence. These dynamic elements tend to fit poorly into traditional management processes, where it is more common to reach static and mechanistic images of competence and focus on ownership rather than gaining true understanding of the resource at hand. (Kirjavainen, 2003, 88-89). This is likely to be one of the reasons why competence management is often seen complex and competence a difficult area to manage.
There are at least three different limitations where competence management has been struggling with; the multidimensional nature of competence, the strategic understanding of unrecognized competence needs and finally deep understanding of individual competence. (Kirjavainen, 2003, 81). It also needs to be noted that understanding of the existing competence structure needs to base on information on competence and not subjective assumptions or perceptions. (Laakso-Manninen, 2003b, 33-34).

As shown in figure 9, in practice the complexity of competence management is caused by the multilayered nature of competence. Companies recognizing this have executed different kinds of vaguely intertwined practices each supporting different elements of competence. For example, individual competence might be led with three separate practices simultaneously. One focusing on the elements of a particular task, such as sales in numbers and one focusing on qualitative elements monitored with behavioral indicators. On top of these there might also be registers where individual report their own assessments on competence. As it can be seen the context becomes rather complex and therefore companies have decided to leave the attempts of trying to define or map their competence resources, which on the other hand leads to lack of leadership in competence management. (Kirjavainen, 2003, 81-82).
It is suggested that only an organization that functions with a complexity of a brain can meet the needs of competence management. Organizations will need every single one of its members to manage, interpret and visioning the future solutions to keep up with the competition. The most important factor is to support the continuous development and reflection of competence resources in a way to which all levels of organizations will participate in. (Kirjavainen, 2003, 82).

4.4 Research on competence related practices

Recent study shows that continuous learning and development of competence are among the most topical issues of human resource managers in Finnish companies today. Two thirds of the responding Human Resources (HR) representatives and managers recognize the importance of learning and development. An interesting notion shows that despite the seen criticality and importance of competence, only 41% report having connected competence for example to reward systems. For 55% of the responding organizations, learning and development of competence is not supported and is mainly at a responsibility of an individual employee. (Deloitte, 2019). Elements that an organization decides to monitor, measure and reward have a direct effect on organizational behavior. When ways of working and thinking change, it is likely that also things that are seen of value, change.

Despite the problems, there has been a great shift in higher management thinking which emphasizes changes within the organizational environments we are now witnessing. In 2017 managers were focusing on building the organization of the future and now, two years later most of the companies are now doing active alternations towards agile and team-based operations. Now the focus is on reducing hierarchies towards more efficient team-based operations which is reported to increase efficiency and functionality in organizations. (Volini et al., 2019, 55-58). In 41% of the cases from study made in 2019 HR representatives report an ongoing transition in practices towards shared responsibilities between business units and HR functions in competence management actions. This is seen the
most successful way to support competence management and learning. Unfortunately, efforts are still failing due the lack of support and knowledge of competence development. (Deloitte, 2019).

Interestingly, studies also suggest that HR functions might be the reason for the hinderance of development and argue that HR as a function have not been able to renew their practices to meet the challenges of global marketplace for work. Some even report that leaders and HR managers themselves do not believe their organizations would be ready for necessary changes and stubbornly continue focusing on processes and practices rather than concentrating on strategy and improving quality in decision making for example with the help of advanced analytics. (Cascio, 2016, 112; Fuller, Raman, Wallenstein, & de Chalendar, 2019).

Data could not only improve decision-making but also provide an objective base for developing practices in competence management and ways to identify competence. In Finland the assumptions related to capabilities and competence are traditionally been connected to status and position within an organizational hierarchy. The value and potential of a person is seen to be reflected from the position the person holds. At its worst, possible lacks in competence produce shame and a need for hiding the shortfalls in critical areas. (Viitala, 2005, 17). In fact, human nature is not necessarily the ultimate companion when it comes to decision-making with competence, knowledge or intellectual capital. A case study was conducted to see what kind of struggles participants had related to the perceived value of their knowledge or intellectual capital. The study focused on knowledge-intensive organization context and showed that not only employees but also executives routinely altered their perceived expert knowledge in self-serving ways even when it was not favorable to the organization. (Lyon, 2005).

4.5 Identifying competence

As mentioned in chapter 2.6 competence provides stability, power and options for the organization. The benefits are clear but how to identify and assess competence is much more difficult. Even though competence is seen as an important
asset and is highly valued among organisations, there are still major gaps between the need and the means on how to identify the much appreciated and seemingly scarce resource.

Organizations should be aware of what kind of competence it possesses, who holds critical competence and recognize the potential within the existing competence. To be able to do this organizations should be able to produce a management system that recognises, appreciates, shares, develops, creates and utilizes competence. With having this information at hand organizations will be able to allocate necessary resources and introduce appropriate assessment methods for competence. (Virtainlahti, 2009, 74-75).

4.5.1 Methods to identify competence

One of the first steps in identifying competence is recognition of the quiet knowledge and information. It is vital to understand, what is the dominant culture of our organization? How does our organization understand competence and how much knowledge and experience is appreciated? Is there only value in formal education or are there other forms of existing potential? (Virtainlahti, 2009, 81).

In practice competence is still often managed with competence mapping, different kinds of competence assessments and training activities, even though they cover only a part of the field of competence management (Viitala, 2005, 122; Virtainlahti, 2009, 68) but serve as tools for identifying competence.

Competence mapping aims to describe all competencies that the organization currently holds and what kind of competence it needs in the future. Competence mapping can be made by different levels by an organization, team or by a certain competence group. Self-assessment, developmental discussions and evaluations such as 360-evaluation can be utilized as tools for competence mapping. (Virtainlahti, 2009, 91-92). Despite the good purpose competence mapping has been criticized for producing only a little value in comparison for the heavy maintenance processes it requires to stay up to date. It is vital to determine the correct level of detail for competence mapping to stay functional and not remain too vague. (Viitala, 2005, 123).
Competence assessments come in various forms and with different depth. Depending on the target, there are numerous ways to provide viewpoints to existing competence level. Leadership skills are commonly assessed with 360-degree assessment, but other commonly used assessment methods are for example personality, aptitude, skill tests and interviews which all are utilized as a means of assessment for various purposes. Competence assessment faces similar challenges than any other assessment or measuring element within an organization. Assessed elements should always be clearly focused, they should be commonly accepted, simple, understandable and as transparent and as fair as possible. (Viitala, 2005, 156-160)

Adults are effective learners when they own the assessment process themselves. This means that when the person himself or herself is the primary evaluator of competence, it will produce greatest results. The assessment process should be supported by different assessment methods and systems but having ownership is critical in attaining the best results. (Viitala, 2005, 152)

Competence profiles are usually connected to competence mapping. They are predetermined listings of capabilities with different levels of expertise against which individual’s competence is evaluated. The idea behind the profile is to visualize the necessary competence profile for example to be used in recruitment process. It can also be used as a tool for individuals to understand the requirements for certain types of task groups or positions. Competence profiles can take different forms, but the key requirement is to determine clear goals and standards for development. (Viitala, 2005, 121; Virtainlahti, 2009, 92).

Documentation is a good way to identify tacit knowledge and hidden expertise. Documentation is a method where competence of a person is described in detail. Verbalizing helps not only the organization but also the individual to recognize existing competence. Documents can be used to share this information and help gaining awareness of existing competence resources and capabilities. (Virtainlahti, 2009, 94-96).
Roles are one but not necessarily as commonly used method in identifying competence. Mostly used in helping individual to determine one’s own competence. The basic idea is to begin to understand different elements of the position by opening it up through different roles and deepening the view with differentiating skills and capabilities associated with each role. (Virtainlahti, 2009, 96).

**Storytelling** as a method is suitable for individuals but also organizations. It helps to understand what kind of competence and capabilities are gained through concrete situations and developmental lines. Stories can be verbal, filmed or drawn to a timeframe but the idea is to twine different elements of competence together with a method that is easily approachable by anyone. Storytelling is a rather unique way to understand competence because it also takes the social element of competence into account. Historical perspectives are always present and therefore introduce a good base for contemplating the development. (Virtainlahti, 2009, 97-98).

### 4.5.2 Understanding one's own competence

One of the problems with competence is that people do not understand their own competence nor capabilities and therefore are not able to appreciate or verbalize the skillset they possess. Methods that bring the existing competence to awareness boost confidence. Lack of appreciation of capabilities and hindering their value is a common phenomenon, which should be brought to attention. Supervisors hold a key position in helping to understand the existing potential and the value of existing capabilities but the ability to verbalize one’s own skillset is vital for everyone to spread awareness of one’s own potential. (Virtainlahti, 2009, 82).

The Finnish Innovation Fund Sitra also found the issue with identifying competence problematic and in 2017 announced a competition for new solutions to identify and utilize the existing competence in an increasingly international world. One of the prize winners was a positive CV which helped young adults and children to recognize, appreciate and verbalize their own capabilities in different way already from a young age. (Nissinen, 2017). Positive CV introduced elements supporting positive self-image in helping one with elements such as, ability to recognize one’s own capabilities, ability to receive positive feedback and appreciate also
those elements of competence that are not mentioned in formal certificates or in
degrees. (Uusitalo-Malmivaara, 2017).

4.5.3 Interaction and networks

Organizational learning, knowledge transfer and sharing are important elements
of competence management. Networks and connective elements of competence
are in a key position in enabling learning and interaction within organizations.
Unfortunately interaction is often practiced in the form of developmental discus-
sions (Viitala, 2005, 13). Developmental discussions are important but will not
provide sufficient base for networks or unformal connections to take place.

Supporting organic, brain like operations that was discussed earlier in chapter 4.3
to answer the needs of a modern business environment, an organization will need
to introduce elements that will support and encourage development of networks
across the formal organizational boundaries or hierarchies.

Organizational changes promoting teamwork and networking are showing better
performance rates. The ability to react fast and move people around to locations
and projects is one of the key elements introducing flexibility but still in 2019 only
31% of the organizations are reporting that most or all work is done in teams.
Despite the high acceptance of agile leadership, a lot of organizations are still
having difficulties in introducing the methods supporting team-based working into
action. The necessary changes affect the way budgets are allocated, how people
are rewarded and how collaboration is done and promoted within the organiza-
tion. (Volini et al., 2019, 53-55). The changes of this scale are slow and require
new type of thinking. This challenges companies also to rethink the way compet-
tence is understood and evaluated. What are the elements that truly are worth
rewarding and how can organizations develop them effectively and transparently
to avoid bias?

Knowledge is a dynamic asset which comes to life in interaction and flow of infor-
mation. Without connections and interaction, the necessary information and at
the same time competence cannot flow and reach its full potential. The more in-
tertwined connections organizations have the more possibilities there are for in-
formation flows and strategically meaningful encounters which could potentially
lead to new innovations. (Laakso-Manninen, 2003b, 30-31). Organizational Net-
work Analysis (ONA) provides an interesting possibility to visualize and under-
stand the underlying social connections within organization. It provides an analy-
sis of the informal networks that lie beneath the formal processes. Understanding
these informal connections allow organizations to truly understand how the or-
ganization works but also to identify elements, individuals and competence criti-
cal to success of operations. (Cross et al., 2013; McDowell, Horn, & Witkowski,
2016).

4.5.4 Culture

There is already proof of organizations transitioning towards team-based opera-
tions with low hierarchies where organizations reward its members based on their
influence and impact instead of seniority or their title. (Volini et al., 2019, 56).
Changes like this are likely to cause or be the result of changes within the organ-
izational culture.

Organizational culture creates a framework and rules for how and what kind of
competence is valued and appreciated. In case the organizational culture is
highly competitive, there is a high risk of envy and depreciation of others. Thereby
also appreciating and recognizing one´s own competence becomes more diffi-
cult. In these kinds of cultures individuals tend to hinder the value of others and
depreciating competence and knowledge of others to raise one´s own position.
(Virtainlahti, 2009, 83).

By studying star-performing teams it has been noted that additional value in op-
erations is attained by creating an atmosphere, which supports the recognition
and willingness to allow the usage of competence to benefit of the organization.
It is said that only the competence that experts are willing to provide can be har-
vested into the use of the organization. Therefore, the fullest potential is only
reached within an environment where experts dare and want to invest their full
capacity to the benefit of the organization. (Jarenko & Nylund, 2019).
4.5.5 Technology

Information, knowledge and competence are valuable assets in any organization but especially in knowledge intensive organizations. In a modern dynamic business environment, information flows are fast and companies keeping track with competition cannot rely purely on human workforce. Information must spread rapidly and be attainable whenever and wherever needed. With the help of information systems and technology companies are better able to understand and interpret the existing resources (Laakso-Manninen, 2003b, 32).

The capability to absorb new technological tools into practice can potentially provide competitive advantage for the organization and be vital for survival. Competence is one of those highly valuable assets that knowledge intensive organizations will have to monitor, assess and keep track on in order to succeed. With the rapidly changing world and ecosystem of work we simply cannot know for sure what kind of competence will be needed tomorrow. Artificial intelligence and machine learning can provide solutions and give insight for competence management of tomorrow. One interesting solution is HeadAi, another winner of The Finnish Innovation Fund Sitra 2017 competition for identifying competence. HeadAi utilizes open data to produce competence maps for varying purposes. The ability to process large amounts of information provides far-reaching insights on possibilities and future scenarios. The solution can help organizations in determining what kind of competence do they currently possess and what kind of competence is lacking. This kind of information will provide a strong basis for strategic development for any organization. (Passi-Rauste, 2017).

Technology and artificial intelligence complement and provide a better basis for human decision-making. Enabling more accurate data and in-depth analysis on the matter at hand new technological solutions can transform the ways decisions are traditionally made. For example, when looking for a prospective recruitment or a new project group, a human would rely on intuition, strategic thinking and possibly to some data sources, artificial intelligence could widen the scope by providing a real-time analysis with trend, forecasts and recognize hidden potential amongst candidates. Artificial intelligence could provide consistency and optimize the results in decision-making at a systemic level. (Olsson & Huhtamäki, 2019).
One interesting emerging solution to help in identifying and managing competence in organizations could become in the form of Professional Social Matching (PSM). Collaboration is an essential part of business operations and information and communication technology could provide social matching tools for future organizations. The technology is under development, but ideas are very promising. The core idea is to connect individuals by utilizing computer-aided technology. PSM could for example be used for recruitment, headhunting, team formation, mentoring or just for networking purposes. Technology could provide insights on connectiveness of individuals by exposing existing networks and identifying competences and making recommendations for suitable partners. (Olsson, Huhtamäki, & Kärkkäinen, 2020).

The benefits of having computer-aided tools in decision-making would help limiting human-bias, intuition, cognitive short-cuts and boundaries of human understanding and by that enhance quality of decisions. Having a more objective partner in providing viewpoints for example in team-formation could result in identifying unexpected combination of people to create communities which could benefit the entire organization. (Olsson et al., 2020). Competence being one of the critical assets organizations today have, it will be really interesting to see how the technological solutions will be utilized for harvesting and managing competence resources in the future.
5 METHODOLOGY

5.1 Research approach

Qualitative research is seen fit for the target of this study since the primary goal of it is to describe and understand the existing world. Because the issue in question is somewhat difficult to structure and because the goal is to reach an understanding, a qualitative study is a good solution to gain understanding of the existing practices in competence management today. Quantitative methods could be informative and provide valuable insight to the research topic once a primary understanding of the matter is attained. (Ojasalo, Moilanen, & Ritalahti, 2014, 105). At this stage of the research work, in order to gain understanding of the practices and realities of today, a sample was collected with qualitative methods. Based on the sample, an analysis was made in efforts to interpret the existing practices and operations surrounding competence.

When selecting a method for research project the primary target is to determine what kind of information is needed. After this it is possible to choose the best and the most suitable method for development. (Ojasalo et al., 2014, 40). For this project, the goal was to understand and attain information on practices of how organizations recognize, asses and utilize their existing competence. This kind of information is located inside the organizations and rarely if at all accessible from secondary sources. Therefore, it was practical to seek this information directly from the organizations and directly from the people managing and developing existing practices.

Benchmarking is a method which studies successful organizations with attempts to find out reasons behind the successful operations on an area of interest. Usually benchmarking is done in circumstances where the areas of interests are clear and well defined. (Ojasalo et al., 2014, 186). For this project benchmarking was chosen because the information on existing practices will be received directly from the organizations and persons of interest. Even though the research problem surrounding identifying competence is complex and practices vary, bench-
marking was seen the best and the most suitable alternative to find reliable information from actual ongoing procedures that could potentially benefit the commissioning organization.

5.2 Data collection

5.2.1 Sample size

Qualitative research does not seek for commonalities or generalizations. The focus is on describing a phenomenon and trying to seek deeper understanding of the matter in question. The number of interviews within the scope of final thesis will rarely reach scientifically significant level. Commonly accepted number for interviews is approximately 6-8. This will not be enough to saturate the answers but is still considered a good amount to gather information in thesis context. (Tuomi & Sarajärvi, 2018, 97-100).

In this study the invitations for the interviews were originally sent to 10 organizations of which 8 agreed to participate. One interview was cancelled and therefore the final sample consists of 7 organizations.

5.2.2 Sample selection

In qualitative research one alternative for selection of the sample is elite sampling. In elite sampling the data is collected from individuals who are expected to possess the best knowledge or professional experience of the matter in question. (Tuomi & Sarajärvi, 2018, 99).

In this work elite sampling was the best alternative to acquire information in the most efficient manner. Because competence was the key element of interest, the interview invitations were sent directly to persons working in Human Resources (HR), Human Resources Development (HRD) and/or Competence Management roles in knowledge intensive organizations. These individuals were seen most suitable since they were likely to be responsible of competence management or part of the development functions related to competence and therefore were likely to have access to information on practices and challenges of competence related
operations within the organization. Participating organizations were selected for interviews amongst organizations likely to have high levels of knowledge intensive expert positions and specialized knowledge from different fields.

5.2.3 Interviews

When research focuses on what someone is thinking or why someone is operating the way they do, the best way to attain information is to make an interview or a survey directly to the person or the organization in question. (Tuomi & Sarajärvi, 2018, 84). A survey allows gathering data in large numbers in a reasonably small amount of time. The limitation of this method is that the matter in question should be well known, questions simple and strictly structured and organized beforehand. (Ojasalo et al., 2014, 40-41). Because competence itself is a rather complex matter, there is a high possibility of misunderstandings. A survey would not be ideal for this research at this stage. Also challenges in designing a structured questionnaire fit to each competence management structure poses a risk in losing valuable information if the questions are not designed successfully. For these reasons a survey was ruled out from this project.

Interview as a research method is flexible and molds itself into various scenarios. (Hirsjärvi & Hurme, 2000, 14). A structured interview is close to a survey with strict set of predetermined questions which are presented in order in all interviews. In comparison to structured interview a semi-structured interview allows more flexibility and space for new ideas with a focus on themed questions. This method, also called the themed interview, is a good way to attain information on matters not so clearly defined or known beforehand. Themed interviews are guided by preset themes but do not follow a strict script allowing more space for open communication. The order of the topics discussed, phrasing and the questions can be weighed differently during the interview if seen necessary. Another benefit with themed interviews is the possibility to alter questions in case interesting topics emerge during the previous interviews. (Ojasalo et al., 2014, 40-41).

In this study, the interviews were based on predetermined themes. The interview themes were: competence management, identifying and assessing competence,
competence related information and data, rewarding, utilizing competence, development and future challenges. The structure of the questions and emphasis between the themes could be altered depending on the interview. Having differences in the structuring of the questions or altering questions altogether poses questions regarding equality of the interviewees. (Tuomi & Sarajärvi, 2018, 84-92). This was not considered problematic because the goal was to understand how companies identify competence and try to attain as much information as possible on the existing practices. Therefore, the questions were asked if suitable allowing the interview to flow based on the information received on the existing practices regarding competence.

Interviews for this study took place in October and November 2019 mostly in the premises of the interviewed organizations locating both in Pirkanmaa and in the capital region. The length of the interviews varied between 42-59 minutes.

The key questions were sent to the interviewees together with the invitations allowing the interviewee to prepare for the interview. By sending the key questions beforehand ensured that the organization was able to determine the best possible person to participate to the interview. For practical and ethical reasons, the topic of the research was included to the invitation. (Tuomi & Sarajärvi, 2018, 85-86). Please see the interview invitation in Appendix 1.

Themed interviews were recorded and transcribed for deeper analysis. (Ojasalo et al., 2014, 110). Notion of the recordings was made for the interviewees before the interview and all interviewees were given a chance to decline. All interviewees agreed for the recordings.

Recording was seen as an important part of the interview process because it allowed discussion to flow naturally without unnecessary brakes. It also enabled capturing the small relevant elements such as pauses which might become of importance during the analysis phase. It was also the only way to revisit the discussions to allow complete analysis of the interview later. Revisiting would not be possible with notes, which could eventually distort the results or possibly leave important factors aside from analysis. (Hirsjärvi & Hurme, 2000, 92-93).
5.2.4 Interviewed organizations

Organizations interviewed for this study operate in various fields of business. Below the participating organizations are grouped by the field of business.

Business consultancy
- 2500 employees, international operations
- 250000 employees, international operations

Digitalization, technology and Information management
- 560 employees, international operations
- 600 employees, international operations
- 330 employees, national operations

Insurance
- 3500 employees, national operations

Technology and automation supplier
- 13600 employees, international operations

The organizations interviewed for this study come from different fields, but all represent knowledge-intensive businesses and therefore were likely to possess a high level of expert positions. Five of the organizations mentioned that 100% of their staff are experts, one of the organizations estimated the number of experts being around 20% and one reported 67% of their employees working in expert positions. 6 out of 7 organizations have their headquarters in Finland.

Organizations had various forms of operations ranging from flat organization with no official hierarchy all the way to complex matrix organizations. Also size of the companies varied remarkably. Due to the variation in size, field of business and organizational structure between the organizations the representation of knowledge-intensive expert organizations in Finland is considered good.
5.3 Data analysis

5.3.1 Transcription

The themed interviews were transcribed. The transcription process followed a suggestions given by (Hyvärinen, Hyvärinen, Nikander, Ruusuvuori, & Aho, 2017, 427-429), which begins with defining the depth and the accuracy of the transcription. This was determined based on the research question. Because the goal of this work was to understand existing practices and processes and not to understand the interviewees way of thinking, the interviews were transcribed based on what was said during the interview and elements such as pauses, intonation or emphasis in tones of voice were excluded from the transcription.

As suggested by (Hyvärinen et al., 2017, 419) the data was anonymized during the transcription process so that identifying factors were altered or erased all together. Names of the interviewees were coded as H1-H7 where H indicated the interviewee and the number differentiated the interviewees from each other. The exact locations of the interviews are not revealed but categorized with description of larger areas Pirkanmaa and Capital region. Some notions were deleted altogether of the transcription because they were seen to possess high connections to the organization in question. The original recordings are erased after the analysis is completed and therefore no direct identification methods of the interviewees will remain.

5.3.2 Analysis of data and interpretations

In this study, the final data consists of transcribed material and recordings. The transcribed material extends to 90 pages of material to be analyzed alongside the original recordings. The original language of the interviews remains with the transcribed material.

The transcription process itself is a crucial part of the analysis. It is a gateway to the material and forces the interviewer to take distance on the actual interview situation. During the transcription process, the elements of information slowly begin to reveal themselves once the material is processed further. On this notion
it must be stated that as the interviewer makes assumptions and interpretations during the interview, also the transcription process is partially based on selection which objectivity is somewhat impossible to avoid. Therefore, the transcription is ultimately only one description of the event. (Hyvärinen et al., 2017, 437).

The analysis phase follows the common model of analysis in qualitative research. The process is visualized within the figure 10 below. The process begins with gathering the information to a form which is ready for the analysis. In practice this often means transcribing or digitizing the material. In this stage it is important to pay attention to the markings so that the elements can be recognized and labelled later. After this is done, the data will be processed by providing simplified, grouped or abstracted information of the data. This is followed by the interpretation phase which focuses on combining the theory and the findings to create meanings. Different strategies for these are for example clustering, counting, pattern finding, comparisons noting relations between variables to name a few. Criticality throughout the process is crucial in order to avoid distortions. Therefore, all the notions and findings must be justified so that the reader does not need to make conclusions and is eventually able to evaluate the statements. (Ojasalo et al., 2014, 137-145).

FIGURE 10. Common model of the analysis phase in qualitative research. (Ojasalo et al., 2014, 138)
As suggested by Ojasalo et al. (Ojasalo et al., 2014, 110-111). The analysis itself began with reading and listening to the collected data. After several readings, themes and certain recurring phenomenon started to emerge. Based on these recurrent elements the transcribed data was broken down into themed areas of interest. Themes allowed focus on the commonalities shared by the group of interest. Another aspect was to seek elements differentiating the approaches towards competence and its identification methods. This approach was seen most promising in providing valuable insights on different viewpoints and open the reasoning behind practices organizations have towards competence.
6 RESULTS

During the interviews it came clear that the topic related to competence is complex as suggested also by the theories described in previous sections. In practice most of the organizations understood and saw competence as an entity, which has multiple sides. Most of the organizations mentioned that they do not currently have a complete image of the existing competence resource but were hesitant whether gaining a complete understanding would even be possible or sensible with available tools.

Even though the interviewees were not asked to define or elaborate their own understanding of competence, versatile elements connected to competence came up frequently during the interviews. For example, motivation and ability to commit to the organization were brought up rather often when discussing about experts. Although not connected to competence directly it was considered an important element in retaining the employees within the company.

In the following section, the results of the interviews are gone through more in detail starting from practices related to information, competence management, identifying and utilizing competence and finishing with a future dreams the organizations had related to competence within expert organizations.

6.1 Competence related information

During the interviews the organizations were asked what kind of information is collected related to competence and how it is utilized. The goal was to see what kind of data is considered relevant or possible to collect and thereby understand more on how much competence related data is actually at hand and used by the organizations.

6.1.1 Information collected by the organizations

Most of the organizations had collected information on the formal education and training of their employees. Information related to attained degrees and certified trainings were stored to internal information systems in all the companies. Some
companies also gathered information related to previous working experience, other trainings and experience in different types of projects.

Another type of information commonly stored regarding competence was connected to developmental discussions. This was done in all companies. The developmental discussions were recorded to a system where the information could be attained when necessary. The type of information consisted mainly of targets and developmental areas to achieve within a certain timeframe.

In one of the organizations the software provided an opportunity for an employee to report interest for internal transfer, which could then be taken into consideration during resourcing activities.

Two of the organizations mentioned that they use competence matrixes which track and record the capabilities and their development related to a specific position.

Two of the organizations also collected information with a more comprehensive view of competence by gathering information on elements reflecting all aspects of competence described in previous chapters defining and describing elements of competence and not only limiting to formal education and experience. The data related to competence was gathered mainly utilizing tests and assessments.

One of the organizations had decided to leave information of assessments unrecorded completely. They did not see the benefits of recording the type of information that would be obsolete by the time of processing. Instead information on core competences was monitored and tracked continuously.

The information described above was most commonly accessible to HR or equivalent, the employee and the supervisor. This was mainly due to the fact that the data was stored in HR systems, where sharing the information is not possible for confidentiality reasons. In one of the cases some of the collected information was considered strategic and therefore was only shared with HR or equivalent and the supervisor.
The responsibility of storing and updating the information was mainly at the employee. Supervisors entered information to the information systems when related to the developmental discussions or when pursuing with the evaluation to competence matrixes.

Three out of seven organizations had implemented a shared internal platform for competence related information. Mostly the information consisted of CV type of data with additional information of the person. The additional information was implemented with different ways but mostly in a form of a written text. Employees had control over the matters they decided to share with the rest of the organization and the decision on whether to use the platform was mostly optional but recommendable.

Two out of seven organizations collected information regarding the affective dimension of competence. Motivational aspects were covered by a software to allowing employees to express their personal skillset and connect it with motivational aspects such as their personal interest towards a certain type of skill. One could for example state that they have a vast experience from a certain field but are not really interested in pursuing with tasks related to it. From another point of view a person could state having very little skill but a lot of interest towards a certain skill and express motivation towards further development in a certain area of expertise.

6.1.2 Utilization of information

Based on the interviews it seems that the information related to competence is most commonly utilized for resource allocation and reporting needs.

Because competence related information was reported mainly being visible to HR, supervisor and for the employee, unless the data was analyzed and utilized by party having access to all information, there were only limited opportunities related to further utilization or benefits of having the information.
Resourcing is an important part of business operations but from a competence management point of view the benefits and reasons behind tracking and storing information did not come across well during the interviews. Analytical factors related to competence were reported to be used in four companies, and four organizations mentioned using the data also for competence development.

One of the organizations stated that competence-related information is actively used in strategic organizational planning. The access to the information is highly limited but actively used for guiding the developmental lines of business.

Information collected in developmental discussions was commonly utilized for competence development, for career evaluations and when considering changes to salary levels. In some cases, competence matrixes were used for evaluating the development with a pre-set scale and skills listings.

One of the organizations admitted having problems with systematic utilization of the data and stated that the utilization of the information available is much dependent on the supervisor.

“Basically, it depends a lot on the person of how frequently they update the information. It is mainly storing of information. But it is what you do with the information that counts. It depends on the supervisor on how they use the information for developing the path for the person. Ultimately, we can have so nice systems and listings on competence but if we do not use it, it is basically just an information storage.” H6

Those organizations having a platform to share information with the entire organization had found benefits of open access information. The information within the open platforms was used for various purposes for everyday situations.

One of the companies who had been using the open information on competence for a longer time reported that the information is used whenever and by whomever needed. The needs varied from a salesperson looking for a person providing a quick answer to a technology specific question or to a specialist gathering a team
for a developmental project. The main idea was to provide a fast access to necessary information whenever needed.

Other solutions for open information on competence were implemented more recently. Applications resembling CV’s or LinkedIn profiles were maintained by the employees on a company platform. The solutions were relatively new, and therefore the organizations were currently looking forward for the results on a longer term. The idea behind implementing these was to provide access to information on existing competence within the organization. For an individual this could potentially provide a platform to market their talent within the organization to attain a possibility for internal transfer or an invite to a project with special needs.

### 6.1.3 Issues related to the information

Most of the organizations mentioned having problems with maintaining the information. This was mainly because the information was updated by the employees themselves and often, they reported not having enough time or were not motivated to update the information. A common scenario was that an employee would fill in their profile when entering the organization, but updating the information was only done if seen necessary or made compulsory. Even two of the interviewees mentioned not having updated their personal data. When asked they mentioned similar reasons as reported by employees.

In these kinds of situations, it is likely that the employees did not see the benefits of maintaining the data. If the information is only used for storing data, there is no need to update the information. One would need to see personal benefits or other reasoning behind the task more clearly.

Other problems related to lack of utilization of information was reported with developmental discussions where supervisor and employee would only return to the information next year during a scheduled discussion. This was largely connected to the motivation and partially to the skills of the supervisor.

Competence related information systems which were not connected which each other were seen complex. Information was also seen difficult to maintain because
options for information entries were pre-determined with competence matrixes allowing entering of only certain type of data. These aspects are all likely to hinder the quality of information at hand. By restricting the form of information before allowing a possibility to describe one’s true capabilities and skills will not lead to complete image of competence resources but only to descriptions of tasks. Also having data in different types of software makes reporting and ultimately the analysis of information more difficult.

“By having the information in a single system that would allow supervisors to report and see what kind of competence there is, would help a lot.” H7

Companies gather a lot of information and are increasingly interested in competence related data. A lot of potentially beneficial information already exists within different software but the systematic utilization and analysis of the information at hand will require some attention. Clarification and transparency in utilization of data is likely to rise the motivation of maintaining the data and thereby lead to information of better quality.

6.2 Competence management

During the interviews the interviewees were asked information regarding competence management within their organizations. Most of the organizations reported not having a holistic competence management practices in place. The value of competence was highly appreciated but reportedly it was not a part of management programs in most of the organizations. Further reasons or reasoning behind this was not clarified.

Three of the organizations emphasized the strategic importance of competence and corporate strategy.

“Core competencies are critical in our field of business. They can change fast. One of the most important tasks of our steering group is to determine clear directions for us to guide operations and competence development.” H4
Some of the companies mentioned various methods they use under the competence management umbrella but explained that they were not organized into a complete program. In many organizations ongoing actions could have created a consistent package but for an unknown reason they were not aligned to a collected management program.

“How do we manage that it is a good question… we have yearly developmental discussions where you discuss about competence and set goals for development...recruitment and its criteria is well thought in advance......we invest a lot in personnel development... several training programs.... then we also have targeted training and development programs.... and then we do collaboration for example with educational institutions…and then we set targets and monitor whether they are reached, if not then it might be a sign for a lack of competence in some area.” H2

(quote is cut partially to emphasize notions relevant for competence management)

Competence development was mostly commented when asked about competence management practices. All organizations highlighted the importance of development and learning.

“Competence development is a hardcore business. It is not a soft operation but vital for the survival and the future of the organization” H7

Three of the organizations reported problems of not having competence management programs on an organizational level. In one of the organizations the responsibility of the developmental actions related to competence was solely at the employee. One mentioned that they were lacking a vast program that would truly support growth but felt that it should be led in a clearer manner. One said that the organizational structure prevented larger actions to take place and that smaller units were independently taking actions within the existing spread of services available.
6.3 Identifying competence

"One of the challenges we currently face is that our people have so much skills and competencies that are not related to the task itself in any way, but they could utilize that competence somewhere else in another role. And this is the challenge on how do we locate these people and their interests so that we could use their full potential." H7

Identifying competence was challenging to all organizations. The existence of competence that was not within reach was recognized but means on attaining it was seen challenging and waited to be answered. The organizations mentioned they are likely to possess competence and skills that could be useful not only from a particular skill point of view but also understood that having the possibility to utilize the skills more would lead to increased motivation and commitment to the organization. The organizations reported that those individuals who were able to utilize their full potential were also the most content and motivated to continue their careers within the organization.

Reported challenges related to identifying competence were timing, how can you find information on existing competence and willingness to pursue to different areas at the right time. Recognition and monitoring of competence was seen difficult because competence is not numeric and therefore difficult to report and analyze. Some of the used methods focused mainly on tracking technical skills and therefore provided only a partial viewpoint of the existing competence. Same notion goes to the analysis of information purely based on formal education and certifications. Reports based only on certain parts of competence could never reach a full understanding of the existing competence or the potential.

The equality of opportunities was also an element that came up during the interviews when discussing about identifying competence. Especially one of the organizations saw challenges in attaining information on competencies of the quiet individuals. Most of the opportunities and projects often were assigned to employees vocally expressing their willingness to pursue to a certain direction. Supervisors role in attaining information on existing competence and assuring equal opportunities was seen important.
"Yes, I feel that people need support in recognizing their own competence. To see where they are good and where they need to develop." H1

Three of the organizations mentioned having supporting systems for individuals to identify their own competencies. Continuous feedback was one fairly simple method in helping the individual understand the current level of expertise. It was emphasized that feedback was a means for development not a method for criticism. Another organization also addressed the importance of feedback but had connected it to a developmental program to support personal leadership which was evaluated in scales emphasizing different elements of competence such as leadership, relationships, understanding the connectedness and field specific elements.

6.3.1 Developmental discussions

The most common way for organizations to identify competence seems to be developmental discussions. All organizations utilized developmental discussions in some form. In most cases the discussions were held once a year and reported into an information system. All were discussion-based meetings with a supervisor and the employee focusing on elements such as reflection of the past and future goals. Some organizations had included peer evaluations to monitor the development, but this was not common. One organization mentioned mirroring the competence of an individual to the strategic core competencies of the company and by that connected the organization strategy into the existing competence resources.

Organizations had connected the developmental discussion into career development, which were connected also to rewarding mainly in a form of raises or advancements. Peer evaluated career developmental discussions were seen beneficial but because of their connectiveness to salary, the objectivity of the feedback received was seen questionable. It was reported that peers were aware of
the effects on salary and therefore unlikely to provide feedback that would have a negative effect on advancements.

Rewarding and competence was connected in different forms to competence development. Interestingly one organization was critical towards competence development and rewarding and claimed it to encourage creating false images of the true state of competence.

“No, no this is just the element we want to get rid of this evaluation of impact and development. Like feedback is to support development and not evaluation. We are trying to disconnect these elements. Because if you get a bonus based on the impact you have made, it is not the same where you have developed or what you are interested in. Because this is just our challenge on how people see them together. Therefore they do not express their weaknesses, because it would be linked to the evaluations. “ H7

The dilemma related to rewarding was that even though companies would like to be sensitive towards competencies, personalized paths of development and motivational factors, they also saw that the career paths and reward systems connected to them were likely to prevent access to true information of the state of the existing competence.

6.3.2 Supervisors' role

Supervisors played a major role in identifying competence. In most of the organization’s supervisor was responsible in assessing and monitoring the existing competence and performance. In practice supervisors were the sole party having access to this kind of information. Two of the organizations had collegial elements in identification of competence but in all organizations, supervisors had the biggest role in the process.

Organizations saw that there might be problems related to equal assessments scales and variations in abilities to identify competence between supervisors. Some organizations had decided to tackle this with implementing scaling where
in practice all the supervisors would discuss together about their candidates during advancements and see whether they have utilized similar scales in evaluating their performance and having similar competence levels when advancing. Still organizations felt there would be a need for further training.

Majority of the organizations saw the identification of competence as one of the key responsibilities of a supervisor. Even though the role itself was recognized there were only limited means of support for supervisors to help them with the task. All organizations had trainings or collegial support for supervisors but training specifically in identifying competence did not come across during the interviews.

Some saw it as a personal characteristic of a supervisor to be able to guide people and understand competence related matters. Some claimed that if a supervisor is incapable in identifying competence, the supervisor is not up to their task. In one of the organizations the evaluations were admitted being based mostly in common sense.

At the same time when there was rather little support for individuals in identifying competence, trainings within this field were not reported to be targeted to supervisors either. Even though the role of supervisors were seen critical in assessing competence and supervisors eventually being one of the persons deciding on the advancements of the person there were only few supporting elements scaling or monitoring the evaluations. This factor contains a major risk of bias in human decision-making.

Organizations emphasized the personal responsibility of an individual in bringing the information of competence into awareness. In practice only a few organizations had the means for the employee to implement this in an easy manner.

6.3.3 Assessing competence

Assessing competence is a difficult subject. Not only because assessments are often subjective as mentioned by one of the interviewed organizations by stating
that the assessments are mainly based on purely knowing the individual, but also because gaining access to this kind of information which cannot be measured numerically is rather difficult. One of the organizations claimed having to rely on data based on interpretations indirectly connected to competence in efforts to gain information on current status.

As mentioned in the previous chapter 6.3.2 supervisors are in the main role when assessing competence. Assessments made by supervisors are admitted being subjective but with the lack of alternative solutions they are currently seen the best ways to attain information of the existing level of competence. Interestingly the measures reported when assessing competence are still largely relying on performance and reaching pre-set targets, which serve organizational performance in the long run. The issue related to lack of information of the existing but hidden potential remains.

Most utilized methods to assess competence are done during a recruitment process. Before a job opening is published, most of the organizations reported carefully evaluating the elements lacking with the existing competence base and prepare the job advertisements and eventually rate the candidates accordingly. Even though new recruitments are being carefully planned, evaluations on existing competence are still relying largely on data based on reported formal education and certifications.

Despite the problems described above, the interviewed organizations also reported utilizing methods for assessing competence. Elements being assessed were related to abilities in networking, teamwork and overall behavioral elements within the organization setting. Similar elements were reported being used at least in three of the interviewed organizations. One of the organizations emphasized personal growth and leadership skills whereas another organization assessed the potential of an individual with a four-element assessment tool. All these tools focused on strategic competencies, personal traits, capabilities and potential rather than elements reflecting on direct performance.

When it comes to assessing competence, the personal viewpoint is also important. One of the organizations reported having asked their employees on how
they see their possibilities in utilizing their competence in their current positions and whether they feel they have been able to develop. This is a fairly simple way to encourage in reflecting one’s own situation and helping in recognizing the existing competence.

Those organizations having a tool where employees could personally publish and alter the information related to their competence and interests felt that this was a good tool to help people in assessing their own competence. With all open information related to competence descriptions of senior colleagues one could easily scale one’s own level and thereby develop their own abilities to recognize competence.

6.3.4 Competence mapping

Competence mapping was being utilized by four of the interviewed organizations. Opinions related to their use and usefulness varied rather a lot. Those organizations that had decided to use competence mapping executed it alongside the developmental discussions. In practice the supervisor and the employee would fill in competencies to a pre-filled competence structures and report the information to a software. This information would then flow into a larger information pool which could then be analyzed further. Pre-filled competencies and skill structures were sometimes felt difficult to fill in because relevant or fitting competencies were sometimes hard to find.

Two of the organizations reported not having competence mapping in use but mentioned that certain units might have implemented them. Information was not gathered systematically from the entire organization and therefore they lacked data at a company level. These organizations relied on knowing the competencies of individual employees and therefore had not implemented further competence structures for identification.

The third group of organizations were skeptical on the benefits of competence mapping. In some situation they might be of use especially if there is a resourcing need then having access to skill-based information is necessary but at organizational level competence mapping was not seen valuable enough to implement.
Competence mapping was reported being time-consuming and complex to set up and would not provide information on competence dynamically enough. Especially in knowledge intensive organizations where strategic competencies and the needs of business vary quickly competence mapping could not provide information fast enough. For this reason, competence mapping was seen obsolete form of monitoring existing competence resources and maybe being more suitable for relatively stable business ecosystems.

6.4 Utilizing the existing competence resource

6.4.1 Exposing the hidden competence resource

Help in exposing one’s own competence. In order to tap into the existing competence resource, two organizations mentioned having developed training programs in efforts to empower employees in taking ownership of utilizing their own potential. The training programs covered different themes mainly focusing on other than technical elements of competence and their current positions. The results were good, and organizations had received positive feedback from the employees:

“This is the first time when we have had trainings where we really had to put ourselves into the mix. Thank you for that”, one person said. H7

The direct benefits for the organization were yet to be seen but employees had appreciated they had been given time to focus on themselves.

Recruitment was also seen as one method to tap into the underlying talent. One of the organizations mentioned that inner applicants were always taken into an interview. Despite the direct fit of their profile, this was seen as truly important opportunity to discuss about the future goals, existing competence and motivational aspects with the existing employees.
Other organizations also saw recruitment as an opportunity to hear and learn more about the existing personnel. One of the organizations had positions open for inhouse applicants a week before opening it to public.

“The is super important information of what the people can do. And they actually can. We currently have an open position and I have inhouse applicants that I know personally. And now when I look at their CV’s I am so impressed that oh, you have also done something like this and have these kinds of skills too.” H2

Open platforms to share information and competence. Most of the organizations had also implemented other kinds of measures to support the utilization of existing competence. These methods were mostly voluntary, but all encouraged employees to share information and expose their existing knowledge and skills even though they might not be connected to their current positions.

Methods varied a lot from an open academy where you could freely teach other colleagues under a certain theme all the way to inhouse projects where the team was formed completely on a voluntary basis.

The inhouse competence profiles were also seen as convenient and an easy way to attain and share information on existing competence resources. The problem with open profiles currently is that they are mainly used for resourcing and sales. There is a possibility that people themselves do not see the personal benefits in maintaining their information. To tackle this one of the organizations had started to use the profiles to recruit in inhouse projects and saw potential for these kinds of opportunities to emerge in the future. Having a direct effect on opportunities within the organization would be likely to increase the motivation of people to maintain their information, especially in those critical phases when people are looking for new challenges and planning on moving forward and possibly leave the company.
6.4.2 Methods to utilize the existing competence resource

During the interviews the representatives of organizations were asked about how the existing competence is utilized. The organizations had a variety of different methods to use the existing resource. The most commonly mentioned were mentoring, coaching, ways to enable sharing of knowledge, internal transfers and cultural elements.

Mentoring and coaching was utilized in some form in all organizations. They were seen as a positive way to increase interaction within the organization and share tacit information from senior members or from peer to peer. Coaching provided support for individuals in matters relevant for their current development and challenges faced. Mostly coaches and mentors were available for those who felt benefitting from them.

The main problems with mentoring and coaching were related to matching. How to find suitable mentors when necessary and how to maintain their motivation to continue. One of the organizations had a mentor for introductory phase. The idea was to provide a peer mentor for a new employee who would ease the way to get started and to be able to get into the tacit information more quickly. The relationship continued as longs as the pair saw fit.

One of the organizations had been using coaches alongside supervisors in giving feedback and operating as a reflection point without a worry of evaluation. This role was not seen beneficial cause it was seen to hinder the relationship with the supervisor.

Sharing of existing knowledge and practices supporting this came up in most of the interviews. These were partially covered in the previous chapter 6.4.1 when discussing of different social platforms for employees to share their own expertise with the rest of the organization on a voluntary basis. This was seen helping communication between different business units and thereby benefit the flow of information within the organization.
For sharing information one of the organizations had implemented a virtual Kan-ban tool for ongoing projects. This allowed everyone to see what kind of projects there were, and at which state they currently are and by that enabled free flow of information on its behalf. One organization had tackled the same issue with in-house project fairs for all the projects to present their work and allowing other members to interact with the project members.

Internal flow of personnel and inhouse recruitment as a tool for utilizing existing competence was highly appreciated in most of the organizations. One of the organizations reported having deliberately risen the percentage of inner transfers because it was seen beneficial for operations.

“We actually have it in our recruitment guidelines that if you hire inhouse, you can take someone who is not necessarily as ready for the task as someone else might be. But the inhouse person is likely to bring completely new competences and knowledge from within the organization, our ways of working and networks which are all elements that the outside candidate does not have. So if there are five competencies required and the inner candidate has three or four, you can very well consider the inner candidate. The rest can be taught easily. “ H2

One of the organizations reported having issues with internal transfers mostly related to strong career paths that guide the development of their employees. They had witnessed scenarios where people felt it easier to leave the company instead of making the same career changes inhouse. This was a cultural issue they were currently tackling with by utilizing their existing competencies.

Some organizations utilized short-term inner transfers with learning trips where people could be introduced to a certain field of business or to a position. This allowed the personnel to learn more from the organization as well as get acquainted to new positions they might be interested in or purely creating new connections within the organization.
One organization had given the freedom to the employees to choose how to utilize their existing competence. Employees had 10% of their working time to allocate the way they saw fit. This is strongly connected to the organizational culture emphasizing freedom and promoting self-leadership.

Culture as a means of enabling the utilization of the existing competence was recognized and came up with most of the interviews. In many of the cases the need for closer look at the organizational culture had begun from a rather daily challenge which needed to be altered.

One of the organizations had witnessed a scenario with open platform trainings where the idea was to share knowledge but failed to succeed because traditionally only the managers were talking during events. Encouraging people across the organization to introduce their ideas, thoughts and competencies will eventually enable the organizational culture to shift to a more democratic one.

One organization had opened a platform for positive feedback and recognition. This was a relatively easy and all access place for everyone to give applauds to colleagues on successes in all levels. This was one form of creating a positive culture by giving and receiving feedback.

6.4.3 Technology

Especially in smaller organizations discussions and personal connections are important in recognizing and utilizing the existing competence. Once an organization has reached a critical point in size, knowing the personnel is not possible to stay connected anymore, the need for technological tools to help emerges.

Competence management has already taken steps in utilizing technology to help support the growth and development of existing knowledge, skills and other traits. Within the organizations interviewed for this work, one had already planned to introduce Slackbots to support the development of competence focusing on feedback. One organization had utilized artificial intelligence in analyzing competence related data received from developmental discussions.
The open platforms to share information of existing competence and competence profiles discussed also in earlier chapters had led to new career paths with an internal transfer and cultural exchange between employees located in different countries. Without the technological tools, this would have been an unlikely scenario to happen but likely to happen more commonly in the future.

Benefits of using technology were reported positive. Automatization ease the burden of remembering and help individuals to lead their own work in a productive manner. The analysis done by a robot had benefitted the discussions between company managers and the Human Resources Development (HRD) and opened a completely new paths to advance competence management processes.

“Yes, well from HRD point of view… I am now able to look for competencies within a certain group and compare them with the rest of the organization. For example, if they feel they are not as good at this as someone else from another unit… And just that I can now see what kind of evaluations supervisors have received and what kind of actions they have decided to implement in comparison to other units. So, this has certainly been information that managers have been really interested in.” H5

With concrete information instead of a feeling at hand the HRD felt that they had gained a completely new toolkit to address issues related to competence management and were now in a better position to promote the matters and bring them closer to strategic development.

6.5 Future dreams

At the end of the interview organizations were asked what kind of development they would want to see within competence management and recognizing of competence in the future. They were encouraged to think of a scenario without limitations.
The scale of emerged developmental aspects varied but in all answers the importance of transparency and connectedness was brought up and seen important. Organizations wanted to see solutions which would increase transparency in project work to avoid overlaps. A tool that would be dynamic enough to live in time to allow better understanding on people's existing skills and competencies and entail information on motivational aspects of employees was considered extremely beneficial. Words like talent pool and LinkedIn type of descriptions emerged within the answers. The idea behind these was that information would be freely accessible by all members of the organization allowing free flow of information and fast access to relevant competence whenever and wherever needed. Organizations saw that these kinds of solutions would also lengthen the duration of careers within the companies and reduce the human bias with identifying competence.

Organizations were also really interested to see what kind of benefits artificial intelligence would be able to provide for them. One of the organizations mentioned that currently available software relies largely on list-type of information of competence and therefore more dynamic solutions would likely be more interesting. All in all, a systemic environment where people could independently enough recognize, evaluate and update their own information regarding competence was on the wish list of most of the organizations.

Benefits of these could increase understanding of the existing competence and enhance companies' ability react and renew themselves and therefore answer better to the needs of changing ecosystem.

Most of the organizations focused on technological tools and systems when thinking of the future. One organization raised a notion that they would still like to see more commitment from the management side to competence management. They felt that the importance of competence and the potential of competence management was not seen critical enough from the strategic point of view and therefore wanted to see this changing in the future.

Some of these solutions would not require major changes and some do already exist but are still a rather new for those organizations already introduced them
and therefore benefits are still to be seen. At this point it needs to be noted that the interviewed organizations represent knowledge intensive companies most with technological emphasis and therefore are likely to adopt new tools and ways of working at the forefront.
7 SUMMARY, DISCUSSION AND CONCLUSIONS

7.1 Summary and discussion

The goal of this study was to examine how organizations identify and assess competence and find ways to improve the utilization of the existing competence resources. The focus group in this study was expert organizations. In order to attain information, total of seven representatives of knowledge intensive expert organizations were interviewed. Themed interviews were conducted in the fall of 2019. All interviews were recorded and transcribed for later analysis.

The theme of competence management and identifying competence was seen as a challenging but relevant topic of today. The ways on identifying competence were found really interesting and intriguing but none of the interviewed organizations had established comprehensive models on how this should be done. The organizations interviewed for this study had multiple different methods in use to support identification and management of competence, but competence was not managed or understood holistically. This could partially be due to resources but also due to the complexity of the area. The benefits of holistic approach for competence management and identification of competence could improve and benefit strategic decision-making. In most of the organizations there are lots of supporting methods and practices in place and therefore would not cause major changes in operations in order to reach a more comprehensive system.

Current themes related to competence that were brought up during the interviews were largely connected to supervisor’s role in identifying competence, sharing information, competence development and feedback systems. Organizations had tools to monitor the existing competence resources, but they were mostly utilized during developmental discussions. Only a few organizations had used systematic analytics to track competence resources. Based on the interviews it seems that identifying competence will need new kind of tools and viewpoints to the resource in order to reach the next steps.
Competence is a complex and multilayered phenomenon which should not be shackled or codified to extinction. The nature of competence as a complex phenomenon should be recognized and there should be room for it to develop. The organizational culture and understanding the nature of competence play key roles in successful competence management.

The holistic viewpoint of organizational competence focuses on the ability of the organization to understand the complete nature of the environment with its stakeholders that are all partially intertwined. (Sanchez, 2004). The coordination of flexibility to identify, configure and deploy resources as stated by Sanchez could very well work as a guiding principle when determining the actions for a successful competence management. The capability to recognize competence and ability to support dynamic systems and networks within the organization are critical for the organization in renewal into a culture with no hierarchical boundaries or silos that limit free flow of information.

What would then be the best way to identify competence? Data actively produced by the individuals themselves is likely to be the best alternative in having up to date and thereby most usable data. Having ownership to one’s own information is likely to democratize and increase transparency in the assessment culture. Systematic analysis of information would provide a tool for strategic decision-making and enable on time allocation of human resources. Data maintained by the employees themselves connected with artificial intelligence or other solutions enhanced by technology are likely to increase in the future of human resources management.

Especially within expert organizations, there is a vast amount of competence. All of which is not visible, nor does it come through in everyday operations. Information on existing competence cannot be analyzed solely on the basis of elements within job descriptions, which are more generic narrations of certain types of roles within an organization rather than a complete image of competence of an individual. Because competence is seen as increasingly valuable asset it would be foolish not to utilize and monitor the existing competence. One cannot assume supervisors alone would be able to produce qualitative and objective data of the existing competence. Supervisors are in a key position in exposing the hidden
talent but yet very few of them receive support on how to evaluate or utilize it. Supervisors have a huge responsibility in attaining and maintaining the existing resources and therefore their role and ability to recognize and understand competence should be supported.

The identification and assessments of competence should be made in collaboration with the person, supervisor and by an objective party. This would increase transparency and limit human bias in decision-making. For the assessments preset competence matrixes provide a base to insert and place information on existing competence but have their downfalls and do not necessarily allow the full image of competence to surface. In worst cases, competence matrixes would only narrow down the view on existing competence by only allowing a certain type of information to be reported. They are likely to help to collect and process information, but it remains questionable whether collecting information of limited quality provides sufficient information for strategic decision-making.

Organizations in the forefront of competence management are creating open access platforms through which the information related to competence is collected and used not only by the organization but also by the members of the organization as well. With open access, the information is more transparent and available which will allow more effective allocation and usage of the existing competence resource. Eventually competence and information of competence becomes a resource that is utilized on a daily basis and not only an element used and collected once a year during developmental discussions.

It will be interesting to see how artificial intelligence and technology will challenge the traditional models of operations and management within competence management. Those organizations able to tackle the challenges in tapping into the existing competence resource and exposing the hidden potential are likely to gain competitive advantage against their competitors. The changes are likely to challenge the existing management practices and create an organizational culture focusing on enabling positive growth where all employees become valuable parts of a systemic and dynamic constantly evolving entity.
7.2 Conclusions

To conclude, a suggestion of elements and areas of focus is made to improve practices with identification and utilization of the existing competence resources in an expert organization.

Transparency and democratic approach related to competence
- Critical assessment on how competence manifests itself and how competence is understood within an organization.
- Open access platforms with people having ownership on their own data are likely to increase the quality of information at hand and increase democracy in related processes.

Identifying and assessing competence
- Identifying competence is still largely connected to the evaluation and viewpoints of supervisors. It is important to assess and acknowledge the possible biases in decision-making.
- Critical evaluation of current practices connected to identification of competence and information flows connected to it.
- Establishing support structures for enforcing capabilities of individuals to understand competence and identify their own capabilities is likely be beneficial and enforce individuals’ possibilities in leading their own development.

Support for supervisors
- Supervisors are likely to have a role in identifying and managing competence. Supporting their capabilities in understanding elements of competence and helping them to identify existing potential is likely to benefit the organization. This is also likely to increase transparency and equality in evaluations.

Networks and culture
- Utilization of existing competence and practices supporting sharing and the free flow of information.
Utilization of methods such as coaching, mentoring or different kinds of events that allow people and information to flow freely and encourage interaction across organizational structures.

- Supporting the creation of an organizational culture that will encourage individuals to express themselves and their ideas freely.

**Utilization of technology in competence related practices**

- Human factor is unlikely to be diminished from decision-making in competence management. Therefore, it is important to bring other solutions to support transparent and open practices especially in identifying competence.

- Implementing solutions where people themselves can be the primary source of information will allow motivational and developmental desires to be shown in the data. Practices supporting this are likely to elongate careers and reach better results with motivated employees.

- Following the development of technological solutions that support analysis and monitor competence resources. Especially advanced analytics with computer-aided technologies and social matching tools seem promising.

### 7.3 Limitations and reliability

The goal of this study was to find out how much and what organizations know about their existing competence. Because the theme is rather complex and pre-existing knowledge of the topic was limited the study focused primarily on gaining basic understanding of competence and its identification and utilization processes within expert organizations. Therefore, more concrete detailed information about different competence management practices was quite difficult to attain.

Interview as the primary and only source of information related to practices and utilization of competence depicts a risk of attaining distorted or biased information. To tackle this, it would have required full access and ability to monitor operations and information databases for a longer period of time. This was not possible in the scope of this study. Regardless of the limitations regarding a thesis
project, it would have likely been difficult or impossible to gain necessary access due to confidentiality and availability of resources.

Although only seven organizations were interviewed, the results started to show signs of saturation and repeating elements started to emerge. Based on this it can be stated the study has reached a good representation and image of the existing practices related on identifying and utilizing the existing competence within knowledge intensive expert organizations in Finland.

The employees within knowledge intensive organizations are a very sought-after resource and therefore focusing on organizations mainly operating with this kind of competence resource are likely to represent the forefront of practices within competence management in Finland. For this reason, it can be said that the results indicate the state of practices in identifying competence fairly well.

The interviews were made anonymously allowing the interviewees to openly discuss the matter without pressure of being recognized from the final study. Organizations were also given a chance to remain anonymous. For this reason, we have no reason to believe the interviewees would have had a need to distort answers in the favor of the organization.

The interviewer had no connections to the interviewed organizations and is not a representative of a competitor which also supported an honest and open discussion.

Based on the results it is possible to gain a fairly good view on existing practices and methods to identify and utilize competence within expert organizations. Therefore, they set a good basis for development of competence management and especially building a system identifying competence for the commissioning organization.
7.4 Further research

In the future it would be interesting to study competence identification practices and competence management in more detail to gain a more thorough understanding on practices and ideologies within an organization. It would be interesting to evaluate the discussions surrounding competence to gain understanding of how competence is actually seen and what elements are connected to it in day to day practices. By gaining understanding of the current state a focused program could be implemented to tackle possible challenges that had emerged and enhance the positive practices.

It would also be interesting to see what kind of changes an introduction of a more holistic approach to competence management would bring to an organization and what kind of affects would it have on operations and resourcing. Currently it seems that within the HR resource allocation has the best understanding of existing competence but if these viewpoints and information would be introduced also to strategic management practices what kind of affects would it have on organizational performance.

Another topic for further research would be to analyze the organizational networks and see how this could help in identifying competence and critical elements within the organization. If the networks were to be revealed could they expose hidden potential and key assets within organizations?

As a continuation for the network analysis and connectiveness it would also be truly interesting to see what kind of changes could there be seen in terms of connections and networks after implementing major changes within an organizational culture allowing more freedom and independence for individuals to determine their collaboration partners instead of having organizational structures or outside parties guiding them in team formation. Would we see increased flow of information and more variety in connections or would we witness static and stable connections with the existing groups of people.
REFERENCES


IMAGES

APPENDICES

Appendix 1. Invitation for the interview

Haastattelukutsu

Hei ETUNIMI,

Olen Laura Penttinen ja tutkin osaamisen tunnistamista ja siihen liittyviä käytäntöjä suomalaisissa asiantuntijaorganisaatioissa. Tutkimusta tehdään toimeksiantajalleni Tampereen yliopistolle ja on osa MBA opintojani.

Tutkimukseen on valikoitunut 10 suomalaista johtavaa asiantuntijatyötä tekevää yritystä tai organisaatiota. Tavoitteena on kartoittaa osaamisen johtamiseen ja erityisesti osaamisen tunnistamiseen liittyviä käytäntöjä edelläkävijärytymissä.

YRITYS on tutkimuksen kannalta keskeinen toimija ja haluaisinkin haastatella sinua osaamisen tunnistamiseen ja osaamisen johtamiseen liittyvällä teemoilla. Tutkimuksen tärkeimmät kysymykset löytyvät oheisesta liitteestä.


Tutkimuksen tulokset tullaan jakamaan haastateltavien organisaatioiden kanssa. Yksittäisiä organisaatioita tai niiden toimintatapaa ei lopullisesta aineistosta voida tunnistaa.
Appendix 2. Attachment for the Interview invitation

The following attachment was sent to organizations together with the invitation letter for the interview.

OSAAMISEN JOHTAMINEN
Tutkimus: Osaamisen tunnistaminen ja johtaminen asiantuntijaorganisaatioissa
Teemahaastattelu, kesto n. 1 h

Yhteyslieto:
Laura Penttinen
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+358 40 XXXXXX

TAUSTATIEDOT:
- Henkilöstön määrä
- Asiantuntijoiden osuus henkilöstöstä (%)
- Organisaatio ja sen rakenne
- HR organisaatio ja sen rakenne

KESKEISISSÄT HAASTATTELUKYSYMYS

1. Kertoisitko yleisesti osaamisesta ja sen johtamisesta yrityksessäsi?
2. Millä tavalla ja minkälaisin keinoin työntekijöiden osaamista arvioidaan?
3. Millä tavalla ja minkälaisin keinoin työntekijän osaamista tunnistetaan?
4. Millä tavalla osaamiseen liittyvää tietoa hyödynnetään yrityksenne toiminnassa?
5. Tallennetaanko henkilöstön osaamiseen liittyvää informaatiota johonkin järjestelmään?
6. Onko osaaminen osa paliksemisjärjestelmää?
7. Millä tavalla osaamisen tunnistamista tai tähtäin liittyvä prosesseja tulisi kohdella tulevaisuudessa?