

**QUALIFIQ**

***- a digital system for locating professional competences***

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**Abstract**

This Master’s thesis is a case study dealing with how the Danish insurance company, Alm Brand, structure and outline their professional competences that exist in-house in larger organisations.

Based upon this, a design of a mock-up illustrating a solution will be created. The study has its basis in the investigation of the following: E-business, Business Development, Marketing and IT. In order to explore the research for this thesis, the preliminary sections are divided into three parts. Initially, a comprehensive literature review has been conducted in order to understand the phenomenon of competence.

In conjunction with the phenomenological view in this thesis, the aim of the preliminary study has been to grasp the diversified definition of competences as stated in the literature, which was modelled in order to create a suitable definition of a professional competence in the context of Alm Brand. Consequently, the semi-structured interviews had the purpose of conveying the employees’ attitude towards the presented definition of a professional competence, which the modelled competence was accepted. However, the interviews also revealed that the concept of competence was not something that the employees took into much consideration in their daily work. Furthermore, using the phenomenological view, it is the employees from the selected teams that will work as the primary source to this thesis. The focus in this was to gain an insight to their ‘lifeworld’, in order to understand how a competence system could create value to them. From the interviews, it stood out that the competence system could not stand on its own in the creation of an actionable system. Accordingly, the requirements suggested by the employees have been used to develop a solution for a digital competence system that would work in larger organisations. As the link between the requirements and the design, the requirements generated from the interviews will be connected with design principles in the second part of the project, in order to further develop the ‘first’ mock-ups to meet the employees’ request for the system. The further developed mock-ups were presented at an expert user test, where the design and ideas were further discussed.

Consequently, some of the requirements generated from the employees and further discussed at the user test were functions such as:

* Employee-based profiles; through which tagging of professional competence and experiences will be performed.
* Question & answer forum, where the employees can ask and answer questions to each other.
* Experiences with external resources.
* Evaluate colleagues based on projects, through which the employees will recommend each other, which will be included as a parameter in the level of the competences.
* ‘Follow’ colleague.

It has been concluded that it is possible to create a solution to structure and visualise the professional competences that exist within larger organisations, and furthermore make it actionable in the system with Qualifiq. I suggest Qualifiq, as it continues its development, should be tested with different functions and modules in order to understand how it can support Alm Brand and its employees in their daily work. A thorough test of the modules will show how Qualifiq will be of assistance to Alm Brand.

**Resumé**

Dette speciale er et case-study, som beskæftiger sig med hvordan det danske forsikringsselskab Alm Brand kan strukturere og skitsere deres professionelle kompetencer, som eksisterer internt i større organisationer.

Baseret på denne problemstilling vil en mock-up blive designet der illustrerer en løsning, som løser de primære problemstillinger.Studiet er baseret på en undersøgelse af medarbejdernes segmenter: E-business, Business Development, marketing og IT. Tesen er udført med det indledende delt i tre dele, for at gennemgå forskningen til denne afhandling. Indledningsvist er en grundig litteratur gennemgang foretaget for at forstå fænomenet kompetence.

Baseret på den fænomenologiske opfattelse i denne afhandling, har formålet i det indledende studie været at forstå de diversificerede definitioner af kompetencer, der er blevet angivet i litteraturen, som er baseret med henblik på at skabe en passende definition på faglig kompetence i Alm. Brands sammenhæng. De semistrukturerede interviews havde derfor til formål at få medarbejdernes holdning til den præsenterede definition af en faglig kompetence. Definitionen blev accepteret af de ansatte, men interviewene afslørede også, at begrebet kompetence ikke var noget de brugte mange overvejelser på i deres daglige arbejde. Desuden, ved brug af den fænomenologiske tese, er det medarbejderne fra de udvalgte hold, der vil danne basis for denne afhandling. Herudover var fokus at få indsigt i deres ‘livsverden’, med henblik på at forstå, hvordan et kompetence-system kunne skabe værdi for dem. Ud fra interviewene stod det klart, at kompetence systemet alene ikke kunne skabe et handlingsrettet system. De krav, der blev genereret af de ansatte, er blevet anvendt til at udvikle en løsning til et digitalt kompetence system, der vil fungere i større organisationer. Som et bindeled mellem krav og design, vil de krav, der blev genereret fra interviewene være forbundet med design principper i anden del af projektet, med henblik på at videreudvikle på den »første« mock-up, for at opfylde de ansattes krav til systemet. De videreudviklede mock-ups blev præsenteret på en ekspert bruger test, hvor design og ideer blev yderligere drøftet.

Nogle af de krav der blev fremført fra de ansatte, og yderligere drøftet på brugertesten, var funktioner såsom:

* Medarbejder baserede profiler; gennem hvilke kompetence tagging af faglig kompetence og erfaringer vil blive foretaget.
* Spørgsmål & svar forum; hvor de ansatte kan stille spørgsmål og give svar til hinanden
* Erfaringer med eksterne ressourcer.
* Vurdere kolleger baseret på projekter; hvorved de ansatte vil anbefale hinanden, som vil indgå som en parameter i niveauet af kompetencerne.

Det er konkluderet, at det er muligt at skabe en løsning, der strukturerer og visualiserer de faglige kompetencer, der findes i større organisationer, og desuden gør den handlingsrettet i systemet med Qualifiq. Jeg foreslår at Qualifiq fortsætter sin udvikling, og bliver testes med forskellige funktioner og moduler, for at forstå, hvordan Qualifiq kan understøtte Alm Brand og medarbejderne i deres daglige arbejde, og gennem test af modulerne vil det vise, hvordan Qualifiq vil udfolde sine aktiviteter i Alm Brand.

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# 1 Introduction

*This chapter establishes the introduction for this thesis, bringing an overview of the stated issues of the topics, which leads to the problem statement. Furthermore, this chapter gives a case description of Alm Brand, and the delimitations made for this thesis.*

## 1.1 Introduction to thesis

In this global world organisations needs to be effective and exploit themselves and their employees’ potential and knowledge utmost, in order to gain competitive advantage (Muller et. al., 2005). In larger organisations with a knowledge-intensive character and many employees, who have different knowledge and roles, the organisation tends to complex the organisation (Muller et. al., 2005. This also mean that organisations transparency tend to be opaque and complex to navigate in. This also mean that having a structure and overview of whom posses what competence can be difficult and blurry.

The Danish insurance company, Alm Brand is an example of a company that is facing these challenges. In order to improve business performance and create efficient and effective working procedures, knowledge-intensive companies such as Alm Brand, work with different initiatives in order to support the employees’ in their daily work and the management. In knowledge-intensive companies, knowledge and the organisations ability to exploit this, thus seems to be one of the dominant competitive advantages.

Knowledge management has been proposed as a fundamental strategic process and the only sustainable competitive advantage for firms (Grant, 1996; Davenport 1998). Knowledge management is a key to understanding the success and failure of knowledge management efforts within organizations is the ability to identify the relevant knowledge to manage and to extract value out of this knowledge (Cepeda-Carrion, 2006, p. 34). The internal knowledge that exists within an organisation can usefully be structured and utilized through a competence system, by mapping and categorizing the level of the existing competences. A competence system can be described as a specific class of knowledge management system intended to support activities such as the identification of a firm’s competence needs, the identification of competence gaps (needed and actual competences), competence sourcing, competence development through training and coaching and the staffing the of projects (Baladi, 1999). Managing and developing competences are supposed to support the company’s strategy and retain and gain competitive advantage. A way to ensure a solid knowledge foundation, and the employees are taking advantage of each other, could be to have the employees’ responsible for ensuring that they are structuring and visualises their professional competences. An exposure of the competence phenomenon and exploiting of it in Alm Brands context is necessary, in order to understand their challenges. This is done, by involving knowledge-workers from Alm Brand. In the following, Alm Brand will be focus for the further research. Following, a guidiance ton the reader is listed in order to support the overview of the thesis to the reader.

## Guidance to reader

This section provides an overview of the thesis, which is divided into 7 sections:

1. **Introduction**

**1.1 Introduction to thesis**

First, an overall introduction that addresses the overall problems of the study will be presented. It will highlight the problem and the context this thesis operate within (p. 11).

**1.2 Problem area and Problem Statement**

Next, the problem area is described and the problem statement is outlined in order to set the direction and subject of this thesis (p.17).

* 1. **Delimitations**

The delimitation is made to highlight factors that should be taken into account, in order to limit the focus to areas relevant to the problem statement. Furthermore, there will be an explanation of the limitations in order with the access to the field has been reached (p.18)

**1.4 Definitions of terms**

This section, the different concepts and definitions that are being used in this thesis will be presented, in order to avoid misunderstandins (p. 19).

* 1. **Autor and motivation**

This section, outline briefly my own role and motivation to this thesis (p. 20)

1. **Case description: Alm Brand**

Next chapter, a short description of Alm Brand is given. It is an overall description of the organisation and the selected work groups that are used, as the case in this thesis (p.21)

1. **Review**

This chapter will be divided into two sub-categories.

* 1. **Review of related work and state of the art**

This section, a review of related work would be elaborated, in order to provide an understanding of what has been previously been made in the subject. Furthermore, it will emphasis to the different ways that a competence has been interpreted and used (p. 23)

* 1. **State of the art and modelling**

This section, will grasp some of the review of the related work, and modelling this into a definition of a competence, which will be used and tested during the thesis (p. 40)

1. **Theory and Method: User research**

In the method section, the way the empirical issues work, the approach to its collection and the preceding work of investigation will be described (P.47).

The sections on method, research methods and development of design will be structured through Participatory Design (Foth & Axup, 2006, p. 2), combined with User Innovation Management by Kanstrup and Berthelsen’s (2011) model of three central themes for UIM, and will be used as a methodical approach and framework for study, and design phase for this thesis. These methods will be used as a basic framework of gathering requirements for the system (p. 99)

* 1. **Phenomenology: Fundamental theory of science**

This section, will in broad terms define the process of the empirical research and how data is perceived, applied and turned into conclusions (p. 47).

* 1. **Grounded Theory: Explorative approach to collect and analyse data**

Using this approach, the data will then be analysed and a conceptual framework developed to guide the subsequent work. With this method, it is desirable to investigate a potential issue about visualising and utilising competences in-house that may exist in a larger organisation, like Alm Brand (p. 51).

* 1. **Multiple Case study: Practical approach + UIM**

With this method, it is desirable to investigate a potential issue about visualising and utilising competences in-house in Alm Brand. The UIM model by Kanstrup & Berthelsen (2011) are used as a fundamental approach in the research, in order with user-involving of gathering requirements for the system as well as designing and testing the system (p. 53).

* 1. **Interviews: data collection and interview construction**

This section will provide the structure of how the interview guide is constructed ( p.54)The interview guide will be based on the review of related work and state of art and modelling.

* 1. **Interviews: Coding and analysis**

In order to have a thorough analysis, the transcribed interviews have been categorised and coded in order to identify similarities and patterns in the different statements made by the respondents.

1. **Analysis**

This section provides the analysis of the findings from the interview, in order to generate user requirements to the system.

1. **Theory and Method: Design and development**

This section provides the theory and method used, in order to design and develop the system.

* 1. **Development of Design Principles: Norman’s 7**

This section takes its point of departure in the development of design principles, which has been produced in the analysis (5). These will be based on Norman’s 7 principles (2002) and will illustrate examples from which the design is based on.

* 1. **User test**

This section act as a resumé of the usertest, which will generate feed-back for the final development of the design to this thesis.

* 1. **Requirement specification**

Based on the user test, this will lead to the requirement specification of the ‘final’ system to this thesis.

**6.4 Further development of the design: ‘Final’ mock-up**

Short presentation of the mock-up.

**7 Discussions and reflections**

This section will reflect on the method and theory applied, as well as reflect upon if the thesis has shortcomings. Furthermore, the discussion will serve as a critique of the findings and the identified limitations through the thesis and potential additional perspectives that could be examined for future work. Additionally, this section will make suggestions as to what initiatives Alm Brand can take, in regards to implementing this thesis compentence system.

* Postscript

1. **Conclusion**
2. **Bibliograhpy**
3. **Appendixes**

**General notes:**

This thesis will deviate from APA referencing guide in the analysis (5) and the resum’e of findings in the user test (6.2). This will be done in accordance to the citations used from the interviews. This was done as some of the arguments were stated by all ten intervieweed, which will give some long and not reader-friendly references in the brackets. So, doing it this way makes it more manageable to the reader.

The interviewed will be associated with ‘A’ (audio) and a number.

The listed interviewed and their number will be listed in the following:

Susanne H. Andersen: **A1**

Peter Nørregaard: **A2**

Sara Ipsen: A**3**

Pernille B. Madsen: **A4**

Nisse Jacob Krenchel: **A5**

Jesper T. Kongstad: **A6**

Daniel Elkjær: **A7**

Alexandra: **A8**

Lars Meirup: **A9**

Thor Brandt Finnerup: **A10**

Pilot interview: **A11**

The reading guide provides an short overview of thesis. Following section will be the problem area- and statement that will set the frame for this thesis.

## 1.3 Problem area and Problem Statement

This thesis will investigate, the opportunity structure and visualise the competences that are available in larger organisation in the Danish insurance industry. It will be based on a case study on the Danish insurance company Alm Brand, and contains an explorative study approach to the competence phenomenon. The initial step will be to understand the complexity in the daily work and the diverse professional competencies that the employees possess, considering the knowledge-intensive nature of the insurance industry. The employees are often involved in a large variety of projects, where, in some instances, the ability to make use of alternate knowledge and skills, can be a considerable influential factor around the quality, timeliness and overall deliverables of the exercise.  The high diversity between employees and teams, can easily complicate the overview of the skills and competences, why such visualization will allow further enhanced accessibility to needed skills and resources for the task at hand. Hence, an improved visibility of employees personal interests, can bring a better overview of which projects and task that are best suited for them, just as it will allow a better understanding of which potential competences that can be generated to the benefit of both the organization and its employees. In addition, the improved structure and overview of the competences can create a more visible and efficient way to solve tasks in to the employees in their daily work. It is a common fallacy of large organization to rely too heavily on IT as a facilitation tool and focus on different attributes that a system should contain. This could result in an IT trap, and could affect that the tool does not become socially embedded in the organization (Hendriks, 1999).  Consequently, the motivation and interest for this thesis is to access and uncover the different skills, visualize the professional competences for the employees, and make them explicit useful to the Danish insurance industry. The combination of above mentioned aspects of outlining and structuring competences to make them explicit useful in the organization, leads to following problem statement:

**How is it possible to outline and structure the different professional competences within larger knowledge intensive organisations within the insurance industry?**

To answer this, the research will be based on the following sub-question as well as relevant theory and empirical data.

*What applications should a competence system contain to promote a structured and dynamic competence overview, as well as engage the employees to use it and make it socially embedded in a larger knowledge-intensive insurance company?*

## 1.4 Delimitations

In this section, a delimitation of the thesis will be given. This will present the method, and there will be an explanation of how access to the field was reached and what limitations this entailed.

The overall focus of this thesis is how to create a digital competence system to structure and make professional competences more explicitly available and how to facilitate the system and have it socially embedded in the organisation.

This thesis will investigate how the system could create value for employees at Alm Brand. This thesis reflects data on workers from E-business, Marketing, Business Development and IT and will not focus on all aspects from all departments, relying instead on the in-depth insight of the chosen teams, which are development-oriented teams from the insurance section of the organisation.

This thesis will focus on the front-end design and will not be a technical project, which means the back-end system and technical considerations for creating a digital competence system will not be taken into consideration. The focus, as described, is on the employees from the chosen teams and the world they find themselves in at Alm Brand. Furthermore, the organisational economic perspectives of creating a digital competence system will not be analysed or discussed, as the thesis will focus on the front-end and the content of the system.

This thesis will focus on professional competences, meaning that other competences, such as personal competences, will not be analysed. However, the future recommendations will be based on the results deduced from the empirical research and analysis of the findings.

It will be suggested that in the system, employees map their competences that are critical for business, based on findings from the empirical work. The competences that are ‘critical to business’ will only be outlined as a category and not depicted, as the selection of these competences would be a part of the strategy work with the tactic level of Alm Brand, which was not possible to include empirical study involving them temporally with this thesis. Consequently, having focus on the front-end and what sections the system should contain also delimitated from executing a thorough communication task involving explaining why the critical competences were chosen, as these will not be depicted in the thesis. Additionally, there will be bounded from making an in-depth cultural analysis, and the cultural aspekst will only discussed at a general level in order to have the employees view on Alm Brands culture, in order to illuminate possible hindrance in order with implementing a digital system, why the culture only used at a general level, in order with having Alm Brand’s cultural pitfalls outlined regarding having their ability to accept the changes that the system could bring.

The time frame for the research entailed that the focus be solely on facilitating an iterative process, finding the current state of the chosen teams’ world and how it should be in the future. Therefore, an investigation of the implementation will not be done. However, the future recommendations will be based on the results deduced from the analysis and reflections of findings.

## 1.5 Definitions of terms

In the following different concepts and definitions that are being used in this thesis will be presented.

The primary focus in this thesis will be the professional competences. So, this means that other types of competences, such as personal competences are not the focal point. So, it is only the professional competences that will be mentioned, which means that a professional competence will be written as a ‘competences’ consistent in this thesis.

The term ‘*user’* will in some cases be used in this thesis. ‘User’ refers to the employees working in the teams that the IT tool will be targeting. So, the users are the employees that are towards practice of design.

Furthermore, the competence system will in some cases referred to as a system.

The term ‘life world’ will occur during the thesis. This thesis is a phenomenological thesis, meaning ‘life world’ occur in accordance with this. So, mentioning the ‘life world’ means the phenomens that occurs in the employees’ daily life in Alm Brand

## 1.6 Author and motivation

Over the last one and a half years, I have been engaged as a student worker in Alm Brand. I first worked in their ‘Innovation team’, but, due to organisational changes, I was redeployed in their ‘Development unit’; I currently work in their ‘E-business department’. The organisational changes that have been made have meant that I have be able to take the time to learn and understand which colleague controls each task, as well as which competences I could benefit from in my own tasks. In addition, before my employment in Alm Brand, I was employed at Nykredit Bank (3.5 years) and Tryg insurance (6 months). My employment at Tryg insurance inspired the idea and motivation for this subject for the thesis, and through employment at Alm Brand, and partly Nykredit, the motivation for this idea was enhanced. Regarding the appointment in Tryg insurance, I was assigned different projects, and to solve various tasks where I had to identify the *right* competence in relation to my projects. During the challenges in the different tasks I often experienced that it was challenging and slightly confusing process to get an overview of who knew what and what competences the employees possessed. The discovery of which could support me in quickly and easily finding the *right* colleague with the *right* competence.

This means that the interest and the issues underlying this thesis has not been based only upon issues from my current workplace, Alm Brand, rather through the combination of experiences from previous and my current job.

It is important that, due to the close relationship between Alm Brand and myself, I disregard my personal opinions and retain an objective and academic overview. In other words, I must step outside my familiar role as an employee, and view the organisation and its challenges from the outside.

## 2 Case description: Alm Brand

This section provides a short introduction to the insurance company Alm Brand and a description of the case.

**Presentation of Alm Brand:**

Alm Brand is a large financial organisation with headquarters in Copenhagen, Denmark working in areas of business such as banking and insurance. The company dates back to 1792 and originally sold fire insurance. Today they sell all types of insurance. Alm Brand has a turnover of about 7.5 billion and more than 1600 employees. Half of the employees work at the head office in Copenhagen (Alm brand, 2015). Alm Brand will work as the primary case study in this thesis. The reason why this company was selected is that it is larger knowledge-intensive company and elements of the employees’ work consists of undertaking projects, meaning that the parts of the task are not solved independently, and different employees are involved. It was not crucial, however, that it was Alm Brand that was selected as the case.

**The Case Alm Brand**

The target was to investigate a company that had a knowledge-intensive character, and aspects of their method for organising their employees’ competences. Consequently, the significant aspect was to uncover how convenient and well-structured the competences were or were not organised in order to support efficient and effective workflow in an organisational context with a knowledge-intensive character, thereby creating a system that could structure and visualise these, in order to utilize them to the fullest. In doing so, Alm Brand will illustrate how competences may be structured in a knowledge-intensive organisation, i.e. a large organisation with employees that possess diversified competences and also a company with considerable experience and history. Therefore, the purpose is to investigate the employees’ competencies and how they can be defined and shared in a way that is meaningful to them and the organisation. This will be investigated and understood through semi-structured interviews, which should create a common understanding of the issues of how they utilise and benefit from other colleagues competences in their work, as well as their own competences are utilised.

The case targets employees whose job has a knowledge-based character. More specifically, this involves groups such as Marketing, E-business, Development and IT. The different teams that this competence system targets will affect about 115 employees in their everyday work. The reason why these teams are chosen is that employees from these teams solve some of their tasks in project groups. Furthermore, some of the employees’ tasks from these involved teams is not limited solely to them, as some of the tasks also need to be verified by a colleague from one of the other departments in order to comply with internal procedures, etc.

It can be assumed that the employees from the selected teams may face challenges in their own tasks for which they may need to have a professional discussion with some of their colleagues from one of the other teams.

For example, a business developer could have tasks involving preliminary analysis or tasks with an innovative character, and thus have some suggestions for new initiatives. In some of these cases the business developer will benefit from a professional discussion with one of the IT developers in order to obtain an overview of how the possible ideas or solutions can be implemented within the existing IT solutions.

The interviewed employees’ position, professional experiences and their role in relationship to the thesis will be further elaborated in the interview section (4.5). The purpose of the interview is to understand the targeted employees’ ‘world’ in relation understand the issues and what they think competencies are, and from this develop the problem statement to this thesis, and what criteria they prefer for the digital competence system. Therefore, some of the ideas will be presented to the interviewee during the interview, as this should reveal their initial feedback, and their suggestions for ideas or improvements of the system. Some of the feedback will be considered and included in the design, which will be presented in a user test. The user test will be elaborated further in the methodology (6.2).

This case description leads to the next section that elaborates the background and motivation for this thesis and my interest for the issues that will be processed in this thesis.

# 3 Review

*This chapter establishes review of related work. It serves an overview of the different interpretations of a competence, which leads to modelling the state of the art. This leads to definition of a competence that will be applied in this thesis.*

## 3.1 Review of related work and state of the art

This thesis will investigate the possibility of visualizing as well as structuring different competences for use in large companies of knowledge-intensive character, and more specifically the insurance industry.

Knowledge-intensive workers are characterized by variety rather than routine and are problematic to describe in manuals, job descriptions and charts (Lindgren, 2005, p. 2). The majority of tasks in the insurance industry are dynamic and are affected by the market. There is no fixed framework for tasks, as they can be affected by changes in market trends, weather and so on. So tasks are continually solved depending on various employees’ ideas and competences. Blackler (1995) refers to knowledge work as defying routinization and requiring the use of creativity to produce idiosyncratic and esoteric knowledge. Another view comes from Starbuck (1992), in whose view knowledge-intensive organizations rely on knowledge workers to solve tasks, which depends much on their various competences. As Spender (1996) noted, knowledge workers draw upon individual or collective knowledge. Competence of knowledge workers is thus associated with processes of change and should be seen as dynamic, emergent and situated in constantly evolving everyday practices (Lindgren, 2005, p. 3).

Competences have been defined in many ways, and there has not been devised a conclusive definition (Cragg et. al., 2011). This section elaborates the different angles and definitions of competences; furthermore, it specifies a definition of competences as the basis for further elaboration throughout this thesis. The main focus of this thesis is professional competences. It is important to acknowledge and structure the large variety of definitions of competences to get a standardized definition of how competences are used and perceived through this thesis.

Sanghi (2007) distinguished between ‘competence’ and ‘competency’. Sanghi (2007) defines ‘competence’ as a skill and the standard of performance reached, while ‘competency’ refers to the behaviour by which the competence is achieved. In other words, the first definition describes the ability to execute a task, whereas the second definition focuses on how it is done (Sanghi, 2007, p. 9). To understand learning and development at three separate levels, the example of driving a car can be used.

* Knowledge – reading (one understands the meaning of driving a car)
* Skill – practising (one is shown how to drive a car and is allowed to practise in a non-traffic area)
* Competence – applying (one exhibits an ability to drive in traffic) (Sanghi, 2007, p. 9)

In other words, there will be depicted between how well an employee is able to use and apply the skills into competence or not. The task-specific ability of an employee defines whether it is a competence or not. So to sum up, first, one has to divide the skills into levels; hereafter it is possible to identify whether they are competences or not. A limitation of this definition is that it identifies only whether a skill is a competence or not. It does not distinguish between a *core competence* and ‘just’ a competence. Deist and Winterton (2005) define a competence as ‘a characteristic of an individual that has been shown to drive superior job performance’. This definition includes both ‘visible competences’ of knowledge and skills as well as ‘underlying elements of competences’, like traits and motives, suggesting that motivation and personal interest, e.g. a promotion, also could affect a competence.

Yet another view comes from Hodkinson and Issit (1995), who argued for a more holistic view of competence in the professions as integrated knowledge, understanding, values and skills that ‘reside within the person who is the practitioner’. In other words, a competence is dependent on the individual and is affected by the different values and understanding of competences, and this indicates that the individual is independent of the social and task context. Similarly, Cheetham and Chivers (1996) claimed, through a holistic model of professional competence framework, that competences derived from five dimensions.

* Cognitive competence, including underpinning theory and concepts, as well as informal tacit knowledge gained experientially. Knowledge (know-that), by understanding (know-why).
* Functional competences (skills or know-how), those things that ‘a person who works in a given occupational area should be able to do…and able to demonstrate’.
* Personal competences (behavioural competences, ‘know how to behave’), defined as a relatively enduring characteristic of a person causally related to effective or superior performance in a job.
* Ethical competences, defined as ‘the possession of appropriate personal and professional values and the ability to make sound judgements based upon these in work-related situations’.
* Meta-competences, concerned with the ability to cope with uncertainty, as well as with learning and reflection (Deist & Winterton, 2005, p. 35).

This framework brings a holistic view to competences, with a focus on who knows what and why they know it. Furthermore, a person with a competence in a given area should be able to use it, demonstrate it, emphasize it and make it tangible. In addition, the framework comprises personal and ethical competences, which supports the view of a competence as originating from an individual, because it is up to the individual to behave correctly and make the right choices in work-related contexts. Another aspect of this framework is the ability to learn, reflect and cope with a situation, which is also an important ability when working with competences in an organization of a knowledge-intensive character.

On the other hand, Sandberg (2000) viewed competence as a function of the context, where employee competences are constituted by the work and the experiences that the employees have in a given situation, time and place. An extension of this view comes from Cseh (2003), who emphasizes the importance of different cultural contexts, involving group identities such as race, gender, age and class, as a part of a competence. The cultural aspect of a competence is related to the differences that exist between employees with different backgrounds, but also to the company culture that exists in a certain company.

Haddadj and Besson (2000) distinguish between two directions: an individual approach, centred on individual behaviour, and a collective approach, centred on the community of practice that exists in an organization. Most definitions of competences fall somewhere between two extremes: competence as a universal attribute, such as literacy, and competence in terms of individual capacity, which is found only in the work context (Klarsfeld, 2000).

Another well-known definition of competence stems from Prahalad and Hamel (1990), who defined competence as ‘the collective learning in the organization, especially how to co-ordinate diverse production skills and integrate multiple streams of technologies’. This definition emphasizes that a competence is dependent on other competences, and this definition seems suitable when working with competences in an organizational context. This definition is also supported by Drejer and Riis (2000), who argue that in some cases, competences exist across departments and, and with various devises and technologies and with complex interactions with people (Drejer and Riis, 2000, p. 21).

Yet another view on competences comes from Nordhaug (1994). Nordhaug defines competences as ‘knowledge and skills performed toward the completion of a task’. This seems to be a general definition and does not indicate *what* a competence contains of, and some important aspects are missing from the competences concept. Nordhaug does not make a distinction between skills and knowledge. The definition only outlines the need for different knowledge and skills to perform a certain task. Moreover, it is not possible to separate skills and competences, and it does not clarify *what* knowledge and skills are needed for competences. In line with this, Nordhaug does not focus on the specific context, which is also an important part of a competence.

Fischer et al. (1993) highlight that people do not have competences independent of context; an employee with a certain competence should be able to use it in the right context at the right time, which in this thesis is the insurance industry. In addition, competence is understood as the relation between work tasks and humans, so the concern is not for knowledge and skills themselves but rather what knowledge and skills are required to perform a specific job or task in an efficient way.

In line with this view, Lawler and Ledford (1992) point out that an issue with job-based competence descriptions is the focus on jobs, rather than on individuals. Consequently, there are two angles from which to examine competences. The first is the view that employees possess different competences and are a knowledge resource working for an organization. How can a company take advantage of the knowledge that its employees have about its product, services and strategy, in accordance with that perspective? The second perspective is how the company can shape employee skills to its products, services and strategy from the company perspective. How can a company take advantage of the knowledge its employees possess, shape it to the organization’s strategy and product, create different competences that promote and strengthen the organization’s *core competence* and, through this, gain competitive advantages? A challenge connected to this view is the danger of individuals being overlooked and forgotten, and this can create insecurity if employees do not see how they match the competences the company chooses to focus on. As the main focus of this thesis is professional competences and not personal competences, this view can be a drawback, as some social/personal competences could reveal professional skills that are not yet discovered or fully developed into competences (Deist and Winterton, 2005). However, a focus on employees’ interest workwise will accommodate these challenges. The essential of the definition of competences by Nordhaug (1994), ‘knowledge and skills toward a task’, does not require the definition of *where* and *how* a competence is developed. On the other hand, Hamel and Prahalad (1994) defined core competence as ‘the collective learning in the organization, especially put emphasis on how to co-ordinate diverse production skills and integrate multiple streams of technologies’. This indicates that core competences are created by many different competences that exist internally in organizations. This also indicates a need for a clear strategy and goals in an organization. Having a clear strategy will most likely result in a clarification of what core competences the company would like to achieve.

A further view comes from Teece (1997), who defined core competences as ‘those competencies that define a firm’s fundamental business as core’. This definition is evident, but this definition also has weaknesses as using terms as ‘fundamental business as a core’. What are the thoughts behind these terms? Is it the *most* important competencies, and using term as ‘fundamental’ what does that mean? Another view on a core competence also consists of having the competence in the right place at the right time, as Plesis (2007) put forth, the competence system in a structured and efficient way that is to ensure the right competence in the right place at the right time. Within the insurance industry, one example could be an insurance company that possesses a large know-how about fire insurance. If this is its core competence, and perhaps there are not any fires, the insurance company is not able to show *why* and *how* its fire insurance product is unique. On the other hand, there could be season of torrential rain, and this is not an area in which the insurance company had accumulated know-how, because it specializes in fire insurance. Fire insurance does not create any value for customers, because they need torrential rain insurance. So an important characteristic of competences and core competences is to be able to accommodate the customers’ needs in the right *place* at the right *time*. In line with this, Teece et al. (1997) further argued that the degree to which a core competence is distinctive depends on how well endowed the firm is relative to its competitors, and how difficult it is for competitors to replicate its competence. The latter is an important factor regarding a company’s core competence: it should be unique to customers and to the company, and it must not be easy to substitute or copy.

Furthermore, another aspect is that the constantly changing market environment, in which there are new products, markets and competitors will also affect the need for continuous development or adjustment of the organization’s internal competences. These conditions support Lei et al. (1996), who argued, ‘Core competence cannot remain static; only those firms that continue to invest and upgrade their competence are able to create new strategic growth alternatives’. This tells that a competence has to be associated with processes of change and should be seen as dynamic, emergent and constantly evolving.

It is important to develop a competence system that can assist the organization and the employees in general, that can strengthen and develop new core competences and that can be seen as a process of organizational development. A competence system should support activities in the organization such as identifying needed competences for a current or future strategy; personal development; planning, finding and allocating the right competence when manning assignments and recruiting and forming teams for projects; and incorporating an overview of competences in use and competences available. Alavi and Leidner (2001) describe a competence system as a specific class of knowledge management technology. The main purpose of a competence model is to keep up with development internally and externally, coordinating different competences and strengthening or building core competences. This should generate transparency and positive employee outcome by professional development, achieving common or individual goals. However, competence models have been source of both positive and negative impact in organizations. They have been cited as a source of tension for employees, specifically when employees lack trust in management’s strategy or do not understand their individual fit within the competence framework. Therefore, employees can respond ambivalently towards competence models (Hayton & McEvoy, 2006). Thus, it is important to create a clear strategy, goals and ‘relevance’ that employees understand when implementing a competence model. It should be clear to everyone how to use it, why it is important and what its benefits are. ‘Relevance’ refers to whether employees perceive the model as important to reaching both organizational and individual goals. The competence system should support mapping, categorization and the organization’s available and needed competences. The competence system should be categorized into different levels of expertise in a competence tree like a grading scale, with levels such as beginner/a little knowledge, experienced and expert. Consequently, this should indicate the level of the obtained competences. Each level should contain a sub-area with a short description of the obtained competence – how the employee understands it, how he or she uses it and how and where he or she developed it. The competence system should visualize support information about the employee’s role, which could support the organization when gathering teams for different projects or identifying possible competence development. In sum, competence systems are designed to support the assessment, development, management and planning of the competence level of an organization and its members and the measurement and analysis of present and future competence level (Lindgren, 2005, p. 3). Furthermore, Lindgren (2005, p. 3) suggests that competence systems need to have the potential to detect, visualize and leverage interest of organizational members. Drawing the outlying interest of organizational members into the competence system should result in the organization having a competence system affected from the top as well as the down level, thereby making the competence system actionable. Consequently, by showing employees’ interest in the competence system across the organization, can support leaders with identifying some unfinished competences that may be relevant to the organization and thereby support employees’ future professional development. When introducing a competence system, it is important to create a system that brings value to the organization as well as its members. If the organizational members do not perceive it as of value to them, there is the danger that they will not provide support by uploading their own competences and using the system in their daily work, and there is a great risk that the system will not be updated in a timely manner and will turn into a static system instead of dynamic system. During the start-up phase of a competence system, there should be a strong focus on having it implemented and launched. On the other hand, it is important that the system be advantageous, natural and intuitive for employees to use so they do not see it as a staged event.

Following is one table that are splitted into 5 parts that summarizes factors that affect professional competences.

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| **Character of a profesioal competence** | **Factors that affect the competence** | **Risk** | **Key Terms** |
| Has the ability to perform a certain task (Sanghi. 2007) | Resources, tangible and intangible, like courses and trust from colleagues. | Employee will not be given required courses that will develop or build on existing or new competences. | Ability |
| Knowledge and skills (Sanghi, 2007) | Employees are experienced in the current competence, gained from current or previous job, training, knowledge sharing and use. | Employees’ knowledge and skills are not utilized to satisfaction, and the organization does not gain a competitive advantage. | Knowledge and skills |
| A characteristic of an individual that has been shown to drive superior job performance” (Deist & Winterton, 2005) | Individual’s professional interest.  Individual’s experiences.  Confidence in colleagues and leaders. | Individual’s potential is being overlooked or untapped. | Characteristics, individual, superior job performance |

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| --- | --- | --- | --- |
| **Character of a profesioal competence** | **Factors that affect the competence** | **Risk** | **Key Terms** |
| Integrated knowledge, understanding of competences, values and skills that “reside within the person who is the practitioner” (Hodkinson & Issit, 1995) | Different individual perceptions and values. | One employee’s approach and values differs too much from colleagues, and this could create a conflict between employees. | Integrated knowledge, understanding, values and skills |
| Functional competences (Cheetham & Chivers, 1996, 1998) | ‘A person who works in a given occupational area should be able to do -and able to demonstrate | If an employee does not know how to behave and does not fit in socially in the organization. | Functional |
| Ethical competences (Cheetham & Chivers, 1996, 1998) | Professional and personal values and the ability to make sound judgements based upon these in work-related situations. | Ethics is particularly important in relation to insurance products as it can be difficult for customers to see how insurance works in practice. | Ethical |

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| --- | --- | --- | --- |
| **Character of a profesioal competence** | **Factors that affect the competence** | **Risk** | **Key Terms** |
| Meta-competencies (Cheetham & Chivers, 1996, 1998) | Concerned with the ability to cope with uncertainty, as well as learning and reflection. | The insurance industry is associated with many uncertainties that may affect products, such as changes in weather conditions and new market trends | Meta |
| Being able to use it at the right time in the right place (context) (Sandberg, 2000 and Sanberg) | Employees’ competences are constituted of the work and the experiences that the employers have in a given situation, time and place. Hence, people do not have competences independent of context. | If employees do not feel comfortable in the context and do not trust each other, some may hold back because of fear of doing something wrong. | Use, right time, right place |
| Context (Cseh, 2003) | Different cultural contexts involving group identities such as race, gender, age and class as a part of a competence. | If employees do not feel comfortable around each other, some may hold back. | Context – culture and different groups |

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| --- | --- | --- | --- |
| **Character of a profesioal competence** | **Factors that affect the competence** | **Risk** | **Key Terms** |
| An individual approach centred on individual behaviour (Haddadj and Besson, 2000) | The different experiences individuals have from the organization, but also from previous jobs and experiences. Another factor is the different culture that exists within the individual. | Lack of confidence in colleagues and leaders may result in the individual not feeling safe in sharing experiences from past jobs, which could benefit the organization, because of the fear of not being credited for one’s knowledge and experiences. | Individual |
| A collective approach centred on individual behaviour (Haddadj & Besson, 2000; Prahalad & Hamel, 1990) | Centred on the community of practice that exist in an organization. Another factor that affects competence is the organization’s ability to coordinate diverse production skills and integrate multiple streams of technologies and competences. | The different collectives that may exist within a larger organization may work against each other. | Collective |

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| --- | --- | --- | --- |
| **Character of a profesioal competence** | **Factors that affect the competence** | **Risk** | **Key Terms** |
| Interest (Lindgren, 2005, p. 3) | Employees can have hidden desires or not fully developed competences within them. Their interests may affect their motivation and will affect their competence positively. | Employees may lose interest in a given task in which they have a strong competence. This could affect the motivation for the task and steer the competence in an negative direction. | Interest |
| Dynamic and emergent (Lindgren, 2005) | Competence of knowledge workers is associated with processes of change and should be seen as dynamic and emergent. | Lack of training, courses and knowledge sharing. | Dynamic and emergent |
| Knowledge and skills performed towards the completion of a task (Nordhaug, 1994) | Experience and courses that develop existing or new knowledge and skills. | Lack of experience and training could affect knowledge and skills in a negative direction. | Completionof a task |

Table 1 (divided into five) – Summary of factors that have an impact on competences.

Table 1 shows different characteristics of competences drawn from different definitions of competences. Following, a specific definition for use in this thesis is created from a combination of some of the mentioned factors of a competence. Furthermore, there will be an explanation whether the terms will figure in the specific definition of competences and if so, whether it will be included in the final competence tool, and if possible to explain at this early stage, how. So, the terms will be argued whether they will be incorporated in the final definition of competence, and whether it should be included in the as a ‘key component’ in the digital competence tool. This will be further clarified by giving the term a weighting from 1-5, where 1 is the most important and 5 is the least important. This will be based on a subjective assessment based on the studied literature of ‘competences’ and ‘knowledge-intensive companies.’

As earlier mentioned (2) this thesis will be based on a case study of the Danish insurance company Alm Brand. Alm Brand is characterized as a knowledge-intensive company. As earlier defined, knowledge-intensive companies are characterized by variety rather than routine and are problematic to describe in manuals, job descriptions and charts (Lindgren, 2005, p. 2). An important factor when defining a competence of knowledge workers is that it is associated with processes of change and should be seen as dynamic, emergent and situated in constantly evolving everyday practices (Lindgren, 2005, p. 3). The context of how knowledge workers are motivated should be taken into consideration when working with competences in a company of knowledge-intensive character; knowledge workers are driven towards knowledge sharing by their need for knowledge (Lave & Wenger, 1991). Reciprocity and recognition are therefore a major motivation for them (Ekbia & Hara, 2006, p. 238). The human-centric or process-oriented view emphasizes the social processes that are needed for the development of trust and reciprocal relationships between individuals (Ekbia & Hara, 2006, p. 238). This view indicates that knowledge workers are intrinsically motivated, which a future competence system should take into account. The main challenge of modelling a complex, knowledge-intensive organization is utilizing knowledge from various sources, as such domains involve people from different backgrounds, with different knowledge and expertise, who work in different organizational roles (Oswald, 1996). This means that a future competence system should benefit from support and outline the different sources from the employees as well as highlight different organizational roles.

First of all, Sanghi’s (2007) definition, ‘the ability to perform a certain task’, uses terms such as *ability*, *perform* and *certain task*. As a part of Sanghi’s (2007) framework of defining competences, ‘knowledge and skill’ is a part of their definition. ‘Knowledge’ means, in this case, an employee understanding the meaning of a specific task; ‘skill’ refers to practising, when the employee is introduced to a new task and is able to practise or test the new task in a ‘closed’ area from the customer; and this leads to the actual competence, when the employee is *applying* the competence and is able to use it and demonstrate it correctly with customers. In other words, Sanghi (2007) defined competence as an employee being able to *apply* and having the *ability* to use and demonstrate his or her knowledge and skills in the right situation. From this view, *ability* refers to the employee as a resource consisting of tangible as well as intangible knowledge. Knowledge workers especially have different intangible knowledge and skills, which they must have the ability to transform to tangible competences to the organization and its members. An example could be an employee who works as a user experience designer (UXer), an expert in online usability and digital solutions. The employee can lean on some general guidelines, but there are many ways to improve online usability, and there is not a final recipe for it. Working with digital solutions is just as much about keeping up with the digital developments, trends and benefit from the experiences the employee has made inside and outside the organization. As a result, the employee has some hidden competences that have not yet been demonstrated to colleagues, and these may appear intangible to colleagues. As it is assumed that a knowledge worker possess competences that are intangible or invisible to colleagues, an important term for the future definition of competences is employees’ *ability*totransform their competences from intangible to tangible for their colleagues and themselves. So, the term *ability* is included in the specific definition of competence and is applied as one of the primary terms to the competence framework. So, as argued ‘ability’ is important in accordance with a competence definition fitting a knowledge- intensive company like Alm Brand and it should be included in the specific definition. However, the term ‘ability’, is not identified through the literature review in several different definition of competences. The term ‘ability’ will not be one of the ‘key components’ in the competence framework. So, the combination of the term ‘ability’ seem important when working with competences in a knowledge-intensive company and the fact that term ‘ability’ is not identified through the different definitions gives the term ‘ability’ a weighting of 3.

The future competence system and the use of competences in a knowledge-intensive companies, as earlier mentioned in this section, rely on knowledge workers to complete tasks, among other things. This means that completing a task depends much on various competences (Starbuck, 1992). As Spender (1996) noted, knowledge workers draw upon individual or collective knowledge and Lindgren (2005) complementary with knowledge workers are associated with processes of change and should be seen as dynamic, emergent and situated in constantly evolving everyday practices. If knowledge workers have the ability to turn intangible competences into tangible and, among other things, deliver their part of a project, this gives colleagues the opportunity to supplement and work with their part of the project. Therefore, the term ‘ability’ has been chosen to be included in the definition of competences in this thesis.

The next definition of competence comes from Deist and Winterton (2005), who defined it as ‘a characteristic of an individual that has been shown to drive superior job performance’. This view highlights terms such as *characteristics*, *individual* and *superior job performance*. First, the term ‘characteristic’ refers to a certain part of an employee’s ability in his or her job. Using the UXer as an example of how the use of the term ‘characteristics’ is interpreted in this context, in relation to the different UXers employed in a large organization like Alm Brand they possess various skills within the field of designing online digital solutions. One UXer may have expert knowledge in designing the online purchase process and be good at drawing online solutions, while another UXer has expert knowledge in optimizing existing online flows and getting existing solutions to work. As the definition of competences in this thesis must fit a knowledge-intensive company, the term ‘characteristics’ must be a part of the final definition, as two employees with the same job title, like the UXers above, may have different expert knowledge and experience. So, the term ‘characteristics’ is included in the specific definition of competence and is applied as one of the primary terms to the competence framework. In line with this, terms such as ‘individual’ and ‘superior job performance’ refer to characteristics of individual employees’ job competence, e.g. optimizing online purchase flow. ‘Individual’ may be an important term as knowledge-intensive companies have many employees with different characteristics of competences. However, the term ‘individual’ should not stand alone; it should be used in a combination with ‘collective’, as the various competences and skills exist in the individual but should be further developed in the interaction with the collective. This is because knowledge workers are driven towards knowledge sharing by their need for knowledge (Lave & Wenger, 1991) and, as Ekbia and Hara (2006) acknowledge, because reciprocity and recognition are important to knowledge workers. This tells that knowledge workers are intrinsically motivated which leads to the term ‘superior’. The concern with this term goes with the difference from individual to individual. As knowledge workers are intrinsically motivated, e.g., receive acclaim for their work (Muller et. al., 2005). The concern is the ‘intrinsic characteristics’, which are considered the stable individual internal sources for effective work performance of individuals. If individual perform their activities in a stable environment it is possible to find and define their characteristics, by using methods, which aims to highlight employees intrinsic motivators (Michellone & Zollo, 2000, p. 138). However, this definition of competences should fit a knowledge-intensive company, which is not characterized by being in a stable and predictable environment. So, an important fact related using the term ‘superior’ is the ‘hidden’ intrinsic motivators and the relations between the intrinsic motivators and the changing work situations (Michellone & Zollo, 2000). However, the term ‘superior’ is in this case realized as ‘better than other colleagues’ and is also an important term in terms of distributing the right tasks to the right people. The UXer who is an expert in drawing online purchase flow should be assigned these tasks, and so on. So the term ‘superior’ should be included in the definition of competences used in this thesis.

Another definition of competences comes from Hodkinson and Issit (1995), who said that they ‘reside within the person who is the practitioner’. This definition contain underlying elements such as *integrated knowledge*, *understanding*, *values* and *skills*. This definition focuses on individuals as practitioners and their integrated knowledge, which refers to different written rules and guidelines as well as informal knowledge. Informal knowledge could stem from not listed experiences from completed projects, e.g., is there a specific language or jargon in a particular project group. These experiences comprise informal knowledge which employees are aware of. This definition seems relevant when working in a larger organization where there could be integrated knowledge and skills. However, this definition and these terms seem too general and vague and are rejected for the definition used in this thesis, which is intended to be a concrete definition of professional competences that includes specific terms that are appropriate for a knowledge-intensive company.

Cheetham and Chivers (1996) classify competences as cognitive, functional, personal, ethical and meta-competences. Cognitive competence is the informal knowledge that exists in an organization, and personal competence is employees’ behaviour and characteristics. As the focus here is solely on professional competences, cognitive and personal competences are not used in this thesis. Functional, ethical and meta-competences, on the other hand, seem to be appropriate to address in this thesis’s definition. Functional competence refers to an employee who works in a given area; e.g. an UXer should be able to create and demonstrate an online purchase flow. So, terms as ‘functional’ is included in the specific definition of competence and is applied as one of the primary terms to the competence framework.

Ethical and meta-competences are closely related; ethical competences concern personal and professional values and the ability to make sound judgements based upon these in work-related situations, and meta-competences concern the ability to cope with uncertainty, as well as to learn and reflect (Cheetham & Chivers, 1996, 1998). As knowledge workers do not have definitive solutions for how to best to complete their tasks, ethical considerations are an important issue when employees are using a competence in a knowledge-intensive company. Meta-competences, or coping with uncertainty, learning and reflection, are also important in a knowledge-intensive company because, as earlier defined, they work in a dynamic and emergent environment. An example of where ethical and meta-competences were not well used or considered, is the Danish insurance company Codan. Codan introduced a pilot project where autos were sent to a Danish garage in Poland for repair. Codan’s intention was to save customers money. After a short period with pilot project, Codan noted in a press release that there had not been the expected support from the market and the pilot project was closed (Codans press release, 6/2-2015). Codan released news of the project on Facebook on 29 January, 2015, and from start, most of the comments were negative, such as ‘Boycott Codan’, ‘get away from Codan’ and ‘What a bad idea’. Some mentioned Codan having a bad moral and advised other customers to find another company (Facebook, Codan, 29/01-15). This shows that Codan employees did not have good ethical skills and were not able to predict the resistance they would receive from customers. Therefore, terms such as ‘ethical’ and ‘meta-competence’ should be a part of the specific definition of competence in this thesis. The terms ‘ethical’ and ‘meta-competence’ is perceived as important terms to the specific definition. However, the terms is perceived as link between the employees competence and the way they use and demonstrate their competence to the organisation. So, this will be applied as secondary terms to the specific competence definition.

Another view on competences comes from Sandberg (2000), who highlights the *context* as a part of a competence, saying that employees should ‘be able to use it at the right time at the right place’. This definition use terms such as *use*, *right time* and *right place*. First, the term ‘use’ means the employee should be able to use the competence. An example is the UXer who is an expert in drawing flows of applications for mobile platforms. This employee should be able to use this competence by drawing flows on applications that specifically match the insurance company, e.g., an application for supporting the customers if they end up in a car accident, and not just general drawings. Furthermore, Sandberg (2000) uses the terms ‘right time’ and ‘right place’, which means that a competence is constituted by the work and experiences that employees have in a given situation, time and place. These terms seem relevant and could fit a knowledge-intensive company. As earlier mentioned, knowledge-intensive companies are, among other things, dynamic, emergent and evolving (Muller et. al., 2005), and this could impact the organization’s time and place. As an example, Alm Brand in the previous year (2014) responded to a new threat on the market and created a new insurance product against online ID thefts (alm brand, 2014). This could affect the organization’s need for new competences or for employees to adapt or develop their competences to fit the organization and new market trends. Because knowledge-intensive companies can be affected by market trends, the concept of using a competence in the right time and place, referring to what context the organization and its members are situated in, should be included in the specific definition of competence in this thesis.

Another view on competences comes from Cseh (2003), who also focuses on the context. However, Cseh (2003) focus on a different context, involving groups such as race, gender, age and so on. These competences seem more closely related to personal competences, which are not dealt with in this thesis as the focus is professional competences. So terms referring to the context related to groups based on gender, age and so on are not included in the specific definition of competences in this thesis. The term context is used as a primary term in the definition of competence.

Another view on competences stems from Haddadj and Besson (2000), who describe an individual or a collective approach and argue that a competence is ‘an individual approach, centred on the individual behaviour’ or centred on the collective behaviour. This definition highlights terms such as ‘centred on the individual’ and ‘individual behaviour’ or the ‘collective’. These terms emphasize the different experiences individuals have in the organization, but also previous jobs and experiences. The experiences one has, as well as the environment, which one is or has been a part of, affect the ‘individual’. This can include cultural differences and the differences that may result from these. The individual should be acknowledged and included in the definition of competence, as an individual’s experiences must benefit the organization. However, the term ‘individual’ must not be used in isolation, as the definition of competence must fit a knowledge-intensive company, which, as earlier defined, relies on knowledge workers who depend on their various competences when solving tasks (Starbuck, 1992) and draw upon individual or collective knowledge (Spender, 1996). So, in the definition of competence, the term ‘individual’ must interplay with ‘collective’, as individual competences are acknowledged as part of a collective and are affected and further developed in the collective. An example of how a competence can be further developed in the collective is through SCRUM meetings (SCRUM is a work/development method for organizational work), where each team member shares the status of his or her part of the project and the challenges he or she is facing. This allows the other team members to give feedback on the task, challenges, and so on, allowing the first team member to move on with the task. So terms such as ‘individual’ should be combined with terms such as ‘interplay’ with the collective in the definition of competence. Another well-known definition which supports these terms stems from Prahalad and Hamel (1990), who defined competence as ‘the collective learning in the organization, especially how to co-ordinate diverse production skills and integrate multiple streams of technologies’. They also promote terms such as ‘collective’. However, this definition also fosters terms such as ‘learning’, ‘diverse production skills’ and ‘integrate multiple streams’. The term ‘learning’ refers to the organizational process, which is in the context of working with competences in knowledge-intensive companies. As knowledge-intensive companies work in emergent and evolving environments, it is assumed that ‘learning’ is an important term, as employees and the organization must keep up with the market and reflect and learn from the experiences they have. The term ‘learning is used as a primary term to the specific competence definition. Other terms from this perspective are ‘coordinate’ and ‘diverse production skills’, which also seem appropriate for a definition of competence in relation to a knowledge-intensive company as they reflect the different competences involved in the different projects and tasks. So to sum up, these terms as used in the definition would be ‘coordination’ and ‘combination’. However, the terms are perceived as link between the management and their ability to coordinate and combine the *right* competences in order with creating the different teams. So, this will be applied as secondary terms to the specific competence definition

Another element to include in a definition of competence comes from Lindgren (2005), who highlights ‘interest’ as important to competences. Furthermore, Lindgren (2005, p. 3) suggests that competence systems need to have the potential to detect, visualize and leverage the interest of organizational members. Drawing outlying interests of organizational members into the competence system should result in the organization having a competence system affected from the top- as well as the down level. Using the term ‘interest’ can allow leaders to detect some ‘unfinished’ or ‘hidden’ competences of employees (Lindgren et al., 2004). The term ‘interest’ will not be included in the definition of competences here, since the purpose is to create a definition that targets professional competences. However, ‘interest’ should be a part of the final competence framework for the system, as it may encourage employees to use the system and generate great potential for leaders of the organization. Taking ‘interest’ into account will help create a system that is dynamic and relevant to employees.

Another element of competence stems from Teece et al. (2003), who acknowledged the term ‘dynamic’. This term highlights a competence as a capacity to achieve congruence with the changing business environment. As the definition of competence should fit a knowledge-intensive company, which is characterized as needing to be dynamic and emergent owing to changing market developments (Johansen & Olsen, 2003), the term ‘dynamic’ seems important, as it refers to the company and employees constantly making progress. Consequently, the term ‘dynamic’ should be included in the specific definition of competence in this thesis.

Another definition of competence comes from Nordhaug (1994), who classifies a competence as ‘knowledge and skills performed towards the completion of a task’. Using terms like ‘knowledge’ and ‘skills’ highlights that there is a need for certain knowledge and skills in different areas. An example of how knowledge and skills are needed is the different ongoing projects, e.g., increased digitalisation for customers. Projects or tasks that involve increased digitalisation might require building some new online customer universes, where customers are able to serve themselves without any guidance from a customer consultant. This involves several employees, from a business developer consultant, who develops what the customer universe should contain, to the UXer, who draws and develops the technical features of the customer universe, to a high-skilled communicator, who writes the text. As the definition should fit a knowledge-intensive company, which requires concrete knowledge and skills, the term ‘knowledge and skills’ seems important, as it refers to the company and its need for specific knowledge and skills in the different tasks. Consequently, the term ‘knowledge and skills’ should be included in the definition used in this thesis.

## 3.2 State of the art and modelling

From the above literature review and table 1 that illustrated the characters of a competence following table 2 is a presentation and summary of the terms that should be included in the definition of competences specific for knowledge-intensive companies. The table shows the term, a short description of the interpretation and use of the term, and a weighting of the term. The weighting goes from 1 to 2, where 1 is an important term and is perceived as a primary term and 2 is perceived as a secondary term, and is used as a link between the primary terms.

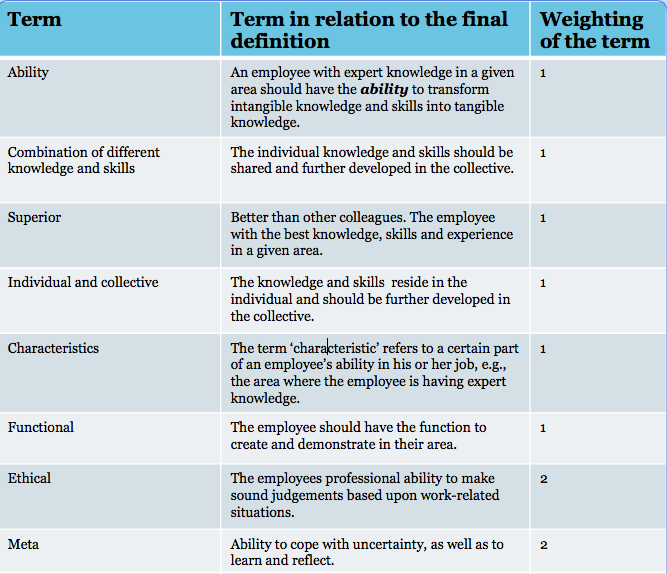
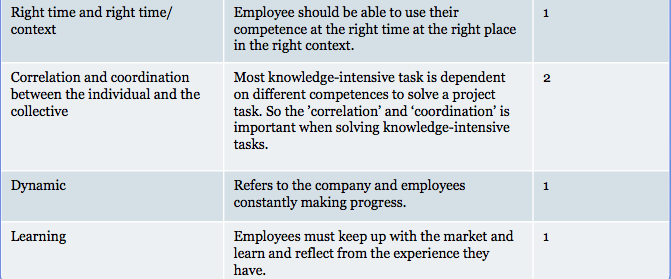
****Table 2 – Presentation of terms that will be used in the specific definition of competences

Table 2 leads to the definition of a professional competence used in this thesis. The definition targets knowledge-intensive companies, like the insurance industry and is modelled based on the literature work. Following definition to this thesis will hereby be:

*Competence is a superior function of a characteristic of a specific combination of knowledge, skills and the ability to transform them from tacit to explicit.*

*A competence is dynamic and resides within the individual and is further developed and coordinated within the collective.*

*The individual, as well as the collective, should be able to use it in the right context: the insurance industry. Moreover, they must be able to use the knowledge in a reflective manner, as well as cope with decisions in a professional, respectful and ethical way, in order to handle metasituations in the market. Additionally, a competence should encompass learning and continuous development from ended projects.*

Figure 1 – Modelled competence definition based on the litteratur

This leads to the perspectives that the competences can interpreted from. In general, there are two approaches to identify and work with competences: from an employee perspective and from an organisational perspective (Deist & Winterton, 2005).

In this thesis the objective is to bring these two perspectives closer and combine them. So the goal is t0 combine and approach the organisation perspective and the employees’ perspective. The organisation may have a need to develop competences in order with their strategy and goals and may chose some important competences to focus to have, in order with these. It may have an interest in making competences more visible and consequently making it easier for employees to find the colleague with the right competence in case they hit a bottleneck in their own task. Furthermore, the organisation may have an interest in improving knowledge workers’ retention with the organisation. It is also desirable to make the competence system socially embedded in the organisation, because the purpose is for employees to use the competence system and create the data for it.

The organisation will avoid a time-consuming mapping process by using a mix of these approaches. A drawback of this approach is the danger that employees will feel neglected. Thus, when designing the competence framework, it is important to create incentives and relevance for employees, as this approach requires great employee engagement. Thus, creating a competence system will have an impact on the employees daily routines, etc., why the culture that exist can be affect the employees wiilingness to accept the changes that a competence system could cause in their daily work routines.

**Organisational culture**

Working with competences and introducing a competence framework to larger organisations has a great impact on employees’ daily work in general. It requires employees’ willingness to participate by using the system and mapping their competences, among other things. The introduction of such a system will be affected by the organisation’s willingness to change, learn and adapt, which is affected by the culture that exists in the organisation.

Schein (Gherardi & Odella, 1998) defined culture as both a ‘here and now’ dynamic phenomenon and a coercive background structure that influences us in multiple ways. Cultures are constantly re-enacted and created by our interactions with others and shaped by our own behaviour (Lam and Robertson, 2012). By understanding the culture that exists and the factors that motivate employees to participate in continuous improvement projects, organisations will be able to assemble teams that are more likely to be successful (Lam and Robertson, 2012, p. 8). This tells us that the culture of the organisation affects employees’ willingness to accommodate changes, like making competences more visible in the organisation through a competence framework. Lam and Robertson (2012) argue that the perception of an organisation’s continuous improvement culture and an individual’s attitudes affect behaviour, which indicates that individual behaviour matters and affects the internal environment in the organisation. The values and beliefs that organisational members share about appropriate behaviour are part of an organisational culture (Detert, Schrøder and Mauriel 2000; O’Reilly and Chartman 1996) and may influence employees’ willingness to participate in a competence framework. Lam and Robertson (2012) anticipate that if employees perceive a disconnect between the organisation’s culture and their own tasks, they will be less likely to participate. Thus, it is important that the competence framework in this thesis be careful not to include tasks or activities that are too far away from the organisation’s existing culture. The future competence system should bridge the culture and the competence mapping carefully, as this will increase employees’ willingness to participate. Edgar Shein (1994) divides organisational culture into levels like artefacts and creation, values, and basic assumptions. He differentiates between formal and informal elements, where the formal elements are visible but often hard to interpret, like the language, traditions and history of the organisation (Schein and Schein, 1994). Informal elements include values, which are a code of conduct common to employees, and basic assumptions, like the nature of the employees, their activities and human relations (Schein, 1994). These informal elements are essential to understand to bridge employees’ willingness to map their competences as a part of their work activities. Furthermore, understanding the human relations among employees could benefit the competence framework if it should become socially embedded in the organisation. If there are barriers between employees, it may be relevant to clarify why they exist and how they can be reduced, as these might this influence employees’ willingness to participate in the competence mapping.

Other aspects of culture come from Trompenaars and Hampden-Turner (1998), who divide culture into four types: couveuse, family, guided missile and Eiffel Tower. These descriptions are applied to distinguish between task-oriented and person-oriented cultures. The four types are basic definitions and often are mixed in practice. However, one of the types will have a dominant position (Kjær et al., 2008, p. 301). Elements of this culture analysis could shed light on how employees are oriented towards a given task, like mapping their own competences as a part of their responsibility.

As earlier defined in this section, knowledge workers are most intrinsically motivated, e.g., recognition among the organisations and its members. Furthermore, there are the professional competences in general, which a specific definition is made for this thesis. To sum up, there are three perspectives to consider when developing a competence system. First, there is the organisation, which may have interest in developing, visualising and using existing competences in the best way in general. As it is assumed that knowledge workers have a large amount of knowledge about the organisation in general, and their workflows and experiences they have, this may affect that the organisation must have interest in keeping their employees. Next are employees, who may have interest in developing their own competences, and through that strengthening their own professional career. Following figure illustrates the perspectives that influence the competences:

**Competence**

**Organisation’s perspective**

* Keeping knowledge workers from shifting jobs
* Developing existing or new competences to gain competitive advantage
* Creating visible workflows
* Making existing competences visible to employees to reduce wasted time

**Employees’ perspective**

* Developing competences based on own interest
* Trust among colleagues and management
* Some employees may have interest in a new role in the organisation, e.g., project leader, why the employee strives to improve competences that furthers this

Table 3 – Perspectives that influence the competence

Hence, the modelled definition of a competence will therby be applied in this thesis, and tested through the interview (4.4). Next chapter will establish the methodogical framework for this thesis.

# 4 Theory and Method: User research

*This chapter establishes the methodological framework for this thesis, bringing the structure of the paper from the problem area to answering the research question. Through doing this, the paper offer a comprehensive critical view on the reliability and validity of the data. Furthermore, the findings of the empirical studies are discussed and presented.*

## 4.1 Phenomenology: Fundamental theory of science

In this project the phenomenology philosophy of science is adopted, which has the purpose to explore the ‘world’ the research takes place, why the approach in this thesis is the inductive approach.

As the thesis is based on an inductive approach, which means that its starting point is to gather the empirical data and then select the most appropriate theories to the data collection (Voxted, 2006, p. 105). This approach will be elaborated further in the methodology section (4.2).

According to Saunders et al. (2007, p. 101) research philosophy can be related to the *‘development of knowledge and the nature of that knowledge,’* which, in broad terms, defines the process of the empirical research and how data is perceived, applied and turned into conclusions. The development of knowledge and the way it is interpreted and used is central to the research method, as it gives perspective on the researchers opinions and offers a bridge between the empirical studies, the researcher and the way the ‘world’ is regarded.

As a starting point, the phenomenology is applied as the scientific perspective to this thesis, which, in this section, will be argued why this lens are used in this thesis.

**History**

Edmund Husserl (1859-1938) is considered the founder of Phenomenology (Collin & Køppe, 2012, p. 127). Another well-known philosopher, Merleau-Ponty, argues that we must not forget our knowledge in the world, including scientific knowledge, which arises from a first-person perspective, and that science without this would be meaningless (Collin & Køppe, 2012, p. 124). This view will be supported during the thesis by searching to understand each life world. This will be gained through the semi-structured interviews, by asking questions about how they see possibilities for structuring and making competences more assessable, and how they see this would affect their daily work, and the perceived value in doing this. As each of the interviewed can have different attitudes to the topic and questions, detailed questions will be asked regarding some of their answers, which will clarify their perspective.

In addition, the phenomenology is a critical reflection. Nothing should be taken for granted, not even to oneself. If you want it to be so, it can be an infinite meditation (Collin & Køppe, 2012, p. 126). This thesis has been based on an iterative process, meaning the interviewed employees have been presented with mock-ups of the competence system and their feedback leads to a new ‘iterative round’. The feedback on the mock-ups leads to improvements and some of the feed-back from the employees (actors) is incorporated, thus leading to an updated version of the project.

The underlying basis for using this perspective is in the interest of the subjects’ acts, and what *point of view* the subjective actors attribute to different actions. The researcher’s purpose is not to identify and explain relations, but to interpret, understand and codify ‘opinion universes’ of the subjective (Justesen & Mik-Meyer, 2010, p. 13). Therefore, the intention is to get an understanding of how the employees from Alm Brand utilise their own and their colleagues’ professional competence in their daily assignments. It will consider how the subjective actors think the competences are utilised today, how they acknowledge the opportunity to outline and structure the professional competences, and in regard to creating the ability to access the *right* competence in the *right* time. Consequently, the interviews will identify whether patterns for requests to the system exist.

The phenomenological is considered to be a philosophical analysis of the objects’ various manifestations, and associated to a reflexive examination of the understanding structures that enables objects to appear as they are. Phenomenological science is not interested in the content of the characteristics, but in the way they appear (Collin & Køppe, 2012, p. 127). Accordingly, it is to see how the phenomena of professional competence, the use of this and the opportunities to get them into play in knowledge-intensive companies appear. The phenomenology acts as a framework to understanding the influence of how I understand the individual’s relation to the world. A key concept in the phenomenology is the ‘life world’, referring to the concrete world we are in. The ‘life world’ is the world that is familiar to us in our everyday life. The ‘Life world’ is a social, cultural, and historical context that makes a particular opinion the universe for each member in it (Justesen & Mik-Meyer, 2010, p.23). The phenomenology emerges in the way the questions are asked in the interview (4.4) and the way they are interpreted. For example, the employees’ are asked questions about how they perceive a professional competence in their context. Furthermore, they are asked about how they perceive their colleagues’ competences are utilised and how easy it is to get the *right* help regarding challenges in their own task. Therefore, the subjects and the subjective experiences play a crucial role in a phenomenological perspective, and the sense in which it constitutes the object of the analysis (Justesen & Mik-Meyer, 2010, p.23). As Collin and Køppe (2012, p. 129, 130) observe, a phenomenon may appear different from person to person, and it can also vary from context to context. As the interviewees are working in Alm Brand, and are part of a larger context, the perception of competences and the need to make them more visible and structured may change from department to department and person to person. Furthermore, the attitude regarding *what* the future competence system should contain and *how* it would succeed and becomes actionable may also change. Through doing so, attention is drawn to the appearance of the object, in the way as it is in the field in which the world appears (Collin & Køppe, 2012, p. 130).

**Ontology and epistemology**

A critique of phenomenology is its interest in describing the unique and specific. From this perspective, it is not the general patterns, but more a description of specific concrete cases that is of interest (Justesen & Mik-Meyer, 2010, p. 46). Therefore, a phenomenologist is the reality created in the players’ awareness as a part of the ontology. Given that this thesis has its ‘phenomenological glasses’ on, the reality is subjective and thus created in the participants’ awareness (Voxted, 2006, 84). Using the phenomenological viewpoint means that it is directed toward the present time, which means that it is a desire to uncover competences in the professional context, and the opportunity to structure and visualise them.

In this thesis is the object is the professional competences. The competence is, in this thesis, defined as an asset that lies in the individual, yet is further developed in the collective. Accordingly, the object is, in this case, isolated to the individual. However, through the interviews it became clear that the employees that work in the departments involve those which the digital competence tool targets (IT, Ebusisnes, Business development and Marketing), that they possess competences of a great diversity.

**Epistemology**

A significant aspect of the reasoning behind the use of the phenomenological perspective is to identify some of the most important aspects of the competence phenomenon in a larger knowledge-intensive organisation. This is argued that the purpose of identifying the most important aspects of the phenomenon (Voxted, 2006, p. 84) The phenomenology has the intention of rediscovering the original ‘life-world’ of the conditions of the subjective, and, from there, analyse the experience that we, as humans, can consciously sense. As described in the interview (4.4), the intention with the interview is to create a conversation, and through this insight and understanding of the actor’s ‘world’ will be achieved.

This means that the life-world is based on the experience and meaning of structures seen in relation to its context, and is therefore subjective. It is phenomenology’s task to focus on the essential issues that arise in the human world (Fuglsang, L., et al., 2004, 280). The phenomenological view offers direct access to the knowledge, and the possibility to say something about the world, as it enables the face value of the actors.

By adopting the phenomenological view, it can be assumed that there are several realities or ‘sense universes’ (Justesen & Mik-Meyer, 2010, p. 14). I am aware that it is not the ‘final truth’, but rather it focuses more on learning and texture of the nature of a competence. However, in rough terms, these perspectives are depicted and used in the development of the digital competence tool. It also supports the inductive approach, whereby the research will be started through collecting the empirical data, examining it for any patterns or themes by coding it and using appropriate theory to support the findings.

**Reflection on the scientific philosophy of science**

By taking the phenomenological view, the process relies heavily on the subjective and using qualitative methods; in this thesis semi-structured interviews will be used. However, I am aware that there exist several realities in larger organisations like Alm Brand, like different sub-cultures exisisting in the different departments. To have a valid picture and insight into the employees’ world from the teams targeted by digital competence, employees with different experiences and job titles have been selected. Furthermore, I have ensured that the majority of the participants are not placed physically next to one another in the same office, since there is danger could be that, if the interviewees selected worked in close proximity, it would not bring a valid picture of issues to be researched. In accordance with the semi-structured interviews, results will be examined through subjectivity and context, participants’ views will be considered in relation to developing the digital competence system.

Different standpoints are conducive to achieving and supporting projects with other research questions and objectives (Saunders et. al., 2012, p. 129). So, based on the research area and its potential issues, and the inductive approach to this thesis, the phenomenological view has provided as a suitable basis for this thesis. The methodology will be based on criteria from the epistemology, which will be elaborated further in the following section.

## 4.2 Grounded Approach: Explorative approach to collect data and analyse data

When applying the inductive approach (Bryman, 2008, p. 11) for collecting and processing the empirical data, the framework had to be designed with the purpose of obtaining the empirical data, and, from analysing it, reveal themes in the data collected, and utilise appropriate theory that will support the research in the best way. The approach of this thesis has been with a grounded approach, whereby initial data collection has an exploratory purpose; the data will then be analysed and a conceptual framework developed to guide the subsequent work. The explorative part is to gather relevant empirical data that can shed light on the research formulation (Yin, 2009, p. 5-13). Therefore, the nature of the theory or explanation emerges as a result of the research process (Saunders, 2003, p. 389). With this method, it is desirable to investigate with an explorative approach a potential issue about visualising and utilising competences in-house that may exist in a larger organisation, like Alm Brand.

In addition, once the phase of theoretical reflection on the dataset has been carried out, I, as the researcher, want to collect further data in order to establish the conditions under which the theory will or will not hold. Such a general strategy is often called *iterative:* it involves weaving back and forth (Bryman, 2008, p. 11, 12). This is demonstrated by gathering the empirical data in the form of semi-structured interviews. The findings from the interviews lead to selection of suitable theory, and further development of the digital competence tool. This leads to a ‘*final’* presentation of the mock-ups, which have the elements of a user test (Rogers et. al., 2012, p. 481). However, the user test did not follow the method slavishly, as it was more a conversation about the mock-ups in order to hear employees’ suggestions for improvement or new ideas. However, the user test brought insight in to what features of the system they preferred, and which functions were unimportant to them. Two different UX designers working with IT solutions and usability conducted the user test, which will be further explained in section 6.2. As they both had a wealth of professional experience working with diverse IT projects, it was important to have their feedback in order to refine or redesign the system. Furthermore, the system will be targeting the UX’er, so they are also potential users’ to the system.

The reason why, it is marked as *‘final’* is that the purpose of this digital tool is that it will never be completely finished. The intention is that it should be a dynamic tool, which will be further developed concurrently with the need for new competences in the organisation as an example. The purpose of the digital tool is that it should work as such to be further developed alongside strategy work in Alm Brand. Consequently, the tool could be further developed according to the need for new initiatives and context changes. Using the method of UIM by Kanstrup and Berthelsen (2011) and the iterative way of reflecting back and forward, it becomes easier to incorporate the understanding of the users’ needs and the design become an ever-evolving process.

As mentioned in theory of science (4.1) phenomenology advocates a critical reflection, In such, reflection is applied through the employees interviewed whose ideas have been incorporated into mock-ups of the competence system, and where subsequent feed-back leads to a new ‘iterative round’. Thus the feedback from the employees incorporated into the mock-ups leads to improvements, and an updated version of the project. Furthermore, in this practise nothing can be taken for granted, not even oneself. If you want something, it can be an infinite meditation (Collin & Køppe, 2012, p. 126). This view supports the iterative approach since it encourages you continue to reflect, in this case, on whether the IT tool contains the right solution for the current state of organisational needs. This is important since the purpose with the phenomenological perspective is the desire to expose the phenomenon itself, which, here, is the professional competences and visibility of these, in order to make them more accessible. This thesis is based on a case study developed in Alm Brand. A case study is a suitable hermeneutic method to study phenomena, since it gives an overview of the phenomena through systematic and detailed description (Voxted, 2006, p. 41). Furthermore, a case study is an appropriate method to examine competence in Alm Brand. There are three types of investigation; *explanatory, exploring* and *descriptive.* If several units are included of the analysis (several people or group) the investigation be termed a multiple case study (Kruuse, 2001). As this case study involves different groups (Marketing & Sale, E-business, IT back-end and front end), and the approach is explorative, this defines it as a multiple case study.

In addition, the purpose with the thesis is to create a system that gives professional competences more structure and make it better visualised, which should ensure easy access to the organisational members in their workplace.

## 4.3 Multiple Case Study: Practical approach + for UIM’

Participatory Design (following PD) combined with Kanstrup and Berthelsen’s (2011, p.18) model of three central themes for UIM, will be used as a methodical approach and framework for study, and design phase for this thesis. The UIM model by Kanstrup and Berthelsen (2011) is a simple model for innovation that structures the different phases. Focusing: Co-operation, Context and context.

Accordingly, the proposed UIM method encompasses ‘co-operation’ as the starting phase (Kantrup and Bertelsen, 2011, p. 24). Having the thesis approved by the most accessible leader in Alm Brand and the number of participants involved could the further planning of the recruitment to the interview phase start.

The model of, a short overview of Kantrup and Bertelsen’s (2011) model of UIM worked as an overall model that supported the innovation process.

Following figure illustrates the framework for Kanstrup and Berthelsen:

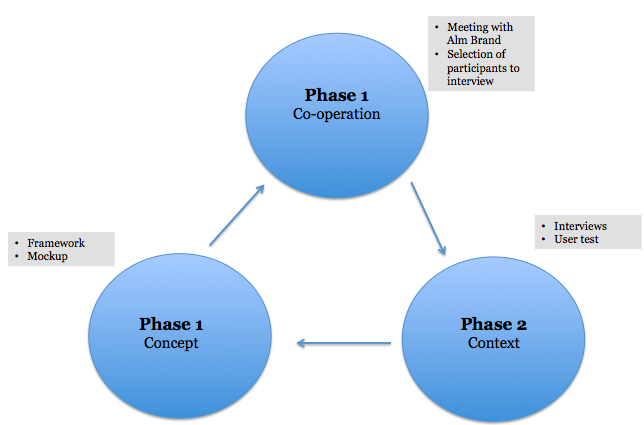


Figure 2 – illustration phases inspired by Kanstrup & Bertelsen, Phase 1, 2011, p. 18

One of the key intentions of participatory research is to find ways for people to get involved in the research, and design activities that may impact upon them (Foth & Axup, 2006, p. 2). Therefore, in this case, potential users and stakeholders of the system will be included in the interview. In connection with the interviews the users presented with some of the ideas of the system. The different attitudes towards the system will be carefully considered, and refinements of the system will be made. Some of the ideas will be incorporated in the next draft and presented in a user test, and the users’ comments generate new refinements of the systems. These methods are used to iteratively construct the emerging design, which itself simultaneously constitutes and elicits the research results as a co-interpreted by the designer-researchers and the participants (Spinuzzi, 2005, p 164). The goal with this method is not just to empirically understand the activity, but also to simultaneously envision, shape, and transcend it in ways the workers find positive (Spinuzzi, 2005, p 164). Therefore, this method seeks to unite the users’ needs with the designer ideas. Another issue concerning knowledge is that it is often explicit knowledge that is written down and defined. Yet to understand knowledge-making in participatory design, we have to understand that the majority of knowledge tends to be tacit, and is implicit rather than explicit. This can be defined as what people know without being able to articulate (Spinuzzi, 2005, p 165). Therefore, from a phenomenological framework, the purpose is to understand the users ‘world’, their daily issues, but also identify opportunities to reveal the implicit knowledge and communicate the unspoken request. Because of this, including the users in the development of the system will ensure that the work and derived results are relevant to the real world (Foth & Axup, 2006, p. 1.) Therefore, using this method will empower workers to take control over their work and, as participatory designers, see themselves as *facilitators* who attempt to empower the system users in making their own decisions (Spinuzzi, 2005, p 167). By doing this, this may lead to ownership of the system by the users. Having said this, the process of participation is in itself complex, and establishing mutual trust and rapport between researchers and participant’s one of the most challenging tasks (Foth & Axup, 2006, p. 2). This challenge has been managed by using my own network. I have experienced organisational changes three times in my employment, and this benefitted me as I already had colleagues placed in the necessary departments. Hence, the majority of interview participants had come from teams I had previously worked with, which meant I had established a degree of confidence and also a willingness towards supporting me by providing their views and experiences of the issues in their everyday work. So, PD will be used as the methodical framework approach for this thesis, by having the qualitative methods such as interviews with the users of the future system, and a user test too.

Additionally, the PD method, combined with Kanstrup and Berthelsens (2011, p.18) model of three central themes as the UIM method, will support the structure for managing the user-driven innovation process. Setting the right stage for the process is crucial and the UIM concept focuses on the conceptualisation of users’ innovations towards manifest design ideas, through the three concepts: Co-operation, context and concept. This framework combined with the PD method will ensure a structured iterative design process.

## 4.4 Interviews: Data collection and interview construction

First, a thorough literature review was made with the purpose of exposing knowledge about the competence phenomenon. Furthermore, the search for literature had the purpose of uncovering different competence models and the ways they have succeeded in organisations with knowledge intensive character. This will help to identify the research questions and provide a foundation for the empirical research. However, the search for literature immediately showed a shortage in the subject, which will be shown in the literature review (3.1). Secondly, the primary data will have the purpose of uncovering the use of competences in Alm Brand, and its visibility. Furthermore, it will support the understanding of the individuals’ life world, their approach to the topic and the way the associated issues affect them in their daily work. The aim of the interview through the phenomenological approach is, among other things, the study of how the world turns according to individual awareness, i.e. how something is perceived (Brinkgaard & Tanggaard, 2010, p.22). To obtain this understanding, the object of the research interview will be to create a conversation to a higher degree than an ‘interview situation.’ Before the interviews were carried out pre-testing of the questions was conducted (**A11)**. Piloting the interviews provided me with some experience of using it as an interviewer, infusing me with a greater sense of confidence. Furthermore, it made it possible to consider how well the questions would flow and whether it was necessary to amend their order (Bryman, 2008, p. 247, 248).

Through the phenomenological method, the issue is to describe the situations as accurately as possible, rather than to explain or analyse (Kvale &Brinkmann, 2009, p. 45). So, the research interview has been constructed as a semi-structured ‘life-world’ interview (Kvale &Brinkmann, 2009, p. 349. This type of interview seeks to obtain descriptions of the interviewee’s life-world in order to interpret the meaning of the phenomena described. So, it is approaching an everyday conversation, but with a professional interview’s purpose and involves a special technique, which is semi-structured. It is neither an open everyday conversation, nor a closed questionnaire. The IT tool will targeting a group of knowledge-workers in Alm Brand; ten participants were selected as representatives. The employees belong to the IT, Business Development and Marketing and E-business departments. Their job title and professional experiences will be outlined upon in table 4, later in this section. The reason why the tool is targeting these employees is partly based on assumptions and experience from my own employment. First of all, the employees hold multiple professional competences, and, in some cases, they might be involved in each other’s tasks or projects. For example, the business developer may suggest new initiatives, which involve cooperating with colleagues from IT, or as a part of a professional discussion to enhance understanding of *what* and *how* these business proposals could be realised. In other words, a business developer sometimes needs to cooperate with employees from IT to find possible solutions within their current systems in Alm Brand, or to get insight into what is required to create the proposed solution.

Regarding my own relationships and role in the interviews I will try to stay neutral and I will attempt to discount my own opinions and experiences, and only relate to the empirical data presented to me. However, a small degree of subjectivity may exist, as I worked in Alm Brand for the last 1.5 years. However, the goal is to minimise it. It is something that I am aware of and the intention is to relate objectively to the empirical data and analysis that will be completed in this thesis. So, the goal therefore is that the empirical data will be fundamental in this thesis.

The following table xx gives an overview of the employees interviewed and the user tests carried out:

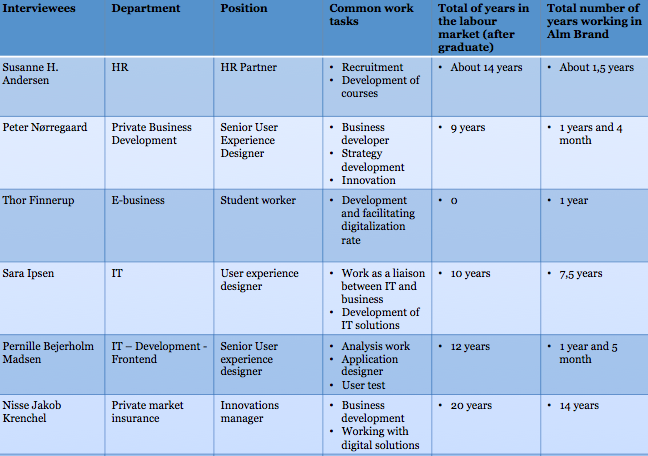
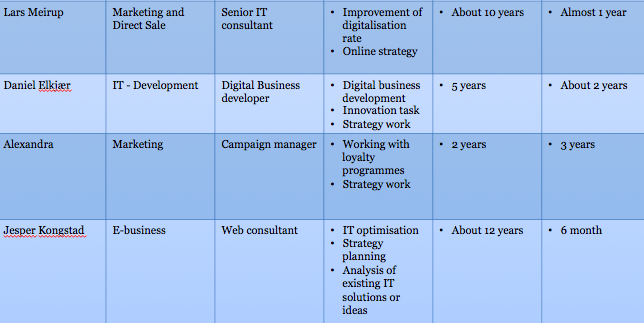


Table 2: Overview of the interviewees’ job title and experiences

The interview was conducted in accordance with an interview guide that focused on specific topics and contained proposals for questions (Kvale & Brinkmann, 2009, p. 45). Additionally, twelve aspects were adhered to, which are the subjects of the interview from a phenomenological perspective of a qualitative research interview (Kvale & Brinkmann, 2009, p. 46). The twelve counts will all be taken into account in a greater or to a lesser extent. This structure includes opinions, descriptions and ambiguities, among other things. Throughout the interview, it was important to interpret the meaning of what was said and how it was said (Kvale & Brinkmann, 2009, p. 46). This was especially important during the conversation about the interviewees’ perception of competence, and how they would define it. This appeared to be a little abstract for the interviewees to talk about, and it seemed to present a challenge for them to define and verbalise. This was interpreted, though the process seems to have made their sentences halting, and they seemed unsure in their body language. For *descriptive* purposes I encouraged them to describe exactly what they experience and how they act by asking questions about how they act in situations where they face challenges, and where they are not able to solve tasks for themselves, and through questions about their experiences about how easy it is to find a colleague with the *right* competence to assist in their challenges, and which colleague they immediate ask for assistance (appendix 1). In addition, attention will be paid to ambiguities arising during the interview, whether the interviewee seems to understand the questions, or responds with conflicting answers compared to accounts. Thus, possible uncertainties that might exist will be uncovered. In addition, the questions were asked in Danish in order to avoid misunderstandings, which could occur when a question is asked in a foreign language. The quotation that has been used is own translation, but the actual quotations are supported by audio files. Following, the coding and analysis will be elaborated.

## 4.5 Interviews: Coding and Analysis

In order to have a thorough analysis, the transcribed interviews have been categorised and coded in order to identify similarities and patterns in the different statements made by the respondents. The coding is applied in order, whereby data is broken down into component parts, which are given names (Bryman. 2008, 542). Having the interview transcribed helps to identify any patterns and concepts emerging from the interviews. Based on these analyses design suggestions that will benefit the digital system and will provide value in their context can be identified. This technique will emphasise the most common codes and the most revealing aspects of the data (Bryman, 2008, p. 543). Lofland and Lofland’s (1995) technique of indexing has been used to categorise the empirical data. Adding this method for coding gives 10 questions to contemplate while reading through the transcript data (Bryman, 2008, p. 550). Following these considerations meant that the recorded interview was transcribed as soon as possible after the interview, which ameliorated the feeling of being swamped by the data. This meant that the data had been read several times, and notes of some of the most interesting or significant ideas were made. After reading it several times more notes and keywords were made, creating names and themes, which helps to interpret and theorise in relation to the data. Thereafter, it will be checked thoroughly in order to identify if some of the phenomenon are used in two words or themes, which can then be removed or merged accordingly (Bryman, 2008, p. 550). Using this technique as a guideline in the coding process created an overview of almost 14 hours of interviews, which could have been a confusing process, if these guidelines were not used.

**Reflecting on using the coding**

Some of the criticism of using the coding approach to qualitative data is the possible problem of losing the context of what is said, and the coding results in a fragmentation of data, so that the narrative is lost (Bryman, 2008, 553). These challenges were met by reading the transcribed and coded themes several times. Furthermore, the audio files were listened to several times to cross check and spot checks of the transcribed quotes and outlined themes taken.

## 4.6 External validity vs. internal validity

Using qualitative research methods, such as semi-structured interviews and user tests, allows us to understand and interpret the world of the targeted employees, and the way they act in it.

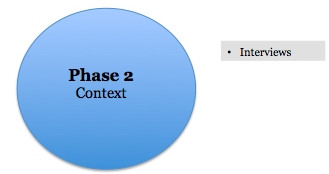
Considerations of reliability and validity raise questions about some epistemological questions about the objectivity of the knowledge and the character of the research interview (Kvale & Brinkmann, 2009, p. 268). This meant that the empirical data and the chosen methods was continuously evaluated and, through doing so, allowed critical reflections to be made. To do this I had to act as ‘devil’s advocate’ and check if the research was investigating the relevant phenomenon (Kvale & Brinkmann, 2009, p. 278).

It has been estimated that the validity of those investigated as high. This estimated, partly due to my role as a colleague to the interviewees, where I was very conscious of the need to stay neutral and objective during the interviews. This was important as one of the biggest traps for the reliability of the data collection is the danger of researcher bias (Andersen I., 2008, s. 209). Furthermore, sometimes questions were asked, where the answer were more or less known due to my own role and employment of the organisation. However, it was important to have the interviewees’ own interpretations and experiences. In addition, there was the potential for ‘political correctness’ in the answers, in the way that the interviewees considered their answers carefully to avoid causing offence. This was dealt with by giving a further introduction to the subject, and what and how the interview was to be used in the thesis. In the case of some answers being regretted, it was guaranteed that they would be withdrawn and not be part of the thesis. Some of the answers from the interviewees were repeated back to them during the interview to ensure that their response was understood correctly, given the true meaning. Furthermore, employees with different experiences and titles were sought as interviewees, in order provide the ‘right’ picture of Alm Brand, and in order to achieve high validity. Reliability refers to the consistency and credibility of the research results (Kvale, 2009, p. 271). The interviews indicated that the respondents had been direct and honest as they were critical towards Alm Brand, and they seemed candid about their own issues, the challenges they faced and preferred aspects for improvement. It can be difficult to determine whether some of the respondents answered the questions with a hidden agenda. But, in general, they seemed critical and open-minded giving honest answers without special reservations. Furthermore, as mentioned in section 4.5 (coding) coding was used in order to shed light on the similarities between the answers. Next, a thourough analysis will be elaborated in order to the findings from the interview.

# 5 Analysis

As a part of this thesis the two types of empirical data will be analysed in the same order as it was actually conducted, which means this section will analyse the interviews, while the user test will be analysed at a later stage in this thesis (6.2).

The interviews will be analysed by using Grounded theory. Grounded theory has been defined as ‘theory that was derived from data systematically gathered and analysed through the research process’. In this method, data collection, analysis and eventual theory stand in close relationship to one another (Strauss & Corbin, 1998, p.12). Thus, the two central features of grounded theory are: first, that it is concerned with the development of theory out of data, and secondly, that the approach is iterative, or recursive, as it is sometimes called, meaning that data collection and analysis proceed in tandem, repeatedly referring back to each other (Bryman. 2008, 541). This way of referring back to each other will be done repeatedly in this thesis, and this will support the ‘read thread’ through this thesis. The analysis of the interviews will represent the findings with the focus on the perceived outcome to employees, and their motivation and the ability to make the system actionable, and having it socially embedded in the organisation. So, the users’ needs will be translated and combined with design principles in the development of design. This section will provide an analysis of the findings from the interviews and set a framework in order to process the findings. In this thesis I decided to use the methods of Participatory Design as a research orientation structure, combined with the ideas for structuring User Innovation Management by Kanstrup and Bertelsen (2011), focusing on three central themes for UIM: Co-operation, Context and Concept. The concept focuses on the conceptualization of user’s innovation towards manifest of design ideas. These transform insights into ideas into design concepts, and give results of the process form and argument for further development (Kanstrup & Bertelsen, 2011, p. 18).



Figur 2: Illustration of Phase 2 inspired by Kanstrup & Bertelsen, 2011

As earlier mentioned in section, this method will be structuring and supplementing the PD design method, as these two iterative methods will create synergy, involving the users in the design and innovations process, as well as structuring it.

As mentioned in the interview section (4.4) the purpose with the interview will be to understand the ‘world’ and the context that the users find themselves in Alm Brand, and how they act in it. Having the employees’ view on a professional competence elaborated in their particular context, and how they utilise their own and colleagues’ competence in everyday tasks. The interview was used to understand how a possible competence system could support them in their work life. So, the interview was utilized to ask questions in order with how they see the world and perceive a professional competence, and how easy they find the *right* colleague with the *right* professional experience when there is a need for a professional discussion. The interview was also utilised to present mock-ups of some of the ideas, and the users’ feedback made it possible to involve them in the design process.

So, the data will be analysed in order to get the employees’ view of their world and to examine existing mechanisms in order to have the existing competences structured in a convenient way. The analysis will help to identify and understand the users’ needs and wants for this system. As these will be identified they can lead to exact recommendations for the competence system. It was decided to analyse the themes that exist from the answers. By using coding methods, as described in section (4.5) there have been identified four overall themes in the interviews:

* The employees’ perception of a competence, and their attitude to the definition.
* The employees ‘own world’. How do they think the competences are structured and utilised in their context?
* The culture that exist in Alm Brand, and the employees’ willingness to accommodate changes and adapt to new initiatives.
* The employees’ reaction to the mock-ups of the ideas for a competence system, and their suggestions for improvements and content.

The coding themes of the employees’ acknowledgement to the formed definition of a professional competence and their own approach to it are illustrated below in table 5 The findings from the ‘first’ subject will be outlined in the tables, and then analysed.

|  |  |  |  |
| --- | --- | --- | --- |
| **Agree with the definition of a professional competence?** | **Is there a general occurrence in this data?** | **What does this item of data represent and what is it about?** | **Does the data suggest specific topics to be managed?** |
| Yes (10/10) | Yes – there is consensus in the acceptance of the definition. However, not everyone seemed convincing and some hesitated. | It represents whether the definition of competence will have endorsement from the employees, or not. | The definitions of competence must be further elaborated upon, in order to avoid employees feeling unsafe. |

Table 5- Overview of the employees’ attitude to the definition to the presented competence. Inspired by questions used in the ‘coding-process’ by Lofland and Lofland (1995) (Bryman, 2008, p. 550).

|  |  |  |  |
| --- | --- | --- | --- |
| **On the basis of the definition, which term(s)do the regard as ‘key- terms’** | **Is there a general occurrence in this data?** | **What does this item of data represent and what is it about?** | **Does the data suggest specific topics to be managed?** |
| - Combination of knowledge and skills  - Translate it to others and make it tangible (from tacit to explicit)  - Dynamic and learning  - Knowingly competent  - Reflective  - Situation and context  - Awareness  - Individual and collective | It shows whether the employees acknowledge the terms, or whether they perceive it in a different way. | It represents whether the terms that are used in the definition of a competence will have endorsement, or not. | It ensures that employees understand the selected terms used in Alm Brands context. |

Table 6- Overview of the employees’ own terms do the definition of a competence. Questions inspired by questions used in the ‘coding-process’ by Lofland and Lofland (1995) (Bryman, 2008, p. 550).

|  |  |  |  |
| --- | --- | --- | --- |
| **Employees’ own terms** | **Is there a general occurrence in this data?** | **What does this item of data represent and what is it about?** | **Does the data suggest specific topics to be managed?** |
| - From tacit to explicit/intangible/tangible  - Combination of knowledge and skills  - Levels in the individuals and the collective  - The professional competence will be affected by the social competences  - Awareness  - Concrete  - Use | It shows whether the employees acknowledge the terms, or whether they perceive it in a different way. It shows whether their terms match the chosen terms. | Matches between the chosen terms and the predefined terms could support a mix of ‘bottom-up’ and ‘top-down’ approach. | It ensures that employees understand the selected terms used in Alm Brands context. |

Table 7 - Overview of the employees’ own terms do the definition of a competence. Inspired by questions used in the ‘coding-process’ by Lofland and Lofland (1995) (Bryman, 2008, p. 550).

|  |  |  |  |
| --- | --- | --- | --- |
| **Implications with the definition** | **Is there a general occurrence in this data?** | **Does the data suggest specific topics to be managed?** | **Employees’ own terms** |
| - Yes (3/10)  - No (7/10) | The main part of the interviewees agreed upon the definition, however it also indicated reluctance towards the definition. | It shows whether there is a match between the chosen terms and the predefined terms supports a ‘bottom-up’ approach.  However, it also indicates that everyone is not convinced. | There is an important communicative task, in relation to having the employees accept and understand the concept. |

Table 8 - Overview of implications in order with the definition. Questions inspired by ‘coding-process’ by Lofland and Loflanf (1995) (Bryman, 2008, p. 550).

First of all, the participants in the interviews were presented to the self-made definition of a professional competence from the section with state of the art and modelling (3.2). Their immediate reaction and attitude to the definition of a professional competence was overall a positive one. Furthermore, the employees acknowledged that the definition was suitable to Alm Brand’s context (A7, 7.57-8.06, A8, 6.27-6.48, A4, 12.02.12, 17, A1, 8.07-8.10). However, in connection with the presentation of the definition, it was clear that there was doubt among the participants about *what* a professional competence means to them, and they found it difficult to put their own words on the definition, and it was not clear to all of those interviewed. This was apparent as the participants had to read the definition several times before they gave feedback on what was presented. In addition, some of the participants seemed reluctant to discuss their attitude to *what* a professional competence was and *what* terms they found suitable for a definition. This was clear by statements as: ‘the definition seems very academic to me, and it is a little artificial to me to talk about. It isn’t something I put much thoughts in, in general’ (A4 7.30-12.30).

This argument was supported from another employee, who stated that a competence is very hard to define (A7, 7.04-7.18). Furthermore, it was stated that some difference could exist between the ways an IT developer’s competence was measured compared to a business developer or an employer from a marketing team. As Daniel argues, an IT developer possesses a competence that in some way is more measurable and ‘hard’. They are able to code in a specific computer programme versus a business developer or marketing worker who possesses a lot of knowledge in their area, which could seem harder to measure (A7, 7.40-7.57, 8.56-11.01). This could indicate that differences could be depicted between some ‘hard’ and ‘soft’ competences between the users of the competence system, or that some of the users of the systems possess competences, which are easier to define and measure. However, from the interviews, it stood out that employees from ‘Marketing’ and ‘Business Development’ presented their work to a higher degree to colleagues and discussed their tasks, which in some cases could lead to different angles and development of their task. In some of these cases the object (competence) can be ambiguous and ‘fluent’, and in some cases be affected by the social context (Justesen & Mik-Meyer, 2010, p. 14). However, the overall attitude was that the definition seemed suitable, but the interviewees had doubts about how it would work in practice, and some employees may be confused by the definition and could have trouble relating to it (A6, 7.52-9.10, A4, 10.41-12.48, A10, 7.00-9.10). In addition, some of the interwees stated that the competences that were illustrated as an example in the system, could create uncertainties. On the basis of this, there must be an explanation attached, of why the ‘critical competences’ are chosen.

This explanation should mitigate the interviewees’ uncertainties, towards feeling inadequate in their profession (A1, 10.12-12-16+A4, 14.12-16-21).

The fact that there is no clear consensus from the participants, about what a professional competence is, and how it is interpreted in practice was supported during the literature review (3.1), which identified that there is no conclusive definition, and it has been used and interpreted in several different ways (3.1). Furthermore, it has been assumed, as no clear generally approved definition of competence has been tested and its worth proven in theory and practice, that there exist doubts about the subject. Additionally, it can be argued that having a clear definition of *what* a professional competence is, is not their job as an ‘IT-developer’ or ‘Business developer’, which also could evidence that having it ready and clear is not a priority to them. Another argument stated from one of the participants was that professional competence is difficult to separate from the social competence, as the social competence affects the way that a professional competence will be brought into play and interpreted (A2, 8.01- 10.02). This argument was supported, as earlier mentioned in the literature review (section 3.1), where Sanghi (2007) mentioned the term ‘competency’ which refers to the behaviour by which the competence is achieved. So, from these arguments it was established that a competence involves a form of behaviour, which could be linked to the socially competence. However, there was in the definition taken into account, that the professional competence, with terms such as ‘transform it from tacit to explicit’, indicates that the employee should be able to make it tangible to others.

Based on the different expressions from the users, it is argued that the definition would work in the first phase, as there would be speculations about what and which modifications that could be added. Most of the participants acknowledged the definition, which will be the crucial factor. Additionally, statements from Susanne’s and Nisse’s interviews will be considered putting great emphasis in their approach, in consideration of their large experience working with HR managements (Susanne) and experiences with leadership and working in Alm Brand (Nisse and Susanne). Since, they both acknowledge the definition and terms it has been used in this thesis. However, there is awareness that it must be tested in the ‘real world’, and to evaluate the effect, whether the employees understand and use the definition or not, will take time. Below, table figure 3, illustrates a self-made figure of the users’ needs and requirements. The figure illustrates the users’ requirements, which leads to what the users’ say and what they are actual doing, which are questions inspired by Lofland and Lofland (1995) from the coding technique (Bryman, 2008, p. 550). This leads to the prioritised requirements that will be incorporated to the design principles in the section (6.2) and the requirement section, where the competence system is developed.

**What *must* be taken into consideration when designing the system?**

* The definition should be included in the start-up, as it will increase awareness of the phenomenon ‘competence’ and the employees’ use of their own and colleagues’ competences.
* Thoroughly thought-out explanations of the singled-out competences.
* The parameters must be a mixture of something specific and general.
* There should be a ‘personal angle’ included in the system.

From the above analysed sections, leads to the next theme which was the factors that affected the employees’ ‘own world’ in Alm Brand. This is illustrated in the following tables, and then analysed.

**Is there a difference between the employees’ statements and their actions? What are their actions?**

* The employees have no desire to discuss the competences in general.
* There should be a distinction between ‘hard’ and ‘soft’ competences.
* Hard to separate personal competence from professional.
* The definition was perceived as ‘filling’ in the system.
* Definition seemed too academic for some of the users.
* There was uncertainty about the chosen competences in the system.

Figur 3- Overview of the users’ requirements for the system outlined from the analysis (first theme involving competences and the perception of it.) (Self made model)

**What factors could be ‘nice to have’ in the system? And what considerations could have been applied? (Visions for futures)**

* Increased awareness about the use of own and colleagues’ competences.
* Parameters of a competence that have been thoroughly discussed with the users.
* Considerations as to the challenges of separating personal competence from professional.
* The definition of competence could be less academic.
* Have clarified the competences that are critical to the business.

|  |  |  |  |
| --- | --- | --- | --- |
| **Is the job characterised by routines and fixed procedures?** | **Is there a general occurrence in this data?** | **Does the data suggest specific topics to be managed?** | **What question about a topic does this item of data suggest** |
| **-** Yes (0)  **-** No (6 participants)  **-** Yes and no (4 participants). | The main part of the interviewees agreed upon the definition, however it also indicated reluctance towards the definition. | - Unpredictability  - The employees’ workday (own world).  - Knowledge-workers (lit. review section 3.1).  - As their job involves changing task and routines, this confirm that they belongs to the group refered to as ‘knowledge-workers’ (section, lit. review) | It reveals that the users’ are knowledge workers, which means that it can be difficult to define and clarify their knowledge to others. |

Table 10 - Overview of the job is characterised by routines and fixed procedures. Table inspired on some of the questions used in the ‘coding-process’ by Lofland and Loflanf (1995) (Bryman, 2008, p. 550).

|  |  |  |  |
| --- | --- | --- | --- |
| **Does the workday involve a lot of meetings** | **Is there a general occurrence in this data?** | **Does the data suggest specific topics to be managed?** | **What question about a topic does this item of data suggest** |
| **-** Yes (0)  **-** No (6 participants)  **-** Yes and no (4 participants). | The employees’ workday could vary in the amount of meetings. | - The meetings remove time to solve other tasks.  - From the users’ perspective could the amount of eetings vary.  - Some mentions that there in some cases exist a loose ‘meeting culture’ in Alm Brand. | Could the amount of meetings be minimised. If so, in some cases is the employee able to find their answer by using the system, instead of having a meeting with a colleague. In addition, there will be academic achievement from the meetings, as the users’ are having meetings with the *right* colleague. |

Table 11: Overview of the users’ workday contains a lot of meetings. Own-made table based on some of the questions used in the ‘coding-process’ by Lofland and Lofland (1995) (Bryman, 2008, p. 550).

|  |  |  |  |
| --- | --- | --- | --- |
| **Failed meetings** | **Is there a general occurrence in this data?** | **Does the data suggest specific topics to be managed?** | **What question about a topic does this item of data suggest** |
| -Yes = **7**  **-** No = 3 | **-**Yes (7 -however, two of the participants mentioned that it could vary)  No **(**3) | The employees are wasting their own or colleagues’ time. | Focus on reducing the failed meeting, for example by employees easily can get an overview of whom to book a meeting with. |

Table 12 - Self-made table with an overview of employees’ have had ‘failed meetings’ combined with coding questions from Lofland & Lofland (Bryman, 2008, p. 550)

Another essential part of the interview was to understand, whether the users’ workday contained a lot of meetings and characterised by routines, and to what degree this affected the workday. First of all, most of the users’ workday was not characterised by routines. Several of the employees stated that the workday was not affected by routines or procedures (A5, 18.12-19.22). Alexandra actually stated, in the period where there was a lot of business meetings, she was under a lot of time pressure, as she felt she was running from one meeting to another, which means that from time to time she felt that the ‘meeting culture’ was a little problematic. This also affected that she sometimes did not feel she had enough time at her desk for task solving (A8, 10.18-12.30). Furthermore, Thor expressed that he would have liked to have the opportunity to check up the professional competences and experiences before entering meetings with colleagues. He stated that this will support him, in order to set the right expectations to the collegue and support him in utilizing the meeting the best possible way and to ask the *right* questions (A10, 18.26-30.24). However, some of the users stated that they perceived their workday as a mix of both, meaning that they are aware that some tasks are appropriate to their competences and therefore their ‘name’ was on those tasks (A4, 15.50-16.30). On the other hand, they argued that some tasks were hard to predict, and thereby came as ad hoc (Susanne 15.21-16.00, Pernille 15.50-16.30). The fact that the users’ work was characterised with several meetings, and to a larger extend did not have routines, confirms that their work day was to a degree characterised by being unpredictable and changeable. In addition, 9 out of 10 had had unsuccessful meetings, and failed to have the *right* professional discussion or benefit from the meetings (A7, 22.22-30.12, A5, 30.31-32.12). On the other hand, the employees further argued that they had not tried it several times, and from their point of view it was not a problem (A8, 22.27-23.56, A3, 24.12-25.12, A7, 21.12-22.34,). In addition, it was argued that due to the diversities of assignments that were handled by Marketing, some of them clearly defined and some not, it happened that several of colleagues asked for a professional discussion about a task. So, there could exist doubts about whom and where to go to have a task resolved (Alexandra, 15.12-15.48). As Daniel stated: he does not think of it as a problem, since it is easy to find the *right* colleague with the required competence. However, he mentioned that he does not always ask the right one the *first* time, and it can be uncertain whom to ask (A7, 16.14- 16.58). Furthermore, it was clear from the stated answers that the issue with uncertainty about who possesses what competences, and where to go, was more a phenomenon that existed amongst employees who had not been employed in Alm Brand for any length of time (A5, 15.12-17.00, A3, 15.17-17.00, A10, 12.12-14.00, A2, 14.12-16.00. Despite the fact that the employees’ dos see it as a problem, it is true that people do not ask the right colleague the first time if they face a challenge that they are not able to solve themselves. Whether, it is acknowledged or not, it is a fact that this creates a loss of time among the employees. This way of analysing is one of the subjects, which supports the eksplorative approach that the data has interpreted and used. The interview seeks to collect open and nuanced descriptions of various aspects of the interwee´s ‘life world’. Furthermore, ambiguities in the interview data have also been taken into consideration. This reflects whether there are contradictions in relation to what they say and the ‘world’ they live in Kvale & Brinkmann, 2010, 46). Additionally, it was clear that the professional competences were not structured well regards finding the competences in a system (A1,14.58.15.00, A2,15.10-15.16, A3,14.53-15.00 A4, 16.00-16-10, A5, 17.01-18.00, A6,12.01.14.00, A7, 17.02-17.10, A814.58.15.00, A916.10-17.00, A10, 15.02-15.10). It was argued that the fact that the competences were not structured could be difficult for new employees to start working in Alm Brand (Thor, 17.29-18.00). The subanalysis leads to requirments to system, which has been incorporated to the design principles. These has been illustrated in the below figure, which will be incorporated in the later developed competence system (7.3.)

**What is happening and what are people doing? / Is there a difference between the employees’ statements and their actions?/ (or)what are their actions?**

* Especially the newly appointed asks more than one colleague before they have the *right* help.
* Furthermore, the users’ have a feeling that they are back to scratch, in order with starting on new project groups, as they feel that they must start again to sort out ‘who knows what’.
* As the users’ does not in all cases have the overview of whom to ask, this leads to time waste among the users’
* There has been set a desire to have the opportunity to check up on colleagueas’ experiences and professional competences.

**What could be ‘nice to have,’ or done, in order with system?**

* The employees’ competences and experiences must be structured and made visible in order to make it convenient to the users’

**What *must* be taken into account, in order with designing the system?**

* The employees’ competences and experiences must be structured and made visible in order to make it convenient to the users’

Figur 5 -Overview of the users’ requirements for the system outlined from the analysis (Second theme involving factors involing the users’ ‘own world’.

From the above analysed sections, leads to the next theme, which outlined whether the users’ utilized each other in their workday.

|  |  |  |  |
| --- | --- | --- | --- |
| **Do you utilise your colleagues in order to discuss your own tasks?** | **Is there a general occurrence in this data?** | **Does the data suggest specific topics to be managed?** | **What question about a topic does this item of data suggest** |
| Yes (8)  No: (0)  Not as far as they wish: (2) | It could be parameters that can reveal which culture exists. | The data tells that that the employees discuss their own task with their colleagues. | The employees take professional discussions with their colleagues. As a side effect, this leads to internal knowledge sharing. |

Table 13: Overview of whether the users’ are utilising their collegueaes in order to discuss their own tasks (Bryman, 2008, p. 550).

|  |  |  |  |
| --- | --- | --- | --- |
| **Do your colleagues utilise your knowledge in order to discuss their tasks?** | **Is there a general occurrence in this data?** | **Does the data suggest specific topics to be managed?** | **What question about a topic does this item of data suggest** |
| Yes. 5  No: 1 (peter)  Not as far as they wish: 4 | - It could be parameters that can reveal which culture exists.  - Knowledge sharing | The data shows that the employees discuss their own tasks between them. However, the employees are used to the degree that they wish. | -Employees discuss their own task with their colleagues.  -Employees want to be utilised by their colleagues to a higher extent in professional discussion.  -Indicate that the employees have more knowledge to contribute, which raises questions about whether the employees knowledge is underutilised or not? |

Table 14 Overview of whether the users’ are being utilising of their collegueaes in order to discuss their tasks (Bryman, 2008, p. 550).

|  |  |  |  |
| --- | --- | --- | --- |
| **Do you think of how to utilize your own competences to the greatest benefit and put them into play?** | **Is there a general occurrence in this data?** | **Does the data suggest specific topics to be managed?** | **What question about a topic does this item of data suggest** |
| Yes – 1  No- (I don’t think about it) – 9 | The employees are not conscious of how they use their own competences. | Lack of awareness of how one’s competences are utilized optimally can complicate when structuring the competences. | The employees attach great importance to the ability to transfer/clarify a competence to another employee. However, they do not think much about how they do it themselves. |

Table 15 - Overview of whether the users’ are reflective upon how they bring their competences into play. (Bryman, 2008, p. 550)

Another important aspect of the research was to examine whether the colleagues utilise each other competences or not. This was explored in order to generate knowledge about the individuals learning mechanism, and to explore whether the employee is positive to knowledge sharing. This would reveal if a ‘knowledge-friendly culture’ is in existence (Davenport et al., 1998), which should reflect the cultural characteristics of if and how knowledge is shared (De Long & Fahrey, 2000; King, 2006; McDermott & O’Dell, 2001).

Firstly, it was stated throughout all the interviews that the employees discussed their task with their colleagues (A11.58.12.00, A2,11.10-14.16, A3,14.53-15.00 A4, 9.00-12-10, A5, 11.01-12.00, A6,12.01.14.00, A7, 10.02-12.10, A8,14.58.15.00, A9,12.10-14.00, A10, 14.02-15.10). As previously stated (4.4) 12 aspects were taken into account for the qualitative research interview. By taking the ‘meaning’ into account the interviewer registered and interpreted *what* was said and *how* it was said. It seemed natural for the interviewed employees to discuss their duties with their colleagues, which was clear as they all immediately answered questions put to them. Therefore, the employees’ willingness to discuss their own task also suggests that they are positive towards sharing their knowledge with colleagues. However, some of the employees stated that they have discussed some of their tasks with colleagues, but not to the extent they would have liked, (A11.58.12.00, A2,17.10-11.16, A3,18.53-19.00 A4, 15.00-16-10, A5, 17.01-18.00, A6,16.01-17.00, A7, 15.02-14.10, A8,18.58-19.00, A9,16.10-18.00, A10, 16.02-17.10). In addition, it was stated:

‘Sometimes, I can be annoyed, as I posses competences that Alm Brand not benefit from, since it is not a part of my job as UX’er. For example, I have a Master from ITU in ‘IT and Project Mannagement – which Alm Brand actually paid for then.’ (A3, 15.38-18.00)

And it was further argued that the interdisciplinary cooperation should be strenghtnened, and it could be much better. However, there is a little impact as the cultures that exist are working against it (A5, 17.10-18.10).

On the other hand, the question about whether the employees’ feel they are being utilised by their colleagues in respect to the professional discussion of their tasks provided mixed responses. The interviewees stated that they would have liked, colleagues to benefit from their competences and knowledge to a higher degree than they are utilising them today (A2, 19.32- 21.58- A7, 17.18-18.00, A5, 17.10-18.10, A3, 16.28-18.52). These statements may be linked to questions about what the interviewee did when they had a task they could not solve themselves. The response was either to ask the immediate manager or an experienced colleague from the interviewees’ own team (A6, 20.21-22.00, A9, 16.20-18.00, A10, 16.00-18.88). This pattern also suggests that the employee did not know *who* to ask, as the professional competences are not structured or visualised, and therefore the *right* one was not asked at the first time. The way the individuals act can indicate something about the organisation’s ability to learn, as the individuals act on behalf of the organisation (Mueller, 2014, p. 191). However, group or organisational learning cannot be explained solely by the sum of individual actions; instead, it is the interaction between individual learning and others’ learning, and the framework the company provides (Argyris, 1992; Argyris & Schön, 1978). Consequently, the statement indicates that the employees have a desire to utilise each other’s knowledge and competences to a higher extent. Thus, the individual actions, as identified from the interview, suggest that there does not currently exist any structured guidelines or systems for seeking the right competences, indicating that Alm Brand does not have a framework that supports an active knowledge sharing among the employees (A2, 16.46- 17.58- A7, 17.18-18.00, A5, 17.10-18.10, A3, 17.28-19.52). Therefore, the employees’ willingness to utilise each other’s knowledge and competences to a greater extent shows that there would be support for a practise regarding utilising each other in a more productive way.

During the interview, the intervieweed was asked to their attitude towards the culture that exists in Alm Brands. This question was in proportion to get an overall picture of the culture, and from the responses have an insight the company culture in Alm Brand and from the responses notice if the intervieweed mentioned themes that indicated the organisations and its member’s ability to change. These themes will be employed in order to identify whether there are any pitfalls to be taken into consideration regarding designing the new system.

The overview of the themes is outlined in the following two tables and analysed after then.

|  |  |  |  |
| --- | --- | --- | --- |
| **What company culture dos exist in Alm Brand?** | **Is there a general occurrence in this data?** | **Does the data suggest specific topics to be managed?** | **What question about a topic does this item of data suggest?** |
| Family: (4 + ½ +1/2+1/2)= **5,5**  Couveuse = **0**  Controlled missile: (1+1/2 +1/2)= **2**  The Eiffel tower: (2+1/2)= **2,5** | The culture is a mix of ‘Family’ and ‘The Eiffel tower. However, it was the ‘Family’ that was the culture that dominated. | The employee seemed changeable, but stated that the organisation was not. | The topic about how it is possible to make the organisation more willing to change. |

Table 15 Overview of the employees’ attitude to Alm Brands company, inspired by culture based on Trompenaars og Hampden-turners types of culture (Kjær et. al., 2007, p. 301+Bryman, 2008, p. 550)

|  |  |  |  |
| --- | --- | --- | --- |
| **How do the employee perceive the organisations and its employees ability and willingness to change and accommodate changes from the market?** | **Is there a general occurrence in this data?** | **Does the data suggest specific topics to be managed?** | **What question about a topic does this item of data suggest** |
| Good: (2+ ½ + ½)= **3**  Bad: (3+1/2)= **3,5**  Neutral: (3+1/2) = **3,5** | The interviewees were divided. | Create confidence about the changes, and how they are intended to be acted upon these. Thereby, strengthening the employees’ trust to the possible changes in the organisation. |  |

Table 16 - Overview of whether the users’ are reflective upon how they bring their competences into play. (Bryman, 2008, p. 550)

First of all, the participants in the interviews, were presented thorughly to a culture model by Trompenaars and Hamden-Turners, which is based on four different types of company cultures (Couvouse, Familiy, Controlled Missile, The Eiffel Tower) (Kjær et. al., 2007, p. 301). The majority of the interviewed inclined that the organisation organisation was a mix between the ‘familiy’, ‘Controlled Missile’, and ‘The Eiffel Tower’. However, it was the family that dominated the most. On the other hand, it was stated that the organisation was characterised by divisions, roles structure and hardcore goal achievement (A10, 25.21-28.88, A2, 28.33-32.00, A1,25.05- 28.00, A5, 31.25-32.35, A6, 33.20-34.00). So, having the ‘Family’ as the dominating culture tells, among other things that the relationship between employees is close related, and the employees has a long-term and loyal relationship with the company. The reward for the employees is to achieve results together, thus please others (Kjær et. al., 2007, p. 302). However, when designing the competence system should be careful considered not to solely focusing on the technology of the system as Zack and MCKenny stated that:

‘….the strategic advantage assoiated with these technologies would not derive from having the technical skills to evaluate and implement communications technologies, but rather from the social context and norms. What seems more promishing is the support of social networks and knowledge connections to enable transfer’ (Zach & McKenny, 2000, p. 212).

Here, it tells that the social context among the employees, the existing norms seems important in order with having the system implemented and the readiness among the employees in order to accept this. As Nisse and Susanne stated, Alm Brand is a workplace, where employees treat each other well (A1+A5). In addition, Susanne stated that the employee turnover is high, and it was not unusually that employees have worked in Alm Brand for 25, 30 and 40 years (A1,25.05-26.00). The high employee turnover, and the fact that Alm Brand is working on ongoing intiatives of activities that will improve the employee satisfaction (alm brand, 2015) could indicate that the employee satisfaction is a strategic advantage can also incline that the employees are ready for the changes, which the system could bring. This is futher argued as Nisse says:

‘I have not experience major changes during my employement for 14 years at Alm Brand. The changes I have experienced have been long in the making, and the employees have long been ready to the change and in some cases almost demand for it. So, I experienced that the reaction from the employees has been ‘finally’. With that said, I think of the employees as more than ready to change, but on the other hand is it Alm Brand that are hard to change’ (A5, 33.10-34.26).

This indicates that Alm Brand is not characterised by frequently changes, and the statement could indicate that the employees crave for it. However, there may be reservations to some of the functions as some of them can act more ready to change. As Alexandra stated that some functions is characterised by routines and are harder to change such as ‘IT’ or ‘Finance’, where their backing is characterised by heavier task, compared to ‘Marketing’ (A8, 22.21-24.58). As the digital system in this case solely focus on functions involving; Marketing, Business Development, E-business and IT, and as earlier mentioned that the employees from these functions was not characterised of routines. However, the difference between the teams and functions should not be underrated, and functions involving IT could as stated be harder to change. On the other hand it was stated by Sara that she perceive IT as quite adaptable, and they have previously proven that they acted quickly in connection to adjust to new projects (A3, 23.21- 25.36).

The subanalysis involving; collegueagues utilizing each other competences in the daily, the company culture and its ‘readyness’ is summed up in the below figure xx which outline the requirements from the users’ and what is actually happening. These will be incorporated in the requirements in the later developed competences system (7.2).

**What is happening and what are people doing? Is there a difference between the employees’ statements and their actions?**

* The users’ are having profesionel discussions with their collegeagues regarding their own tasks.
* The users’ wants to have their profesionel competency utilized by their collegueages to a greater extend.
* The users’ are not having their knowledge utilized to the fuldest.
* A system where the employees can look up on their collegeus competences.
* There can be differences in the involved teams readiness to change.

**What *must* be taken into account, in order with designing the system?**

* A function in the system that endorses the connections closer together.
* A system where the employees can look up on their collegeus competences.

**What could be ‘nice to have,’ or done, in order with system?**

* A function in the system that endorses the connections closer together.

Figur 6: Figure illustrating requirements

From the above-analysed sections, leads to the next theme, which outlined whether the users’ utilized each other in their workday and had the big picture of whom possessed what competences.

|  |  |  |  |
| --- | --- | --- | --- |
| **Is it easy and simple to know what competencies your colleagues possess in connection with project work?** | **Most common findings throughout interviews** | **Does the data suggest specific topics to be managed?** | **What question about a topic does this item of data suggest?** |
| Easy – 1  Difficult – 2  Yes and no – 4  Don’t know – 3 | Data indicated that overview of which employees had which competencies were ambigious | Data indicates a need for more transparent structure of whom to turn to.    Moreover, data indictated experienced employees encountered few challenges in this matter. | It seemed difficult to have an overview of ‘who knows what’ in projects’ initial phase. |

Table 16: Employees’ workday in accordance with the overview of competences that exist across colleagues, combined with coding questions from Lofland and Lofland (Bryman, 2008, p. 550)

|  |  |  |  |
| --- | --- | --- | --- |
| **Do the employees in general work individually or across competences?** | **Most common findings throughout interviews** | **Does the data suggest specific topics to be managed?** | **What question about a topic does this item of data suggest?** |
| Individually – 3  Across – 3  Either /or -4 | The employees’ ‘world’ in order to their perception of the work most individually or across. | How can Alm Brand and its employees strengthen their interdisciplinary cooperation? | The employees want to work interdisciplinarily to a higher degree. However, the employees may be up to their eyes in their own tasks, and silo mind-set occurs. |

Table 17 Employees’ workday in accordance their most work individually or across colleagues, combined with coding questions from Lofland and Lofland (Bryman, 2008, p. 550)

The next theme outlined from the interview was whether the employees had an overview of their colleagues’ competences, in order with project work. Furthermore, it outlined from the users’ perspective whether the different teams worked individually or with others. First of all, the participants in the interviews were asked about whether their tasks were solved individually or interdisciplinary with other colleagues. Their immediate reactions to the question were mixed. They acknowledged that they had tasks that were their responsibility to solve, but it was stated that no employees could solve *all* their tasks using solely their own competences. In addition, it is also dependent on the function that the employee has (A1, 23.33-25.00). As Susanne stated: ‘The organisation is very project-based, where there are several projects working, which there are employees from relevant teams, in order with the project allocated to these’ (A1,23.25-24.00). In addition, it was argued that it could vary and was dependent on whether the employees were affiliated with a project or were in a period where they were affiliated tasks in their own team. It was stated that in some cases, some of their tasks were dependent on professional discussion with colleagues, and in some not (A7, 8.56- 12.07). These statements tell us that employees from the selected teams from time to time are dependent on their colleagues’ competences either regarding tasks in the project group they are associated with or, in other cases, while they are solving their own tasks. However, it was stated that it could be challenging to get an overview of what competences colleagues possessed, especially in the start-up phase of a project. As Sara mentioned, there could be a difference in the project’s duration and the amount of participants. In Sara’s case, she is associated with a project that has lasted about two years, and she has a good overview of her colleagues’ competences that are relevant to her current project. However, regarding new projects, she is high and dry, and regarding projects with a long duration, there can be changes as some employees quit and new employees enter the project group (A3, 16.00-17.05). On the other hand, it was acknowledged that there were kindness and openness among the employees across the teams. Furthermore, they were accommodating towards helping each other (A1, 25.05, A8, 22.02-23.03). Actually, it was stated that the friendliness and openness was something that characterised the culture positively (A1, 25.05-28.00). On the other hand, some of the employees mentioned that Alm Brand and its employees had a ‘silo mind-set’ (A2, 23.21, 24.00), and as earlier mentioned in this section, there was a desire among employees to use each other’s professional competences to a higher extent.

The subanalysis involving the employees’ overview of the competences that exist, and whether they work individually or interdisciplinary with colleagues, is summed up in figure 7, which outlines the requirements from the users and what is actually happening. These will be incorporated into the design principles and requirements in the competences system developed later (7.2).

**What *must* be taken into account when designing the system?**

* Have the opportunity to look at competences that exist at Alm Brand

**What *must* be taken into account when designing the system?**

* Have the opportunity to look at competences that exist at Alm Brand

**What is happening and what are people doing? Is there a difference between the employees’ statements and their actions? What are their actions?**

* It can be challenging to get an overview of the competences that exist at Alm Brand.
* The employees want to work more interdisciplinary.
* The organisation works to some extent project-based.

Figur 7: Figure illustrating requirements

The above section leads to the next theme, which outlined the employees’ attitude towards the suggestion of a competence system.

|  |  |  |  |
| --- | --- | --- | --- |
| **How do the employees respond to the mock-ups of the system?** | **Is there a general occurrence in this data in order with the mock-ups?** | **What proposals seemed redundant to the employee?** | **What suggestions do employees give?** |
| Positive – 5  Reserved – 3  Neutral – 2 | The employees’ attitude to the competence parameters is positive. However, the parameters must be prepared and made simpler.  In order with the competence parameters it could be distinguished between ‘soft’ and ‘hard’ | Some of them mentioned that the vision, strategy and competence definition seemed redundant to them. | The employee should be motivated to develop a unique competence.  What is the employee motivated to do very well?  Where is the motivation level in order with a given competence? |

Table 18- Employees’ attitude towards the presented mock-ups

Another essential part of the interview was to get the employees’ attitude towards the presented mock-ups and, most important, what they would like the system to contain. Orlikowski (1994) suggests that different groups within the organisation may have different technological frames, why having the different potential users’ of the system attitude to the system was important, in order to interpret the design for the competence system. First of all, most of the users received the system positively, but there were some mixed attitudes. After the employee has logged in to the system, the master data is transferred through the key ‘Transmit data from infonet’. The reaction to this was positive as this step was quick and easy, and as Susanne stated: ‘There is incredibly much goodwill to get, by making it easy and quick’ (Susanne 33.40-33.48). Below is a screenshot of the section with employee info:

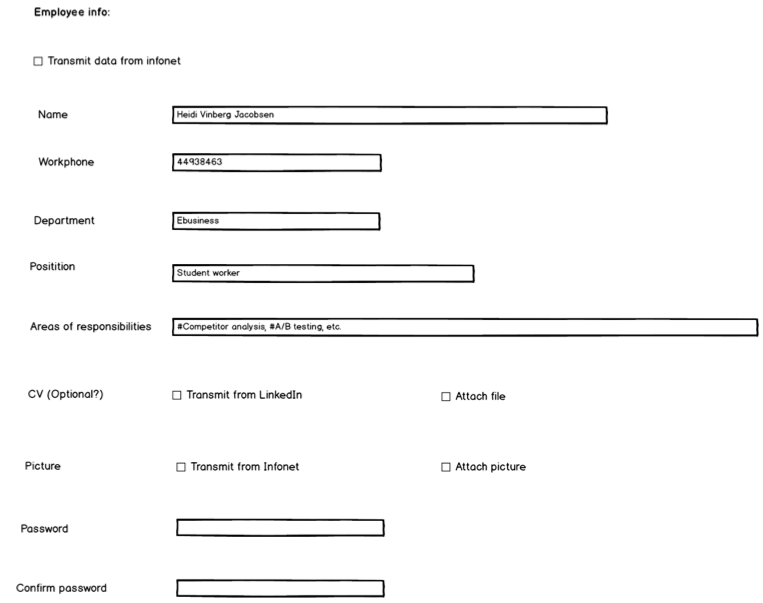


Figure 8: Screenshot of the mock-up (employee info)

Next, the area where the definition of the competences and its key terms were presented.

In order with having the definition of a competence in their context visual presented seemed reluctant to some of the interviewees. Jesper stated that this was unnecessary to him, and the system would capture his attention only if he could clearly identify where and how it would support him in his workday. In addition, he stated that a success criterion for him was that he could use it and it would take only two minutes (Jesper 46.21-48.00 xx). Some of the users mentioned that it was OK that the definition of competence in Alm Brand’s context was presented in the system, as the understanding of a professional competence at Alm Brand was not distinctly to the employee (A4, 37.12-39.00, A3, 32.00-36.00). One possibility is to have the definition as a part of the system in the start-up phase, and then remove it and instead have it implemented in some of the other existing processes, such as the staff development interview. Following is a screenshot of the presentation of the first processes.

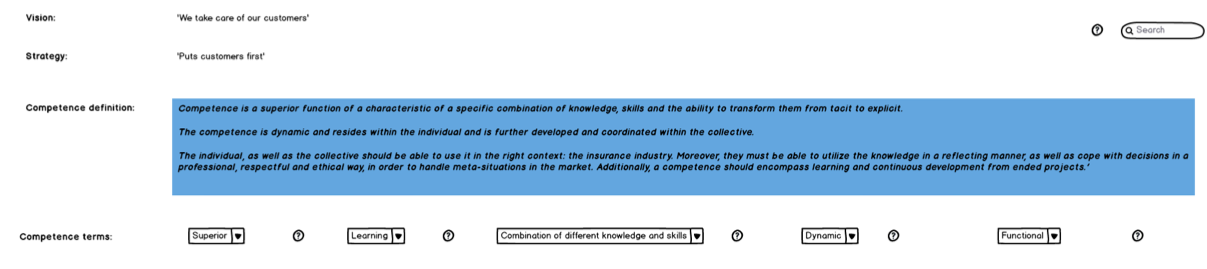


Figure 9: Mock-up of the second page of the system, illustrating the competence definition

Thereafter, the competences that are critical to the business are outlined. The purpose of having these outlined is to create visibility about competence needs in the organisation and whatis critical for business. However, Susanne stated that it is important that Alm Brand communicate explicitly that the chosen competences are *critical for business* and are a given priority. It is not that employees must have these competences and if they don’t, they are no good (A1, 56.02-57.01). In addition, Pernille stated that she would need further explanation of the chosen competences (A4, 37.12-40.00). In this case it is not defined by me but will be defined by the management of Alm Brand regarding having it implemented and the management will reports these to the system. Following is a screenshot of suggestions of competences that are defined and chosen as critical for business.

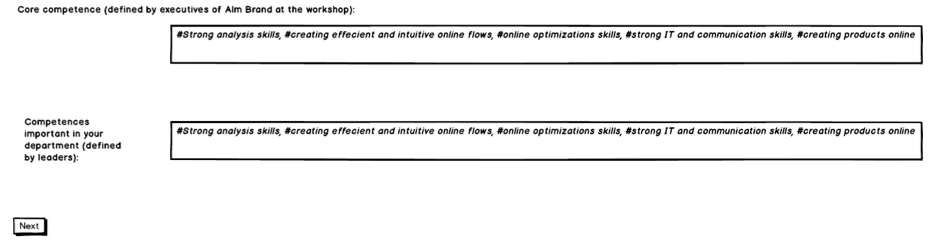


Figure 10: Part of the of the second page of the mock-up, tagging employe competences

After having the critical competences for business outlined, an example of how an overview of three critical competences. This is only an illustration of what it *could* look like, and it should give the employee an overview of the distribution of some chosen competences. The overview should give the employee insight into the competences that exist in the organisation. This should support employees when they map their own competences, as one of the parameters that determine the level of a competence is whether the employee’s competence is a part of a smaller group. The visualisation of the proportion of employees who had a specific competence in the organisation was positively received, with statements such as ‘The purpose that the diagrams serves an overview is good. We have actually discussed in my department where we could contribute further and what competences Alm Brand has a shortage of’ (Sara 55.00-56.28).

Following is a screenshot of an example of an overview of some critical competences that could exist.

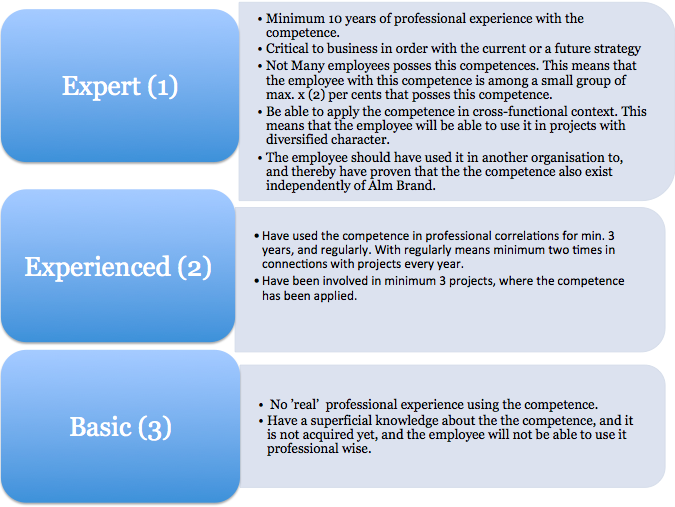
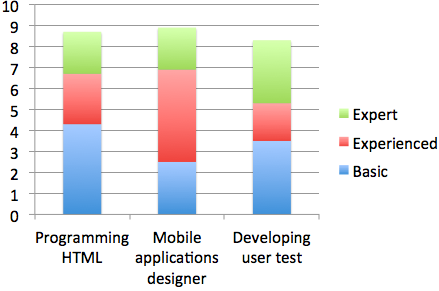


Figure 12 - Example of an illustration of competence parameter

Figure 11- Example of an illustration of competence overview

After having the overview of the existing critical competences to the business outlined, an example of what parameters that could figure, in the levels of a competence. The attitude towards the way competences were divided was in general positive (A1, 41.00-43.28, A3,38.30- 42.00, A10, 37,10-42.00). However, some objections were raised, such as 10 years of experience in a specific competence being too much and the ‘expert’ level containing too many categories. As Nisse argued:

An example is an employee who has a competence in developing mobile applications. Ten years of developing that is too much, as we are working a lot with increased digitalisation and the digital world is changing often, so in some cases it is not possible to have 10 years of experience. (A5, 46.43-48-34, 51.49-54.35)

He further argued that time is a factor, but being able to solve a unique problem is likewise important (A5, 47.00-48.30). In addition, it was further suggested that instead of having the parameters of an ‘expert’, then having three of the categories locked and instead put ‘or’ between some of them (A4, 48.03-46.38). So it must be thoroughly considered whether some of the parameters values should not be obligatory. Another comment on the parameters was that it should (A2, 41.16-42.59, 43.26-47.14). He further stated, ‘I have a competence in Axure, which is level 1, but my motivation to use it is not particularly high’ (A2, 43.26-47.00).

After discussing the parameters and levels with the employees, we moved to the next section of the mock-ups, where a suggestions to the employees own profile.

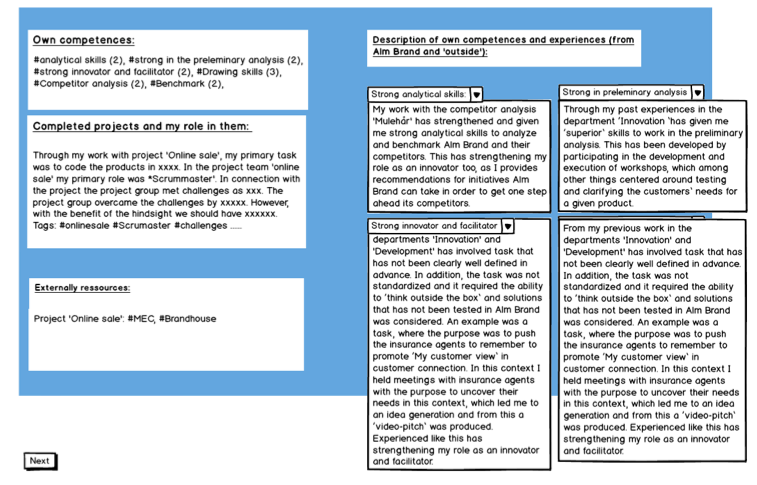


Figure 13- Illustration of employees own profile

Figure 13 illustrates an example of an employee’s own profile. This illustrates the employee’s own competences based on the earlier mentioned levels and parameters of a competence. One of the positive reactions to this mock-up page was that the section where it was possible to search for an employee with a given role from projects they had been involved with (A3, 41.43-45.00 A1, 43.20-45.00 A2, 44.00-45.02). However, it was noticed that the interviewees were interested in knowledge that was specific to Alm Brand. This was distinctly outlined statement that it was insights about concrete knowledge within the organisation, such as projects, roles, etc. (A7, 45.30-45.58, A2, 49.30-50.10). In addition, it was suggested that there be some streamlined and proposed words in order to look for a competence or offer one (Pernille 34.01-34.30, Sara 47.48-49.00). Table 19 outlines and elaborates further on the employees’ suggestions for the system to make it actionable and alive.

|  |  |
| --- | --- |
| **From the interviewees’ point of view, what should the system contain to make it actionable and alive?** | **Is there a general occurrence in this data in order with the mock-ups?** |
| It should be possible to ‘follow’ colleagues and projects.  Distinguish between project duration, regarding when employees map themselves.  Prefilling parts of the boxes will strengthen the ‘seeking’ and make the process easier.  Create a Q&A forum, which includes a reward system too. | The employees’ attitude to the competence parameters is positive. However, the parameters must be simplified.  Regarding competence parameters, the duration of projects must distinguished in order to couple the duration with the competence.  The words must be streamline and suggest start of a sentence in some of the boxes to keep employees from naming it differently. Prefilling some of boxes will ensure the employee does not forget important points. |

Table 19- Employees attitude to create an actionable system

In addition, it was further stated that if it could be possible to include a questions-and-answers (Q&A) forum, and making it prestigious to contribute to this forum. In this forum make some ‘heroes’ (A2, 47.58-48.04). Susanne stated that it should further be possible to create prestige to the employee about being in control of his or her own profile and contributing to it (A1, 48.00-49.36). Regarding the Q&A, a scenario could be that the questioner rates the answer that most helped him or her with a task (A2, 49.12-50.43). Another idea was to create a simple evaluation to be completed after finished projects. The grade from the evaluation could be included as a parameter in the level of a competence (A3, 51.12-53.12). In addition, it was suggested that there be an option to filter a search, as this would make it possible to find the case that is needed (Sara, Pernille, Thor, Peter).



Figure 14: Example of an illustration of competence parameter

Another proposal presented on the mock-up was the opportunity to look for a specific competence or project that matched the employee’s interest. Thus, employees who had the required competence system would be identified, and then it would be possible to send a request for a meeting. The possibility to search for a colleague was received positively by the interviewees (Sara, Pernille, Thor). However, suggestions like being able to ‘follow’ a colleague or project seemed more attractive to the employees than being able to request a meeting. The former would make the system more noncommittal and faster to use, as the employee could check the followed colleague’s profile and be inspired by what the colleague did to keep himself or herself updated on his or her competence, such as., following another forum outside Alm Brand, e.g. (A8,38.00-40.00, A1, 36.00-39.00, A10, 40.00-42.00).

The subanalysis involving the employees’ feedback on the mock-ups, as well as their ideas for the system, are summed up in figure 15 which outlines the requirements from the users and what is actually happening. These will be incorporated into the design principles in the competences system developed later (7.2).

**What *must* be taken into account when designing the system?**

* Include the definition in the system in the start-up phase.
* Transmit master data.
* Further elaborate the descriptions of the competences that are critical for business.
* Make some of the sub-parameters optional at the expert level. Shorten the time factor of the expert level.
* Incorporate specific knowledge about the organisation’s insights, such as roles and projects.
* Create a Q&A.
* Evaluate colleagues after ended projects. Incorporate the evaluation into the competence level.
* Be able to ‘follow’ a colleague.

**What could be ‘nice to have,’ or done, in order with system?**

* Track the bottoms ‘competence term’, as this will reveal whether employees read the terms further.
* Test and elaborate further the subparameters.
* Associate each mapped competence with an indication of the level of motivation to use the competence.
* Hold a contest that promotes activity in the Q&A.
* Identify where the competence stems from (theoretical or practical).
* Include a project forum.

**What is happening and what are people doing? Is there a difference between the employees’ statements and their actions? What are their actions?**

* The employees’ attitude towards having the definition of competence included in the system was mixed.
* The descriptions of the competences that are critical for business must be elaborated further in the system.
* Especially the expert level contained too many parameters, and it was suggested that some of the subparameters be made optional. Further, the time factor should be abbreviated.
* Incorporate and visualise the employees’ motivation to use a competence.
* Incorporate more explicitly the specific roles and responsibilities at Alm Brand.
* Create a Q&A forum.
* Evaluate colleagues after ended projects.
* Colleagues would like to ‘follow’ a colleague or a project.

Figure 15 - illustrates a simple illustrates the requirements

# Theory and Method: Design and development

*This chapter establishes the methodological framework for this thesis, bringing the structure of the paper from the problem area to answering the research question. In this section, the requirements from the employees that were stated during the interview section (5), will be interpreted through Norman’s 7 design principles in order to incorporate the employees’ requirements into the system. This leads to a further development of the design, which will, in turn lead to user tests of the second presentation of the mock-ups. These two theories and methods could create synergies, allowing the opportunity to interpret and structure the employees’ request into the mock-ups.*

## 6.2 Development of Design Principles: Norman’s 7

As a part of developing the design of the digital competence system, design principles will be utilized in order to incorporate requirements from the users’ into the system. Furthermore, the design principles used by the interaction designers to aid their creativity when designing for user experience are themselves derived from a mixture of theory-based knowledge, experience, and common sense (Rogers et. al., 2007, p. 29). Given that the principles are not intended to inform *how* a simple icon should be drawn, these will only act as an overall guide and structure to the development of the design.

In the design phase, it is important that the visual design and the system design is developed (Front- and back-end). The system design involves defining system objects and how they exchange information: this is the system that controls the website regarding issues such as the users’ data stored in the system’s database and located in the system’s backend.

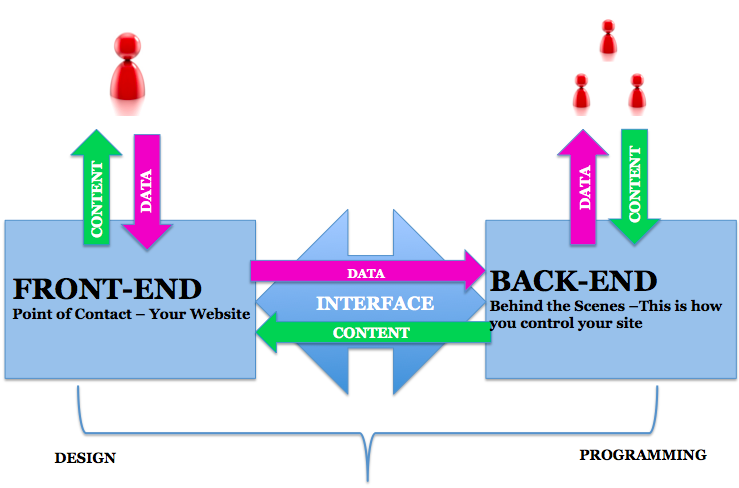
In contrast, the visual design involves the definition of concepts and static wireframes. This includes the ‘point of contact’, which means the different options the users are presented when they interact with the system. In this thesis, the focus will be on creating the visual design, as the emphasis is not on the technical design part, but the visual. The following illustration provides a simple overview of how the front-end and back-end are divided:

**WEB USER**

* **ALM BRAND USERS**

**ADMINISTRATORS**

* **Executives**
* **System owners**
* **Contractors**



**VISUAL DESIGN**

**SYSTEM DESIGN**

Figure 16- illustrates a simple illustration the distinction between front-end and back-end inspired by Whitten et. al., 2004

As a ‘heuristic’ framework the Norman’s 7 Principles (2002) will be used as an overall guideline in transforming the user requirements into the design. The design principles will be used as guidings through the design phase. Therefore, there will be presented a couple of examples of how the principles have been applied to this thesis. Norman’s 7 principles will be used with a simple approach, and the focus is to create a system that are easy to interpret and understand (Norman, 2002).

Using these principles will amalgamate the ‘top down’ principles with users’ ‘bottom up’ requirements. The design is founded on the users’ needs: consequently the system creates its own principles. The principles that have been used will refer back to the literature review, empirical research, which will lead to the design principles.

The design principles will be used approximately, and are used to support the structure of the development phase of the system, and will be elaborated in the following:

1. Use both knowledge in the *world* and knowledge in the *head*

This principle is about using personal experiences in conjunction with available knowledge in the world. Furthermore, it is the understanding of the relationship and execution of action (Norman, 2002). As identified from the literature review (3.1), there has not been a conclusivedefinition of a competence made. As it was identified from the interview and analysis that the employees had mixed feelings regarding to the phenomenon competence, hence considerations of the way it should be interpreted in Alm Brand’s context (5). This will create a principle that states that the self-made definition of a professional competence, as presented through the interview (4.4) should be included in the system’s first phase of its cycle.

Another principle, which was identified through the empirical work, was that the employees proposed a system that contained a ‘mind-set’, such as LinkedIn (5). It was further stated that the system should be ‘profile-based’, and should offer the opportunity to recommend colleagues based on cooperation in the project work. Furthermore, this could act as a parameter in the expert level of a competence. These examples of how the design principles are founded leads to the next consideration:

1. Simplify the structure of tasks

This principle means that the tasks included in the system must be simple and structured (Norman, 2002). In this context, an example could be that it becomes simplified by visualising the steps the system contains by including a progress bar, so the user of the system will have the overview of the steps involved. Furthermore, it was stated that the search field should be placed on the first page, as it should be possible to search for a competence without clicking through several pages before it is possible to find it (5). Another principle was that it must take a maximum of two minutes to complete and update the system the first time of use (5). Therefore, master data must be transferred to the system, additionally minor text areas must be prefilled with the items desired to be reached. This means that the text area will be prefilled with a sentence, and then the users’ could complete it with 1-2 words (5). These examples of how the design principles are founded leads to the next consideration:

1. Make things visible: Bridge the gulfs of execution and evaluation

This principle means that the system should provide actions that match intentions (Norman, 2002) that it should be distinct to the user of the system *what* is in the progress. Therefore, it should be clear to the user that, if they are entering words into areas it should be visible to the employee. In addition, it should be possible to fail, and correcting and adding further competences and experiences further in the system both immediately and subsequently. These examples of how the design principles are founded leads to the next area to be considered:

1. Get mappings right

This principle means that the user of the system can determine the ratio between the intentions and the possible actions: actions and their effect on the system. The system’s actual condition plus needs, intentions and expectations from the user (Norman, 2002). This means that intentions of the system itself will be presented on the obverse of the system. It must be further suggested that it will be expected that the users will map their own competences, which match the competences that are critical to the business at the current stage. Furthermore, the intention with the ’Q & A’ and the expected outcome to the users must be clear, as well as the importance that the employee is contributing to the system. These examples of how the design principles are founded leads to the next consideration:

1. Exploit the power of constraints, both natural and artificial

This principle focuses on reducing the number of alternative actions at each step to, at most, a few (Norman, 2002). As identified from the analysis (5) the system should include some pre-defined terms, which will be proposed to the employees in regard to when they are searching for a competence. This will eliminate the need that the employees type their own word of the competence in the search bar, therefore securing results of their searches. This example of how the design principles are founded leads to the next one:

1. Design for error

This principle focuses on the reduction of errors in the system (Norman, 2002). As mentioned the previous principle, pre-defined terms will be included in the design in order to strengthen the search for the right competence. Furthermore, this will allow the user to recover from errors, to know what has been done, and what happened. Additionally, the user of the system should be able to return to the system and correct or add their information such as their competences, question or answer in the ’Q &A’ forum.

1. When all else fails, standardize

This principle’s focus is to standardize (Norman, 2002). This principle will in this case focus on standardising the system. Through the pre-filled terms, and some of the sentence that has been startet, create a standardised process, as the employee will answer without writing long sentences, as the fewer the employees has to complete the fewer errors will there occure.

So, having these principles in mind, the further development of the mock-ups proceeded, which lead to refinements of them, which was presented through an expert- user test in the following section.

## User test

As the methods of developing the design to the competence system are to include the users’ development of the design, the interview will be utilised to present some suggestions for the system. The feedback from the users should generate some improvement for some new mockups, which will be presented in the user test. The user test will be a presentation of the new design suggestion for the competence system. The mockups will contain some of the ideas that the interviewees gave during the interview. However, usability testing often is primarily an industry approach for improving user interfaces (Laza et. al., 2010, p. 254). The main goal with this user test was to test the ideas that were incorporated and has further suggestions for the mockup, which may lead to some ‘final’ refinements in this thesis. The user test has been an expert-based user test (Lazar et. al., 2010, p. 256), which in this case involved Pernille and Sara. Their lines of work are outlined in table 2, p. 58.

Regarding my own relationships and role in the user test I will try to stay neutral and I will attempt to discount my own opinions and experiences, and only relate to the empirical data presented to me.

**Findings from the user test:**

Based of the expert-user test with Sara and Pernille, the following will present and illustrate the last requirements to the competence system. Firstly, the name ’Qualifiq’ was presented to the user, who acknowledged the name was meaningful and indicated to them what this system intended (A4, 1.02-1.10). Therefore, the system was accepted and will hereby be named ’Qualifiq’.

Furthermore, the attitude towards having the competences structured combined with the level of the competence was positive (A3, 4.04-5.39, A4, 6.46- 6.58). However, it was argued that the competences that was selected as ’critical to the business’ by Alm Brand should be explained further. By adding text boxes that provide further elaborated explanations; by clicking on them, and thus the competences that are critical to the business are further elaborated (A4, 4.45-4.58).

Furthermore, Qualifiq should include a ’Mental notes for MUS’ (employee development conversation), which should operate as an area with notes to this conversation. Furthermore, there should be incorporated a practise that the competences will be discussed at the MUS-conversation with the relevant manager, and the profile will be discussed in accordance to the employee´s professional development. The development should contain a checklist, which can either verify or falsify the listed competences.

Based on Peters idea from the interview (4.5); the employees should be able to make a simple evaluation on their colleagues in the projects. The evaluation from the employees should be incorporated to the expert level of a competence, as this ’expert-level’ of a competence also indicate that other colleagues have acknowledged the expert level of the competence (A3, 7.58-8.38, A4, 22.40- 22.58). Regarding the parameters of the levels of the competences; the relevant employees approved these parameters as these are suitable to the chosen departments (A3, 10.26-12.02).

Another function that received positive feedback, was the area where the employee should commont on the external courses they had participated in, as Sara mentioned that she could doubt if an external course was good and inspiring. Therefore, having an insight in regards to which courses to choose was received in a positive manner (A3, 14.12-14.44).

Another well-received perspective was the function where the individual employees´ competences versus the organisations was instead outlined in columns, as this will create visibility to the individual about their own proportion of competences in relation to the organisation´s total amount of competences (A4, 6.46-6.58).

In addition, the suggestion with ’Q & A’ forum was well received too (A4, 24.21-26.00, A3, 17.52- 18.00). The purpose was that the employees could submit questions to challenges they are facing in Alm Brand, or to obtain overall inspiration. Through the ’Q & A’ the person submitting the question should be able to rank the best respondent, in order to award the answer that helped the person the best. The ’best respondent’ can earn some virtual points that could be visible on the employees’ profile, which also could strengthen the intrinsic motivation to using the system. However, as Sara argued that implementing Qualifiq would be a journey that will involve changes. On the other hand; Sara recognised that this will require a lot of resources to some of the employees to use this. However, without new initiatives the organisation will never develop (A3, 17.09-17.40). The next figure illustrate the above, thus the requirements that will be vital to be incorporated in Qualifiq.

* Have the competences that are critical to the business further explained.
* The system should be called Qualifiq.
* Evaluate colleagues after finishing projects.
* ‘Mental note’ area to the employees’ development conversation.
* Creating a ‘Q & A’
* Pre-fill as much information as possible
* Determine terms and make it possible to filter.

Figure 17- Findings from user test

# Design of Qualifiq

*This chapter establishes the design of the competence system, bringing the structure from requirements specification, where the listed requirements will be prioritised into ‘must have’ and ‘could have’ that leads to the final mock-ups to this thesis.*

## 7.2 Requirements specification

The findings from the interviews and the user test will lead to the requirement specification of the ‘final’ system to this thesis.

As the thesis has been conducted through an iterative processes involving participatory design, User Innovation Management will consolidate that the users’ needs will be taken into account and that some of these will be included in the system. Hence, the interview has been has been constructed from a phenomenological perspective, with the purpose of understanding the users’ ‘world’, and, through this, having the understanding of their actual needs in accordance with the system. As mentioned earlier (4.4), the users were presented mockups, of the initial ideas at the interviews. The interpretation of the data from the interviews, along with the feedback from the mock-ups led to refinements of the system, and the implementation of some of the users’ ideas. The requirement specifications should identify what functions the system should be able to contain and will be based on the findings from the interview, as well as the user test. Using the iterative method means that the system is never definitely ‘finished’ and by presenting the requirement’s specification of the system will act as the starting point of the system. In the case that the system was implemented in the right context, it would, in the long term, be possible to measure the different functions and through this get knowledge about whether some of the functions should be replaced or deleted, etc.

**Developing the requirements specification**

First of all, a requirement specification can be more or less detailed in the form of descriptions of how the system can support a company’s vision, which users are likely to use the system, etc. (Wiegers & Beatty, 2013, p. 83). This section will provide a simple and less detailed requirement specification. However, nonetheless, it will create the overview of what the system will contain. The following requirements specification has been based on the interview data (4.4) and the user test (6.2). Furthermore, it will work as a simple requirement specification, which will illustrate the functions the system should have. The problem to solve is how to structure and visualize the professional competences that exist in-house in Alm Brand so that employees can have an overview of them and access them in their daily work to a greater extent.

This section will provide an overview of two different traditionally identified types of requirements: functional requirements, which say what the system should do, and non-functional requirements, which say what constraints there are on the system and its development (Rogers et. al., 2011, p. 356). Given that the project is not a technical one, the non-functional requirements will not be explained in-depth, but the section will explain the functional requirements in accordance with the user requirements.

**Functional requirements**

The functional requirements will be divided into two sections: ‘must have’ and ‘could have’. The following will work as an overview of the functional requirements. Thereafter, the different requirements will be described, as well how they are deduced from the research.

|  |  |
| --- | --- |
| **Function** | **Prioritisation** |
| Log in | ‘Must have’ |
| Create a profile | ‘Must have’ |
| Search for a employee based on their competence | ‘Must have’ |
| Search for an project | ‘Must have’ |
| Map own competences | ‘Must have’ |
| Transmit data from LinkedIn | ‘Must have’ |
| Transmit data from Alm Brands Infonet | ‘Must have’ |
| Evaluate colleague based on their participation to a project | ‘Must have’ |
| State own professional interest | ‘Must have’ |
| Visualise the employees motivation to using competence | ‘Could have’ |
| Combination with existing employee system | ‘Must have’ |
| ‘Follow colleaguea’ | ‘Must have’ |
| ‘Follow project’ | ‘Must have’ |
| ‘Request for a meeting’ | ‘Could have’ |
| Notification ones every 2. month | ‘Must have’ |

Table 20 - List of requirements specification

**‘Must have’ functions:**

*Log in, create a profile and search for a colleague based on their competences;*

Firstly, the ‘Must have’ requirements to the system are that the employees should be able to login and create a profile. By having the login function ensure that the system becomes profile based to the employees’. The analyse section (5) outlined that it was not clear to all of the employees’, who possessed what competences, and it was clear that this knowledge was based in the network, why structuring the competences could support employees’ that has not been employeed for Alm Brand for some time.

*Map own competences;*

In addition, the employees should be able to map their own competences, as the employees’ competences should be one of the ground pillars to the system.

*Search for a project;*

As identified from the interview section (4.5), the employees showed great interet in being able to ‘follow’ or check status, and challenges combined with other projects in Alm Brand.

*Evaluate colleague based on cooperation in projects*

Based on completed projects, the employees should make an evaluation, on their colleagues they worked with in the projects. This will support the intrinsic motivation, as the positive evaluations must be made visible at the employees’ profile, through point, e.g., and this will give recognition to the employee.

*Employeees own professional interest in accordance with their own competences*

This section gives the employee the opportunity to illustrate the professional competences they are extra motivated to use or strenghtnen.

*‘Follow colleagues’ and ‘follow project’*

As identified from the interview (4.4), the employees showed great interest in having more knowledge about projects. Furthermore, it was identified that the colleagues had interest to connect with employees, who possessed competences that matces the competences that the individual employee had interest in to improve or develop. As the individual employee could update if they are following any external forum with like-minded people with the same competence or interest, this could inspire other colleageaus to join the same.

*Notification ones every 2. month*

Likewise, the employees are having notification every second month about changing password for the system they are using in Alm Brand, Qualifiq must send a notification to, where the employee must verify the existing competences, in order to add or delete not relevant info. This was also approved from the interview (4.5).

*Transmit data from Infonet and LinkedIn*

Another function was to transmit data from the Alm Brands Infonet, as this will make it easier to the employees.

**‘Could have’ functions**

*Request for a meeting*

In order to link the employees closer together this was something that could be tested. However, the interview (4.5) identified a mixed attitude towards this, as some mentioned that they would rather avoid more meetings, while others seemed postitve to this. In addition, it was suggested that, it was more non-binding to ‘follow’ a colleague instead, as this could give the insight to what the colleagues did to keep themselves updated. Therefore, a request for a meeting was only a ‘could have’ function.

*Illustrate motivation for using the competences:*

Another suggestion from the interview (4.5) was that the mapped competences must indicate the employees’ level of motivation of using it. However, this is mapped as a ‘could’ have, as in this case there is outlined the employees own professional interest.

The above listed requirements leads to the next section, which give an short illustration of the final mock-ups.

## 7.3 Further development of the design: ‘Final’ mock-up

So based on the analysis (5), Norman’s 7 Design Principper (6.2) and the requirements (7.2), following will serve a brief overview of the finished competence system to this system. The presented that some of the the main pages in Qualifiq is the employees ‘own’ profile and level of competences.

This will bring a short presentation of the main features of Qualifiq. Following, are some of the initiatives that Qualifiq should contain. For further view check appendix 2.

* Employee-based profiles; through which tagging of professional competence and experiences will be performed.
* ‘Question & Answer’ forum, where the employees can ask and answer questions to each other.
* Experiences with external resources.
* Evaluate colleagues based on projects, through which the employees will recommend each other, which will be included as a parameter in the level of the competences.
* ‘Follow’ colleague.



Figure 18- Illustration of own profil

The above-illustrated shows the content of the profile based. One of the sugestion based on the analysis was to be able to ‘follow colleague’. As identified from the interview, this was one of the functions that were showed great interest in.

Following table illustrate the final level of competences, which will be the question to be answered when mapping their competences.

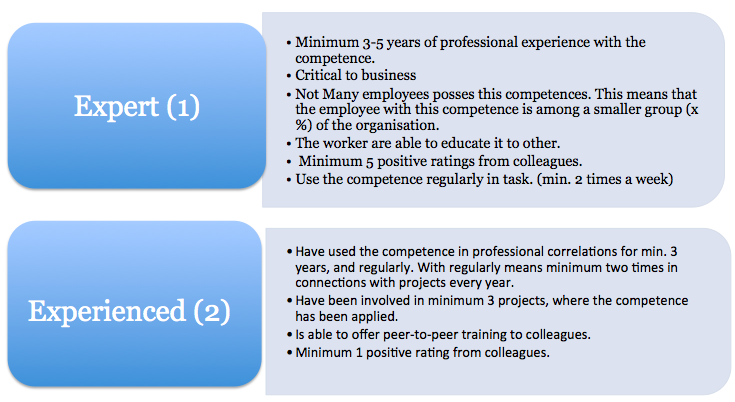


Figure 19- Illustration of own profil

Evaluate colleagues based on projects. The recommendations from the colleagues will work as a parameter of the level of a competence. This could advance the employees to strive for reqognition among employees, and further strives to be superior in their job performance and execution of their tasks, as the positive feed back from colleagues regarding finishing project. The first mock up (figure 12, p. 86) of the levels of competences had three levels. However, from the analysis (5) and the usertest it was argued, that the first presentation of the levels of a competences contained too much, and it must be simplified. So, the amount of working experience was reduced, in order to target better the selected teams. As earlier mentioned, (7.2) it was suggested that the competence system should sent a notification to the employees’ evere second month, in order to have the profile updated. Furthermore there should be incorporated a practice that involves that the closest leader to the employee should verify the competences, which could be discussed in accordance with the employee conversations. Hereby, there has been made a thourough analysis of the topic competences, and furthermore how it acts in practise in order to create a system that combines the management of the organisation needs for a competence system, with the employees need to work more more cross-functional and having the overview of the in-house competences in order utlize their own tasks in a better way. Following, the discussions and recommendations for Qualifiq will be discussed.

# 8 Discussions and Recommendations

*This chapter establishes the chapter for discussions and recommendations for this thesis. Through the thesis, there have been some reflections on the chosen method and theory, which would be considered in the event that Alm Brand wants to work further with the project after delivery.*

## 8.1 Discussion and Recommendations

With the above analysis and findings from this thesis in mind, the following section will provide a discussion upon the most significant findings. As this thesis is based on iterative processes, these findings will be discussed in order to illustrate the focus areas Alm Brand could take into consideration if implementing the system. This would imply that the results presented at the end of this thesis are, to some extent, temporary, since I, as a researcher, recognise that other aspects need to be prepared before implementing Qualifiq.

Firstly, this thesis has been constructed on user-participation methods involving why the development of Qualifiq has been based on the employees’ requirements, constructed around their realities. This may problematize the opportunity to apply this system to a similar type of organisation, as this system reflects the Alm Brand’s employees from their ‘world’ and their collaborative culture, which may be different in an otherwise similar organisation. However, applying the same methods and theories can create a similar system that can assist in the development of a competence system for another organisation similar to Alm Brand.

Moreover, the implementation of Qualifiq must be carried out with a communicative task, in order to have the employees secure in outlining their own competences into the system. In addition, the interpretation of the competence definition and the terms used must be thoroughly explained, and in accordance with Alm Brand’s context. Hence, the competences selected as the ‘critical to the business’, and used in this system, are ‘only’ examples, as choosing these are associated with a deeper strategic work involving the policy of Alm Brand, which was not possible to involve and implement, over the duration of this thesis. In conjunction with having the definition of competence presented in Qualifiq, this has been done in order to raise awareness and visibility of the concept and the way it could be interpreted in Alm Brand’s context. However, it is debateable whether this ‘only’ should be implemented in connection with Qualifiq’s start-up phase, and may be modified in the long term, in that Qualifiq will be based on activities which the employees immediately find beneficial to them. Moreover, Qualifiq could benefit from implementing digital tracking on the system, as the tracking would reveal what functions are used by the employees, and thereby indicate the most valuable functions.

Additionally, the parameters included in the different levels of competence, could be studied even further, as, during the interviews, the employees (4.5) indicated that the studied departments could have a distinction between ‘hard’ and ‘soft’ competences. These, they felt, could be further studied and elaborated in order to develop these levels, and focus attention on the parameters that exist in the levels over the different departments.

Additionally, this project has not been a technical one, but the further development of the back end system, involving the programs serves indirectly to support the front-end services. Therefore, the future development of Qualifiq should involve backend that mediates front- and back-end activities.

Moreover, as identified from the interviews (4.5), some of the employees emphasise the opportunity that the system should provide domain-specific knowledge such as project works, which is why it could be investigated how relevant project knowledge could be included in the system. Accordingly, Qualifiq could be further developed with the purpose of linking the employees’ competences and project work. Moreover, this system focuses on the professional competences, but future development could include social competences and, furthermore, nurture a ‘buddy-system’; where the employees can be interdisciplinary linked, enhancing professional discussion among employees to a greater extent with the aim of being better socially rooted. In addition, theories such as Wenger’s Communities of Practice (Wenger 2004), could be beneficial when investigating the opportunity to establish a community around mapping competences and interacting in the system. Moreover, it would serve as an investigation of the communities of practice that already exist: that Qualifiq could target them.

With the above recommendations future considerations for Alm Brand and Qualifiq, the following will be a conclusion of the results based on the research.

# 9 Conclusion

The research demonstrates a need for systems that outline and structure the professional competences within larger organisations. This could result in various challenges for Alm Brand as the current professional competences have not been structured or outlined. However, the employees from Alm Brand showed a mixed attitude to having the competences structured within a digital system, as they argued that a great willingness to help each other already existed - this was evident through the co-operative culture that existed in Alm Brand. However, what if the culture that existed was impacted by a lower level of willingness to assist, as employees perceive the request for help as distracting when asked for whom to turn to solve a problem. Moreover, it is a fact that unsuccessful attempts where employees do not engage in a professional discussion with the *right* colleague, due to lack of awareness of whom to ask, will waste time among the employees, whether it is accepted or not.

Based on the findings, this research has led to tangible recommendations. In order to create a competence system which could become actionable and socially embedded as a part of the employees’ daily work routines, it is recommended that Alm Brand include three fundamental features in the system: (1) Profile based employee profiles, (2) ‘Q & A’ forum and (3) experiences with external resources.

Firstly, the (1) *profile based employee profiles* that provide visibility of the employees professional competences. Additionally the system should further facilitate the opportunity to link professional discussions about tasks or projects, as employees want to contribute with their competences to a greater extent. Subsequently, this should be facilitated through the (2) ‘*Q & A’ forum*, which includes a reward system for the ‘best’ respondent to a question. As well as this, the profile should outline the employees’ (3) *experiences with external resources,* as, in some cases Alm Brand hires external parties to execute such tasks. Thus, the employee values the opportunity to have colleagues’ recommendations on a matter before commencing. In regard to designing a system that becomes actionable it is evident that the users must accept and use it. To achieve this, the thesis includes methods and theory, such as UIM by Kanstrup & Berthelsen (2008) combined with Participatory Design (Foth & Axup, 2006) that emphasizes enhanced user involvement. As this thesis has a phenomenological interpretation, methods such as semi-structured in-depth interviews and expert user testing have been conducted, which create an insight into the employees’ world in Alm Brand. In addition, it indicates how the system could benefit the employees in their daily work. Hence, from the research and methods applied, it can be concluded, through Qualifiq, that it is possible to develop an actionable competence system, which will support the employees in Alm Brand in their daily work. However, as this thesis is based on an iterative process, it is considered that this system needs to have incorporated more iterative processes before implementing the system. Therefore, ‘Qualifiq’ answers the problem statement to this thesis.

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# Appendixes

**Appendix 1**

**Interview guide**

I dette speciale ønskes det at designe et forslag til et IT værktøj, der skal fremme synliggørelse af professionelle kompetencer, der er internt i større organisationer. Det er med case her i Alm Brand. Formålet er, at det skal være et værktøj der skal bruges i det daglige, hvor hensigten er at medarbejdere kan søge kompetencer frem og det skal skabe en større synlighed over, hvad de forskellige medarbejdere kan. Dette kan være en fordel i forbindelse med de udfordringer I medarbejdere støder på i jeres opgaver, da I har mulighed for at gå ind og søge efter en given kompetence, der skal hjælpe jer videre i opgaver. Via systemet kan I nemlig søge efter kompetencer, og gennem dette få kontakt til den rette medarbejder med den efterspurgte kompetence.

* Først og fremmest vil du så ikke være så venlig at give en beskrivelse af, hvad du laver og hvad din titel er? (Udyb gerne medarbejders historik)

I dette system er det med fokus på de professionelle kompetencer. På bagrund af dette er der lavet en definition på hvad en professionel kompetence er, der vil kunne anvendes i en videns tung virksomhed som Alm Brand, der lyder:

*Competence is a superior function of a characteristic of a specific combination of knowledge, skills and the ability to transform them from tacit to explicit.*

*The competence is dynamic and resides within the individual and is further developed and coordinated within the collective.*

*The individual, as well as the collective should be able to use it in the right context: the insurance industry. Moreover, they must be able to utilize the knowledge in a reflecting manner, as well as cope with decisions in a professional, respectful and ethical way, in order to handle meta-situations in the market. Additionally, a competence should encompass learning and continuous development from ended projects.*

* I ovenstående definition ud fra dit synspunkt syntes du så det er en passende definition..? Hvorfor/hvorfor ikke?
* Ovenstående definition involverer termer som(Diskutér nedenstående termer):
* Dynamisk
* Læring
* Funktion
* Superior (bedre end andre til netop den givne opgave)
* Kombination af forskellige evner og viden
* Evne (til at gøre noget)
* Kan du kunne sætte ovenstående termer i en sammenhæng med en definition af professionelle kompetencer til en videns tung, som Alm Brand? Og kort hvordan forstår du ordene i denne sammenhæng?
* Hvordan vil du definere en professionel kompetence?
* Hvordan vil du beskrive dine arbejdsmæssige professionelle kompetencer?
* Er dit job præget af faste arbejdsgange og rutiner?
* Har du en ’typisk’ arbejdsopgave? (Men graden af denne kan den variere?)
* Har du mange møder med forskellige medarbejdere i forbindelse med din arbejdsuge?
* I forbindelse med de møder du har -Har du oplevet uoverensstemmelse med de forventninger som du havde til den pågældende medarbejder, hvor det viser sig, at de ikke besidder de *helt* ’rigtige’ kompetencer i forhold til det du har bedt et møde om, og du i stedet skulle have talt med en anden…? eller du ligefrem bliver anbefalet at tale med en anden medarbejder..? (hvis ja… er det noget du har oplevet tit..? Evt. Definér tit)
* Bruger du meget dine kollegaer i forbindelse med dine egne arbejdsopgaver..? (søge råd, mm.,)
* Ja det gør jeg, og hvis det er noget som der er følsomt, så er det min chef.
* Føler du, at du bliver brugt meget af dine kollegaer i det daglige i forbindelse med, at de henvender sig til dig for at søge dine råd og viden om specifikke emner/opgaver, hvor du er stærk?
* Hvordan vil du beskrive hvordan du bruger bedst muligt dine egne kompetencer i forbindelse med opgaver i organisationen?
* Hvordan vil du beskrive det at arbejde i projekter sådan generelt i Alm Brand? Er det overskueligt at vide præcis hvad folks egentlige professionelle kompetencer er?
* Ved du om Alm Brand har nogle retningslinjer for hvordan man søger efter sparring internt i forbindelse med opgaver/projekter? Er der nogle former for struktur over det?( Hvis ja.. er det noget der bliver brugt? Og fulgt?)
* I tilfælde af, at der ikke er klare retningslinjer for dette.. hvad gør det ved din arbejdsgang i det daglige?
* I tilfælde af at hvis du møder en udfordring i dine opgaver som du ikke er i stand til at løse, hvad gør du så i dag? (Bruger lang tid på at finde en løsning selv, eller spørger den der er tættest på?)
* Hvordan arbejder i Alm Brand? Er det meget individuelt..? Eller arbejder i meget på tværs af medarbjedere/kompetencer?
* Ud fra din opfattelse -Hvad er Alm Brands kernekompetencer?
* Ud fra din opfattelse…Hvilke kompetencer skal udvikles i forhold til disse?

**Kulturen i Alm Brand**

- Præsenter kulturtyper på side 301 Kjær et. al –Hvilken kulturtype ser du der eksisterer i AB? (Evt. En blanding?... Hvorfor den valgte?)

4 Kulturtyper: **Kuvøsen;** Udfoldelsesorienteret kultur. Stor lighed mellem ledere og medarbejdere. Lederen er mere orienteret mod den enkelte person frem for orientering mod opgaven. Deltager i *kuvøsen* har egen selvudfoldelse og selvrealisering som største formål med deltagelse i organisationen. Handler om frigørelse af rutiner og regler, hvilket medfører, at de ikke accepterer hierarki og struktur. **Familien;** personorienteret kultur. Forholdet mellem leder og de ansatte er hierakisk, men lederen er mere orienteret mod den enkelte person end opgaveløsningen. Denne kultur bygger på tætte bånd mellem tætte forhold mellem de ansatte, men det behøves ikke umiddelbart at være tydeligt for andre. Medarbejderen har et langsigtet og loyalt forhold til virksomheden, hvor belønningen ved de ansatte er at opnå gode resultater sammen. **Styrret missil;** projektorienteret kultur. Klar orientering mod opgaven. Lighed mellem medarbejdere og ledere. Kulturen er upersonlig og båndene mellem organisationens deltagere er upersonlig, og ingen føler sig gensidigt forpligtet for hinanden. Den menneskelige værdi måles i arbejdsindsats og målopfyldelse overfor hinanden. Medlemmerne i organisationen har fokus på opgaverne og holder fast i strategiske planer for at nå organisationens mål. Arbejdet udføres i teams eller projektgrupper. Denne er en meget individualistisk kultur er ikke specielt åben for nye mål, men derimod åben for alternativ anvendelse af midlerne. **Eiffeltårnet;** Rolleorienteret kultur. (Pyramiden) Har en hierarkisk struktur med en bred operationel del og en smal ledelsesdel. Det er *klassisk bureaukratisk* opdeling af arbejdskraften i roller og funktioner, hvor koordineringen af den enkeltes indsats sker fra toppen af hierarkiet. Bureaukratiet er rationelt-legalt, hvilket vil sige, at det er er accepteret af organisationens deltagere, fordi de mener det er bedst for den enkelte med den ledelses- og organisationsform.

* Hvordan opfatter du organisationens og medarbejdernes evne til at modtage forandringer?
* Hvordan ser du Alm Brand bliver ENDNU bedre/bedre til at være modtagelige og åbne for forandringer?
* Hersker der mange uformelle normer i AB? (Det er lidt mere løst -folk tilpasser lidt deres arbejdsdag, og det er ikke præget af en klokkeklare regler og struktur - er der mange grundlæggende antagelser - ting adfærd der ikke er tydeliggjort)

**Præsentér medarbejder for enkelte mock-ups i kompetenceværktøjet.**

- Hvordan forholder medarbejderen sig til **indholdet** på tegningerne?

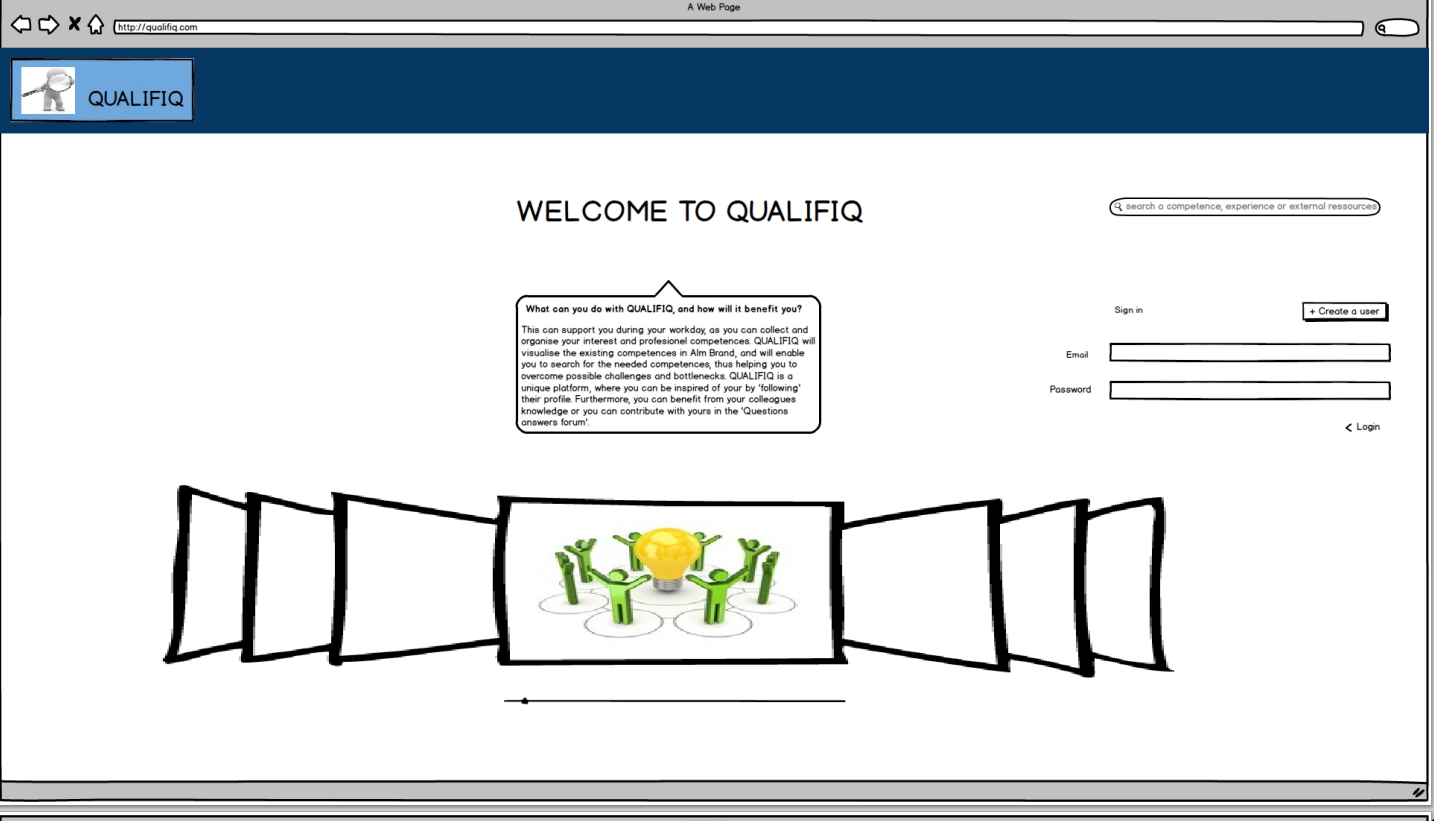
- Hvad ser de værdien i at mappe deres og andres kompetencer…. ?

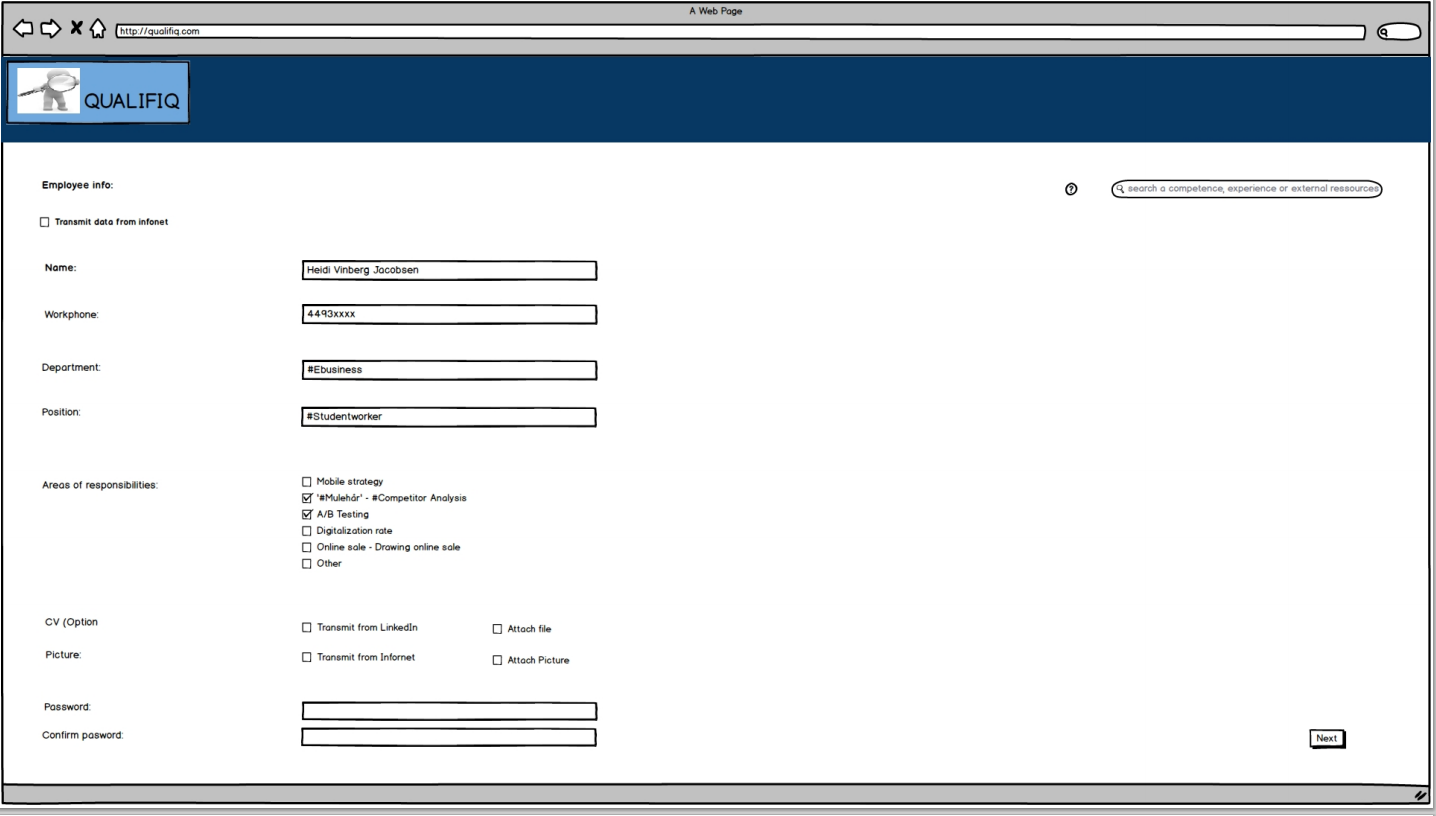
* Hvad ser du at kompetence systemet skal indeholde for, at det vil skabe værdi for dig i din hverdag? Hvad skal der til..?

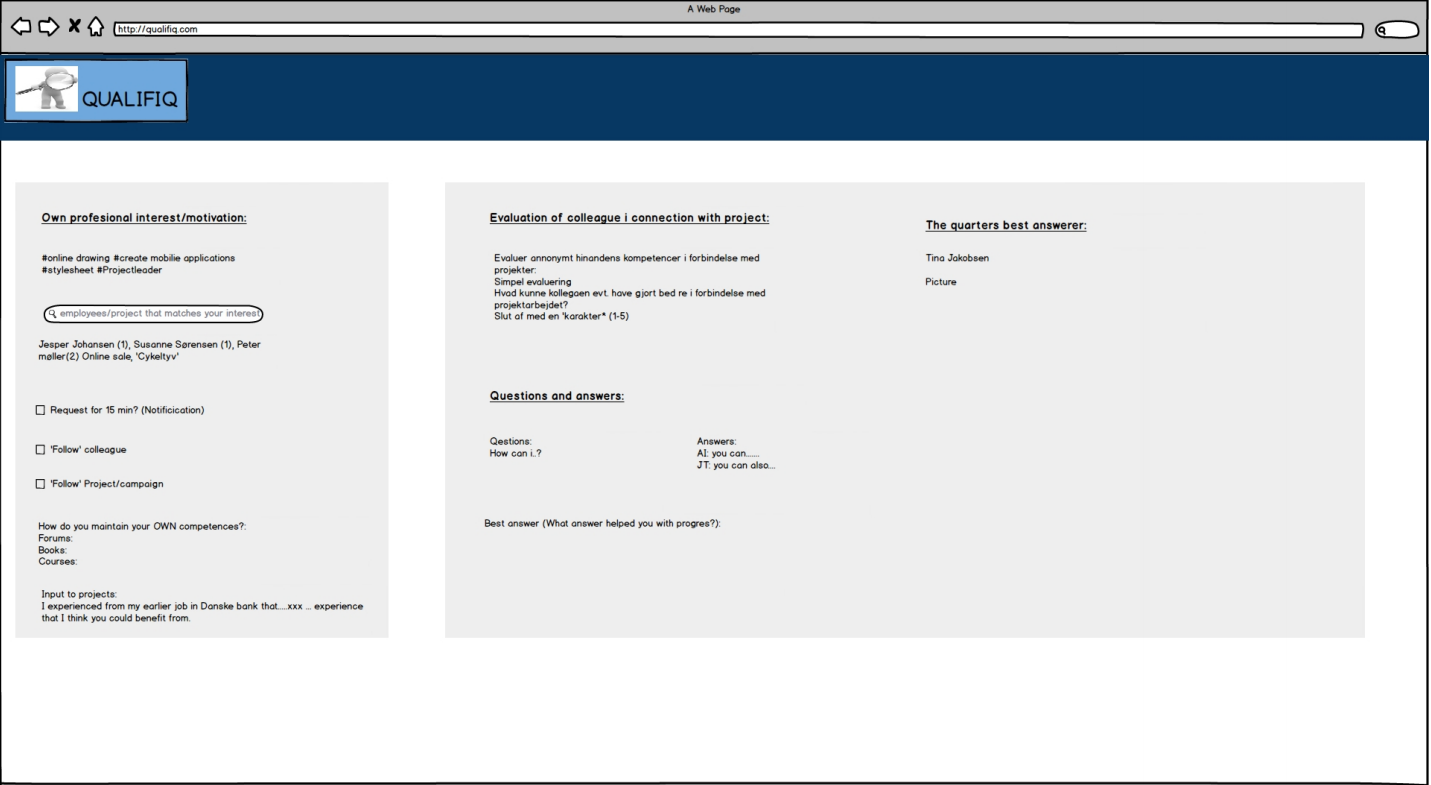
- Hvordan forventningsafstemmer du med din nærmeste leder i dag..? (i forbindelse med din egen professionelle udvikling)

* Her til sidst…er din fornemmelse at medarbejdernes kompetencer bliver brugt/udnyttet bedst muligt I det daglige?

**Appendix 2**







Example own an individuals