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Agility

APPLYING AGILITY WITH SUCCESS IN A LOW-TECH SECTOR

Keywords: Agility, agile, high-tech, low-tech, sense-making, shared understanding, public utility company, software industry, waste management, working in agile ways

Master Thesis in Leadership and Organization -
Culture, Communication and Globalization
Birgit Reithofer

**Many, many times we don't have the word
[agile, agility] daily, even if we do it
and make it happen.**

- Head of Innovation AVV, TN, 00:45 – 01:15

Abstract

“Agility? What is all this about?”

In recent years, the concept of agility has gained in popularity around the globe and therefore are lot of organizations want to make use of this approach – public and private companies alike. For whatever reason a company decides to do so, and there are many, in the end the organizational members are the ones who have to put it into practice, but they often have difficulties grasping what agility is about or how to implement it, as the concept originally developed in the software industry. It often seems to be unsuitable for other contexts or impossible to achieve outside the IT-sector. Thus, the purpose of this research was to find out how a publicly owned company can apply agility with success in a low-tech sector.

The focus was on a Danish, publicly owned waste management company located in Hjørring. The primary data for this research was derived from interviews held with the director of the Danish Waste Association, the CEO of the waste management company and five heads of departments as well as two more employees of the innovation department. The basis for the semi-structured questions was literature on agility and agile ways of working, information about the waste management sector, a discussion about high-tech and low-tech sectors as well as the company profile and strategy, whereby the questions varied depending on the person interviewed. Additionally, a second set of data was created by asking the two interviewees, the heads of departments and the CEO to fill in a checklist about their perception of the current agility level at their company. The goal was to find out whether this perception differs on the both management levels, but also to learn about potential differences between what they do and what they perceive. As the checklist could not be given to all employees, the results just show a part of the company's reality, namely the one of people with primarily administrative tasks.

Nevertheless, the research showed that agility does definitely not belong to those concepts where one simply pushes a button and suddenly it works, as people sometimes imagine it to be. However, the concept turned out to be an approach that is broadly applicable – it is not really bound to any industry nor organization type, since also a company in the waste management company could follow all twelve agile principles to a certain degree after adjusting them slightly. However, agility is

apparently bound to a certain mind-set and a shared understanding when it comes to its successful implementation, where also the organizational culture plays a crucial role. Interestingly, the case company actually practices agility without being aware of it, meaning that the approach cannot only be imposed on an organization, but also develop naturally because of the circumstances and how people make sense of them.

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1. Introduction

This era is characterized by rapid change and complexity. Consequently, organizations are required to be nimble in order to survive. It is a matter of fact that companies have always had to deal with change due to alterations in the environment. However, this pace of change has accelerated quickly, making the changes more intense at the same time (DeSmet, 2018). Or, to put it differently: the conditions of today do not necessarily apply in the same way tomorrow anymore. Accordingly, business models cannot persist in their original form forever and have to be adjusted or reconsidered. This is also supported by the fact that the life expectancy of companies is shrinking – in 1935 it was still about 90 years for a Standard & Poor's 500 company, whereas it less than 20 years now, just to get an idea (Sheetz, 2017).

So how can organizations deal with such shifting conditions, caused by technological advancement, digitization and globalization? A concept that developed from all these circumstances is agility. This approach known from the high-tech sector is currently spreading across industries and regions, as the need for being agile is – to varying degrees and in different ways – perceived in all of them and can become a company's competitive advantage. Nonetheless, even if the need is well-known, agility is not easily achieved by companies, on the contrary, often it even appears to be unattainable (DeSmet, 2018). From experience gained during my internship, I also argue that one of the main issues is that employees as well as managers do frequently not understand what agility really is about or what it requires, making the implementation of the concept even more difficult or it fails anyway.

Interesting in this context are the findings of the first European Agile Performer Index, published in 2017 by goetzpartners and NEOMA business school¹. First, the most agile companies in an industry are said to be 2,7 times more successful than their non-agile competitors on average, explaining why so many companies want to become agile. One would assume now that industries like telecommunication, media & technology and financial service providers & insurance, which show a high degree of digitization

¹ The Agile Performer Index examines the interdependency between agility and performance. 285 leaders of European companies were asked more than 40 questions, whereby these questions were aggregated to 14 equally weighted agility factors: strategy, identity, purpose, sustainability, structure, flow of information, future orientation, innovation, use of resources, learning processes, change, leadership, development and compensation (Olbert, Prodoehl & Worley, 2017, p 9).

and use of information technology, would lead the agility ranking. However, according to this Index, the most agile sector is travel & transport, followed by professional services. Telecommunication, media & technology is mid-table and the financial service providers & insurance even ranks behind the public sector, which was expected to be the least agile performer. This shows that the degree of digitization within an industry does not, against expectation, necessarily drive agile activity, although the concept developed in software industry and is now copied by other sectors (Olbert, Prodoehl & Worley, 2017, p 3).

Despite the public sector seeming to be more agile than initially assumed, it still ranked next to last. Publicly owned companies struggle with typical issues, for example they are often understaffed, show complex, rigid structures with top-down control, must follow certain rules, have strict budget plans or operate non-profit anyway. Consequently, these peculiarities of the public sector bring a different organizational culture along: empowered managers, flat and flexible structures as well as the use of information technology, which all can help to achieve agility, are less common there and often thought as impossible to implement, as they simply do not match with the traditional way of managing. There is an exception though – during times of crisis the setting is often changed to ensure the survival and these measures also seem to work if the necessity for changing something is strong enough. "Suddenly, it becomes obvious that the force behind many rules is habit, not law" (Dowdy, Maxwell & Rieckhoff, 2017).

1.1. Problem Formulation

The above-mentioned developments and facts give rise to the following problem formulation:

Given the difficulty of employees to understand what agility is about (as shown in theory and practice), how can the concept be applied with success by a publicly owned company in a low-tech sector?

Hence, this thesis targets at filling a literature gap, as there is little known about how agility can be transferred to and is practiced successfully in other sectors, above all, sectors with less technology involved.

1.2. Structure of the Thesis

In order to be able to find an answer to this problem formulation, four research questions were developed and are dealt with in the different section of the thesis. These research questions are:

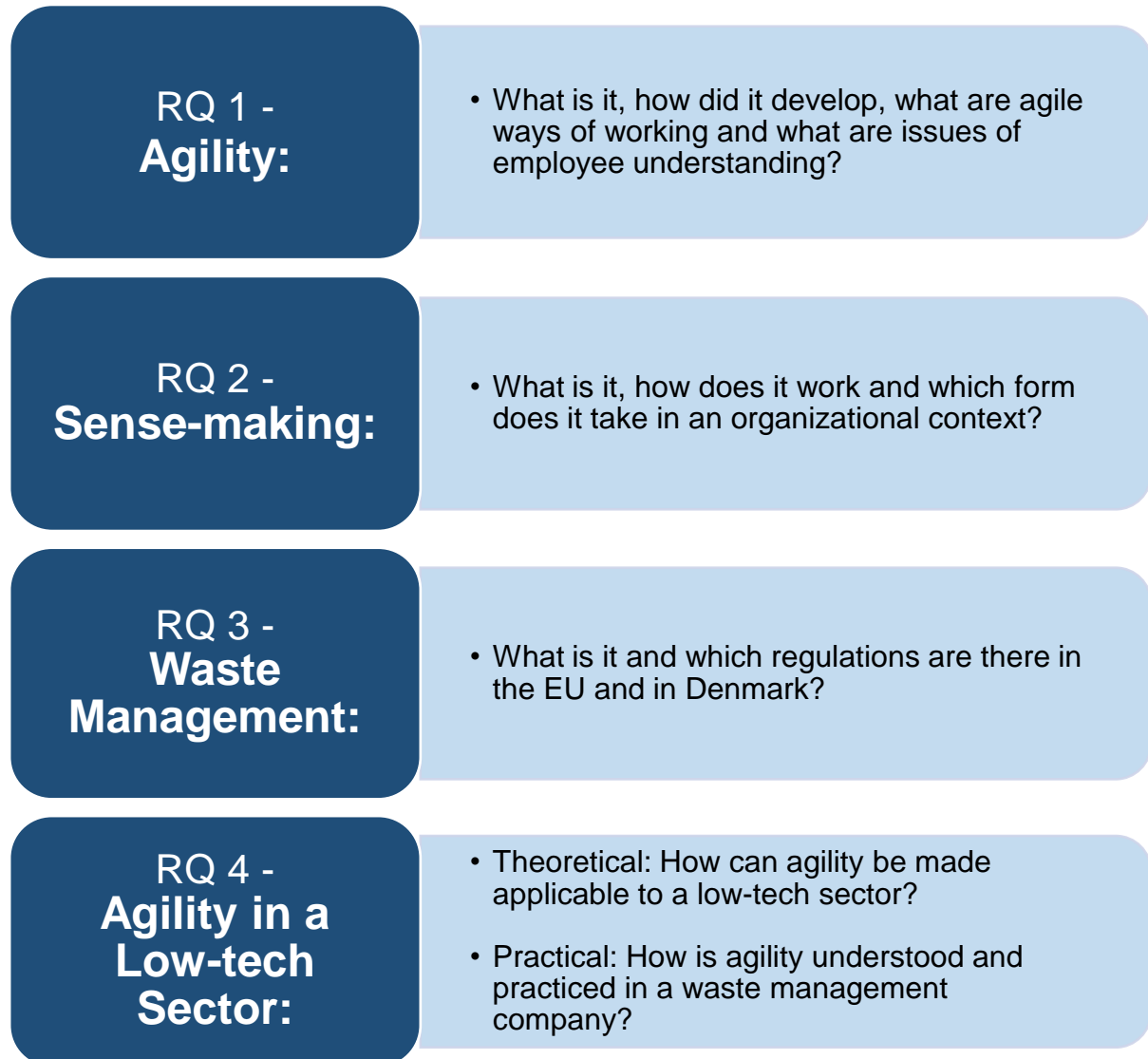


Figure 1: Research Questions

The overall structure of the thesis is held simple and reads as follows: first, the methodological considerations are explained, including theory of science, research design, choice of methods and methodological issues. This section is followed by an overview of the literature on agility and theory about sense-making, answering research question one and two. Afterwards, the focus is on introducing the reader to waste management and the Danish case company – a publicly owned, non-profit waste management company in Northern Denmark, thereby covering research

question three. Then, the empirical part, consisting of the analysis and discussion of the findings, starts and provides an answer to research question four. At the end, the conclusion provides an answer to the problem formulation, reflections on the research process and provides suggestions for further research.

2. Methodology

The ontological and epistemological considerations, the chosen research design and methods as well as methodological issues are pointed out in this section. However, my pre-understanding concerning the problematization plays a crucial role too and thus, it is explained first.

To begin with, during my internship last semester, I noticed that people do not really know what agility and working agile really means nor what it is based on. Although the concept had only been introduced in some departments at the internship company, one could notice following tendencies: a lot of people were extremely eager to work in an agile way – they always claimed that they are super agile in their teams and that everything happens with a focus on agility. The reason for this was a misconception, since most people understood by being agile that everyone can do whatever they want, that there is no framework and that they can decide whatever they want without needing any approval from anyone, thereby forgetting overall goals. On the other hand, there were also people who were still afraid of working agile and refused it anyway because they prefer having firm structures and some control over uncertainty and instability. So, there were these two groups of people with different and partly confusing ideas of agility and I only wondered how agility, if not understood or misunderstood, can ever work in any company. This is how I became interested in the topic.

Once I found out that the concept of agility had been developed in the software industry, I wondered whether it could also be applied in non-IT sectors, or to be more precise, in a low-tech sector, which also led to the specific problem formulation. Interestingly, I automatically assumed that the waste management sector is a low-tech sector. Thus, the difference between high-tech and low-tech sectors is briefly discussed in Appendix 1, as these seem to be not that clear anymore and boundaries are shifting, since all sectors are somehow relying on technology nowadays.

2.1. Theory of Science

Ontology

The way we see reality plays a crucial role in scientific papers. This thesis aims at finding out in which ways an organization outside the software industry can practice agility with success. Consequently, the focus here is on human actors and their

perception and interactions. The behavior of the actors makes up the reality of the organization and shows how things are done around there, for example how agility is applied, whether it takes on an important role in everyday business or to which extent it is applicable in the company's specific situation. This means that looking at the topic in an objective way does not make sense. It goes without saying that this also implies that no natural phenomenon is investigated, where actors are separated from everything else and do not have any influence. On these grounds, the chosen and most suitable ontological stance for this thesis is social constructivism, the opposite of objectivism. When taking this stance, one assumes that reality and the meanings of all things around us are socially constructed. It is about the fact that all social phenomena can be influenced by the actors involved and reality is not the same for everyone, on the contrary, it can be something completely different for each person. In other words, a socially constructed reality is not based on simple external facts, which are perceived in the same way by everyone. Additionally, this reality can never be final and is constantly revised, as new interactions take place all the time (Bryman, 2016, p 29; 689). This means that I am only able to show a specific version of this social reality in this thesis – the one of the case company and potentially the one of the waste management sector. Thus, the findings might not hold true for other companies or another sector and cannot be applied unproblematically to them either, as the context and the construction of the reality differs. Moreover, the way agility is applied in the company and its importance can change over the course of time due to the ongoing revision of what is the most adequate solution for and fits best with the reality of the organization.

Epistemology

The choice of the epistemological stance is also influenced by the fact that the social world is the center of attention here. Thus, it should be clear that positivism is not suitable in this case, as it is usually used in natural science. Over the course of time, interpretivism developed as an alternative to positivism. The main difference between the two of them is that interpretivism allows subjectivity to be part of the process of knowledge gaining. This is crucial when analyzing human beings and their actions, especially because human behavior is complex, is usually not easily understood and cannot be explained rationally. An intellectual heritage of interpretivism is called hermeneutics and is concerned with interpreting human actions and understanding

things from the social actors' view (Bryman, 2016, p 26; 691). That is why interpretivism is the most suitable stance for the thesis in my opinion. Hermeneutics is an ongoing interpretation process. This means that texts and other related material are used to analyze and interpret human actions. At first one interprets the material and afterwards it is put into context to understand the total picture. However, it is also important that the total picture only makes sense if all individual parts of it are known (Mantzavinos, 2016). In the case of this thesis, the interpreted texts and related material are, for example, the answers of different interviews and also publications of the company, which must be contextualized to make sense of them as a whole. Through this interpretation process, a kind of zooming in and zooming out, I gain knowledge that allows me to find an answer to the problem formulation.

This process of going back and forth can also be used to describe the overall approach to this thesis. Consequently, whenever new ideas might arise during the temporary interpretation of and reflection on the available data and collected information, the theory used and the problem formulation might have to be adjusted or refined before going on with the research. Importantly, this can also lead to another round of data interpretation from another point of view.

2.2. Research Design

As already mentioned earlier, the focus is on a Danish company in the waste management sector, making the research design a single case study. This choice is justified by the fact that applying agility to other sectors than the software industry is still a rather unexplored topic. Therefore, it is of great importance to go into depth and to analyze it intensively to get an overall idea of the agility phenomenon. This approach also reveals unique features of the company and impulses for further research can be found as well. Additionally, through a single case study the complexity of this new issue can be captured in a better way (Bryman, 2016, p 60; 64; 688). It could be argued that a comparative research design provides more and richer findings which are discovered through the comparison, for example, by looking at two companies operating in the same sector, whereby one company follows agile principles and the other does not. However, finding one company that seemed appropriate for this research was already difficult enough in a sector that is not known for using agility. Important is that one case can still provide a lot of insights for other companies when it comes to being agile,

especially the ones in rather traditional sectors, although it might not be applicable in the same way for them. It goes without saying that there is no intention of generalizing these findings. An issue is still that a single case always bears some specific preconditions, which can lead to self-evident understandings – this must not be overlooked (Bryman, 2016, p 65).

There are several reasons that make investigating a public utility company in such a sector so compelling. First, a publicly owned, non-profit company might not be considered as agile, since the tasks and a lot of other things are predetermined by the public authorities and budget restrictions, as already mentioned in the introduction. Especially in the waste management sector, a lot of environmental restrictions must be added to this list of constraints. In my opinion, the waste management sector is somehow forgotten by people and does not receive a lot of attention, as it provides services that everyone takes for granted. We never think about what happens to our waste once we got rid of it, although there is a lot more behind than we probably imagine. Noteworthy is also that Denmark is one of the leading countries in waste management in Europe, which is explained in detail in another section later on, and is therefore important to spotlight. Apart from that, I wanted the case company to be a Danish one, since I still do not know that much about organizations in Denmark, although I am doing my master's degree here. All these factors make one wonder what form agility takes in such an environment or whether it exists there at all. When talking to a Danish waste management company about a possible cooperation for my master thesis, it was mentioned that they do not necessarily perceive themselves as agile. Nevertheless, they are convinced that they are more innovative and ambitious than any other organization in the same field – they try to transform and challenge the frameworks all the time to come up with something new. That is why I chose this company in the end, as this attitude and way of thinking are important for agility, thereby making it a purposive case choice. Moreover, there is always the possibility that they work in an agile way and practice agility anyway without even being aware of it, creating an even more interesting case. It should be mentioned that the choice of the company is also partly a convenient one, as the company has connections with Aalborg University and was therefore suggested to me. The geographical proximity is an advantage as well (Bryman, 2016, p 62; 689; 694).

2.3. Methods

First of all, the data I rely on in this thesis is primary data, meaning that I generated the data myself and thus it is better suitable for my problem formulation. This makes sense as the topic deals with something new and probably no secondary data would be available for exactly this purpose. Additionally, it is easier to analyze that kind of data afterwards (Bryman, 2016, p 11).

As this is a qualitative research, I argue that the most suitable method for data collection is interviews. The persons I wanted to conduct an interview with were the CEO of the case company, the heads of departments and some other people of the Innovation and Administration department to find out more about agility in this context and in which ways it is practiced. Important here is that most people at the company were reluctant to give interviews in English, meaning that the pool of potential interviewees was limited from the outset. In total, I had eight interviews with people working at the waste management company, including the CEO, whereby six of them were male and two female. Unfortunately, interviews could not be conducted with all heads of department, because of the language barrier. Moreover, since persons usually work at the company for ten years on average, it was essential for me to include someone who has not worked there for that long yet, thus I chose a former PhD student, who is part of the innovation team now. I also had an interview with the business developer who is a part-time lecturer at Aalborg University and might therefore provide a different view on the topic as well. Apart from that, Jacob Simonsen, the director of the Danish Waste Association², was asked some questions concerning agility in the sector to add another, broader perspective on the issue as well. Including the Danish Waste Association provided me the opportunity to find out whether the case company's way of doing things is an exception or rule in the sector and allows me to ask about differences when it comes to agility in private and public waste companies, as director Simonsen has the overall picture. Additionally, he could share additional information that was necessary for better understanding the context of the waste sector. Due to the geographical distance Skype was used for this interview, but doing

² The Danish Waste Association represents 54 municipal waste entities in Denmark and the Faroe Islands, which are responsible for collecting and treating domestic and commercial waste of 5.6 million citizens in 98 municipalities. The association is politically motivated and promotes its members' interests in the waste management sector ("Om os", n.d.).

so also simplified the search for a suitable day and time and made this interview possible in the first place. Additionally, using Skype also saved me a considerable amount of time and money, since I would have had to go to Copenhagen to see Mr. Simonsen otherwise (Bryman, 2016, 492). All other interviews were conducted face to face at the case company with one exception, where the interview took place in the office of the part-time lecturer at the university.

The chosen type for the interview was semi-structured, allowing me to change the order of the questions and to add some more when a follow-up is necessary. Such an in-depth interview approach without pre-defined answers gives the asked persons an opportunity to add aspects whenever they see a point in doing so, contributing to the natural flow of a conversation at the same time. This provides more flexibility than structured, rigid interviews, where every interviewee is asked the same questions in the same order and cannot add additional information. This is because the idea behind this standardized type of interview is quantification, but this is, once more, not my intention. The approach of unstructured interviews, on the other hand, is too loose, meaning that having no set questions at all might be confusing for the interviewees and can lead to a loss of focus (Bryman, 2016, p 466-468).

The type of questions posed in the interviews varies depending on what information is needed. At the beginning, it is usually about making the interviewee comfortable with the situation, meaning the questions are easy and neutral. Afterwards, one can go into detail. As I chose a semi-structured interview, open-ended questions are best for this type of interview. Crucial is that I should not ask any yes or no questions, as they do not allow deeper insights into the behavior, beliefs, experiences or perceptions of the people involved. The questions were primarily based on the literature on agility, but were also extracted from other parts of this thesis, for example from the high-tech vs. low-tech discussion at the beginning of this section – it depended on who the interviewee was. Since the interviewees were people in different positions (director of the Danish Waste Association, CEO of the case company, employees), the interviews were composed of partly different questions to improve the quality of the overall findings. All questions were then put together in an interview guide, which makes sure that the interviewer does not lose focus during the interviews. At the same time, this does not imply that the guide must be followed strictly (Bryman, 2016, p 467; 475). The

different interview guides, including the topics and the extracted questions, can be found in Appendix 2.

I also wanted to enrich the data with a kind of check list based on a worksheet of McKinsey, which looks at dynamic capability and the so-called “stable backbone”³ of an organization, to find out employees’ perception of the current agility level. McKinsey developed this worksheet in 2015 to provide every type of organization with a tool for assessing its agility by asking the simple question: “How does your organization currently feel and operate?” (Aghina, De Smet & Weerda, 2015). This self-assessment is then used as the starting point for becoming agile. The worksheet is composed of 40 adjectives or short word groups, whereby 10 always describe a certain type of organization. There are four categories a company can fall in – “start-up” like, trapped, bureaucratic and agile. I adjusted the original worksheet for the simple reason that I think it is better not to know which ten adjectives belong to which category, because people might tick according to a tendency or what they want their company to be. In my case, the surveyed people might unconsciously tick more characteristics for the agile type, since they all know that it is the topic of my thesis. Basically, the adjustment was a measure to avoid biases. Additionally, the checklist was also translated into Danish to make sure that the heads of departments understand it and fill it in. The original McKinsey worksheet and the adjusted as well as the translated checklist used for the thesis can be found in Appendix 3. Apart from the CEO and the heads of departments, the two other interviewees were given the list. This checklist is just a second set of data to show whether the company is perceived similarly by employees, especially on the two different management levels. Although this approach of ticking a check list could be considered as a quantitative method, which usually goes hand in hand with positivism, I argue that social constructivism is still the appropriate epistemological stance, as I used the list to catch the subjective perception of individuals about agility in their company. So, for this thesis a kind of triangulation of methods was used, whereby the list does not provide the basis for the interviews. It is

³ According to McKinsey, an organization needs to be both stable and dynamic to become agile. The “stable backbone” is a relatively fixed set of core elements and is formed, for example, by a standard language, shared performance metrics, transparency of “how” and “who” in decision making and a central base for training. Everything else should be designed in a way that it can quickly respond to new challenges, opportunities and changes in the environment (Aghina, De Smet & Weerda, 2015).

more a way to check whether the perception of the company matches with what they practice (Bryman, 2016, p 697).

The analysis of the data makes up a great part of this research. Usually, recurring themes and statements can be detected, since the questions posed belong to specific topics of the literature. The most important task then is to get familiar with the collected data to be able to tell which parts of the interview answers are relevant for the problem formulation and also help to answer the same. It is a matter of fact that not all passages can convey meaning for the research, but often it is not that easy to tell at first glance – it takes several rounds of reading and going through all the material (Bryman, 2016, p 588; 697). In so doing the key themes of the different interviews were identified and eventually put in relation to know in which ways agility can be practiced in the waste management sector. For better comprehension, these key themes and corresponding statements were marked in different colors in the transcripts to make the coding visible. A more detailed description of the coding can be found in Appendix 4, whereas Appendix 5 comprises the coded transcripts. The audio files of the interviews are available upon request.

2.4. Methodological Issues

The phrasing of the problem formulation includes the term “with success”, thus it must be defined what this means for this research. In my opinion and because this is a qualitative research, success should not be measured by numbers, meaning for example by looking at how many agile working departments a company already has nor by how many different agile methods they employ. Since the problem formulation indicates the difficulty of employees to understand agility, I argue that the best way to define “with success” is to make it about understanding agility in the same way, meaning that it can only be practiced with success if all employees share a specific idea of the concept and how work is done in this way.

A main obstacle for this research was the language barrier, since even those who agreed to have an interview with me in English might have had difficulties to express properly what they mean and to talk about their perceptions, as they do not have English as working language. Thus, some aspects can be lost in translation. The same holds true for all the translations done on my part concerning information about the company and waste regulations in Denmark, which are only available in Danish.

Another issue was the timing of all interviews and the filling in of the check list. The check list was sent to the CEO before the interview took place in mid-March. The heads of departments got it at the beginning of April and simply sent it back to me via email whenever they were done. The remaining interviews with some of them took place at the beginning of May. In my opinion, giving the check list to people before the interview made sense, as one can avoid biases this way. Important to note is also that the interviews took place at different stages of the writing process, meaning that this also influenced the choice of questions, as the questions obviously get more sophisticated and specific once one gets in depth with the topic or were adjusted accordingly. This varying timing was initially not planned, as all interviews should have taken place between mid- and end of April, but came about due to the especially tight calendars of director Simonsen and CEO Madsen. Moreover, AVV had an audit at the end of April, which delayed the schedule again. Additionally, since not all could make a lot of time, the interviews had different lengths as well, taking between 20 minutes and one hour. As a consequence, it was not possible to ask all interviewees all the prepared questions.

Important is that it was not possible to give this checklist to all employees, as it would have been too resource intensive and a lot of people in this sector are not acquainted with this type of text and words, so it is doubtful how reliable the data would have been in the end. Thus, it must be kept in mind that this research can only provide one perspective on the topic, namely the one of people with primarily administrative tasks. Although some of the heads of departments also represent the workers who are out on the road, it is arguable whether they share the same perception and view on topics.

3. Literature & Theory

This section is split in two main parts: the first one is a literature review and aimed at explaining what agility means, how the concept developed, what agile frameworks are and which benefits as well as issues of employee understanding there exist. The second part deals with sense-making theory, what it is, how it is achieved and which form it takes in an organizational setting.

3.1. Literature: Agility

To better understand what agility means, let us look at two definitions right at the start:

Agility

“Agility, a term usually referring to the physical abilities of the body, is a concept that covers more than just speed of response. It incorporates notions of balance, flexibility, thinking on one's feet, coordinating multiple systems, adaptability, and situational awareness, especially the idea of the business responding as one organism. An agile business not only responds quickly but also does so in such a way that it remains productive and cost-efficient even amid changes to the circumstances affecting its operations.” (Kte'pi, 2012, p 18).

Agile enterprise

“Fast moving, flexible and robust firm capable of rapid response to unexpected challenges, events, and opportunities. Built on policies and processes that facilitate speed and change, it aims to achieve continuous competitive advantage in serving its customers. Agile enterprises use diffused authority and flat organizational structure to speed up information flows among different departments, and develop close, trust-based relationships with their customers and suppliers.” (“Agile enterprise”, n.d.).

Both definitions have in common that agility cannot be viewed as a one-time change. It must be seen as a continuous process of how business is done. Therefore, agility is often also called a “dynamic capability” of an organization (Lawler III, Williams & Worley, 2014, p 27). The first definition also points at the importance of an organization responding and working as one organism, making agility an integrated approach. The second definition, on the other hand, focuses on the core themes of agility, for example giving the customer center stage. It goes without saying that there are many more

definitions available because of the broadness of the topic, which all differ depending on their focus. Nevertheless, although agility can be researched from various perspectives, theory development in this field is still proceeding slowly (Hill, Schnackenberg, Sharma & Singh, 2013, p 26).

Important to remember is that a lot of people use other words to describe the characteristics of an agile organization, as agility consists of and is characterized by various aspects: nimble, rapid, quick, alert, easy-moving, responsive, competitive, innovative, flexible, adaptive or aware, just to mention a few. Thus, it is no surprise that other fields of research dealing with related topics are often taken into consideration when talking about agility, for example organizational flexibility, rapid response, high performance organizations or innovation management.

3.1.1. Agility in the Software Industry

The term agility has been used in relation to organizations since the late twentieth century, whereby it was still a rather loose concept back then, including and combining old and new ideas. However, after February 2001, it gained more popularity since agility was adopted as THE approach in the software industry (Hill, Schnackenberg, Sharma & Singh, 2013, p 4). The Agile Manifesto was written by 17 independent software developers in Utah and is basically a collection of several values and principles (Varhol, n.d.). The four values are:

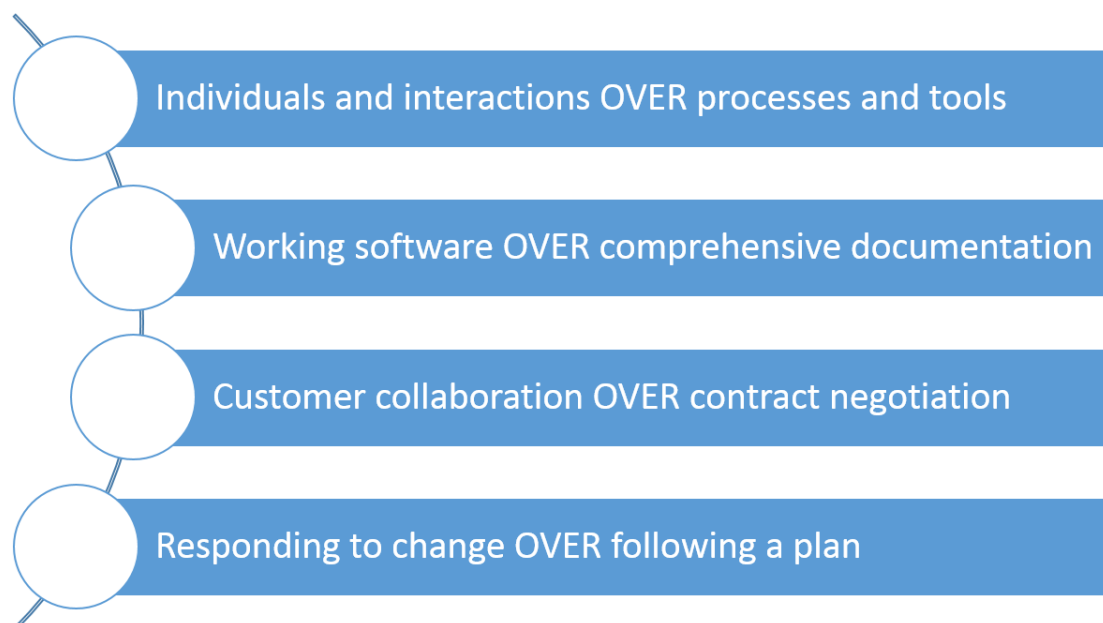


Figure 2: Four Values of Agility
(Own Illustration)

The first value deals with the fact that people are usually the ones who must respond to changing business needs and they are also the driver of development processes. If it happens the other way around, persons become less sensitive to changes and do not care that much about customer needs. Communication is thus regarded as one of the keys for putting individuals first, as it causes that conversation and interactions occur naturally not only between the customer and the developer, but also within the team. ("Comprehensive Guide to the Agile Manifesto", n.d.; VersionOne, 2014).

The second value is about reducing the extremely detailed documentation of every step of the product development until the final delivery. All this documentation often leads to delays in the development process. It goes without saying that documentation cannot be completely ignored, but it should be reduced to so little documentation that it still helps the developer to start creating something new without focusing too much on recording every detail ("THE FOUR VALUES OF THE AGILE MANIFESTO", 2014; VersionOne, 2014).

Usually, the contract negotiations are used for working out all the details of the software and dates for the delivery as well as possible dates for potential renegotiations. This detailed planning takes place before any work is actually started, but does not leave much space for collaboration between the customer and the development team, regular feedback or adjustments along the way. Valuing customer collaboration over contract negotiation thus means that the customer also engages during the development process to better meet the customer's needs ("Comprehensive Guide to the Agile Manifesto", n.d.; "THE FOUR VALUES OF THE AGILE MANIFESTO", 2014).

This leads us to the last value, namely responding to change over following a plan. Changes are traditionally seen as a cost in software development, thus greater adjustments should be avoided from the outset. Consequently, the fourth value focuses on iteration, meaning that the order of completing tasks as well as the priority of the same can be changed or new features added from iteration to iteration instead of sticking with the plan at any cost. To put it differently, changes should not be considered as an expense, but rather as improvement to add value to a project. ("Comprehensive Guide to the Agile Manifesto", n.d.; "THE FOUR VALUES OF THE AGILE MANIFESTO", 2014; VersionOne, 2014).

Although the left part of the statements is focused on, it does not mean that the right part can simply be ignored – they still play an important role and one should not be taken as absolutes, as this leads to misapplication. In other words, the right parts are valued, but the left parts are valued more (Cobb, 2011, p 18-19). The twelve supporting principles, which are shown in the following illustration, shall make the values better comprehensible and, above all, more graspable:



Figure 3: 12 Agile Principles
(cf. Knowledge Expert, n.d.)

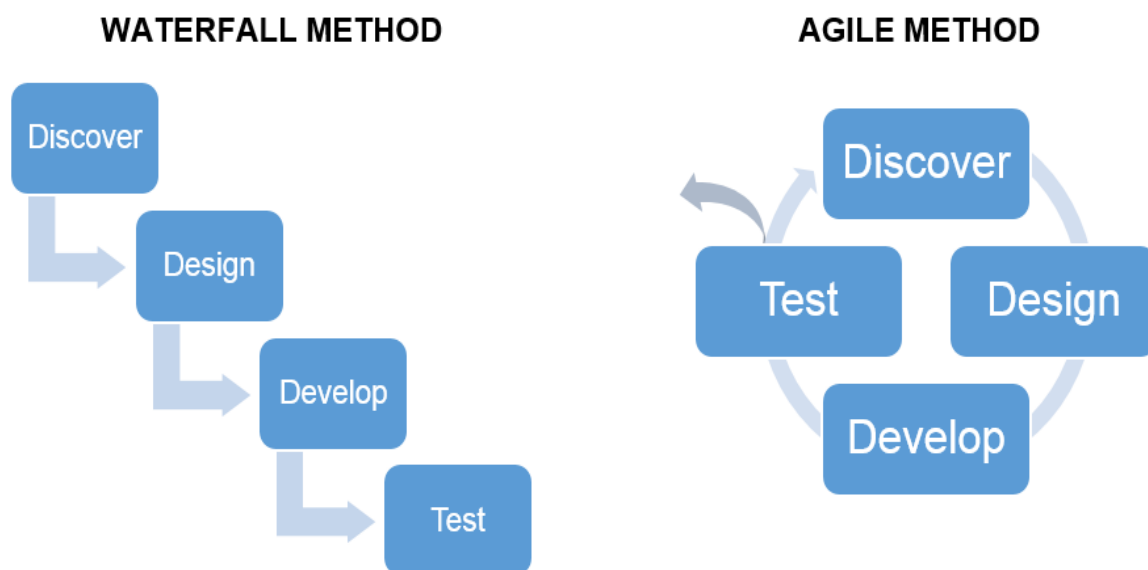
These values and principles are the basis for different agile methods and practices used in software development, whereby they shall guarantee to get the product quickly

to the end user and to receive continuous feedback from the customer in return (Varhol, n.d.). All in all, there are four central aspects that characterize agility, namely speed, adaptability, customer centricity and mind-set, which are all reflected in and summarize the above-mentioned principles and values (Müller, 2017).

3.1.2. Working in an Agile Way

Agile ways of working are important determinants when it comes to flexibility and adaptability of an organization, although they alone cannot guarantee success either. As pointed out earlier, there are many ways for understanding agility. The same holds true when it comes to agile working – there are various approaches for being agile. In software development, there are the two extremes: the waterfall model, where everything is planned in detail and happens step by step, on the one side, and extreme programming on the other, which allows a high degree of adaptability and little control. However, in between one can find various combinations of both (Cobb, 2011, p 4-5).

In the following illustration, the main difference between the waterfall concept and agile methods is depicted:



*Figure 4: Development Methodologies
(cf. Picone, 2013)*

Over the years several approaches emerged which are agile to different degrees. Scrum, Retrospectives, Design Thinking, Devops, and Kanban are just a few of them. The main characteristic of all agile frameworks is that one works in an iterative, incremental, collaborative and flexible way. Usually, the teams are also self-organized

and/or work cross-functionally. Another important aspect is that transparent communication is promoted among all people involved (“Agile 101”, n.d.; Dämon, 2017). Interestingly, it is quite common and possible that teams simply choose a combination of different elements of frameworks to get the best out of everything instead of just selecting one (“AGILE FRAMEWORKS”, n.d.). This might appear chaotic at first sight, but matches with the ideology behind agility.

Agile methodologies are not an instruction, meaning that they do not prescribe how to implement them nor what is needed for it. People using such methodologies must interpret the principles according to their situation – crucial is to use the most suitable practice for the business environment and context to ensure high quality products and services. Apart from that, agile practices are still evolving and consequently one does not know what works and what does not in specific case. After all, this is also the core of concept: constant improvement and further development (Cobb, 2011, p 18-19).

To get a better idea of what different agile frameworks are about, Scrum, Kanban and Extreme Programming are briefly introduced in Appendix 6, since it would go beyond the scope of the thesis to include the descriptions here.

There are some components most agile techniques have in common, namely daily standup meeting, consensus building and timeboxing. The reason for the daily standup meetings is to catch up with the team to know what everyone achieved the day before, what they are about to do next and whether there are any obstacles that hinder the progress. Usually, such meetings only take some minutes per day, but still help to foster the team spirit and ensure that everyone is on the same page. Consensus building and facilitation within the team play a crucial role for agile methodologies. This means that if there is not full commitment of everyone, a facilitator should lead a discussion until full consensus and commitment is reached. The idea behind this is simply that just because someone does not say anything, it does not mean that he or she agrees. In order to avoid this from the outset, each member should show his or her agreement or disagreement in some way. The timeboxing is there to fix the end date of an iteration, meaning that the team chooses a set period of time where they also agree on how many tasks can be fulfilled until it is over. Focus, increased productivity and more awareness of spent and available time are the main advantages of timeboxing (Cobb, 2011, p 117-118).

Working in an agile way and using these frameworks or just some components of them is also said to meet human needs. So, for example, do teams know more about the purpose of their tasks or projects, as they discuss and really must deal with the content of projects and products or services. Moreover, the employees receive more responsibility, especially since most decisions are taken by the team – they are the ones who are in contact with the customers. The visualization of the state of the project helps people to understand where they currently are and where the journey is still going, belonging to the human need of orientation and direction. Additionally, it is easier for everyone to see progress when the tasks are broken down compared to working towards a big and diffuse goal. This means that the regular, recurring achievements lead to a better sense of success, as it becomes visible after each step. Furthermore, working in agile organizations requires more face to face communication, direct exchange of information and cross-linking, benefitting the employees as social being and their need of belonging. And last but not least, the frequent feedback in agile methods lead to quicker learning and causes a steeper learning curve of people (Duméril, 2017).

These aspects are another reason that agility is gaining more and more popularity throughout sectors and has not just been a temporary trend. However, since human beings are also creatures of habit, a lot of people might refuse the necessary changes to become agile. So, it is a long way to actually get to the stage where everyone recognizes these benefits.

3.1.3. Issues of Employee Understanding

Apart from the above-mentioned benefits and problems when it comes to the implementation of agility, there are also some issues of employee understanding that must be taken into consideration.

Agility is frequently perceived as something different for various people in an organization, depending on what their responsibility is. Managers, for example, consider agility as something strategic that affects the organization as a whole, since this is what they are concerned with. IT executives, on the other hand, probably see it as a purely technology-focused concept, whereas people in the innovation department understand it as a development methodology to quickly deliver new and better products (Cobb, 2011, p 16-17). Obviously, people do have certain ideas of what being agile means,

based on their focus and position – for some it is more like a mind-set, for others a way of working. Keeping this in mind, it is no surprise that confusion and misunderstandings concerning agility are wide spread. Nonetheless, it is an approach that should include all these dimensions of an organization, otherwise it cannot lead to success. This means that strategy, purpose, cooperation, operative tasks, structures, leadership behavior as well as employee behavior must be aligned accordingly to make it work (Olbert, Prodoehl & Worley, 2017, p 3). Consequently, it is essential that people see and understand the overall values behind agility, no matter in which way it affects them in the end to reduce misconceptions.

3.2. Theory: Sense-making

As the goal of this thesis is to learn about how actors apply agility with success, sense-making theory is introduced at this point to understand what makes them act in a specific way and how a shared understanding can be achieved.

The concept of sense-making is widely used and was developed by Karl Weick, an American social psychologist. It is concerned with the collaborative, transactional process of giving meaning to social actions taking place in groups and organizations. That implies that the approach looks at how organizations work, grow or change and how people make sense of it. According to this understanding, the shared meaning of employees, instead of structures and systems, drives an organization, since the behavior of the individuals is based on the same. Consequently, the source of all organizational issues is based on people's way of thinking (Manning, 2013, p 695).

Sense-making can be understood as the process where a person makes sense of issues or situations that are somehow unclear, complex or do not match their expectations⁴ (Christianson & Maitlis, 2014, p 57). Importantly, sense-making happens often so quickly that it barely can be observed and often sense-making is confused with interpretation. However, interpretation is just part of sense-making, as a person must pick cues first, for example a complex situation or occurrence, which are then

⁴ Such disturbing events only lead to sense-making if the discrepancy between the own expectations and the current experience is great enough, so people wonder what is going on. Sometimes, such discrepant cues are explained away or have become normal in the specific context, thus no attention is paid to them anymore. There are different types of cues, for example environmental shocks, organizational crises, threats to identity as well as planned changes (Christianson & Maitlis, 2014, 70 – 75).

interpreted. This happens on an individual as well as organizational level (Manning, 2013, p 696). In other words, sense-making is accomplished through these three steps: first, cues have to be noticed, then interpretations are created and afterwards corresponding actions are taken to move on (Christianson & Maitlis, 2014, p 59).

The most important aspect is that sense-making always happens in retrospective, meaning that people act according to their understanding and only afterwards they really examine the meaning of their actions, not the other way around, as it is usually assumed. So, whenever the actors become aware of something and start talking about it, it is no longer taken for granted and can be raised to question as well. Thus, there exist two different sides that make up an actor's world – the one where everything is self-evident and the one of what is noticed and explained (Manning, 2013, p 695).

There are seven properties of sense-making (McNamara, 2015):

- **Identity construction:** it plays an important role how individuals see themselves and their relationship to the world to understand what they think and do next.
- **Retrospection:** it is crucial that actors look back at and reflect on their experiences and what they said to learn from it.
- **Enactment:** whenever people say or do something, they participate in creating the environment they are facing at the same time
- **Socialization:** sense-making always happens within a group of actors, who socialize and whereby stories are shared, retained or preserved, which again have an influence on how the world around them is interpreted.
- **Continuation:** sense-making is a continuous feedback process in which individuals try to understand and react to the environment they are in, but this environment is transforming all the time as well, meaning that they learn about consequences and adjust their own or influence the behavior of others.
- **Extracted cues⁵:** to be able to make sense, people must choose cues, meaning that they rely on certain points of reference to know what matters or is odd in their context and which explanations are reasonable in the organization.

⁵ Culture (national, organizational, professional) also influences sense-making on the individual as well as collective level, as it is based on a specific system of meaning that determines a person's interests and consequently helps people to choose which cues are paid attention to and which ones are ignored.

- **Plausibility:** the members of an organization only must understand and know enough about the things that it takes them to act and get ahead with their work, but not more, as this would lead to a never-ending analysis, hindering progress.

Let us have a closer look at organizational, or so-called collective sense-making now. The organizational context is at heart a collection of assumptions and taken for granted meanings, which outsiders cannot capture nor understand easily. Thus, sense-making usually shows in routines, tasks and communications within an organization. This also means that the identity of the organization is sustained through sense-making processes and consequently the environment and the organization are one entity – the organization represents the environment for its members and they maintain this environment, if meaningful to them, through their own talk and subsequent actions (Manning, 2013, p 696).

All the actors involved in an organization have different perspectives and interests, which make it difficult for the individual to create order, but together they can construct and negotiate collective meaning and understanding through interacting and making sense of these views. Consequently, a lot of effort is put into making collective sense within organizations and if achieved, the members are able to understand the meaning of an incident in a similar way. Nevertheless, they all can still construct it differently on their personal level, because of their position or interests and background (Christianson & Maitlis, 2014, p 78).

There are two different types of collective sense-making: first, if sense-making is considered as something that takes place within an actor, then collective sense-making happens through actors promoting a certain view on an issue and influencing others to shape and adapt their opinion, thereby somehow giving sense to others. Secondly, if sense-making develops between actors, then it is constructed mutually, implying that it is co-constituted process. To put it differently, the actors immerse in an issue together and thereby establish their joint understanding. The first type of sense-making seems to be a more top-down approach, which is often used by leaders and that does not come surprisingly, since leadership is also known as the “management of meaning”. Important to note is that even in this case, the members of the organization do not

Thus, one must think about the group that constructed a certain culture and the persons who are part of it as well (Fellows & Liu, 2016, 250; 254).

simply accept the meaning passively, they also make sense themselves and then either adopt, adjust or reject the sense given to them. This is also the reason why some kind of “framing contest” can develop within organizations, as different actors want to persuade other actors that their meaning is the best and they should adopt it and one being the dominant one in the end (Christianson & Maitlis, 2014, p 78 – 80).

Consequently, leaders and stakeholders are the ones who shape organizational sense-making, whereby all of them have an important role in the process. Stakeholders are middle managers, other team leaders and all remaining employees. Depending on how active all of them are, four different types of collective sense-making exist (Christianson & Maitlis, 2014, p 79):

Guided: leaders are really engaged in constructing and advocating their views and interpretations of an event, whereby the other stakeholders do the same – they promote their understandings actively as well with the goal of shaping the meaning of the issue.

Fragmented: stakeholders start to question certain topics, interpret the meaning of events and suggest specific understandings of and solutions for it, whereby the leaders do not aspire to control potential discussions nor to hinder them.

Restricted: leaders advocate their prevailing meanings whenever an issue must be faced and the stakeholders usually accept these meanings without trying to think about other, alternative understandings to explain the situation.

Minimal: leaders and stakeholders need an external trigger to express their understandings of a point in question, whereby both wait for the other side’s reaction at the same time.

In a lot of cases, sense-making is restricted in organizations, meaning that the leaders drive and control the process and sometimes take input from the other stakeholders into consideration. Fragmented sense-making can be found when other actors in the organization, for example team leaders, dominate the sense-making process and make meaning of novel situation not only for themselves, but also for their team. This can be traced back to the fact that leaders in the middle management are the cushion between management level and the rest of employees, thereby being exposed to sense-giving from above, but also sense-making themselves to pass on sense to their employees. Guided sense-making usually requires different stakeholders with a similar

level of expertise, legitimacy or opportunity to influence sense-making and they must consider the issue as important enough to care. Sometimes there can be shifts between these types of sense-making, meaning that it starts off with being restricted and then it becomes guided at some point, as other stakeholders have a more important role in the sense-making and sense-giving then (Christianson & Maitlis, 2014, p 79 – 81).

Sense-making is concerned with language, as words can cause actions, meaning that a person explains something that is going on and thereby shares his or her perception. This can lead to a discussion or argumentation and in so doing creates meaning, bringing about actions. Thus, narratives and metaphors are often used in sense-making, belonging to conversational practices, and shall lead to a common interpretation of questionable issues. Moreover, through conversational practices actors introduce different interpretations, combine them or construct new ones to make sense (Fellows & Liu, 2016, p 249). So, in the sense-making process, common narratives and metaphors can be doubted and collective meaning is thereby negotiated once more, showing the fragile and temporary nature of these practices. Whenever narratives are used, an actor tries to impose a certain reality on others, whereby these actors might use the narrative as a symbolic resource, which helps them to construct their own meanings. That is why this narrative can then either be used to create a reality that either supports or undermines this person. Metaphors, on the other hand are important since they help to create order in unfamiliar situations. Thus, metaphors are frequently used to justify behavior and have an evaluative nature – some actions are accepted by it and others are discredited (Christianson & Maitlis, 2014, p 81 – 84).

4. Waste Management

This section is targeted at providing background information on waste management and policies of the European Union as well as of the Danish Government to better understand the context the case company operates in. Afterwards, the Danish waste management company is presented.

Waste is one of the biggest environmental issues in our days and a quick improvement of the situation cannot be expected, especially since our changed lifestyles and consumer behavior bring an increased generation of solid waste along. Thus, the amount of waste people produce all around the world is tremendous and although people are becoming more and more environmentally aware, it is still increasing (Kan, 2009, p 55).

Waste is defined as “any substance or object which the holder discards or intends or is required to discard” (“Waste statistics”, 2017). In 2014, the 28 countries belonging to the European Union generated a total of 2,5 billion tons, counting all economic activities and household trash and making it the highest amount of waste during the period 2004 until 2014. Calculated per capita, this would mean an amount of 4931kg for each of us (“Waste statistics”, 2017). One can imagine now that the worldwide situation is even worse, especially in less developed and less environment-conscious countries.

There are different types of waste that can occur: solid, liquid, gaseous or radioactive refuse. All of them must be treated in a different way and therefore various waste companies concentrate on specific substances. Since the 1980s recycling has become an integral part of waste management in the Western world, as it is a way to protect the environment and saves resources (Kan, 2009, p 55). So high recycling rates are something that most countries want to achieve. Nonetheless, depending on the type of waste, it often cannot be reused or recycled and thus must be treated or deposited. The disposal of waste in landfills can pollute the air, water and soil and needs a lot of space, whereas the treatment of waste through incineration produces emissions of air pollutants. Either way it has severe impacts on the environment. In 2014, 45,5% of the total waste in Europe was disposed, whereas 49% was used for further treatment and 5.6% was incinerated (“Waste statistics”, 2017).

Waste management consists of several steps, namely the collection, transportation, pre-treatment, processing and final treatment of residues. The collection of the waste usually takes place separately and is done in such a way that resources are recovered from it. However, these waste management practices depend on the level of development of a nation or areas within a country. The same holds true when it comes to formal waste collection systems, which are either provided by the local government itself or private company are instructed. However, such systems are not in place in all countries yet and normally only apply to the management of non-hazardous domestic and institutional waste (Kan, 2009, p 55). Interesting in this context is also that some big players can be found within the sector, which are responsible for dealing with more than 40% of the generated municipal solid waste all over Europe (European Commission's Joint Research Centre, 2016, p 28).

In member countries of the European Union, the responsibilities and duties regarding waste management are defined by the directive 1008/98/EC of the European Parliament and of the Council of 19 November 20018 on waste. Its overall goal is to protect the environment and human health. This shall be achieved by preventing and reducing adverse impacts which occur through the generation and management of waste ("Waste statistics", 2017). Using resources in the most efficient way is the basis of the so-called circular economy. In a circular economy the step of discarding products for good shall be eliminated. Instead, the focus is on reusing, repairing and recycling resources, whereby the waste management companies often complete the circle (Nordic Competition Authorities, 2016, p 7).

In order to reach such an economy and the above-mentioned goals, the EU fixed the following waste hierarchy as a priority order for waste prevention and management. It also provides the framework for waste legislation and policy making (cf. "Directive 2008/98/EC on waste", 2016):

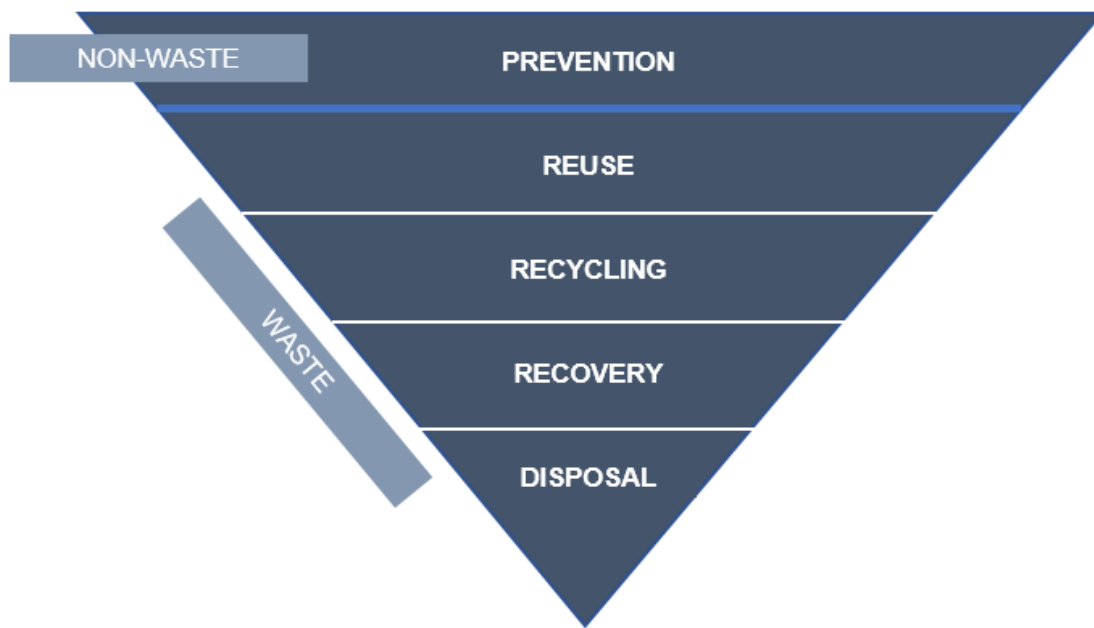


Figure 5: Waste Hierarchy

The main idea of this waste hierarchy is also internationally known and is often referred to as the “3 Rs” hierarchy, referring to the words reduce, reuse and recycle. So, the top always shows the most favored option regarding waste minimization strategies. Additionally, the hierarchy is the basis for the development of sustainable waste management systems, which can help to reduce shortages of resources and environmental impacts (Kan, 2009, p 56; 67).

The Directive on Waste includes various definitions of words relevant for waste management, determines criteria for when waste is still waste or when it is already a secondary raw material, and explains the difference between waste and by-products. It states that water, air, soil, plants and animals must not be harmed and the countryside as well as places of special interest must not be adversely affected through waste management. Moreover, “the polluter pays” and “the extended producer responsibility” are two principles that are made clear in the Directive. It also introduces two new goals for recycling and recovery, which shall be reached by 2020. So, for example, 50% of domestic waste materials and similar origin should be prepared for re-use and recycling then. The percentage is even higher for construction and demolition waste, where the same should be 70% of the waste. Additionally, the member states are expected to follow waste management plans and waste prevention programs (“Directive 2008/98/EC on waste”, 2016). Consequently, the way how waste

management can be conducted in the different countries is pretty much predetermined by this framework and seems to leave little space for flexibility.

4.1. Waste Management in Denmark

Waste management in Denmark has been a long learning process, which lead to an extraordinary knowledge in waste management. It began even before the 60s and 70s, when waste was still deposited outside of big cities in landfills, as it could harm the inhabitants' health. Then, however, people started to acknowledge waste as an environmental issue and in 1973, Denmark was the first country in the world which approved an environmental protection law. Soon after, incineration plants were established and composting became popular, since there was simply not enough room left for further landfills. The goal was to get away from depositing waste and incineration also helped to produce heat and electricity. During the 80s and 90s Denmark had to deal with more regulations coming from the European Union and worked on a regulatory framework for waste handling. Both developments had a great impact on how waste management was and is done and were also the driving forces behind high recycling rates and the decline in landfills (Copenhagen Cleantech Cluster, 2012, p 9). In 1997, Denmark issued a ban on the landfilling of biologically degradable waste as the first country in the world, meaning that this type of waste must be incinerated to become a resource for electricity and heating. Nowadays, Denmark uses 54% of its municipal waste to win energy through incineration, 43% of it is recycled or composted and only 3% is disposed (European Commission's Joint Research Centre, 2016, p 45). With that said, it makes sense that Denmark belongs to the forerunners in efficient waste management in Europe.

As already mentioned before, waste has turned into a valuable resource – it can be used as raw material for production again, as fertilizer in agriculture and as a source for energy. Consequently, it is much more than just a by-product of consumption and production processes. In order to be able to use waste as a resource, new and innovative methods and processes for waste treatment must be developed. This is a huge challenge that not only Denmark is facing. Important to remember is also that this transition from waste to resource means that it is something money can be made of in the future: waste is becoming a new source of income (Copenhagen Cleantech Cluster, 2012, p 5; 9). Therefore, the private interest in the sector is growing.

Furthermore, the Nordic Competition Authorities (2016, p 7) are convinced that only competition can really help to protect the environment and to achieve an efficient use of materials. This means that even if a company is the only waste management facility for a specific region, it should orient itself by the rest of the market to be competitive in the long run. At the end of the day, it is the goal to reduce the amount of waste and to find the best solution for doing so. However, it is important that sooner or later one must get away from the business model that follows the approach that the more waste is collected and treated the more profits are made. Otherwise, moving up the waste hierarchy to the prevention stage is impossible, because there will always be an interest in the generation of waste for monetary reasons (Nordic Competition Authorities, 2016, p 12).

In 2010, a new waste management strategy was presented, because the Danish government wants a more sustainable future for the sector. Waste prevention and developing new waste management technologies are the two top-priorities of this strategy. In the long run, Denmark wants to achieve that all generated waste is either reused, recycled or used for energy (Copenhagen Cleantech Cluster, 2012, p 13). Regulations concerning waste management in Denmark can be found in the “Miljøbeskyttelsesloven”, the Environmental Protection Act, which includes all arrangements concerning air, water, waste, soil and so on. This Act states that the actor responsible for handling and treating waste is the municipalities for domestic waste and companies for their produced commercial or industrial waste. The costs of handling the municipal waste is covered through municipal fees, whereas the companies must pay themselves (“Miljøbeskyttelsesloven”, n.d.). The Decree on waste deals with relevant topics in more detail and predetermines rules concerning waste management. It includes relevant definitions, the waste hierarchy set by the EU, municipal waste regulations, rules on municipal waste systems, commercial waste regulations, rules on hazardous waste, a list of different types of waste, benchmarking of incineration plants and landfills as well as provisions for wastewater treatment plants (“Affaldsbekendtgørelsen”, n.d.).

In other words, the Danish government implemented and specified the predefined framework of the EU through the Environmental Protection Act and the Decree on waste, which any company operating in the waste management sector must abide by.

4.2. Affaldsselskabet Vendsyssel Vest I/S

All information about Affaldsselskabet Vendsyssel Vest I/S (from now on referred to as AVV), which is presented hereafter, is gathered from the company's official website www.avv.dk and documents retrievable from there.

Before going into detail with AVV, it is important to remember, once again, that EU directives and national legislation concerning waste management as well as tradition have a huge impact on the work of AVV. Consequently, the tasks and the geographical scope of the company are predetermined by these frameworks.



Figure 6: Landing Page Affaldsselskabet Vendsyssel Vest

AVV is a publicly owned, non-profit waste management company in Northern Denmark that was established in 1988. The company is located in Hjørring and employs over 100 people, thereby counting as a medium-sized company according to the definition of the European Union. AVV is owned by the Hjørring and Brønderslev Municipalities on a partnership basis, a so-called “Interessentskab” (I/S), where the parties pursue a shared purpose and goals and advance their mutual interests. The joint partnership also only operates in these two municipalities – it has the status of a monopoly in the area.

Planning, establishing and running the needed facilities for effective waste management are the purpose of the company. Consequently, the main tasks of AVV are the handling, treatment, recycling, incineration and disposal of waste collected from the two local communities. In order to be able to fulfill its tasks, the company disposes of 18 recycling sites throughout the two municipalities to make it easier for the citizens to leave their “waste”; a fleet of trucks and truck cranes for the waste collection, a repair

and recycling shop to fix broken appliances, bikes, furniture or everything else that could be sold again; a second-hand shop to sell the fixed or non-used items; garbage compactors to prepare the waste for recycling at other companies in Denmark or abroad and a waste-to-energy plant to incinerate waste that is not reusable nor recyclable to produce energy and district heating. Apart from that, research development within these fields and prevention programs, including the education of the citizens, belong to AVV's area of responsibility. Therefore, a visitor center is also part of the administrative facilities in Hjørring.

The board of the company is politically elected and is responsible for deciding on overall operations and the development of the company. It consists of five city council members – three from Hjørring Municipality and two from Brønderslev Municipality – and the period of the board goes hand in hand with the municipal elections, whereby the current period is from 2018 until 2021. The chairman of the board is Jørgen Bing (Hjørring), the vice-chairman Jens Andersen (Brønderslev).

The two city councils also decide on a strategy for the company, which includes various goals, principles and guidelines that must be followed. Thus, the strategy of the owners sets a framework for and influences the daily business. The overall expectations for AVV set by the municipalities are:



Figure 7: Expectations of the Municipalities

For each period of the board, some specific topics are prioritized. Until 2021, the focus is on the following topics, whereby only a short summary of each is provided:

- **Planning and development:** plans concerning the development of the company, structural changes, as well as visions and goals must be coordinated between AVV and the municipality through ongoing collaboration and mutual information exchange.
- **Sustainability:** AVV must operate in a sustainable way that takes environmental, social and economic aspects into consideration with a focus on the circular economy and safe waste management.
- **Financial responsibility:** AVV is expected to be financially responsible, to work for future-proof facilities and to maintain the financial value of the company.
- **Tariff policy:** to be able to keep up competitive tariffs, AVV should further develop and adapt its structure, as well as its technology and service levels.
- **Security of supply:** AVV must guarantee the capacity for treatment and reprocessing of the waste of the two municipalities also during operational disruptions or in the case of severe emergencies.
- **Citizen contact and communication:** AVV is required to communicate in an open, easy, comprehensive and consistent way to stakeholders and customers. The digital system shall be further developed to grant citizens access to information, self-services and to provide a platform for initiatives improving direct dialogue and involvement with the citizens.
- **Collaboration and/or mergers:** the municipalities expect AVV to be open towards collaboration opportunities with other utility companies, waste companies or private companies, whenever this can lead to more competitive waste management.
- **Preparation for a possible company decision:** AVV must prepare to possibly become a waste incineration plant, whereby these preparations should start in 2018 and depend on the clarification of the policy framework for waste incineration.

It is crucial to know the strategy and expectations of the board to better understand how business is done at AVV. In addition to the board, AVV has a management team, which deals with the daily business and every department is headed by a manager. The four main departments are incineration plant, driving and recycling center, recycling sites and environmental facilities, and second-hand shop. Moreover, there is an innovation and an administration department. 33 of the 110 employees are charged

with administrative or leadership tasks, the remaining ones belong to the different departments and are workers. The official organizational chart looks like this:

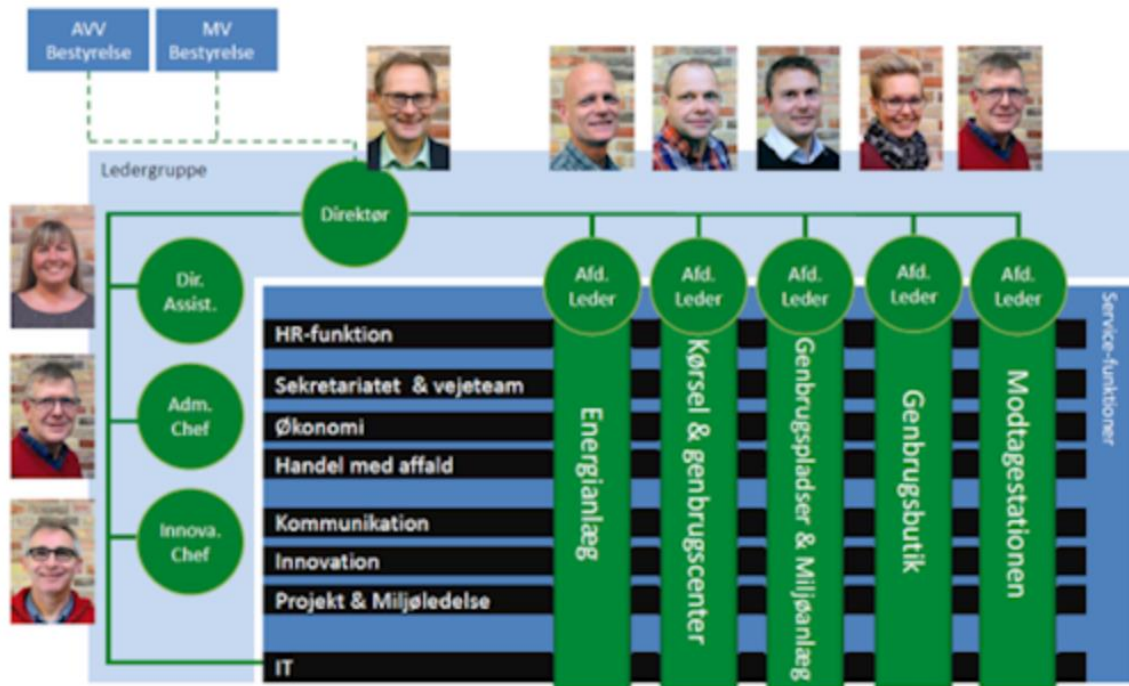


Figure 8: Organizational Chart AVV

Briefly should be mentioned that AVV is responsible for the daily management and administration of the receiving station Vendsyssel, although it has its own politically elected board and is illustrated as another department in the organizational chart. The receiving station is in charge of collecting, treating and sorting of hazardous and clinical hazardous waste and provides advice and courses for companies and the municipality.

The innovation department fulfills a consulting function for all other departments, is responsible for development as well as construction tasks, runs the visitor center and oversees the communication for both AVV and the receiving station Vendsyssel. People working in the administration are concerned with IT and HR functions, cover accounting and finance and most importantly, provide the customer service. Apart from incinerating waste, sludge and clinical hazardous waste, the incineration plant department also controls the disposal of waste and produces heat and electricity. The department covering driving and recycling center does the pressing of cardboard, paper and plastic, is responsible for the transshipment of electronics and refrigeration equipment, takes care of the wastewater disposal system and transports waste from the waste producers, recycling sites and public paper and glass bubbles to AVV. The

department responsible for recycling sites and environmental facilities runs the 18 recycling stations, where 35 types of waste, including hazardous waste, are collected and sorted. Additionally, the composting plant, the treatment of storage of glass, tanks and tires as well as the two landfills belong to this department's responsibilities. People employed in the second-hand shop department deal with customers in the shop and construction market, manage the online auction platform, provide inspiration for interior design and offer repair workshops.

However, not only the strategy of the owners as well as the organizational structure have an impact on how business is done at AVV. In the everyday business or whenever important decisions have to be taken, the employees are driven by four values. These values are:

- **Think about the environment first:** AVV takes the environment into consideration in everything they do and the goal is to transform waste into new resources.
- **Stay ahead:** Since its founding, innovation has been on the daily agenda of AVV and developing new methods and approaches shall promote growth.
- **Take responsibility:** AVV takes its role as member of the waste industry seriously, is aware of its social responsibility and supports citizens, businesses, the community and its employees.
- **Show respect:** AVV values and greatly respects its employees, as these are the ones who meet the citizens and partners and make up the company – everyone should engage and get influence.

These values also provide the basis for AVV's corporate social responsibility. The focus in CSR is on involvement of the citizens to develop new and better waste solutions, collaboration with business partners and suppliers to be able to deal with and treat all the produced waste, being a local player to create jobs for the local community and working conditions to ensure employee satisfaction and to leave space for diversity.

In this context it should be mentioned that AVV achieved certification for environment and work environment and publishes an environmental statement every year. Moreover, the current research focus at AVV is on waste prevention and reducing food waste.

One of the most interesting and biggest projects AVV was involved in is the “Nulskrald” project in Tversted, which took place in 2014. The overall idea of the project was to find out in which ways a municipality can be included in a sustainable waste management. The goal was to minimize waste to zero by avoiding trash from the outset or to sort as much waste as possible for recycling for a year. Other initiatives, in which AVV usually takes part are the Brønderslev Sustainability Festival, the Hirtshals Nature Meeting or the Hjørring LIVE m.m. – AVV is an active player.

As the company operates non-profit, it is made clear again at this point that even if profits are made, for example through selling items in the recycling shop or selling knowledge, the money is used for further growing and improving the organization. This can happen through making projects and initiatives, like the ones mentioned above, possible or by investing in facilities, knowledge and other things that benefit the organization and help to better fulfill its purpose. In other words, no money is paid out in form profits or dividends.

5. Analysis

The aim the analysis is to find out how agility can be practiced with success in a low-tech sector, thus this section is split into three main parts. The first part deals with how agility can be made applicable to the low-tech sector, being a theoretical discussion based on the literature introduced before. The second part looks at how agility, or to be more precise, the twelve agile principles are practiced at AVV. The third part is about revealing how agility is understood and a shared understanding for the same is created at the case company.

5.1. Applying Agility to a Low-tech Sector

The Agile Manifesto is a collection of principles and values which provide the basis for agile working methods and the overall mind-set needed for it. Thus, it should be applicable to other sectors after some adjustments, especially since it is crucial to interpret these values and principles accordingly and to choose the most appropriate tools for each situation. As a consequence, there is no framework that is said to be “the best” – the choice always depends on the context, even within the software industry. So, when becoming agile, it is a lot of going back and forth to find the adequate way for the business. This is often hard for the employees, as it requires constant change, occasional relapses and the acceptance for a new way of thinking. One aspect that must be made clear again is that some industries or professional fields simply might not really have to be agile or just to a little extent, meaning that agility cannot be considered as a panacea when a company is struggling. Nonetheless, it is also wrong if companies simply refuse the concept of agility from the outset saying that it cannot work in their case, because the business is too traditional (Dämon, 2017).

Before discussing the adjustments that might be necessary for making the concept applicable to the low-tech sector, it is important to briefly think about the prevailing problems in the software industry that provided the basis for agile frameworks to develop in the first place. Interestingly, this approach emerged because of frustration about common approaches to software development, which had long lead times and did not allow any decisions made at the beginning of the development process to be revoked again at a later stage. Thus, one was looking for a simpler, faster process with more flexibility (Varhol, n.d.). By implication, looking at all the principles and values and

what they suggest, one can argue that the software industry was and probably still is to some degree characterized by:



Figure 9: Characteristics of the Software Industry

Obviously, these are just assumptions, but I argue that it is still crucial to keep that in mind when analyzing agility and its use in other sectors.

There have been discussions about whether software should be regarded as an actual tangible good or more like a service. So far, there is no definite answer to it, especially since the business model “software as a service” has emerged. Thus, it cannot be said whether the agile values and principles are rather service oriented or product oriented at their core. As a result, the main adjustment that must be made is that whenever the term “software” is used in the values or principles, it has to be thought of as a product or service, depending on the company – in case of the waste management sector it is a service most of the time. The reasonableness of some of the principles and the working methods aiming to reach them can be questioned then, but do still make sense when a little altered.

Let us look at the principle of “business people and developers must work together daily throughout the project” now. It goes without saying that it might be useless to have daily stand-up meetings in other sectors, simply because there would be nothing new to talk about, as tasks and subtasks might take longer to fulfill. However, being agile can already mean to have monthly or weekly meetings, if this has not been the case before, as it becomes a new habit which should be sustainable and allows to react to changes. Such a detailed description of all the other principles that might have to be modified is not provided at this point due to the limited number of pages, but can be found in a narrowed version in Appendix 4 along with the explanation of the coding.

One could argue as well that some of the principles are not suitable for other businesses and could be left out. Nevertheless, I argue that there is a reason why exactly these principles make up the twelve agile principles and are focused on, even if they are not that essential in other sectors. This is also the reason why all of them are included in the empirical part of this research. Additionally, as shown above, the underlying idea of each principle is not that narrow as it might appear at first sight.

Another main issue is that in a lot of other industries, not just in the waste management sector, the product or service produced is not necessarily tailored to ONE customer's needs, as it is common in the software industry, where a unique software is developed for a specific company or institution. More often than not, products and services are offered to the mass, meaning that there is no direct customer available. It goes without saying that there can be a need for that service or product, but it is not like a single customer would come up to the company and say: please offer this service or product, let us negotiate the details in a contract now. Of course, there is software for the mass market as well, but that is not the major business in the software industry and no individual user would probably request nor need a customized version. In other sectors it is the other way around, the masses driving the business. However, such requests can still be possible there in the case of organizations, meaning on a business to business level.

5.2. Agility at AVV

To be better able to follow my train of thoughts throughout the analysis of the findings, the structure of this subsection is explained briefly.

First, the findings of the interviews with the employees are analyzed which are arranged by the four central aspects of agility, namely customer centricity, adaptability, speed and mind-set. Within these four categories, the corresponding principles are used as sub-headings, whereby the original phrasing of the principles (as found on agilemanifesto.org/principles) was slightly adjusted to better match the waste management sector. The categorization of the principles is the same as already used for the coding (Appendix 4). Then, if suitable, the view of the CEO is included immediately, otherwise crucial parts of his answers are presented thereafter to show whether there are contrasts or main differences. The thoughts of director Simonsen concerning agility in the waste management sector conclude the analysis of the

interviews and are examined to see where and how AVV fits in the sector. Afterwards, the second set of data, namely the results of the agility checklist, is presented to see how agile the case company is perceived by the employees.

Before going into detail, it is important to mention that when I conducted my interviews, some structural changes were going on, meaning that two interviews I had were both with the same position, the former and the current head of incineration, since they are currently in the transition phase. However, when I was told to have five interviews with heads of department, I expected to have interviews with all different departments. Nevertheless, I do not consider this as a disadvantage, since it provides me with insights from a former employee of the incineration plant at the same time. Now, let us move on to the analysis.

“We don’t know if we are an agile company, we don’t know that” (Head of Administration, NL, 01:22 – 02:33).

To begin with, no one of the interviewees was familiar with any agile frameworks or principles, showing that the concept of agility, in which ever form it is practiced at AVV, was not imposed on the organization – the concept and agile methods have obviously never been introduced nor suggested as a mind-set and specific way of working, as it is usually the case when companies want to become agile. Interestingly, several people also emphasized that there is definitely no such thing as an explicit agile mind-set nor any agile methods that are used at AVV, as the way they work does not derive from a system, procedure or theory, it is that way because it makes sense to them to do it like that and that is the way it is (Head of Incineration Plant, KK, 04:32 – 05:04; Head of Recycling Shop, DMN, 04:12 – 05:16; Head of Administration, NL, 01:22 – 2:33).

“We are aware that we have a mind-set, a different mind-set” (Innovation Employee, KOZ, 05:26 – 06:10).

Even though they would never call it an agile mind-set themselves, they know that they have a certain mind-set (Innovation employee, KOZ, 05:26 – 06:10; Business Developer, HR, 15:41 – 17:48). Moreover, the head of innovation (TN, 03:47 – 4:42; 04:48 – 05:20) described their specific mind-set and approach of working, especially in his department, with the words “act first, then think”, meaning that they simply try

and reflect on why it works later. According to him, they have some overall plans, but in general they are simply guided by the four values of AVV.

Moreover, they work in a flexible way and have a lot of freedom when it comes to how and when to fulfill their tasks. The company provides room for trying new approaches, being innovative and new ideas are always welcome, as they want to be faster than all the others in the sector – this is all part of the culture and mind-set that has been built up over the years (Innovation employee, KOZ, 02:08 – 05:10, Former Head of Incineration Plant, MB, 01:49 – 02:45). This culture has also changed and developed over the course of time, as there used to be more hierarchy and more top-down decisions with the former director (Head of Recycling, DMN, 01:57 – 03:53). This opinion is also shared by the CEO (SM, 02:25 – 04:15) who has been at AVV for six or seven years now. According to him, it was top-controlled back then and people had to follow a lot of rules and were often told what to do. Nevertheless, his approach is to have some common values and make employees think themselves and discuss a lot to find out how things can be done better. Consequently, everyone is expected to think about situations that arise, to interact with colleagues and to make decisions based on these values – ***“I think that’s a key element to being agile and the key element to do good”*** (CEO, SM, 02:25 – 04:15).

The business developer also described the way people work at AVV as the following: First, there are often no detailed plans, because people at AVV are action-oriented – ***“if it doesn’t work then we adjust and do it differently”*** (HR, 00:58 – 10:14). Moreover, changes often happen in an incremental way, meaning that they start off with pilots for projects and then see if it works, before doing it on a large scale. They also collaborate with a lot of private companies for their projects, for example the reusing of old bricks is only possible through a collaboration with the company that takes old buildings down. Interestingly in this context is also that there is a lot of knowledge sharing going on among municipal waste management companies, since they are no competitors – ***“we can collaborate without fearing that anyone is stealing our ideas”*** (Business Developer, HR, 00:58 – 10:14). However, it is different in the case of private companies or consultancies, where they expect money for knowledge-sharing (Business Developer, HR, 00:58 – 10:14; 10:24 – 15:24).

Looking only at these pieces of information, it should become clear that agile tendencies, like working in an iterative, incremental and collaborative way are noticeable, although they do not consider their behavior and thinking as agile. In which ways they follow and implement the twelve principles is explained hereafter.

5.2.1. Customer Centricity

“Our highest priority is to satisfy the customer”

In total there are 100.000 citizens in the two municipalities AVV takes care of, that is why AVV is still regarded as small public utility company in Demark. Nevertheless, whether the citizens, being the main customer of AVV, like and how they react to the way AVV works and the provided solutions, covering topics like the capacity of containers to the frequency of containers being emptied, is often discussed with the citizens (Innovation Employee, KOZ, 07:12 – 09:47; Head of innovation, TN, 06:17 – 07:11). The citizens are invited to hear about plans of the company and are also informed about how they are expected to sort and reuse waste, as especially when they are directly concerned, they always have a certain view on recycling and waste (Head of innovation, TN, 07:17 – 07:36, 09:39 – 10:48). Moreover, the citizens can get involved daily via Facebook or the phone to let AVV know what they think about their system and to share their opinion. (Head of Innovation, TN, 07:40 – 08:05; 08:11-08:16).

The employment of Facebook also plays an important role in the recycling shop and is used there to get closer to the customer, to explain things and to enter into a dialogue with them, even if their opinion of AVV is bad (Head of Recycling, DMN, 06:06 – 07:46). People at AVV like to get as close as possible to the customer so that they frequently say, **“we want to go to the citizens kitchen”** (Head of Recycling, DMN, 06:06 – 07:46), referring to the fact that waste management companies usually are only concerned with the garbage outside the house, but for people the most important thing is that the waste sorting works in their kitchen and this is also how AVV sees it.

Visitors come frequently to hear about the new collecting system of household waste and how the new containers work and there is even a waiting list with many more people. Such events are another opportunity for AVV to be in direct contact with the customer and where they also want to hear the opinion about the products and service (Head of Administration, NL, 03:59 – 05:25). Interestingly, there is a dilemma AVV

must deal with concerning this new system, as it puts more responsibility to the citizens who are expected to sort waste according to four different waste types, because the new containers for the households are designed this way. Moreover, instead of having one container, it is going to be two containers, taking up a lot of space. In fact, it would be even better to sort waste in eight different fractions, but customer satisfaction is simply more important. Consequently, people might be annoyed with and frustrated about having two bins with four sections. That is why AVV puts much effort in speaking openly about the project and the issue (Innovation Employee, KOZ, 07:12 – 09:47; Business Developer, HR, 18:34 – 24:02). There has also been a so-called sorting-bus driving around the recycling stations of AVV for the last few weeks for that reason. Wherever the bus stops people can see what the new containers will look like and how they can manage to sort the waste in their kitchen, as there is a small kitchen built in in the car. This way employees of AVV can meet people and face criticism in person (Business Developer, HR, 18:34 – 24:02).

Additionally, for the business developer (HR, 18:34 – 24:02) it is important that they do not just send a written answer to dissatisfied customers – they invite them in to talk about the issue while having coffee and homemade cake, as customer satisfaction is crucial. The same holds true in the case of other companies that might feel threatened by a new service AVV offers, for example the white goods repair shop, where old washing machines are repaired and sold again. Some companies might see AVV as a competitor then. His motto is that everything should be talked about face to face while having a hot coffee, as it is easier to just write something on Facebook when you are not satisfied than really talking about it.

So far, it seems like new solutions are imposed on the customers and then AVV wants to gain their satisfaction and approval. However, whenever possible, they are asked about their opinion sooner or pilots take place before a new system is introduced for sure. However, sometimes it is not possible to listen to them, because the opinion is not shared by the majority (Head of innovation, TN, 08:23 – 09:03). For some other projects, for example the reorganization of the website or the new signs and pictograms, customers were directly involved in the development process. They were asked at recycling stations and workshops about their perception of and the way they understand the new signs and wording of the same. In so doing they found the best solutions for the customer (Business Developer, HR, 24:22 – 27:07). For the future,

the head of the recycling shop (DMN, 08:18 – 09:06) could imagine asking the citizens at the recycling sites to directly involve them, as this is often not done yet.

The CEO (SM, 15:32 – 17:38) mentioned in this context that one of their biggest projects directly involving citizens was when they asked 100 households to reduce their waste by 50% with the help of AVV, although there were no clear instructions given for how to achieve this. The company supported them via Facebook, clarified some things concerning waste at the beginning and after three weeks they reached the goal. So, according to his opinion, it is important to empower people, let them engage and to make them part of it instead of telling them what to do exactly. Additionally, sometimes panels take place, where an external person like a consultant, discusses topics and talks about AVV with the citizens to find out what the customers would do about it and then best ideas are taken in by the company. As mentioned earlier, this involving of the customer also happens at approximately 100 to 150 company visits per year – ***“we try to listen and we have open doors here”*** (CEO, SM, 15:32 – 17:38).

However, this focus on and the regular talking to the citizens does not hold true in the case of the incineration plant, where contact with the customers is almost non-existent, because they only deliver their waste with trucks and that is it (Former Head of Incineration, MB, 04:04 – 05:18). The new head of department (KK, 06:03 – 07:25), wants to adapt that customer focus to his department as well to be able to provide better and faster service when the trucks come with the waste, meaning to make it easy to dump waste and to get away again to collect more waste. To achieve this for the customers, they are thinking about a bigger location to avoid waiting time for the trucks, but it might be too expensive to bear relation to the trucks coming in then.

In the recycling shop, the new ideas often come from the employees and not the customers themselves, meaning that the customer is also not directly involved. This is why they frequently make use of brainstorming meetings with ten to twelve people from different departments, but especially from the innovation department, as they are creative and can help to find the best solutions for the customers (Head of Recycling, DMN, 10:37 – 11:54).

“It’s very important to have a good relationship with our customers” (Head of Administration, NL, 03:59 – 06:50).

This statement sums up the attitude of people at AVV – they try to satisfy their customers as good as possible by providing good solutions and products. Whenever possible, AVV tries to collaborate, involve and ask the citizens directly for ideas, for example through using pilots, projects, panels, company visits and Facebook. Nevertheless, since the customer would be all citizens, it is never possible to include all of them in the development processes of new solutions. Consequently, there will always be room for dissatisfaction, even if the teams make sure through collaboration that they provide a service that more or less meets their customers' expectations. For that reason, AVV probably focuses so much on making things right whenever someone complains, as it is not possible to make the customer the full center of attention before.

“People involved in a project must work together throughout the project”

At AVV, meetings are really common and can take place weekly, two-weekly, three-weekly or monthly, depending on the department or project and people involved from different departments. Daily meetings are an exception though. The duration also varies from some minutes up to two hours. A consequence of these frequent meetings is that it is perceived like people are not doing anything except for meeting each other, but it simply is the way they work (Head of Innovation, TN, 15:45 – 16:49, Former Head of Incineration, MB, 11:12 – 12:55; Head of Recycling, DMN, 12:29 – 13:56; Business Developer, HR, 40:18 – 41:45).

Interestingly, the employee in the innovation department (KOZ, 12:47 – 16:08) pointed out that these two-weekly meeting in their department or the ones with all administrative departments are not about collaboration, but rather about pure information sharing about what is going on. So, in case that there is a project going on, for example with the driving department, she talks to the responsible person every second day. Moreover, she mentioned that if there are a lot of projects going on and meetings with different role necessary, it gets difficult to prioritize and a lot of time is not used for working. That is why a lot of effectiveness is lost, especially because you must zap between the different projects and getting into it after two or more days not working on it takes some time (Innovation Employee, KOZ, 12:47 – 16:08). Noteworthy here is that according to the business developer (HR, 34:01 – 38:05), the head of innovation takes a close look at all the tasks everyone in his department fulfills to make sure it is effective. Moreover, for the work in teams they also make use of a so-called

Belbin test to create teams with the necessary competencies for the projects and to come up with best solutions. In the case no adequate person is found, a person can either improve the skills in the needed area or an external consultant is brought in.

The employed people at the incineration plant are the ones who really have a five to ten-minute stand-up meeting every day in the morning to talk about what everyone is doing that day. Interestingly, the head of incineration also mentioned that they use lists comprising all the planned things they want to do and they focus on the five most important ones and when those are done the next ones come first (Head of Incineration, KK, 18:10 – 19:40). Having this kind of backlog and the daily stand-up meetings indicates that they are using a component of the agile frameworks Scrum and Kanban.

Moreover, according to the head of the recycling shop, (DMN, 12:29 – 13:56) meetings are that common, because AVV is a place, where people talk rather than write, meaning that there are some things that should be written down, but in general once they have agreed on a project orally it is like that and everyone fulfills the necessary tasks and they work together to achieve and get the praise for it. However, if there is something written down in a document it gets shared with everyone, because another one might need it as well.

According to the head of administration, (NL; 11:02 – 12:06), all departments at AVV work together very formally in meetings, but also very informally when completing daily tasks, since it is a very open organization with informal leadership and relationships between leaders and members. And the CEO (SM, 18:09 – 20:38) added that especially the cross-department collaboration is important, since the different heads of departments are also responsible for taking the business to the next level. Therefore, they have regular leader meetings, where they talk about the goals that should be on the agenda for the next year to be innovative and to do the best they can to provide the best solutions for the customer, as it is the case in private companies.

Summing up the second principle, it can be said that AVV definitely has a culture of working together and using cross-department teams to implement projects, where the informal leader-member relationship plays a crucial role. Nevertheless, it is not that obvious whether these frequent meetings are really for working and taking decisions

together or rather just for updating on the status quo. Important is that such meetings barely involve the customer.

“Working service is the primary measure of progress”

Since AVV operates non-profit, the bottom-line cannot be used as measure of progress. Therefore, the former head of incineration (MB, 17:52 – 19:22) likes to rely on the feeling of what other waste companies and colleagues throughout Denmark think about AVV, as AVV is at the forefront and often talked about – ***“that is a sign that we are doing it the right way”***. Of course, they could also just measure the waste coming in, but that is narrow-minded, as the company wants to recycle more and reduce the waste that must be incinerated. Which means that only the recycling department could measure it that way, as more waste going there is a positive development (Former Head of Incineration, MB, 17:52 – 19:22). The head of incineration (KK, 27:17 – 28:59) added that money is still a main measure in the incineration plant, meaning how much money is needed to produce a certain amount of energy and heat per year and the costs necessary for the staff and maintenance. Importantly, he also mentioned that they do a lot of things, but not necessarily to make progress, that is why he would like to have some additional KPIs or another system, as the regular statistics and KPIs just focus on the economical aspect and current situation.

In the administration some data is collected about the quality of the documents sent out of the house, so, if two of the sent-out bills are wrong, then they should improve that to increase quality. Apart from that, there are no real measures, because the administration cannot really be innovative and it is a lot of routine, but if there are new products or services, they try to give it a score or number it to get statistics (Head of Administration, NL, 18:15 – 19:10; 19:22 – 19:46). In the department of the recycling shop, no overall measure for progress was mentioned by the head (DMN, 19:01 – 19:19), but to keep track of progress in projects they use Gantt, a project management tool that includes different mind—maps and time schedules.

In general, AVV follows the environmental management system called EMAS, which also helps them to measure progress – they look at how projects from the last year went, which goals were reached and set new ones for the new year (Innovation Employee, KOZ, 19:33 – 20:26). The waste hierarchy with its five different levels is the

main measure for progress in waste management, meaning that they look at the percentage of each level and the main goal is to move up the hierarchy. So, for example the percentage is of reuse makes up 2% of the total now and shall be increased by 3% within the next three years. For the incineration and landfill the percentages shall decrease, obviously. However, another indicator that is used to measure progress is the number of people who AVV shares knowledge with, including researchers and students. They organize different meetings and they have a certain number of how many people they want to network with on a specific level. Consequently, if they give a key note presentation the attendants are count and afterwards they look at whether the wished number of people has been reached (Business Developer, HR, 48:58 – 51:06).

For the CEO (SM, 32:09 – 35:48), a main measure is how many employed people AVV has, since it is a publicly owned company. Furthermore, he looks at how many people work at each level of the waste hierarchy, for example it could be 12 employees in recycling versus just one at the lowest level, the landfills. Consequently, the goal is to move people up the hierarchy like one does with waste – the more there are at the upper levels the better. Another measure for progress is to see how much things dumped at the recycling sites can be turned into business, meaning how much money is made through selling all these items to a new customer.

It goes without saying that throughout AVV there are different measures of progress used. Even though they vary greatly between the departments, the waste hierarchy with its percentages and the number of employees on each level is the main measure of progress, since all other measures can help to find ways to achieve this. Just saying “working service” is the main measure for progress is wrong in my opinion, as it satisfies customers, but does not necessarily bring improvements along. Moreover, moving up the waste hierarchy benefits the citizens, because better, additional services can be provided and they might also get cheaper. Nevertheless, the importance of measuring progress also differs depending on the person and department.

“Continuous attention to excellence and good service enhances agility”

Viewing this principle in the context of the recycling shop is interesting, since all they do is to recycle waste. Primarily, they just put a price on the item, clean it if necessary

and place it in the shop then. As these items are no regular products, they must be cheap. Nevertheless, the environment at the shop is important, it must look good there and should not smell bad, as the goal is to make it an experience to shop there (Head of Recycling, DMN, 24:50 – 26:37). This “making it an experience” is also the reason why the meeting rooms are furnished with recycled pieces of furniture or other artefacts, as people at AVV see it as their job to and want to make their customers think differently – ***“that’s the way we think, we have to make it an experience and maybe it will make you think about garbage: no, that’s not garbage, it’s beautiful”*** (DMN, 24:50 – 26:37). Here are some impressions of these rooms:



Figure 10: Meeting Rooms at AVV
(Own Images)

Moreover, it is important to note that not everything AVV does has an impact on all the customer types. For example, they provide a new service of repairing old washing machines and selling them again in the recycling shop. This only affects some 100 customers of the shop, but not the 100.000 citizens. The same holds true for a new way to weight recycling waste, even though this is important to improve excellence, it

does not really matter for the customers (Innovation Employee, KOZ, 22:48 – 23:50). However, when it comes to new services, the communication department found out that the customers usually want it as easy as possible and most of them also like to do something for the environment by collecting and recycling waste in a better way, but at the same time it should not be too bothersome. So, sometimes AVV gets a consultancy to make a report about what the citizens want, for example by making many different focus group interviews in some projects or when the groups come for guided tours (Innovation Employee, KOZ, 24:00 – 25:06).

“I think we have a good feeling with the citizens” (Innovation Employee, KOZ, 24:00 – 25:06).

This statement represents the most important skill for AVV, which is obviously not technical at all. Since the customers are not directly involved in projects, it is necessary to know what will satisfy them to improve products and services for them. Additionally, having this knowledge about and the feeling for the customer helps AVV to adapt accordingly.

5.2.2. Mind-set

“Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done”

According to the former head of incineration, (MB, 13:28 – 15:27), AVV does a lot for the employed people, ranging from free food and coffee to having parties together. That is important, since they get closer and get to know each other in a different way. Most importantly, however, the employees are “allowed” to go and chat with each other during work and no one would say anything against or complain about it. Moreover, they are very free in what they do, meaning that if they must find a new solution, they invite different people to talk about how and what they can do achieve it and to hear other views – without any stress, just taking it easy. The head of Administration (NL, 12:35 – 14:38) also pointed out that the informal way of getting together makes up a huge part of this. So, the employees like to spend time together. Apart from that, they have employee dialogues every month, which take place between head of department and CEO as well as between the heads of department and their employees to motivate them and to find and to show new ways to go. In so doing, all members are in close contact all the time (Head of Administration, NL, 14:45 – 15:41).

The head of the recycling shop (DMN, 14:22 – 15:03) mentioned that her former boss, the head of innovation, used to give her a flower from his garden or a clap on the shoulder after doing good work, being the “Torben-way”. Thus, her way as a leader to motivate employees is similar, she wants to lift her employees up through using positive words like thank you or good work, for the simple reason that if her team has success she has success. For the head of incineration (KK, 20:31 – 24:55) the most important thing is that it is very open and that they communicate a lot about what they are going to do, especially CEO Madsen puts a focus on explaining to make people see why it makes sense and which problems they are facing, so everyone can understand his decisions as well. He also thinks that the management style based on the four values of AVV helps, meaning that people should take more responsibilities and decisions related to their job or the situation with these values in mind. This is also what they are currently trying to implement in the incineration department, where, for example, people driving the crane will be more involved through doing some of the maintenance or repairing thing, simply to get their own areas of responsibility and to “touch” the plant. However, that is difficult especially because the workers have been there for 25 years on average and are often called old, grumpy men by the others. Consequently, he cannot only tell them now to do things differently – ***“they were a little bit afraid about it, but it’s very important that they like the idea, we need to win this, because it’s a very difficult process”*** (Head of Incineration, KK, 20:31 – 24:55), showing that consensus building is important.

According to the employee in the innovation department (KOZ, 16:32 – 17:50), the environment can vary greatly depending on the department, especially between them and the incineration plant. She also considers this different attitude in departments as one of her main concerns, meaning that people out in the departments get a lot of extra workload due to the projects of the innovation department – ***“some of the people out in the departments might be annoyed with us, because we bring up new things and the ones who are going out carry it out in reality are them”*** (Innovation Employee, KOZ, 16:32 – 17:50).

The environment created is extremely important, whereby the business developer (HR, 42:01 – 44:46) refers primarily to the sub-culture of the innovation department. They also have a formal employee development dialogue once a year which is taken seriously by everyone at AVV and where goals, plans, personal ambitions, skills and

other things needed to fulfill tasks are talked about. So, internally there is a lot of support provided to everyone. Moreover, usually people can attend a lot of network meetings, seminars or conferences to learn from others and to go out there, as AVV wants to be on the forefront and noticed in Copenhagen. This holds especially true in the case of the innovation department. ***“I think we have to do a bit more than those waste management companies near Copenhagen and near the authorities”*** (Business Developer, HR 42:01 – 44:46). Importantly, AVV is known for being ambitious, meaning that also the local politicians want to show AVV in a different way, thereby supporting that AVV is not like all the other companies and influencing the atmosphere there (Head of innovation, TN, 01:58 – 03:11) This environment is also created by the CEO (SM, 18:09 – 20:38) who wants to facilitate a platform, where discussion and development take place, where people talk and listen to ideas and where people build up personal connections and engage in the work. So, for him it is important to have some fun as well at work, especially since everyone spends eight hours there every day.

Looking at these answers, it becomes clear that there generally exists a culture of motivating employees and supporting them at AVV. Interestingly, however, there are noteworthy differences between departments, as even the employees pointed it out themselves in their answers. Consequently, the level of trust, support and openness can vary depending on the sub-cultures of the departments.

“The most efficient and effective method of conveying information to and within a team is face-to-face conversation”

Face to face conversations are the most frequently used channel of communication by all interviewees, which is clearly facilitated by the frequent meetings (Head of Innovation, TN, 19:07 – 19:31; Head of Administration, NL, 16:08 – 17:17, Head of Recycling, DMN, 15:31 – 16:04, Head of Incineration, KK, 25:10 – 26:55). The head of administration (NL, 16:08 – 17:17) also added that you must mix it with other forms of communication as well, but ***“face to face communication is essential for me for developing people and projects”***. Even though it is more factual to communicate via email, he thinks that there is something about two people talking to each other and seeing their faces. Nevertheless, in the case of the incineration plant, a lot of communication is done via email, as it is quick as well as easy and a lot of departments

they work with are located in other places than the plant itself. Consequently, it is not that easy to just walk there. Apart from that, they also mainly rely on face to face meetings. Moreover, once a month all people working at the main location of AVV in Hjørring gather to get information about what is going on at AVV from CEO Madsen and twice a year all employees of AVV meet to be informed and to talk face to face (Former Head of Incineration, MB, 16:05 – 17:20). The head of incineration (KK, 25:10 – 26:55) considers face to face as very important, because if you send an email it is indeed easier, but you cannot see people's reactions and often it is hard to get the issues and problems right. For the head of the recycling shop (DMN, 15:31 – 16:04) face to face conversations are everything, even though they work at their computers most of the time, but ***“new ideas only get better if we share ideas”***. The employee of the innovation department (KOZ, 18:17 – 19:09) also considers face to face interaction as the best way to get some relevant extra information and not only what you asked for, especially as it is difficult to figure something out in a written form. However, according to the business developer (HR, 45:08 – 48:36), the reason why face to face conversations are actually that important at AVV is that some people chose this sector, because they have difficulties in writing and reading, for example the drivers. Consequently, oral has become the main way for communication, probably not only at AVV. There is also little written information, even on the two management levels. However, a lot of face to face communication also implies that you must be there in person to meet and talk to people. This preference for oral communication also brings along that people at AVV know a lot about the personal lives of each other and support in cases of problems, making it a positive atmosphere with the expectations that things are talked about to avoid problems to develop from the outset. ***“It's all about oral, fast communication.”*** (Business Developer, HR, 45:08 – 48:36).

This agile principle of communicating face to face is definitively followed. Attention should be paid to the fact that it works that well and is used as the main channel, because there are people who could not do it differently – it is deeply rooted in AVV's culture, even in the departments that fulfill primarily administrative tasks, where people are well-educated and spend a lot of time in front of the computer. Moreover, this face to face attitude also contributes to the environment created at AVV, as people know each other on a different level.

“The best ideas emerge from self-organizing teams”

In the administrative departments, referring to innovation and administration, people have always been good at forming and working teams, also cross-department. CEO Madsen is currently working hard to create teams everywhere – small teams with a team leader shall take care of themselves in all departments in the future. The reason for that is that they think that people in teams are stronger and like their work more if they can decide things themselves. So, they are currently in a transition phase, but at the moment you can still feel a difference between the incineration plant and administrative departments (Former Head of Incineration, MB, 20:52 – 22:07). The head of administration (NL, 20:40 – 22:13) agreed that there is cross-functional working, especially his department and the innovation department work together a lot when it comes to customer relations and communication. Additionally, the team which is responsible for customer service is an own team as well to guarantee the best service for the customer. Usually people can team up to fulfill tasks, depending on their choice, but sometimes it is also an issue of speed and when the job needs to be done and then an individual is chosen. In the recycling shop, on the contrary, there are already self-organizing teams with no leader at all in it. Apart from that, teams and leaders are chosen newly for each project, meaning that if three people come up with an idea or solution and they get the okay, their team responsible for that project as well (Head of Recycling, DMN, 19:50 – 20:17).

The head of incineration (KK, 34:10 – 35:38) pointed out that employees at the incineration plant doing administrative, daily work, have been working independently in a team. Nevertheless, they also not that far that the teams would be really self-organizing in such a sense that they get a specific budget and a limited time period for a project. However, they are working towards more teams to give employees more responsibility and thus the involvement of the head of department in a lot of tasks and projects will disappear soon (Head of Incineration, KK, 02:50 – 04:10). Overall, self-organizing teams are still more like an exception at AVV, there is only one or two in total, as the business developer stated (HR, 58:07 – 1:00:25). So, for example the team that is responsible for putting prices on the items for the second-hand shop organizes itself, there is no team leader and everything is based on their experience. However, when money is needed to buy something, they have to go and ask for it. Teams usually have a team leader and within the team people can do what think is

necessary and can flexibly decide what they spend their time on, although sometimes it is necessary to ask for permission. In the innovation department it is like that – **“there is support if you have your own ideas but it’s not necessarily a team around you, no”** (Business Developer, 1:00:33 – 1:01:25). This can be traced back to the CEO’s view (SM, 20:42 – 21:59) who tries to inspire every employee to come up with ideas, not only the team leaders. According to him, there are always some small things that can set free some energy if done in a better way – **“everybody hates to do a job that’s not efficient, you can do it smarter”** (CEO, SM, 20:41 – 21:59).

According to the employee in the innovation department (KOZ, 25:33 – 26:44) the working in (cross-department teams) is just a way of doing it, it is the culture and developed itself, as AVV does not have so much hierarchy. Additionally, they often come up with ideas in their breaks when they talk to other people and then they go to the head of innovation and talk to him about it to see his reactions, as he is often not involved in the initial stages of the thinking process, although he himself generates a lot of ideas as well. He usually also provides advice or supervises them and then they test and adjust ideas together, before they spend too much time just thinking about it. So, the generation of ideas never happens in a forced atmosphere, it can happen anywhere and anytime, which is the natural way of working (Innovation Employee, KOZ, 25:33 – 26:44, 27:10 – 28:07). **“It’s not like when we have an idea that we are aware now of we got a new idea”** (Innovation Employee, KOZ, 27:10 – 28:07).

Although self-organizing teams are still an exception at AVV, teams are becoming more and more common in all departments and employees are empowered to take their own decisions. Moreover, there dominates a creative atmosphere, as everyone can talk to everyone and people have the mind-set that each one of them can share and deliver ideas for new solutions, even if they do not necessarily work together on a project. Interestingly, it was not clearly pointed out why they do it this way, showing that their culture is self-evident to them.

“At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly”

In the incineration plant reflection focuses primarily on the plant itself, meaning to concentrate on how many hours the plant is running, how long it is shut down in the case something is broken or how much energy can be produced from the waste every

month. These figures are also shown to the employees to inform them about how it goes with the plant, as if the plant is not handled well, the amount of energy is going down (Former Head of Incineration, MB, 23:00 – 24:40). Moreover, they have started using a kind of evaluation sheet whenever a situation in the plant arises. This sheet is a history about what happened, what the consequences were and what they can do about it in the future. So, after an incident or mistake, regardless of whether it has an economical or environmental impact, this sheet is given to everyone to learn from it. Additionally, at the monthly meeting with all departments belonging to the incineration plant, they have various topics on the agenda, for example, environmental issues, accidents, new projects, new ways for handling waste or social life. These topics are even talked about if there has nothing specific happened concerning some of them, just to make sure they think about and reflect on it briefly (Head of Incineration, KK, 36:14 – 39:29; 40:11 – 41:21).

The administration department, reflects on two different levels, as the team consists of two sub-teams with two team leaders. So, the leaders reflect with the head of department and the other employees with their team leaders. Informally this can happen daily, but formally it is done weekly, where they check what they are doing and the progress (Head of Administration, NL, 22:39 – 23:29; 23:35 – 23:36). The head of the recycling shop (DMN, 20:45 – 21:28) mentioned that they do it weekly on a small scale and every three months with all fourteen employees of the department together. Additionally, they constantly look at the numbers used in the recycling shop, for example the ones which show for how many weeks a product has been tried to be sold and discuss what could be done better. According to the head of innovation, people at AVV they all reflect in different intervals. So, for example, in his department it could be by checking the prices and fees of other waste management companies every week. If there is a different price, AVV must find out why it is like that and the employees are asked how they can improve (Head of Innovation, TN, 20:06 – 21:01; 21:12 – 21:24).

However, in the innovation department it seems that there is no real focus on reflecting on effectiveness – ***“if we were going to be effective, we should close down the innovation department and just do what we are supposed to do: collect people’s waste, send it for recycling and nothing more”*** (Innovation Employee, KOZ, 28:31 – 30:35). The reason for this view is that AVV does a lot that the company is not obliged to, meaning that it is their own decision to, for example, run their own repair shop and

make workshops. According to the innovation employee, this is a main reason for inefficiency and that comes expensive. And a lot of other companies in the sector do nothing more than what they are expected to and are thus more efficient (Innovation Employee, KOZ, 28:31 – 30:35). Usually, the innovation department reflects on things that do not work out the way they planned or if the effect of a project is missing. Some years ago, they had a project where everyone put too much effort and activities in it, so that in the end some of the employees were burned out afterwards. According to her, this derives from the fact that it is hard to admit mistakes after you have said a lot and started a project. Thus, it is also often hard to see whether it worked. If not, it is even more difficult to talk about it. And often people do not share the same opinion and that is also why she is uncertain about her new project about biodiversity, where a lot of people probably ask themselves why do we need this, but would never confront her either (Innovation Employee, KOZ, 30:45 – 33:00).

Nevertheless, in the innovation department big projects or open seminars always get closed with a debriefing, where the involved employees talk about what went well or what could be improved, focus on the learnings and draw a conclusion. Importantly, this often happens in an informal environment. Other than that, they reflect at the two-weekly meetings of the innovation department. Nevertheless, reflection and how they could things more effectively is not automatically done. The reason for that is that a lot of tasks and projects are a one-time only thing, therefore you do not necessarily think about how you could it better. This could rather work in the more operational departments, where the tasks are the same and they try to become more effective. Nevertheless, they also reflect on their procedures, look at whether they are improving or in which ways they can become safer, faster or with less environmental impact when the annual external EMAS audit takes place – ***“but internally it’s probably not as systematized as it could be”*** (Business Developer, HR, 1:01:50 – 1:05:04).

Interestingly, according to the CEO (SM, 38:12 – 39:03), they live according to the saying ***“what did we do good today and what can we do better?”***. For him it is important to start off with something positive that is followed by something that could be improved, but is still not negative. In so doing, he hopes people open up more and talk about things that went wrong as well. As there are 110 employees, every day there should be something where someone says that could be done better – ***“if they don’t, I haven’t done my job good enough”*** (CEO, SM, 39:10 – 40:24). In his opinion,

everyone should have a mind-set that when you do your job, you are the one who knows how to improve it, how to make it easier. And a lot of people at AVV already try to, although it obviously cannot happen all the time and not everywhere. Nevertheless, it is high on the agenda and it is common to talk about it and the leaders or he should be challenged as well in so doing (CEO, SM, 39:10 – 40:24).

Apparently, there are a lot of different views on what to reflect on or how reflection is done, especially between the CEO's and the rest. It seems like the employees automatically assume that their regular department meeting is also where they reflect on things, but this is not necessarily true, as talking about tasks and projects does not mean that you reflect on them. Moreover, I have the impression that especially the innovation department somehow lacks reflection. Consequently, I argue that people at AVV generally want to get better constantly, as ***“we will always be the best to handle the waste”*** (Former Head of Incineration, MB, 06:36 – 07:28), but at the same time do not completely understand how reflection can help them or why it matters. They need a kind of reason or trigger to do it at all, although the CEO wants them to do so daily.

5.2.3. Adaptability

“Welcome changing requirements, even late in development”

Overall, for the business developer (HR, 10:24 – 15:24) it is of great importance that the waste flow is changing in the sector all the time. This means that different types of waste will come in in the future, for example, solar panels, fiber plastic or other waste fractions AVV has never dealt with before. So, they must be prepared for that as well, although they already handle 42 different waste fractions. Additionally, paper amounts are going down, since people make their subscriptions online, but at the same time cardboard amounts are increasing, because of all the online shopping. International developments also play a role in this context. China does not request recycled plastics anymore, that is why the price of polyethylene dropped extremely from 3.000 Danish crowns per ton to almost nothing and could even turn negative, as new customers must be found first. ***“So, yes, we have to be flexible, because the waste is changing and the market is changing dynamically as well”*** (Business Developer, HR, 10:24 – 15:24).

However, people at AVV seem to have a positive attitude towards changes. The head of administration (NL; 06:06 – 06:50) is convinced that it is part of their DNA to try

something new all the time. That is also the reason for him why there is an innovation department – ***“we are a company that puts resources in development and innovation”***. The thing, however, is that if there is a new system, this system is usually kept for many years – AVV does not provide new systems every or every third year, so they cannot be changed that easily (Head of Innovation, TN, 11:06 – 11:29).

For the incineration plant the situation looks different again. As there are different types of waste coming in or the government comes with a new law that something must be separated, the department has to change the way of handling it as well (Former Head of Incineration, MB, 06:36 – 07:28). So, the changes do not necessarily apply during the development of a new way or method for incinerating waste, it can also happen afterwards. Viewing it from this point of view, the challenge is even bigger here than in the software industry, where they accept changes until the final version is done, but then it is over and simply too late. Nevertheless, the head of incineration also explained that the systems do not change fast, meaning that even if the law states that you need to improve the limits of SO₂, it is known two or three years in advance due to plans – they do not have to start doing it by tomorrow. However, AVV is usually ahead of the others and implements necessary systems way before they must according to the law. Nevertheless, it is important to not jump to conclusions, as such systems are expensive and the law might not enter into force for sure in the end (Head of Incineration, KK, 08:06 – 10:28).

“Of course we can change if it makes sense” (Head of Recycling Shop, DMN, 22:18 – 23:58). For the head of the recycling shop (DMN, 22:18 – 23:58) the most important thing when it comes to changes is to explain the why and to include the employees in changes, making it their decision and then a part of the whole process – they should share the discussion and work of it to see that it is a good thing to do. Then they can find a solution and ways for how to do it best and to achieve the goal. According to her opinion, if she only tells them we must do it another way now changes are never going to work. In so doing, she relies on consensus building, being part of agile methods.

The business developer (HR, 27:40 – 29:56) also pointed out that it depends on how late these changes occur in the process, meaning that they can always make a lot of changes and are flexible relating to this, but at the same time they want to organize well in advance. Consequently, changes on a very short notice, for example a day

before a deadline or even afterwards are not accepted, as it takes a while to implement changes. Moreover, if it concerns the customers, they also want to minimize the risk of annoying people by changing something constantly – ***“they should know well in advance what the containers will be like or what the sorting will be like”*** (Business Developer, HR, 27:40 – 29:56).

Obviously, AVV is agile when it comes changing requirements and adapts to and prepares for new laws and waste fractions. As there is often enough time to do so and deadlines are kept, delays are not common, especially because AVV wants to be a first-mover. Nevertheless, the fact that they do not want to change things constantly to avoid dissatisfaction of the customer could also lead to a tendency to stick with old systems for longer than necessary or to put up with solutions that might actually not be the best for the new situation.

“Agile processes promote sustainable development”

The thing that it really takes to promote sustainable development is, according to the head of innovation (TN, 17:18 – 18:25), to have the right employees with different backgrounds, qualities, skills and ways of thinking. Moreover, there are a lot of clever people at AVV and often they talk to colleagues in other companies and they provide them with good ideas or they pay them to help (Former head of Incineration, MB, 07:33 – 07:57).

“We have so many ideas, so, our problem is to not go for everything.” (Head of Recycling, DMN, 16:49 – 18:25).

For the head of the recycling shop (DMN, 16:49 – 18:25) the main problem is that they have so many ideas that they cannot implement all of them and therefore the challenge is to choose the right one. They never run out of ideas, because they have so many innovative people at AVV, but they also get new ideas from and are inspired by other people with a completely different background, for example, artists and practitioners who contact AVV to work with them. Here are some more impressions of the work artists did at AVV:

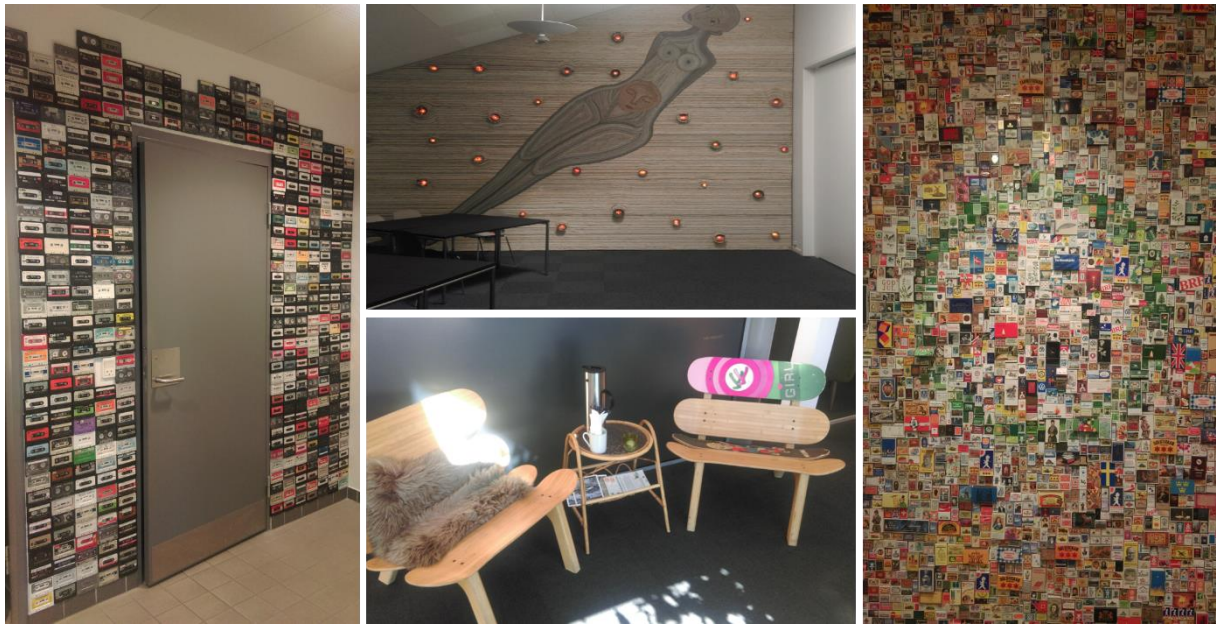


Figure 11: Audio Cassette Wall, Cable Wall, Skateboard Chairs & Matchbox Wall
(Own Images)

In the case of the incineration plant, the ideas for further improvement and sustainable development are technical and often deal with clearing exhaust gases or raising the effectivity of the ovens in the plant. Such systems cost a lot and consequently you need an idea first before you decide. The ideas for it often come from the biannual meetings with other incineration plants and are then discussed to see whether they should go for it or not. Another channel for ideas could be to ask the employees every six months or do a lot of networking and cooperation. Nevertheless, as the ideas come from different places, they should be thought about carefully (Head of Incineration, KK, 29:49 – 33:33).

For the employee in the innovation department (KOZ 20:46 - 22:10) a lot of ideas for further development come from outside as well, because they regularly attend conferences and seminars and the head of innovation and the business developer have huge networks, including companies and other actors in the sector.

The business developer (HR, 51:25 – 55:18) highlighted especially the projects that are sustainable themselves, for instance the reusing of old bricks and the repairing of white goods and the wood workshop. They have introduced the brand “Godtgjort” under which they sell upcycled products. However, they do not know how this project will run in the long-run, since they consider themselves that much on the forefront that they can risk some of the ideas to fail. **“If we fail fast, we learn from it and as long**

as we pick up the learnings from the failures, they are still useful” (Business developer, HR, 51:25 – 55:18). This means that they should admit mistakes before they have invested a lot of time and money on it and then simply focus on the next ideas. He also calls it a very dynamic business, since they can get ideas from every person they meet, thereby again pointing out the difficulty of not letting the number of ideas explode to be able to handle them. Interestingly, people do usually not request any new products or solutions, but so far, the experience is that they do not want to live without them anymore, once they got used to it. This was also the case in the pilot village for the new containers and sorting system – at the beginning the citizens were convinced that they would not need anything like that and now they want everyone to do it this way. Thus, when coming up with new ideas it is important to remember ***“people’s conception and perception of waste handling is also changing and always has”*** (Business Developer, HR, 51:25 – 55:18).

Importantly, the CEO (SM, 36:35 – 38:00) also takes care that the waste handling itself happens in a sustainable way, in the literal sense. That is why they sometimes go abroad to see whether companies that recycle their waste do the right thing as well. For example, a German company did not want to tell what they did with some parts of the waste, which could not be incinerated, they simply kept it a secret. In the end, AVV decided to do it themselves to guarantee it is done in a sustainable way. That is why they usually expect documentation on what happens to the waste once their customers treat it now to avoid greenwashing and to set a good example.

As the main goal of this principle is to be continuously able to provide new solutions to the customers, thereby ensuring a sustainable development of the company, AVV is doing a good job – they have plenty of ideas in all the departments for the future, which is also important for them to be leading, especially if the projects are sustainable in a literal sense. Their difficulty is apparently choosing the right one and not to lose track of all the projects going on, which can also cause that some of the ideas might not even benefit the customers at all or which do not match with the customers’ changed perceptions, as they simply try.

5.2.4. Speed

“Deliver working services frequently, with a preference to the shorter timescale”

According to the head of innovation, products can easily change within a year, but a service must be the same for some years, sometimes up to five or seven years in the waste management sector (Head of Innovation, TN, 11:55 – 12:43). Consequently, speed is not really important when AVV introduces a new system to its customers, since it is more important that the new services are functional – **“good quality of our products is more important than speed”** (Head of Administration, NL, 07:26 – 08:33). Due to the fact that the authorities and communities are involved, it can take up to two years to get a new system and the one that is going to be introduced this year has even been planned for three or four years now. Whereas other projects, for example the preparations for the annual Naturmødet, “just” take some months (Head of Innovation, TN, 13:07 – 14:59; Business Developer, HR, 38:34 – 39:49). Interestingly, the head of administration (NL, 08:44 – 09:27) would prefer more speed in the public relations as well, as he is convinced that there is some more speed in other parts of the company, for example in the sorting of waste, where they want to be the first on the market. However, this is not that important when providing services to the public.

In the recycling shop the situation is similar, as they are not commercial business, they do not necessarily have new materials every month, but continuously think about new and better services, better waste recycling possibilities or other ideas for what to do with the garbage for the environment’s sake (Head of Recycling Shop, DMN, 09:51 – 10:32). Importantly, the employee of the innovation department (KOZ, 10:08 – 10:27; 10:32 – 10:42) also pointed out that speed or just knowing that there is the expectation and a pressure to find new ideas quickly would hinder creativity, being counterproductive then.

Moreover, the initial situation of the company is a different one, since the government can decide anytime that AVV must recycle 50% of something and then they have to fulfill and make a system for it which the citizens can use. Often, the citizens are not happy with the system, but they have to do it anyway. So, the challenge is to provide a system that can fulfill the law in time and to do it in such a way that the citizens are happy with it. Therefore, it is important to do it slowly, so that citizens can see why it is a good idea and accept it in the end (Former Head of Incineration, MB, 08:47 – 10:34).

As already mentioned in the sub-section concerning adaptability, speed does also not play an important role regarding law demands in the incineration plant. However, when it comes to customers with new types of waste or waste that not all incinerate plants are burning, speed plays a role as they want to be the first one to install a system for incinerating this kind of waste. So, for example, AVV burns sewage from sewage systems, liquid remains from the chicken production, waste products from the receiving station Vendsyssels or clinical waste, in so doing belonging to the few incineration plants in Denmark that offer this service at all (Head of Incineration, KK, 13:06 – 16:00).

Within the company, however, it is easy and quicker to take decisions. As a consequence, the lacking speed derives primarily from the fact that they are so much related to the authorities and often need their approval (Head of Administration, NL, 09:48 – 10:32) This opinion is also shared by the head of the incineration plant – ***“I think the way we decide things is very fast”*** (KK, 16:33 – 17:43). According to him, if an idea is supported and one can see that it is a good idea, decisions are taken very fast, for example within two weeks easily. This is possible because they can directly talk to CEO Madsen. The ideas should be evaluated then to see ***“is that what we want, is that AVV spirit to do it like that”*** (Head of Incineration, KK, 18:10 – 19:40). The employee of the innovation department (KOZ, 10:54 – 11:32) also mentioned that it is somehow the head of the innovation department who makes it easy and quick, as he is always open to new ideas and lets people go ahead without imposing any limits. The only aspect that slows down quick decision making is that if the employees have already too much work to do and there is no time left to go after new projects, then they must be postponed (Innovation Employee, KOZ, 11:40 – 11:59). Additionally, according to the business developer (HR, 34:01 – 38:05), the open space office also contributes to better, faster work by being able to talk to the responsible persons or the boss easily, as everyone is sitting nearby. For the CEO (SM, 22:32 – 24:50), the most important aspect concerning speed is that there should be a short line from a good idea to action. As AVV is a smaller company, this line of action is extremely short, as everyone can directly to talk to him, speeding the process up – ***“you go and talk to me, we have a discussion, we decide how we can see this clear and then we take action right away”*** (CEO, SM, 22:32 -24:50).

Important to mention is that speed plays a crucial role when it comes to customer satisfaction. This was pointed out by the business developer who mentioned that

someone complained about some glass next to the glass bubble containers on Facebook at a weekend, because everyone could ruin his bike by running over it. That is why their communication officer immediately reacted to it, answered this person, although it was out of working hours and arranged that this problem was taken care of. In such cases speed is important, since things spread and happen so fast on social media. Afterwards, this person was invited to AVV, where they found out that he was in bicycle repair and then they tried to make him part of AVV's network, as it seemed that the person might have been afraid of AVV taking business away from him through AVV's repair shop (Business Developer, HR, 30:22 – 33:37).

In the waste management sector, it is not possible to deliver parts of the final service in regular intervals and would make no sense at all. Additionally, speed is not that important, as a lot depends on the authorities and cannot be influenced. That is why it is crucial that the internal decision-making and working is quick, as it is the case with AVV, which also ensures that there are new services and good quality products provided and other initiatives started as often as possible.

“Simplicity--the art of maximizing the amount of work not done--is essential”

Simplicity was an important factor when the new website and the new online auction were set up, which was done by using test panels to get feedback from the users. The two platforms had to be changed and AVV noted which features they must have and which ones would just be nice to have. So, in the end the goal was to make it as simple as possible for the user and cut out all the add-ons not every user would use, regardless of the plans they had before (Business Developer, HR, 56:04 – 57:39).

This question was not asked all the time because of time pressure. I still argue that a lot of other examples show that AVV follows simplicity and wants to reduce complexity and keep things simple whenever the customers are concerned. This, however, does not imply that people at AVV really maximize the amount of work not done – it can be the other way around, as back then when they put too much effort into a project and people were almost burned out in the end.

Having analyzed and also briefly discussed all twelve principles and how AVV implements them, it should be clear now that the agile tendencies noticed at the beginning of the analysis have been confirmed and even some components of agile frameworks could be discovered. In my opinion, AVV acts in an agile way, even though

it obviously takes a different form than in the software industry. Since this behavior must be driven by something, let us look at drivers for being agile at AVV and in the waste management sector.

According to the CEO (SM, 06:17 – 08:06), the actual necessity to be agile derives from the fact that AVV is considered as lazy and that they are not doing things right, simply because they are a publicly owned company. This is also the reason why a lot of people think that such companies should be privatized to make money, as it is already the case all over Europe. Consequently, he sees being agile, innovative and effective as a way to prove them wrong and to show that they can try harder to survive in the long run – ***“innovate or die is the slogan somewhere”*** (CEO, SM, 06:17 – 08:06). Additionally, since he comes from the private sector, he is convinced that the public sector should have the same drivers for doing business like the private one does, for example to be effective and to make the best solution for the customers (CEO, SM, 08:12 – 08:42). Looking at this statement, one can notice that also the CEO himself and his attitude can be regarded as a driver.

Another reason for being agile is that new raw materials are needed, as mines are emptied and other resources are exploited. ***“We are saying somebody should do something about that, but nobody is doing it, so we do”*** (CEO, SM, 09:22 – 15:10). Therefore, AVV tries to start new things to improve the circular system, where materials can be used repeatedly, as this is the world biggest problem. Innovation can take place everywhere that somehow closes the circle between the customers being done with the goods and reusing what is left of it. That is why new ways of thinking, new technology and different ways of collaboration to work together are essential to achieve this. However, there is still great potential left (CEO, SM, 09:22 – 15:10).

In the case of AVV, the company is also pushed by the fact that the central government has had plans to privatize the waste handling and consequently the company, for example by selling parts of it. Although the government does not have the majority to do so yet, they have been thinking about it for years, as bankers are behind it and push the process, being a threat to AVV. According to the CEO (SM, 25:08 – 27:45; 29:37 – 30:07), this idea of privatization is no good idea in the long-run anyway, because private companies might push these responsibilities back to the public sector after some years, when new investments would have to be made. That is why AVV should

show that it is better to have it this way through cutting costs, looking good, telling its story, showing cases where privatization failed and receiving support from universities and other institutions that share AVV's point of view. Unfortunately, as a publicly owned company, AVV must stick to a certain framework and follow a set of rules and the government can any time decide this way or the other, meaning that they do not have a real chance to do anything against it – the downside of being a publicly owned company. Additionally, AVV is not allowed to take money out, but the private sector can, that is why they are so interested in it (CEO, SM, 27:49 – 29:27; 30:15 – 31:24).

All these new developments towards agility started some years ago when a new reform was introduced with hard goals on recycling and sorting waste, which also changed the dynamics of the whole waste management sector. Since then, a lot of innovation processes have been going on to find new systems for collecting and sorting waste and there was a shift from seeing waste as a problem to waste being a resource, although waste is considered as a cost, as it must be collected and treated first (Director, JHS, 03:15 – 05:03).

That there is an overall necessity of being agile in the sector is also supported by director of the Danish Waste Association (JHS, 05:11 – 05:30) who pointed out that there is a lot of development going on and that the change-oriented companies are doing best in this environment, thereby considering them as agile. There are four to five companies that are leading the sector, for example Renosyd in Skanderborg and Aars in Southern Jutland, but AVV is considered as the first-mover in Denmark. AVV has had a recycling shop for 30 years, but no one else and now there is that new political agenda that makes a lot of other municipalities invest in and open recycling shops as well – for them it is a pretty new thing, however, not for AVV (Director, JHS, 11:02 – 12:01).

Moreover, he mentioned that there is a huge difference between publicly owned and private companies in the sector. Especially because of the fact that public utility companies have an obligation to work for the triple bottom line. Often, they also must work for positive effects on the labor market, as they are funded in a different way. Private companies, on the other hand, only need to make money to survive. The main issue here is, as mentioned above, that waste management is cost-driven. Everything done that is better for the environment costs more, for example to recycle more, to

reuse more and to turn waste into a new resource. **“So, the cheapest is to do less – if you want to have very cheap waste management, you need to do as little as possible”** (Director, JHS, 06:13 – 08:59). However, this attitude towards waste cannot help to move waste up the waste hierarchy, as doing so costs money. Private companies that are driven by profit will not do more than necessary. Publicly owned companies are driven by political goals and thus must do more. It goes without saying that there are also private companies which work for environmental goals, but the motivation to do so and the starting situation are a different one (Director, JHS, 06:13 – 08:59).

Consequently, director Simonsen (JHS, 16:33 – 16:57) sees the government regulations as one of the main drivers for agility, since the municipalities have the responsibility and local politicians engage in this, their main motivation being to keep low fees and to have a good support from the local community to be voted again (Director, JHS, 22:39 – 24:55). Often, these local politicians are therefore even more ambitious than the national policy, which of course predetermines a certain direction. At the same time, this often leads to the fact that waste management companies are operating in grey areas, as national policy is not that far yet. However, companies themselves frequently simply want to do it like that, because it is clever to do so. Consequently, it can also be a symbiosis between the administrative level on the company and supportive local politicians who work together to push the developments in a specific direction (Director, JHS, 19:03 – 19:39). If there is a lack of enthusiasm on the company side, the politicians will also decline the proposals **“and sometimes they even say, you know, this is a good idea, but we need to be even more ambitious”** (Director, JHS, 19:54 – 20:56).

5.2.5. Perceived Level of Agility

All the findings so far suggest that AVV appears to be an agile company, even though they are not aware of it and seem to follow agile methodologies and principles unconsciously. So, what about their perception, does it differ from what they actually do? The results of the filled in checklists (Appendix 7) are the following:

Company Type	CEO Madsen	Head of Incineration Plant (KK)	Head of Administration (NL)	Head of Recycling Shop (DMN)	Head of Innovation (TN)	Former Head of Incineration Plant (MB)	Head of Recycling Sites & Environmental Facilities	Innovation employee (KOZ)	Business Developer (HR)
Agile	9	8	10	9	6	8	5	7	7
Bureaucratic	2	4	3	4	4	2	3	2	4
Start-up	2	3	4	2	3	3	0	1	2
Trapped	1	1	2	3	2	1	2	2	2
Total count	14	16	19	18	15	14	10	12	15

Figure 12: Results Checklist

By tabulating the answers given concerning agile characteristics, in five out of the nine checklists the company is perceived as very agile to extremely agile, as eight to ten characteristics were ticked for the agile type. The other four still showed an agile tendency since between five and seven agile properties were chosen, meaning that the overall perception is the one of an agile company and matches with what they do, although AVV does not consider itself as agile, or at least has not until now. These results also show that there is no extreme difference of perception noticeable between the two management levels, but some discrepancies in the case of the head of innovation and the head of recycling sites and environmental facilities which are discussed hereafter. Unfortunately, the head of driving and recycling center did not return the filled in list and could therefore not be taken into consideration at all. Additionally, only the CEO mentioned another word for describing the company: at the forefront (på forkant) – being one of the four values of AVV.

Most surprisingly, the head of innovation ticked only six out of the ten characteristics for the agile company type, although it apparently is the department where an agile mind-set has always been present. Interestingly, the head of administration, on the other hand, ticked all ten characteristics of the agile type. This was somehow surprising, as the administration is, at least some of the tasks, really rigid. However, at the same time, it could be the reason why it is perceived that agile, because it is so different to what they are used to or expect from such a department. Only five characteristics for agile were ticked by the head of department of recycling sites and environmental facilities. In my opinion, the reason for that could be the geographical distance involved, meaning that the team is split up between the different locations of the recycling sites and the landfill and there is less collaboration among the team. Assuming this is the reason, it is impressive that it is still perceived as that agile, as the person only ticked

ten characteristics in total to describe how it feels to work at AVV. Nevertheless, this is crucial since two thirds are the ones “on the road” and unfortunately, I could not interview the two heads of department responsible for these employed people. So, it is hard to draw any conclusions at this point just because of the checklist, but it could indeed be the case. In other words, attention must be paid to those who are possibly farther away from the “center of agility”.

Since AVV is a publicly owned company operating non-profit, I expected a greater tendency to be bureaucratic as well. Indeed, some of the characteristics for the bureaucratic company type were ticked frequently, for example by the heads of the recycling shop, administration and incineration plant. However, looking at the checklists it was never the case that there were as many ticks for bureaucratic as there were for agile. That is why the agile organization type is still the prevailing one. Noteworthy in this context is also that AVV partly shows characteristics of a start-up, where one probably would assume that this does not match with a publicly owned organization at all.

These results could be further analyzed in more detail, for example by looking at which characteristics exactly were checked off for the bureaucratic type, but since the goal of this data set was only to learn more about employees’ perceptions of the current agility level, this is enough to get an idea of where they see themselves.

Keeping all the findings of the interviews and checklist in mind, I argue that agility at AVV could be illustrated like this:

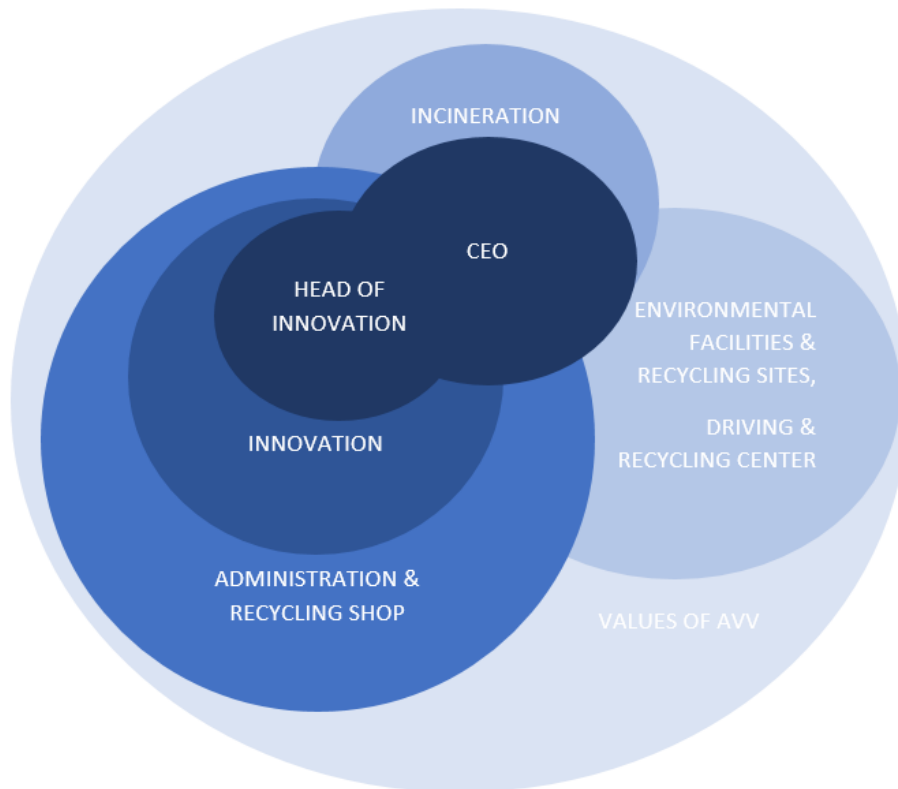


Figure 13: Agility at AVV⁶

As I found out in the interviews, the center of agility is people-bound at AVV, meaning the head of innovation who has worked there for more than 20 years and the CEO drive agility. The head of innovation has always had the openness towards change and possesses a “let’s try”- attitude, which is important for agility. Over the years, he also passed this mind-set on to his colleagues or employees who often work in other departments now. CEO Madsen, on the other hand, has the idea of empowering people to stay at the forefront, as he knows that it matters for surviving in the long-run. Therefore, he enables agility through further flattening the hierarchy and undertaking structural changes. It goes without saying that they all already use some components from agile frameworks, for example regular meetings or consensus building. However, in the incineration plant working in teams is just now being implemented, whereas regular and cross-functional teams are already the case in administration, innovation and the recycling shop. Moreover, these three departments work a lot cross-department, since the administration is the direct link to the customer through the

⁶ The different shades of blue in the figure show how far the different departments are away from the center of agility, also in a physical sense, implying that dark blue represents the center. Through the arrangement of the bubbles I also tried to illustrate which departments work together frequently.

customer service as well as Facebook, and is therefore often involved in projects of the recycling shop and the innovation department. The incineration plant works together with the departments of driving and recycling center as well as environmental facilities and recycling sites, but it is difficult to say anything about their way of working without having had interviews. Nevertheless, I see the touchpoint with CEO Madsen as essential and there are probably structural changes going on as well. Looking at this illustration, one can notice that the four values of AVV – think about the environment first, stay ahead, take responsibility and show respect – are illustrated as the brightest bubble in the background, surrounding all the other bubbles. In my opinion it makes sense to include these values, because although they are only in people's mind and guide them in everything they do, they are omnipresent and obviously help the company to have the right attitude for being agile, regardless of the position and department. This should not be underestimated!

Interestingly, the structural changes that AVV is currently implementing foresee to depict that teams are given priority and that there is not just one person at the “top” in the company anymore, contributing to more empowerment of all employed people and becoming even more agile. The core of the center will be composed of the CEO and three divisional directors (waste, recycling and staff). These division are then composed of different departments again, showing that cross-department work might become the new “normal” in all areas.

Thinking about this line in action, it is noticeable that AVV is doing it the other way around: companies that want to become agile often start with implementing structural changes to make it possible for the staff to work in teams and to create space for agile methodologies. Concerning the mind-set there are different ways, either the management tries to make the employees aware while the structural changes are taking place, or they simply hope that the right mind-set develops once the employees start working in this way. It goes without saying that this is also the reason why the implementation often fails, but this is not the point here. It is about the fact that at AVV the mind-set was there first and has since then always driven the way of working and now, in the aftermath, the structure is adjusted more and more to the real situation in all departments and the organization as whole. One cannot say how long it took to develop that culture, but since most interviewees said, especially in the innovation

department, that “it has always been like that”, it surely must have many years and has been accelerated with the appearance of the new CEO.

Knowing now that agility can be applied in a low-tech sector, how this is done with such a success has still to be analyzed. Thus, the next section aims at revealing how agility is understood at AVV and how a shared understanding of the same can be achieved.

5.3. Sense-making at AVV

Since sense-making theory is a rather loose concept and has no persistent pattern of use, the structure of the analysis follows the seven properties of sense-making and then the different sense-making processes within an organization are paid attention to.

To begin with, I want to present some statements of the employees concerning the question why they like to work in the way they do:

The former head of incineration (MB, 25:33 – 26:20) likes it, because new things happen often. Sometimes a person has a crazy idea, then they are like no first, but after thinking it about it for a while something comes out of it – **“I think that is very inspiring to work that way”** (Former Head of Incineration, MB, 25:33 – 26:20). When the head of administration was asked this question, he answered with: **“It’s a difficult question”** (Head of Administration, NL, 24:11 – 25:20). After some thinking, he also explained that he likes to decide things himself or with other people together. Moreover, he enjoys coming to work to see what is new – there are always new projects going on, for example how to better inform the organization about economic results or the introduction of a new IT system. This variation of different projects next to the daily work is also important for his employees (Head of Administration, NL, 24:11 – 25:20; 25:45 – 26:44). The reaction of the head of the recycling shop was similar, saying: **“I’m not sure, I don’t know, that’s the way it is, it’s always been like that and I like so much being here, so I can’t imagine otherwise”** (DMN, 27:07 – 28:48). According to her, it is difficult to explain, but has got to do something with the culture of people having good ideas, being positive, thinking about the environment first and taking human beings into consideration (Head of Recycling, DMN, 27:07 – 28:48). The main reason the innovation employee (KOZ, 33:29 – 34:31; 02:08 – 05:10) likes working at AVV is that you share the responsibilities for failures and success with your team, instead of carrying all of it on your own shoulder. Additionally, she has an influence on her tasks and is not told what to do all the time. Thus, it is a lot about the way they

work, as it is interesting for here and she gets more personally engaged this way. For the head of incineration (KK, 41:54 – 43:06), the management based on the four values of AVV is the most important thing, as he identifies with it and that is simply how AVV is as a company. Interestingly, he as a leader does not care whether people sometimes take the wrong decisions, because he believes that people do what they considered as the best in that moment. Consequently, he likes the culture that people can make mistakes and are not “getting killed” because of it, as long as you learn from it and do not repeat it – **“you need to be open and rely on people”** (Head of Incineration, KK, 41:54 -43:06). The business developer (HR, 1:05:21 – 1:08:40) likes that there is little writing and reading compared to his position as a part-time lecturer at Aalborg University and he appreciates this mixture of doing practical and theoretical things. Additionally, he brought up the closeness of the team and the trust within the department. It is also important to him that the company is so ambitious and does not consider barriers as something that cannot be overcome, as a lot of other companies in the sector do – **“was it a different management and a different ambition level or another waste management company closer by, I would not want to work for them”** (Business Developer, HR, 1:05:21 – 1:08:40).

Once more, it becomes clear that employees of AVV really like their way of working, the values they have, the mind-set of leaders and the employees as well as the atmosphere that exists there, showing that there is a certain organizational culture, but at the same time it is not easy for all of them to put it into words and to describe it, since these things have become self-evident for them over the time. As mentioned before, there are obvious differences when it comes to which degree this culture is lived in different departments, for example it is mostly developed in the administration, innovation and recycling shop department, which are all located in the same building. Nevertheless, also the remaining departments share a basic understanding of AVV's own agile practice, as far as it is currently applicable and necessary in their situation. Importantly, one must say that the whole organization, except for the CEO, does not know the concept of agility, simply because they never had to – they grew into their own agile practices, so there was no reason for them to learn about the concept or agile frameworks nor do they have to understand it, as their way of working makes sense to them and they do not see a point in changing or adjusting it. And no one has ever told them so far that there is a name for it as well. In other words: their practice

evolved itself and just turned out to be agile. It apparently developed over the years and their sense-making of situations led to a shared understanding to do it this way. By implication, this means that a certain shared understanding necessary for sense-making can be the basis to achieve agility, regardless of whether it shall be implemented on purpose or simply develops out of the circumstances. That is why the aspects that either help or hinder employees at AVV to create a shared understanding are explained hereafter.

Identity construction

One of the main things that contribute to the shared understanding is that people like and follow the four values of AVV, implying that those are also important to them on a personal level and matches with their nature. This means that they identify with the company and therefore they can make sense of what is going on more easily and also support it.

Retrospection

In general, I would argue that AVV partly lacks the property of retrospection, since they often do only one-time projects and therefore the “how could we do this better” does not necessarily matter for them. At least this seemed to be true in the innovation department. Moreover, as found out in the previous analysis, people in all departments tend to class reflection with regular meeting, which obviously is not the same. This can cause that they do not question anymore what they are doing or whether it makes sense at all – they simply assume it does and justify it with the words “that’s the way we do it, that’s our culture”.

Enactment

As the employees at AVV apparently share an understanding of their environment and their organization, they reproduce and create the same through doing things the same way repeatedly, meaning having meetings, using a lot of face to face communication, working in teams and doing small-talk, just to mention some examples. This shows that people at AVV make sense of the way it is and therefore continue doing and reproducing it and apparently do not question it anymore. Perhaps they did a while ago, for example when the new CEO came and suggested to have some shared, but now they got used to it and they understand why it makes sense to use these values and it has become the new normal.

Socialization

Especially the fact that employees are free to talk to each other and have open space offices in the administrative building makes it easier for them to socialize and to share their “stories”. So, for example, they frequently use the earlier mentioned metaphor “we want to go in the citizens kitchen”, which developed in AVV’s context and all of them understand it in the same way. Obviously, they cannot go there, but whenever they talk about and come up with new solutions and ideas for the customer, this metaphor is like a frame that helps them to know which services are adequate and which are not.

Continuation

Since sense-making is an ongoing process that can never reach a final stage, AVV will also not stay in this form forever. This means that depending on what the company and its actors learn about their behavior and possible consequences, their agile way of working and mind-set might change again as well. However, at the moment it looks like the administrative part of the company tries to influence the behavior of the remaining departments with the goal of completely aligning their practices, as the structural changes suggest. Consequently, an important finding here is that sense-making of the same issue can take place at different points in time throughout the organization, meaning that a shared understanding takes longer to achieve, but also that even a shared understanding has always different nuances.

Extracted cues

As sense-making requires cues, it is actually dangerous to have this culture of people justifying actions with “that’s the way we do it and it’s always been like that” – it can lead to a lack of cues. This means that even if there was a discrepancy between the experienced and a person’s expectation, it might not be noticed as a trigger for sense-making any more for the simple reason that the person feels like he or she acted as usually and therefore it is still okay, even if a project failed – they do not think about it in depth or explain the failure, thereby hindering further development. An exception might be the incineration plant though, which uses this incident-worksheet to learn from any type of occurrence and where the head of department puts great stress on learning from failures. Interestingly, one could somehow consider my appearance at AVV as an

external cue, since employees have started to think about AVV being an agile company now and to consider components of other agile frameworks for the future.

Plausibility

The different shades of a shared understanding can also be traced back to the fact that the employees only must understand enough to complete their tasks. So, for example, at AVV the members of the incineration department at AVV did not have to really make sense of working in teams yet, as it did not have any impact on their work, but now they should. Another example could be the self-organizing teams. Probably a lot more people think that self-organizing teams can be a good idea, because employees at AVV have a similar mind-set. Nevertheless, they do not make sense of it as long as they are not directly concerned or expected to work in this way.

Apart from the seven properties, the different types of the sense-making process which can occur in an organization also have an impact on how shared meaning is created. Since sense-making is difficult to observe, I can only make some assumptions based on statements in the interviews when it comes to discovering the prevailing sense-making process type at AVV. By looking at the second part of the analysis, I argue that there are two types of sense-making that are of great importance. In my opinion, the sense-givers are the CEO for the whole organization, but also the head of departments, especially the head of the innovation department. This means that, for example now, where structural changes are going on in the incineration department, the CEO shapes sense-making, as he has always been the one promoting and enabling it throughout the organization, showing a restricted type of sense-making. The employees in the incineration plant should make sense of all the changes and new ways of working now and probably constantly ask themselves what is going on, as they have not yet acquainted themselves with the new situation. However, at the same time they are familiar with the four values of AVV and how the other departments work, consequently I believe that this is why they do not even think about providing other, alternate explanations and solutions and adapt their understanding accordingly. Nevertheless, I also see some fragmented sense-making processes, whereby the heads of departments give sense to their team members, for example in the innovation department. The same might hold true for the incineration department then, where after the main structural changes will be concluded, the head of department might give

sense to his workers, as he is in the position to do so and wants them to work this way and explains things without the CEO hindering it. However, this could also bring about that the shared understanding might differ slightly from the other departments as well.

As conversational practices also help to create a shared understanding, AVV greatly benefits from the fact that oral communication is the main channel of communication. That implies that points of view in form of statements, narratives or metaphors also spread more easily throughout an organization and get stuck in people's heads. That is why I consider the following quotes, which have already been cited at different points of the analysis, as the most adequate to describe the shared understanding at AVV:

"If it doesn't work then we adjust and do it differently."

"We want to go to the citizens kitchen."

"We try to listen and we have open doors here."

"We will always be the best to handle the waste."

"Of course we can change if it makes sense."

"Is that what we want, is that AVV spirit to do it like that."

"You need to be open and rely on people."

These statements say a lot about how employees see their organization and helped to create the shared understanding necessary for applying agile practices with success. Interestingly, in almost all of them "we" is used, thereby also indicating that they themselves assume that all of them have the same understanding concerning the respective issue.

6. Discussion

So far, there is the assumption that companies try to become agile for several reasons, as mentioned in the introduction, and therefore they implement the agility approach to achieve this goal. However, as we could see in the analysis of the case company, there is also another possibility to turn into an agile organization: it can happen step by step through noticing cues early enough and interpreting them in such a way that it leads to an adoption of measures that are agile in their nature, because it makes sense to the employees. Consequently, the shared understanding of employed people is the actual basis for agility and probably the missing element whenever the implementation of it fails. That is why it is important to find the persons who give and shape sense in their organizations and which sense-making processes prevail. It goes without saying that these sense-givers must understand themselves first why it makes sense to act this way. However, in so doing, the implementation of agility could be facilitated. Nevertheless, as sense-making is not easily discerned, this probably is the hardest part to accomplish. Important for companies which want to implement agility with success is also that the distance to the center of agility plays a crucial role for sense-making too. In other words, the distance can already be noticed in different departments of an organization, although they are in the same building. This can be traced back to the fact that all these departments can have differing sub-cultures, which have an influence on sense-making and in turn on how they act. Thus, these discrepancies must be paid close attention to, especially if powerful sense-givers can be found in those departments.

In the introduction it was mentioned that the public sector belongs to the less agile performers. Looking back at the analysis, one can see that publicly owned companies can belong to the most agile performers as well and AVV exemplifies this best. Nonetheless, it is wrong to say that this can happen in every sector, as not all sectors are that well-supported by the authorities – the waste management sector benefits from the fact that environmental protection has been high on the political agenda for years now. That is also why laws and regulations literally drive innovations and new systems – public utility companies constantly have to come up with new ways to meet or even exceed these requirements. And most importantly, there is the willingness of the authorities to pay for all these improved services, as it also helps the local

politicians to advance with their career. This financial support is crucial since waste is considered as a cost and therefore a lot of other publicly owned or private companies are not that innovative or leading, simply because it would be too costly. Thus, publicly owned companies do not have to be the lazy ones which do not want to take any risk at all. Still, I would argue that, when looking at public utility companies in general, AVV probably stays rather an exception, simply because a lot there developed this way because of the current CEO, his attitude and also his leadership style. Probably without him and maybe also without the head of innovation the situation would look differently at AVV as well.

It should have become clear now that agility has turned out to be an approach that is broadly applicable – it is generally not bound to any industry nor organization type. However, it is apparently bound to a certain mind-set and a shared understanding when it comes to its implementation.

7. Conclusion

Agility is a flexible and adaptive concept based on four values and twelve principles, which can help to become an agile organization. However, agility does not have a prescriptive character, meaning that there are no step by step instructions on how it can be achieved. Even more interestingly, and as shown in this thesis, it is also possible for a company in a non-IT sector to follow these agile principles, even without being aware of it. Thus, a publicly owned waste management company can apply agility, or rather their own agile practice, by:

- Having a CEO that encourages people to think themselves, gives them their own area of responsibility, enables flat organizational structures and supports informal leader-member relationships
- Avoiding too much documentation and planning, since people shall be action-oriented and open towards change to find new ways and everybody can contribute
- Developing a feeling for the customers through using pilot studies, panels, Facebook, company visits or workshops to hear opinions and criticism
- Working in cross-functional or even self-organized teams to exchange information effectively and to take decisions together
- Collaborating for better solutions through knowledge sharing with researchers, universities, private companies, other waste companies and networks
- Ensuring a short line from idea to action, as everyone can talk to the CEO or their immediate superior directly all the time
- Putting customer satisfaction over ideal solutions, as good quality, simplicity and functionality are more important to them
- Responding to dissatisfaction and complaints as fast as possible and to try to make things right by talking in person
- Measuring progress to see goals are being achieved, whereby those measures have to be adequate for the different departments
- Creating a good working atmosphere where people know about each other's private life and where there is openness and trust within teams

Companies might now think that these bullet points can be copied easily, but to actually apply agility with success all employed people must share the same idea of the practice

and how work is done in this way then, referring to a shared understanding. As long as this is not achieved, any attempt to become truly agile can fail, simply because the employees cannot make common sense, which is essential to act accordingly. So, the goal is being agile, not just doing agile. This shared understanding for agility, or the company's own agile practice, is achieved by the publicly owned waste management company through:

- Shaping and giving sense of different leaders, not only the CEO
- Having a culture based on values that people identify with
- Making face to face conversations the main channel of communication
- Spreading statements, metaphors and narratives in conversations

There are three main points for my post-understanding: first, it should become clear now that there might be many more organizations, also in other non-IT sectors, which are agile in their nature and work accordingly – they are just not aware of it and do not call it agile, simply because it is “their practice” and thus is not questioned anymore, it just makes sense to them to do it like that. Secondly, a lot of perceived low-tech sectors, as the waste management sector, are not that low-tech anymore, because all of them rely at least partly on high-technology, for example in the waste sorting and waste to energy area. That is why I argue that we should rather differentiate between high-tech USING and high-tech PRODUCING industries, especially in the future, where these boundaries might blurry even more. Thirdly, there are sectors where publicly owned companies are the leading ones instead of private companies, meaning that their way of funding can be an advantage for being innovative when it comes to issues that are high on the political agenda. Moreover, as seen at AVV, the structure does not have to be typically hierarchic and rigid – there can rule a completely different culture too, which brings us back to the fact that certain structures and ways of working are more habit, than law.

For further research it can be of great interest to examine in which ways using organizational sense-making can facilitate the new introduction and implementation of agility in a company. Moreover, a comparison between private and publicly owned companies in the waste management as well as in other sectors should be undertaken to see how agility is applied there and whether drivers for being agile differ.

Reflecting on the research process, I must admit that it is hard to talk to people about something in English that they are not familiar with nor aware that they are doing, meaning that even after explaining the topic to them they could not immediately see how there is a connection between their way of working and agility or agile practices.

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9. Appendix 1: High-Tech vs. Low-Tech

This section deals with the differences between high-tech and low-tech sectors and where to draw a line between them, if possible at all, since almost all sectors rely on high-technology in some ways nowadays.

High-tech is the abbreviation for high technology and comprises technology that is the most sophisticated, most advanced and nothing comparable has been there before – it is a new technological solution and the answer to a problem that has never been thought of before, especially in the field of electronics and computers. This does not necessarily mean that it has to be a product, it can also be a method, technique or service. Great complexity and short lifecycles characterize this type of technology (Clark, 2010, p 1427; “High Tech”, n.d.). Low technology, on the other side, is said to be primarily focused on production and the technology involved is already available and can be easily purchased on the market. This often applies to traditional companies and firms in mature markets. The main difference between the two is, however, that there is little invested in research and development in low-tech industries (Grønning, 2012, p 264).

The research and development intensity is a factor which is internationally used to classify industries and sectors depending on the ratio of the of research and development expenditures to the turnover of a company or business sector. The OECD categorized it as follows: research and development intensity is higher than 5% in high-tech sectors, between 3% and 5% in sectors of medium-high-tech and less than 3% in medium-low-tech and low-tech sectors. High-tech sectors are, for example, pharmaceuticals, aerospace construction, electronics, vehicle construction and mechanical engineering. The manufacturing of household appliances and metal or plastic products, as well as the food, paper, wood and printing industry are considered as low-tech (Hirsch-Kreinsen, 2008, p 12). Basically, this means that every company, even in the waste management sector, could be a high-tech company, as long as the research and development intensity factor is correspondingly high. However, this does not mean that the sector is high-tech at the same time and vice versa.

It should also be mentioned that low-tech companies, although showing a low research and development intensity, may excel in innovation. In other words, such firms might not possess their own research and development capacities and do not spend a lot of

High-Tech vs. Low-Tech

money on external research and development orders either, but often have other resources at their disposal which allow them to be innovative and to adapt. These resources, above all knowledge, are either so rare or are simply combined in a special way to be different compared to all the others. Crucial is that this only works for organizations that know how to make use of these resources. Consequently, this does not apply to all of them (Grønning, 2012, p 264-265; Hirsch-Kreinsen, 2008, p 14). Notwithstanding, this also shows that the research and development indicator should be used with caution and other factors should be taken into consideration as well, if one wants to differentiate between high- and low-tech industries or companies.

When thinking about high-tech and low-tech sectors and agility, the distinction between service-producing and goods-producing sectors should be mentioned as well. Since the software industry belongs to the service-producing sector, one could assume that only service-producing sectors can be technologically advanced, but this is wrong looking at the above-mentioned examples. Nevertheless, true is that different sectors apparently can include various levels of technology, reaching from high to low in each, depending on the specific tasks of an organization in that field or the necessity of coming up with new solutions and products.

Keeping all these facts in mind, the waste management sector is a primarily service-producing one, where I can imagine that different companies within it use technology to varying degrees. For example, the expenditures for research and development in incineration plants are probably much higher, because new and improved processes and methods are required to meet environmental standards and to be most efficient. Comparing this to companies that are only concerned with collecting domestic waste, it becomes clear that less technology is involved and is also not really needed. This difficulty of finding a clear separation between high-tech and low-tech, even within a seemingly low-tech sector, should not be forgotten throughout the thesis.

10. Appendix 2: Interview Guides

Interview Guide – AVV – all departments:

Question	Derived from	Asked to
Part 1 - Introduction		
According to your opinion, to which extent do you work in an iterative/incremental/collaborative/flexible way at AVV?	Literature on agility: agility in the software industry, characteristics of agile frameworks	Get an overview of how they work, covers agility in a really broad sense, so everyone could say something about it
Are there any agile principles or agile frameworks that you work with at AVV or which allow you to work in an adaptive/innovative way daily?	Literature on agility: working in an agile way	See whether they are familiar with any agile methods, as they still could have heard of some
Part 2 – Twelve Agile Principles		
How important is customer satisfaction/centricity and in which ways do you, if you do in your department, collaborate with them to be more innovative and to find ideas? Follow-up: Are the customers directly involved in coming up with new concepts?	Customer satisfaction plays a crucial role when it comes to being competitive and leading.	Find out how important the twelve principles are for the case company, in which ways they are implemented (“agile ways of working”) and whether they follow them at all

Interview Guide – AVV – all departments

How do you ensure that you respond to such changes accordingly and how do you deal with changing requirements?	Sometimes changes occur along the way of developing a new product or service and working in an agile way means that such changes are “welcome”.
In which ways does speed play a role in your business? In your opinion, which measures are taken that you can take decisions quickly and in an effective way in your team? Follow-Up: How long does it take approximately to develop anything new (system, method)?	Delivering new products or services quicker gets more and more important – the shorter the timescale, the better.
In which ways do people work together at AVV in projects and are interactions or meetings part of daily/weekly routine? (e.g. the different departments and the innovation department, project team and customers)	Teamwork and collaboration with people involved in a project is an essential part of working in an agile way.
In which ways is there an environment created that supports and motivates you at work?	Empowerment of employees leads to good ideas, success and motivates employees.
How important are face-to-face conversations, also with other departments and why, especially for idea generation?	For an effective exchange of information transparent face-to-face communication is essential.

How do you measure progress in your business? Is there a specific indicator in your department? (e.g. number of “innovations”/projects)	Progress has to be measured in some way to improve.
How do you ensure sustainable development, meaning how do you guarantee something like a constant flow of ideas/innovations?	One new thing or service is not enough to survive in the long run – new ideas and solutions have to be found constantly.
In which ways do you guarantee working services and good quality products to satisfy the customers?	Agility requires (technical) excellence and good design, depending on what exactly you are working on.
Which role plays simplicity when it comes to new approaches, models or other types of innovation?	Simplicity is a key element of agility and often refers to the fact that it can save a huge amount of work, if things are kept simple.
In which ways do you make use of self-organizing or cross-department teams, also to come up with new solutions? Follow-up: Which experiences do you have with self-organized and/or cross-functional teams here working at AVV?	Self-organizing teams are said to be more creative when it comes to delivering ideas and quality products and services.
How do you reflect on what you are doing? And do you do it regularly (e.g. daily or weekly) and why do you do it?	At regular intervals, teams or departments should ideally reflect on how to become more

	effective and adjust the behavior accordingly.	
PART 3 – Benefits of Agility	Literature on agility: working in an agile way, last paragraph	
In which ways do you benefit from this way of working or why do you like it?	Working in an agile way and using these frameworks or just some components of them is said to meet human needs.	See whether there is something in specific people mention when they are asked about their way of working and the benefits of it

Interview Guide – AVV – CEO Madsen:

Question	Derived from	Asked to
Part 1 - Introduction		
What would you tell me about AVV in this context in just a few sentences?	Definition and explanation of agility	Get an overview of how familiar the CEO is with agility or what his opinion is on the topic, covers agility (at AVV) in a really broad sense
What would being agile mean in your company? Follow-up: Or why would you rather not use the word agile when describing AVV?	Definition and explanation of agility, conversation at the beginning of the thesis writing about AVV and whether they are agile at all	Find out whether there is agility in the company and in which form it appears, how they describe it since they do not consider themselves agile
What is the motivation for being agile [innovative/leading/ahead/adaptive] at AVV? Or where does the necessity of being agile come from? Is it rather the idea of the board, as they want to be competitive or are there other drivers as well?	Introduction and the different reasons for becoming agile, strategy of AVV	Understand the drivers and the necessity, if there are any at all, for being agile and why they work like this
Part 2 – Innovation at AVV		
How can innovation be achieved in such a sector that has in general rather little technology involved?	Appendix: Discussion about high-tech and low-tech sectors, importance of innovation at AVV (company profile)	Get an idea of how they adapt to the changing environment and requirements and which types of innovation and ideas they have

Interview Guide – AVV – CEO Madsen

Are you in direct contact with the customers and do you collaborate with them to be more innovative or to find ideas? Or how does it work?	Literature on agility – definitions and broad view	Find out how “agility” works at AVV
And which departments are responsible for contributing to new ideas or who is in contact with the customers?	Literature on agility – definitions and broad view	Find out how “agility” works at AVV
PART 3 – Four Aspects of Agility		
Can these four all be found in your company or which ones play a role in your business and why?	Literature on agility, four aspects of agility that comprise the twelve agile principles	See in which ways speed, adaptability, customer centricity and mind-set play are of importance on the company level
What is the biggest challenge for AVV at the moment?		Get an idea of what they currently deal with and where they might have to adapt (company level)
Are there any changes going on within the sector?		Get an idea of what they currently deal with and where they do not have any influence on it (sector level)
PART 4 – Twelve Agile Principles		
How do you measure progress in your business?	Literature on agility: agility in the software industry	Find out what the overall measure for progress is in this business
How do you ensure sustainable development?	Literature on agility: agility in the software industry	Understand how they see sustainable development and what matters in the long-run
Do you or specific teams or departments regularly reflect on how	Literature on agility: agility in the software industry	Hear his opinion on reflection, as it is an essential part for progress and further development and often missing

**to become more effective in what you
do? Why, why not?**

Interview Guide – DWA – Director Simonsen:

Question	Derived from	Asked to
Part 1 – High-Tech vs. Low-Tech		
How would you see the waste management sector – is it only low-tech, as it might be perceived by people from outside? Or is it more high-tech than anticipated? How would you characterize it?	Appendix: Discussion about high-tech vs. low-tech	Find out how the sector sees itself regarding low-tech and high-tech and possible peculiarities
Part 2 – Agility		
What would you tell me about the waste management sector in this context in just a few sentences?	Definition and explanation of agility	Get an overview of how known agility is in the sector, what his opinion is on the topic, covers agility in a really broad sense
Is there an actual necessity of being agile in this sector?	Introduction and the different reasons for becoming agile	Understand the drivers and necessity, if there are any at all, for being agile or why they work like this
In which ways can agility be practiced in the waste management sector?	Literature on agility: definitions and overview	Find out which form agility takes and how it is implemented in the waste management sector
Is there a difference between publicly owned and private companies noticeable when it comes to agility, innovation and adaptability?	Introduction and the public sector being less agile	Hear about whether public or private companies are leading and why
Part 3 – Innovation & AVV		

Is this similar in other companies in this sector or is AVV more like an exception?	Company profile AVV, their four values and strategy	See where AVV and their way of working fits into the sector
How can innovation be achieved in such a sector that has in general rather little technology involved?	Discussion about high-tech and low-tech sectors	Get an idea of how they adapt to the changing environment and requirements and which types of innovation as well as ideas they have
PART 3 – Four Aspects of Agility		
According to your opinion, how important are these four characteristics in your sector? Can one find them there at all? Or which ones play a role in the waste sector and why?	Literature on agility, four aspects of agility that comprise the twelve agile principles	See in which ways speed, adaptability, customer centricity and mind-set play are of importance on the sector level
What is the biggest challenge for the waste management sector at the moment?	Waste management and all restrictions and regulations	Get an idea of current developments within the sector
Or are there any changes going on within the sector?	Waste management and all restrictions and regulations	Get an idea of current developments within the sector

Self-assess: How does your organization currently operate and feel?

What it is like

- ☐ Start-up
- ☐ Chaotic
- ☐ Creative
- ☐ Frenetic
- ☐ "Free for all"
- ☐ Ad hoc
- ☐ Reinventing the wheel
- ☐ No boundaries
- ☐ Constantly shifting focus
- ☐ Unpredictable

Total checked

What it is like

- ☐ Quick to mobilize
- ☐ Nimble
- ☐ Collaborative
- ☐ Easy to get things done
- ☐ Responsive
- ☐ Free flow of information
- ☐ Quick decision making
- ☐ Empowered to act
- ☐ Resilient
- ☐ Learn from failures

Total checked

What it is like

- ☐ Uncoordinated
- ☐ Stuck
- ☐ Empire building
- ☐ Fire-fighting
- ☐ Local tribes
- ☐ Finger pointing
- ☐ Under attack
- ☐ Rigid
- ☐ Internally political
- ☐ Protecting "turf"

Total checked

What it is like

- ☐ Risk averse
- ☐ Efficient
- ☐ Slow
- ☐ Bureaucratic
- ☐ Standardized ways of working
- ☐ Siloed
- ☐ Decision escalation
- ☐ Reliable
- ☐ Centralized
- ☐ Established

Total checked

Strong

Dynamic capability

Weak

Stability

Strong

Start-up/
fleet

Agile

Trapped

Bureaucratic

McKinsey&Company

Retrieved from <https://www.mckinsey.com/industries/public-sector/our-insights/how-the-public-sector-can-remain-agile-beyond-times-of-crisis>.

Dynamic Capability and Stable Backbone

Please check all the words that describe your company and how it currently feels to work there:

- | | |
|---|--|
| <input type="checkbox"/> Start-up | <input type="checkbox"/> Ad hoc |
| <input type="checkbox"/> Quick to mobilize | <input type="checkbox"/> Free flow of information |
| <input type="checkbox"/> Uncoordinated | <input type="checkbox"/> Finger-pointing |
| <input type="checkbox"/> Risk-averse | <input type="checkbox"/> Siloed |
| <input type="checkbox"/> Chaotic | <input type="checkbox"/> Reinventing the wheel |
| <input type="checkbox"/> Nimble | <input type="checkbox"/> Quick decision-making |
| <input type="checkbox"/> Stuck | <input type="checkbox"/> Under attack |
| <input type="checkbox"/> Efficient | <input type="checkbox"/> Decision escalation |
| <input type="checkbox"/> Creative | <input type="checkbox"/> No boundaries |
| <input type="checkbox"/> Collaborative | <input type="checkbox"/> Empowered to act |
| <input type="checkbox"/> Empire-building | <input type="checkbox"/> Rigid |
| <input type="checkbox"/> Slow | <input type="checkbox"/> Reliable |
| <input type="checkbox"/> Frenetic | <input type="checkbox"/> Constantly shifting focus |
| <input type="checkbox"/> Easy to get things done | <input type="checkbox"/> Resilient |
| <input type="checkbox"/> Fighting fires | <input type="checkbox"/> Politics |
| <input type="checkbox"/> Bureaucratic | <input type="checkbox"/> Centralized |
| <input type="checkbox"/> "Free for all" | <input type="checkbox"/> Unpredictable |
| <input type="checkbox"/> Responsive | <input type="checkbox"/> Learning from failures |
| <input type="checkbox"/> Local tribes | <input type="checkbox"/> Protecting "turf" |
| <input type="checkbox"/> Standard ways of working | <input type="checkbox"/> Established |

Are there any other words which you would use to describe your company:

Dynamic Capability and Stable Backbone

Sæt kryds ved alle de ord af, der beskriver dit firma, og hvordan det føles at arbejde der for øjeblikket:

- ☐ Start-up
- ☐ Hurtig til at mobilisere
- ☐ Ukoordineret
- ☐ Varsom/risikosky
- ☐ Kaotisk
- ☐ Fleksibel
- ☐ Fastlåst
- ☐ Effektiv
- ☐ Kreativ
- ☐ Samarbejdsvillig
- ☐ Fokus på at gøre virksomheden til et imperie
- ☐ Langsom
- ☐ Hektisk
- ☐ Har let ved at få tingene gjort
- ☐ Finder løsninger i det sekund problemer opstår
- ☐ Bureaukratisk
- ☐ Tilgængelig for alle
- ☐ Lydhør
- ☐ Gør tingene som de altid er blevet gjort
- ☐ Arbejder ud fra standardiserede arbejdsmetoder

Afdeling: _____

- ☐ Baseret på hurtige løsninger
- ☐ Fri informationsstrøm
- ☐ Peger fingre
- ☐ Hver afdeling fokuserer på sig selv
- ☐ Reinventing the wheel/genopfinde hjulet
- ☐ Hurtig beslutningstagning
- ☐ Under angreb
- ☐ Beslutningseskalerende
- ☐ Ingen grænser
- ☐ Ansvarlig
- ☐ Ufleksibel/stædig
- ☐ Pålidelig
- ☐ Skiftr konstant fokus
- ☐ Robust/solid
- ☐ Politisk
- ☐ Centraliseret
- ☐ Uforudsigelig
- ☐ Lærer af fejl
- ☐ Beskytter sit territorium
- ☐ Etableret

Er der andre ord, som du vil bruge til at beskrive din virksomhed:

12. Appendix 4: Coding

This chapter aims at explaining the twelve principles in more detail, as already exemplified with one of them in the sub-section of the analysis “Applying Agility to a Low-tech Sector”. Moreover, the principles are then assigned to four key themes which are used for the coding and provide the basis for the structure of the analysis at the same time. Important to note is that the below-mentioned principles are quoted from agilemanifesto.org/principles, the official website of the Agile Manifesto.

As mentioned in the literature, the twelve principles cover four different aspects of agility, namely customer centricity, adaptability, speed and mind-set. In my opinion, it makes totally sense to work with these aspects, as they do not only provide some categorization, but also constitute agility. Additionally, the meaning of them is apparent. In some cases, the principles could be assigned to more than just one aspect. Thus, I am going to discuss all of them one by one hereafter in order to be able to choose the prevailing aspect. In so doing, I can make the coding easier to understand as well as more transparent.

1. “Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.”

Customers prefer to have frequent releases or demos of the software they ordered to see what they will get or to add and change features instead of waiting until the very end of the development process. Consequently, the customers, their satisfaction and collaboration with them are the focus here, which also helps the software company to be competitive and leading. In other sectors, the satisfaction of customers is achieved in different ways, because a continuous delivery of services or products during the development is probably not possible. So, it is important to find out how a company puts the customer in the center of attention.

➔ CUSTOMER CENTRICITY

2. “Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.”

Description Coding

Once again, when working in agile ways, it is important that changes are not refused or ignored on the way. In the software industry such changes of features or requirements can lead to delays and are, as mentioned in the literature, usually seen as costly. So, it is not only about accepting and implementing changes, but also about avoiding delays. One could argue now that adaptability, customer centricity and speed are all aspects that are covered with this principle, however, in my opinion, being adaptive to changing requirements is more important, also in other sectors.

➔ ADAPTABILITY

3. “Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.”

As agile ways of working, for example Scrum, aim at delivering software and parts of it in frequent intervals or after the so-called sprints, speed is the prevailing aspect here. In other sectors, a frequent delivery might have other time periods and iterations can be longer or shorter depending on the business. Important is that this principle deals with speed or a potential lack of speed and the fact that delivering new products or services more frequently is becoming more and more important in a lot of sectors – the shorter the timescale, the higher the chances to stay competitive.

➔ SPEED

4. “Business people and developers must work together daily throughout the project.”

Whenever customers and developers, as well as the team, work together and collaborate during a project, the final result improves and better decisions are taken. In the case of software development, collaboration is essential between the technical team which knows what is possible and the customer who has certain expectations of the functions. For other sectors, the collaboration might not necessarily be with the technical team, but the customer should be involved, even if not on a daily or weekly basis. Doing so requires a certain mind-set. Obviously, this principle deals with customer centricity and to get a better product or service at the end for the customer through collaboration.

➔ CUSTOMER CENTRICITY

Description Coding

5. “Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.”

An atmosphere that motivates and supports the team as well as all the individuals involved helps to get the best out of projects and to be successful. Such an atmosphere is often achieved through empowerment. This principle speaks for itself and does not need any adjustments for applying it to any other sector.

➔ MIND-SET

6. “The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.”

The software industry decided on face-to-face communication being the most effective way to communicate and to exchange information. Consequently, teams should be co-located, so that the communication can be more successful and face-to-face conversations enabled. In my opinion, this is a certain mind-set. At the same time, it could be argued that face-to-face interactions in turn also increase speed. For me, this principle still should be assigned to mind-set, as people have to communicate this way first before it can actually speed up anything.

➔ MIND-SET

7. “Working software is the primary measure of progress.”

To provide the customer with working software is the main indicator for measuring progress. This means that satisfying the customers with a functional software developed according to their idea becomes more important than just providing, sometimes even defective, software. Thus, the principle belongs to customer centricity. In order to apply this principle to other sectors, one should think about which factors are chosen by an organization to measure progress in that industry and in which ways it can contribute to customer satisfaction, as progress has to be measured in some way.

➔ CUSTOMER CENTRICITY

8. “Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.”

For software development teams it is important to establish a maintainable development pace, meaning that they are able to provide new and working software to their customers over and over again, regardless of the differing features needed. It is the ability to adapt to new requirements and to be able to implement those within an adequate period of time. Applying this to other sectors, it means that just one new product or service for the customers is not enough in the long run, they have to be adapted and new ideas are needed to ensure a sustainable development and not to only act when it is almost too late.

➔ ADAPTABILITY

9. “Continuous attention to technical excellence and good design enhances agility.”

In other words, teams have to make sure to have the right skills to offer working software with a good design and to constantly improve it for the customers. This also contributes to the previous principle, as it is easier to adapt and to react to change with the necessary skill-sets available. However, this does not necessarily have to be technical excellence in other sectors. Consequently, excellence and good design of a product or service might be understood completely different in another context. Again, it is arguable to which aspect this principle should be assigned – customer centricity or adaptability. In my opinion, since principle twelve, which is explained below, also deals with advancing skills and improving effectiveness, I argue that here the customer is the center of attention and that it is about providing working services and good products to satisfy the customer.

➔ CUSTOMER CENTRICITY

10. “Simplicity--the art of maximizing the amount of work not done--is essential.”

Simplicity has become a key element of agility in the software business, as they had problems including all the features the customer wished for, making it impossible to

Description Coding

change things when too far ahead in the process and often the features did not work in the end as planned. That is why the new maxim is just to do enough until one has gotten feedback from the customer. In this way, a huge amount of work can be saved if things are kept simple until one knows for sure that it will work. The same holds true for other industries. It partly also contributes to adaptability, since changes are made more easily when things are not that complex yet, but since the overall goal is to reduce the amount of work, it is an important measure to increase speed and to accelerate the development process.

➔ SPEED

11. “The best architectures, requirements, and designs emerge from self-organizing teams.”

Self-organizing teams that are empowered to take their own decisions are said to be more creative when it comes to sharing and delivering ideas for the best architecture and designs of software. It creates a better working atmosphere and communication gets easier with the rest of the team or people involved in the project. Consequently, a team that is composed of skilled and motivated members, generates the best quality products and services, also in other areas. That is why one has to find out whether organizations enable the work in teams and have the right mind-set for it as well.

➔ MIND-SET

12. “At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.”

It is crucial for teams to reflect on what they are doing, meaning to pay attention to why they do things in a certain way or why some things did not work out while others did. This leads to self-improvement and also enhances processes, if the behavior is adjusted accordingly. Additionally, knowing why something went wrong can show which skills and techniques might be necessary in the future to become more effective. This principle is also self-explaining and can be applied to any sector the way it is. However, looking at this explanation, the principle could be assigned to speed, mind-set, or adaptability: speed, because effectiveness and better skills can accelerate processes; adaptability, because having enough knowledge also helps to deal with and

Description Coding

to react accordingly to changes; and mind-set, because people have to know why it matters to reflect. In my opinion, this principle should be assigned to mind-set, as it is the starting point for helping to increase speed and adaptability.

➔ MIND-SET

Here is an overview of the four aspects and the assigned principles:

Aspect	Count	Number of Principle
Customer Centricity	4	1, 4, 7, 9
Adaptability	2	2, 8
Speed	2	3, 10
Mind-set	4	5, 6, 11, 12

It goes without saying that all the principles somehow belong to mind-set, as a certain attitude is simply needed to implement agility and these principles with success. Nevertheless, as it is a separate aspect, I tried to assign each of the principles as reasonably as possible to provide a comprehensible system for the coding and a clear structure for the analysis, even if this choice is of course subjective. Moreover, the questions concerning the principles for the interviews were composed with the explanations from above in mind.

13. Appendix 5: Coded Transcripts

Interview Transcript AVV – Head of Administration – NL:

Question:	Minutes:	Answer:
Part 1:		
According to your opinion, to which extent do you work in a collaborative and flexible way? [answer two second question as well]	01:22 – 02:33	First, I don't think we have a mind-set about being agile company, but we are, our nature is that we work with the different things and changes is a part of our daily life, yes. So, it's not, we don't use any formula or words that means that we work in an agile way, but we have created a room for a company who is, which is very very interesting in innovation and we love to go new ways and take all things into our company and works with it. Both in the technical side and inside. We don't know if we are an agile company, we don't know that.
Part 2:		
How important is customer satisfaction and in do you work together with them directly?	03:59 – 05:25	Yes, or no. Our biggest customer is the authorities who we sell our services for, but we have a lot of contact with the citizens in the whole area. Yesterday, we had a 150 visitors who want to hear about the new collecting of waste, household waste and with the new containers and four parts delivery and there are 200 more on the waiting list to come. So, in that part we have a lot of contact to our customers and we really want them to, we really want to hear their opinion about the products we sell. And then we have a customer relation to other companies and we have people who takes out on the company and give advices and so on and collect the other companies' visits to how we deliver our process. So, it's very important to have a good relation with our customers.
How do you respond to such changes accordingly and how do you deal with changing requirements?	06:06 – 06:50	I think we are positive about changes generally and we, I think it's a big part of our DNA to be on our way to something new always. And we, therefore, we are, also have an organization who is, where we have five people working almost with the innovation. So, we are a company that put resources in development and innovation.
In which ways does speed play a role in your business?	07:26 – 08:33	It's not really important as with the speed when you put new systems for customers, because we work together with the communities and the politicians and it takes time and it's more important that the new services are functional than the speed. So, the big, good quality of our products is more important than

Interview Transcript AVV – Head of Administration – NL

		speed. That's because you are, we are not a commercial business who always had to have new products to sell. We are, we have a stab of relation customers and we sell services for them, but the speed is not important.
[But would you say it's an advantage that speed is not important ?]	08:44 – 09:27	No, I'd like more speed, I like more speed in the public relations and this, I would like it was more speed, but when we look at the other part of our company, where we have products, producing products, producing energy, sorting waste and so on, there we have to have speed and we have to be the first on the market. Yes, but when you sell services for the public relation it's not important.
In your opinion, which measures are taken that you can take decisions quickly and in an effective way in your team?	09:48 – 10:32	I think with the organization we have in AVV, it, we can make quick, we can't make it quick, but we are so much related to the authorities and so on and we need to have them to say okay before we can go further, yes. It's easy, maybe we have an organization with a very short row for making a, the decision, yes, so it's easy.
In which ways do people and departments work together at AVV and are interactions or meetings part of daily/weekly routine?	11:02 – 12:06	Yes, all departments in AVV work together with, in projects. Both very formal with described organization and unformal with daily talks and so on. And we have a philosophy that works go to where the works will be done. Can you understand me? And this is a very open organization and very unformal leadership and very unformal between leaders and members and so, all work together and many people are involved in bigger projects, yes.
In which ways is there an environment created that supports and motivates you at work?	12:35 – 14:38	Yes, I think the unformal way of getting together at work is a big part of this and we have health groups, we have a sporting groups, we have an, our staff is organized in, I don't know what it called, in "en forening" in Denmark, they are, our, all employees have an, I don't know what it is, "en forening" or something, no, I don't know. They are voluntary organized in a, where they put parties together and so on, not in the company, but beside the company. Yes, so, our employee are, like to be together in sports, in party and so on. And the, of course we have some talks every month with our employees and motivate them to create an new way to go and show a way to go and always be in a close communication with all the members and staff.

[You said you have a meeting every month, that's just the leader and the employee?]	14:45 – 15:41	Yes, it's the same with, my director and I have a conversation every one time in a moth, where we go my work schedules and so on, how are you today and tomorrow and so on and I have to do to my employees, I always have this conversation at least once a month. And formal we have it, a talk once a year. Yes, MUS. And the MUS is going to show the part of what we are going to do the next year.
How important are face-to-face conversations, also with other departments and why?	16:08 – 17:17	I think face to face communication is very important and of course, you have to mix other forms of communication, but the face to face communication is for me essential for developing people and developing projects and so on. Yes, for me it's very important. But it's a, maybe it's because I'm an old man, so, I can, a lot of communication today goes on email and so on and in some ways it's better, it's more factual when you communicate on an email, but there's something when two people talk together and see their faces and so on. It's important for me.
How do you measure progress in your department? Is there a specific measure used?	18:15 – 19:10	Yes, we collect some datas about the quality in the products we send out the house, an example, but in an organization that you, there is not so much innovation in an administration, the yearbook is the same for the next year and the next year and the bill coming in and the bill coming out, it's a lot of routine in the organization and, but it always can be some new products you can give it a score and number it and so on and we do it. And when we send a bill out the house we count are they correct or are they not correct, then we put it in the statistic we work with always.
[What products or things do you mean?]	19:22 – 19:46	Are there, when you send 100 bills out, are there two who is not right, yes and then we have a problem and you always go for a alright, it's a quality projects.
In which ways do you make use of self-organizing or cross-department teams?	20:40 - 22:13	It's common that they work together, my employees in administration work together with the members in Torben, the innovation, when we talk about the customer relation and we have a chief of communication, but my members in the team whose take the phone and it's important they talk together and they have the same feeling about what services for our customers. So, it's a lot of cross-projects. Both formal and both and also unformal and I, when I am giving my members a new thing to do, I like to give it very open and then they can be together two and two or three and three, it's their choice at some time and other times I say okay you, you, you do this and you are the chairman for this. It depends of the situation and how in the speed of what you want it back, yes.
How do you reflect on what you are doing? And do you do it regularly (e.g. daily or	22:39 – 23:29	We do it regularly on, in my department in two levels, I have two people who are a sort of leaders and the others are and my two leaders, I, are talking together on a weekly and daily basis but formal on a weekly basis we check what we are doing and the progress and one a month we are all together and my leaders are keeping the same if in team to the other members in the administration. So, it's similar.

weekly) and why do you do it?		
[How many employees do you have?]	23:35 – 23:36	Twelve.
Part 3:		
In which ways do you benefit from this way of working or why do you like it?	24:11 – 25:20	It's a difficult question. My, I think it's a part of my nature to be in a place where I can decide something and I can decide us something together with other people and I like to go to my work every day and see what's new today and where to come, that's, it's very important for me. I work in administration and I could be bored and so on because there is a lot of routine, but it's not my nature. I'm very glad I have my stuff to do this way and I like a lot better to be in an agile way to improve and get another status and changes, I need changes for my own.
[How different can the tasks be?]	25:45 – 26:44	It's not so innovative and in that, because you have a lot of daily work and I work whose like what you do yesterday, but there are always new projects, how to be better and inform the organization about our economic results and for the moment we work with a new system for IT, yes, and always there are projects to work with on the side of what we do on the daily basis. And I think, it's, also it's important for my staff that we have both.

Interview Transcript AVV – CEO – Steen Madsen:

Question:	Minutes:	Answer:
Part 1:		
Just knowing this – what would you tell me about AVV in this context in just a few sentences?	02:25 – 04:15	Well, the first thing, I have been the CEO for six or seven years. When I first got here it was more like a top-controlled or whatever however you call it, and there was a lot of rules and people weren't, you know, some of the time, but not all of the time, they were not into, they did what the boss told them. And I had another approach, I said maybe we should have some common values, and common values so, that are brought, and then I want you as an employee in this company to think yourself. So, you have to look at the situation, you have to think, you have to maybe interact with your colleagues and then you have to make more decisions, based on a broad, on some values that we have discussed for a while what are they. And that makes, I think that gives room for more people to think about the solution and to interact to all the time see how can we do things better. And I think that's a key element to being agile and the key element to do good. It can also be efficient. Just that you are allowed, or you make an environment where you, it's allowed to discuss how can we do things better. I think that's essential to good leadership and to be agile and to be efficient.
So, this is also what being agile means in your company, like that employees are empowered and can interact?	04:27 – 05:10	Yeah, I think empowerment, but also, we like to, when we say agile in a broader sense then we have a department that has time and there are more highly educated people that work in this field that, when in garbage and waste, and always think, try to find new ways to do better. How can I say agile? Yeah well.
Or you can also say why you would rather not use the word agile in your case? Or which words you would use.	05:18 – 05:38	We would like to be innovative, I think. We have a boss of innovation, whose job is that, job title is "Innovationschef" in Danish, that's boss of innovation. So, we have one who has his hat on or whatever you call it.
What is the motivation for being ahead and leading?	06:17 – 08:06	I think we are a small company in this way, we have, we are a public company, publicly owned, but we are independent and the central government is talking about that we are lazy, that we are not doing right, because we are a public company. And I think to show the, how can you, all the utility companies in Denmark are public owned, it's the people or the municipality that owns facility companies, but some people think they

Or where does the necessity of being agile come from? Is it the idea of the board, as they want to stay competitive or are there other drivers as well?		<p>should be private to make more money. You know, it's like money, bankers would like to take them out and all over Europe they have been doing that and it's a very bad solution in the long term. So, we have to show that we are innovative, we are effective, we all know it's a threat hanging all over our heads and if we don't innovate – innovate or die is the slogan somewhere. So, we need to show that we are not the cause because we have a monopoly. You know what monopoly is. Everybody else says to us: see you are lazy, you have to take this to the price we say, you have to take the collecting of garbage to the price we say, so why should you try harder. And I'm saying if we don't try harder, then somebody else is going to take all of our businesses. So, we have to show that the cost is, we are cutting costs, we are doing new things, so it's survival.</p>
[Like you show it even though you don't have competitors?]	08:12 – 08:42	<p>I don't have competitors, but we have a price for things and I myself come from the private sector and think also the public sector should be, have the same drivers, you know to be effective, to make the best solution for the customers, why not – if we don't, we die. That's how I see it, but you know, it's politics.</p>
Part 2:		
How can innovation be achieved in such a sector that has in general rather little technology involved?	09:22 – 15:10	<p>Well, there is a lot of technology involved. Yeah, we are not flying to the moon, I know, but the thing is in a lot of sectors, when you go into it there is a lot of technology and new things to do, for instance our plant for incineration, where you burn the garbage to make energy, there is a lot of technology to make all that things work. You have, you know, you burn something, you have to control it, you have to take the heat out, and you can optimize that with a lot of technology, so that's one part. Another innovation field is, if you take the broader perspective, you know, the big one, then the whole world is challenged. We need raw materials. The biggest problem we have in our world today is raw materials that we have enough of that to survive on the long term. And who is going to help finding that? The mines are getting empty, there is more copper in the houses than there are in the mines, much more. So, we need to find a way to transform our way of living, taking something from nature, making goods out of them, selling them fair, so they break and then we burn them. That's a linear system. We have to make, you know, the circular system, where we use the material over and over again. So, that's the biggest problem we are facing and we are saying somebody should do something about that, but nobody is doing it, so we do, we try to start new things up and push that agenda a little bit. So, I think, it's like, you know, it's a small business, no, it's the world biggest problem we are facing. It's a way of, you know, and we are just a part of it, but we are the closing loop, where you have to take them from, when you have the consumer finished with the goods to make them back in the circle. And we have to think of new ways and that's new way of technology, that's new way of collaboration work together, that's new way of making you think about goods, so that's a huge huge challenge we are facing. And, to brag a little bit, I can't help myself, we have just made a collaboration with a company who is called "old bricks" and we have a</p>

<p>Are you also in direct contact with the customers or the citizens to you come up with new ideas for innovation? Or how does it work?</p>	<p>15:32 – 17:38</p>	<p>brought a production line and we are now going to, you know, take bricks from buildings, clean them up and reuse them. And this company went to the EU, they had a kind of a meeting about where are there some circular economy good cases for Europe and this was the best one. And that's in whole of Europe, and I'm thinking if this is the best one, there is a lot that needs to be done and we took this challenge on and that is something we will try to make a proven path, where we can, this is a start and then we will take other things on the side of that. And I think that's a great potential. Our challenge is that we are a public company, so we can't just go out to the private sector, there's a lot of regulation. So, how can we, you know, move from this public way and go out to and we find a way and that's a lot about legal stuff. And we found a way, so that's our next goal and I think that's really innovative, or whatever, or agile, we found a way, so we made a, in Denmark we have something called foundation and we found a way, where we see we can work public and private company together to solve these problems. And it's just, we just finished and we are trying to tie a knot on it, and it has been difficult and we also approach some people from, how can you call them, the money man, who can see the potential and have, supported us in some ways, so we are trying to set up a new framework for addressing some of these circular economy's challenges. And one other way to stay agile or innovative is that we made a contract or collaboration with your university. That's six years ago so, five years ago, and we have like a small club where we meet with some other professors and we discuss how should this look tomorrow, and you know, we are a small company, so we try to collaborate with others with knowledge. I think knowledge is a central element in seeing new waves, ways.</p> <p>We try so. We have had some, one of our biggest projects in that direction was, we kind of took in a group of 100 people, 100 families and said to them we don't know how you can reduce your waste, but we would like to help you, we set you a goal: you have to reduce your waste by 50%. And they did it in three weeks. The way we did it was we were on Facebook, we helped them, we supported them, we tried to clarify a lot of things how that should show off things and they, you know, they engaged themselves and that was a new approach and that was just before we had some legislation, new laws, how we should collect our garbage. So, we tried to empower the people to be a part of it and not like, you know, do like I told you, but say how can we help you achieve this goal and that has been successful. We have panels where somebody from outside discussed how we were a company and we were just listening in and then all the customers said you can do this, you can do that, then we took it all in and we said where are the best ideas, use a consultant, some outsiders, who had like a package where we could understand our customer better by just listening to them and then made a workshop or whatever. And then we could see where we could do even better. So, we try to listen. And we have regularly some workshops and we have like 100 150 showing our company every year, so, that's every second day there is a school class or there is a union of something that gets shown around to see our company. So, we have open doors here.</p>
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Are there any other departments that are responsible for contributing to new ideas or who are in contact with the customers?	18:09 – 20:38	All, we have like a, we have departments and leader of departments and have to, you know, take his business to the next level and have a plan for that and we talk about that in kind of a leader group and discuss what are the new things we should do next year, so there's always a push and pull on being innovative and doing the best we can to, like a private company, so I think that's one of the key elements to be agile is the, what do you call it, the I think I sold, like I told you before, that we are in the business of solving the biggest problem in the world. And I think that every employee understands that because we talked about it a lot. And that gives you, you know, the energy or the will to try to do better, because there is a big problem, so I think that's one of the key issues to listen to new ideas, listen to small and big and, you know, try to as a leader in this company, you have to facilitate a platform for this discussion and development and you know just talk, and it's also about, you know, the personal connection will your employee that you make them talk and make them engage themselves in the work. I always tell we are here, you know, approximately eight hours every day, we might also have some fun and try to be, you know, you have to be, you can also be the grumpy man who is always brabrabrabra, but why not try to see how can I do this better and I think that's a key element to allow everybody to come to good ideas and just that, and it's not allowed to say oh we tried that two years ago shut up, that's not allowed. You're allowed to, you know, to you have to have good arguments if you we are not going to go that way. And that's what I'm trying to do.
[So basically everyone could come with an idea ?]	20:41 – 21:59	Well, ahm yeah. And some are. Nonono. I'm trying to inspire everybody to come with good ideas and I'm inspiring my leaders to do that in their, so, so there can be small things that you can do better because it also sets free some energy. Everybody hates to do a job that's not efficient, you can do it smarter. Who wants to do that? Nobody. But some people, oh it's nice to, you know, do this every day instead of just deciding, it has to stay there whatever, who wants to do these stupid things. I would rather go biking or skiing or something if you have to do these stupid things. So, that's why we try and there's a lot of levels in this, but it can also be very nice if you, a way information has to go through our company, if it can be done more efficient and the people who know that is the people who work with it, because they can see it. So, I think that's quite simple. But, it can, in many companies it's very difficult, because there's a lot of layers, we try to make it a flat company or whatever you call it, not a lot of hierarchy or whatever you call it.
Part 3		
Can these four all be found in your company or which ones play the most important role in your business and why?	22:32 – 24:50	I think mindset, that was one of the key themes. Then you said speed, I think one of the key element in innovation is that there's a short line from a good idea to action, because we are a smaller company. You don't have to fill out, you know, seven forms and apply and everybody forgot about it and then two years later it goes through the system on the red tape and you get it back and oh yeah, I forgot I even filed it. You go and talk to me, we, you know, have a discussion, we make we decide how can we unveil, how can we see this clear and then we take action right away. I think that's one way of seeing it that we are a smaller company. So, in that way we can, we are speedy. What do you say, there was mindset, speed, and? Customer

<p>What is the biggest challenge for AVV at the moment?</p>	<p>25:08 – 27:45</p>	<p>centricity. Well. We listen to our customers, but it is a more compared to if you have a product you have to sell in a competition, we are not that focused on our customers as other private companies will be, because we have a monopoly. But I think we try to, more than the rest of the business, try to do small things to help the customers with small surveys and so on. We don't have a board of customers, who comes here every month to tell us what we do good or bad.</p> <p>At the moment it is that the central government have a plan about, what do you call it, to make our company private. And they may take all our money and just put us out into the private area and maybe selling us, maybe stripping us or, you know, cutting us to pieces and selling small pieces. That's what the central government are planning to do. I don't think they have the majority to put it through, but they are thinking about it. You know, if they can sell something they get money to pay other things and then you as a citizen, not you, all the other as a citizen have to pay once more. We have a company here, where the local citizens have paid for for a long time, so, we have some money, we have a company that's, it's not wealthy, but we have some money and they can slash it and sell us and take the money. And that's a threat, politically. I think it's a very bad idea and there's a lot of cases in Europe that they have tried to privatize the utility sector and what happened is that the private company, you have this very very large investment, big incineration plants, you have pipes around, you have a lot of things, then they don't, then they charge a little extra and then they don't maintain it and then in five years they go bankrupt, but people who are running the company takes a lot of money out and they disappear. It seems over and over again. It's a little, what do you call it, harsh said, what I said here, but you know, just for clarification. And it's seen on a lot of, they kind of, you know, waste water, drinking water, you don't have to, they last for fifty years or thirty years, so you can do it for ten years and have it good, but then after that, everything is broken down and you have to have a big investment and they push it back to the public sector again. And I think that's stupid, but the politician who is elected for four years he gets the money now and can spend it now, so who cares about ten years? And I think that's a big challenge. You should get my meaning.</p>
<p>[Can you actually do anything about it?]</p>	<p>27:49 – 29:27</p>	<p>Yeah. We have a, first of all, we try to stay, you know, cutting cost, looking good, telling outside of the story, showing show cases from Germany, from England, from other that, how they have done and how utility companies has been in the public and where they pushed out and now they are taking them back because it doesn't work. We have a lot of visitors from outside, who comes in to see how we do district heating, how we do water and waste water and garbage, how are we doing it so good in Denmark, because we are, I think we are the forefront in the world in doing a good job. So, that's a lot of, you know, argument and we have a like a, what do you call them, lobbyists or whatever, who is trying to put cases out and in the media and stuff and so. And there's also a lot of people at universities and others, who see our point of view and help us, helping us there, but it's a, when you have a political leadership it's difficult. They are. Well, you are, there's a certain</p>

Are there any changes planned within the waste management sector?	29:37 – 30:07	set of rules that you have to live within and they can decide tomorrow this way or this side this way. You don't have a chance. That's how you live as a public company.
[But is it just in Denmark? That they are thinking about privatization]	30:15 – 31:24	Yeah. They have a plan for the utility sector, where a plan of this is that they privatize the waste handling. So, that's a plan they've already written and they had like a, what do you call Goldman and Sachs, the bankers, the bankers are behind and trying to write whatever and you know, pushing pushing, because they can see they can make a lot of money on this area.
		They have not written it into the law, they have a plan to write into the laws, but they haven't, you know, they have to be a vote for it and I think they are not winning right now. They are doing this plan for 15 years ago, 20 years ago, so, but it's getting more and more and more and they invested so much, they have lawyers and what do you call it, accountants, making a lot of notes and reports about it, so it's like mhhhh. We are living in something called "...hus", like, we are not allowed, we have to make zero, when we add all our things. It has, we cannot make a lot of money, it has to be zero, because we are a public company. So, that you get the best, so, we don't take money from the citizens, but we are allowed to, you know, to have buildings and stuff that costs a little, but we can't take money out. That's what the private sector can do and that's why they are interested.
Part 4		
How do you measure progress in your business?	32:09 – 35:48	One of the measure we have, we have together defined that, that one way, we are a small company and some things are sliced off, so, that means we get less people. So, one measurement is how many employees do we have, that's one measure. And another measure is what you call topline, how the turnover of the company, how much money do we have, so that's one measure. We also measure in, oh well, that's hard to say. Well, I think that's, but we also measure in new new products, new, I can tell it in another way: we have started a process where we take all of, you know, we have our, our company is like, we have 18 places, where people can deliver their garbage. And we have like a small corner, so, if somebody says this is good, I don't need it anymore and you could burn it, but maybe somebody else could use this chair, then they can put it in the special place. So, one of the things we measure is, how much of this can we make into business? So, we have now 7 million turnover equals 12 employees, who work with this. Oh, you don't get the point. So, that's one way to see, you know, instead of doing, instead of incineration, this goes back into, this goes back we close the circle, goes back to a new customer. So, how much does this go back, also the rest we collect, how much goes back to recycling and that's in percentage we measure that, how many percentage does go back to recycling, might be plastic, it might be, I think we have four different, fifty different materials that we take out in these plants, how much goes to this, and then something goes to landfill and some goes to incineration, those two you like to bring down. So, we measure in how much can we, you know, the waste

How do you ensure sustainable development?	36:35 – 38:00	<p>triangle, do you know that one? You know, you have like no waste on top, and use, reuse, recycle and then you have incineration and you have like landfill. So, our, you know, main goal is to push this way. And down here you have, if we have one employee, if you might have two here and you have ten here and you have hundred here, you know, so, so, that's the employees.</p> <p>Sometimes, you know, some of this we have taken away cartons, you know from drinking juice and milk or whatever, and we took them on one side, took them together, and we had a contact with a company who said they could fix it in Germany, then we went down to look to ensure that they were doing it right. They took it in two pieces that, you know, there's plastic on the inside and there is cardboard on the outside, they took it in that, and then some of that was very hard, so 40% of it they burnt, then we asked where do you put this and where do you put this, oh we put it on our, but that's a secret. Okay, then we said, maybe it's better we incinerate it here. So, we try to prove that these recycled things, that, that they are doing the right stuff and we are kind of pushing for documentation, for that this is reused and not just greenwashing or whatever you can call it. So, sometimes you start up the car and go somewhere and see or you'd like to see. But still, we are a small company, so we can't do that in everything, but we are trying to do it, as a whole for Denmark, to try to show a way. Yeah.</p>
Do you regularly reflect on how to become more effective in what you do?	38:12 – 39:03	<p>Yes, every day. No, not every day, but that's on the agenda a lot of times, you know, we are talking about that something that I'm encouraged and then everybody talks about. We have like a saying: what did we do good today and what can we do better? So, it's okay to have that question. So, that's something I say a lot, what did we do good, so, you start off on the positive, but where could we do it better, instead of negative, you did it this wrong and whatever. Shut up, we don't want to talk negatively, you have to turn it around, to make people open a little bit up. So, I think that's something being a public company, coming from the private sector, I think that we are, we are almost as focused on that as the private sector is, that's my belief.</p>
[How often do you do that?]	39:10 – 40:24	<p>I hope we do it every day. You know, we are 110 or something. So, I hope every day something you talk, they are talking about how can we do this better. And if they don't, I haven't done my job good enough. I think you always should have that mind-set, when you're doing a job, can I improve it. I'm an engineer, so I think my mind have always been focused on, I'm a lazy man, so, if you do it easier, I'll try. I've always tried that. And I think a lot of people are doing the same here. They are trying to and, you know, it's not everybody and it's not all the time, but I think we have it high on the agenda. I think so. So, I think it needs to be, you know, something that's on your reaction in everything you do, how can I do this better. And that's okay to talk about and to challenge your direct leader or me on that and say why not.</p>

Interview Transcript AVV – Business Developer – HR:

Question:	Minutes:	Answer:
Part 1:		
According to your opinion, to which extent do you work in an iterative, incremental, collaborative and flexible way at AVV?	00:58 – 10:14	<p>Well, that was many words, so to one extent... oh yes. Yes, I think they all match and some match very well to AVV, so for instance, iterative, well, as you also noticed maybe, we don't write that many reports and analyses and we try to do things and if it doesn't work then we adjust and do it differently. So, it's very much action oriented and, whereas if you build a bridge, for instance, you would do your calculations in detail beforehand hopefully, and all these pre-assessments and, of course, some things we do have to prepare well with analyses, or for instance, now we are making a new, it's called "ressourcer helden", the resource, ressource, well, it's a new building we are making and there you need an environmental permit and to get that you need to do your analysis beforehand and so on. And the same goes with the, well, many of these words could actually, or the first two, be related also to this management systems that we were just re-certified to last week, where Det Norske Veritas, or DNV, could have been TÜV or could have been Lloyd's or it could have been other companies, but where they look at our system, our, we are ISO certified against 9000 on quality and, no, we are ISO certified against ISO 14001, it's environmental management and then the occupational health and safety sign, that it's 18001. And then we have this EMAS registration, you may have read our EMAS report, and that is very much about setting up targets and getting back to it and increasing and improving, every year we have to get, we have this audit check, where they check okay the new targets we set are we aligned with them and that we implement them as planned and if not, we have to argue why not. So, it's both about iterative processes getting back to it, some targets are one year targets, some are three year targets, and, but it's also about incremental, well, incremental I would say in some cases, if you compare that to more radical changes, in some cases we are more radical than incremental in our innovation, so, but there are also cases where we take a first little step and then try to scale it up and expand it. At the moment, a little example is that we tried composting biodegradable plastics and instead of making it big scale, we took the biodegradable plastic from Naturmødet, which is a two or three day meeting with some I don't know 5000 people up in Hirtshals and we took the biodegradable packaging from there and then we set it up in a small compost, well, it's a few hundred cubic meters, so you need a big equipment to turn it around, but we didn't want to mix it with our thousands of cubic meter piles of compost, because maybe there would still be plastics in it after half a year and then we would have spoilt it. So, that's an example of being incremental, but in most, in many cases I think we also do some radically different things, so, for instance, all this about the repair workshops and "Godtgjort" and these are also examples of, well, you can't be in this business doing it all by yourself, you have to collaborate with a lot of private companies, those handling the waste after you and also in some cases those who bring in the waste, so it could be when we have this focus on re-brick, the, reusing the bricks, we need to get it from the companies who take</p>

Interview Transcript AVV – Business Developer – HR

<p>[So, it's because you are geographically restricted in where you can actually work?!]</p>	<p>10:24 – 15:24</p> <p>down old buildings and so. And collaborative is also a key word when it comes to how the country is split, it's split geographically, because we are owned by the municipalities and so, we are allowed to operate in Hjørring and Brønderslev and in Frederikshavn or in Aalborg there is another municipality and that means we are not competing, because they handle their waste, we handle our waste and that means that as we are not competitors, there's a lot of knowledge exchange across these two geographical borders. So, because, you could say because we have monopolies, we are, yeah it sounds a bit paradox that because we have monopolies we have to, or we can collaborate without fearing that anyone is stealing our ideas. So, there is a lot of knowledge sharing across, so, some of the ideas of, for instance, this about the second-hand shop, where we invite all the NGO to a meeting and set up this, did you get this brochure about all the second-hand shops in the municipalities, not only the, our own, but also the, no, but we invited the church organizations and the, there are 32 different organizations running second-hand shops in our two municipalities and instead of taking shares from them we wanted to collaborate to make the second-hand shop market bigger. So, we invited them in for meetings and that idea we got from, down from Arwos in Aabenraa, where they did something exactly the same and we then went there and they showed us how they did and we did exactly the same and other municipalities go to us and look at what we do and copy that and that's fine for us.</p> <p>Yes. So, if it had been private companies or consultancies and someone, your competitor would call you can we spend a day at your place and look around and see what you are doing, you would probably say no. And if you invite for knowledge sharing then you want money for it, because you sell your knowledge, but in this case, when we call some of our colleagues or if they call us, then we clear the calendar and so the lunch and so you are hosting and expecting that they would do the same and yeah. So, there is a lot of knowledge sharing across the sector, because it's not competing. Flexible, yes, one of the cases is that the waste is changing, the prices when we sell it off or when we have to pay for the handling further downstream, we, yeah, the waste flow is changing, it's quite dynamic what comes in. I expect next year, or within the next five years, we will have solar panels coming in and new fractions that we never, that we have never seen before. One of the new things is that instead of using wood for making a terrace, you use something, a fiber plastic product, which will, which is lasting longer and you don't have to clean it or oil it or paint it, it will last but some don't like it and then they take it down and so these plastic wood-lookalike materials are coming in. So, waste fractions are changing, paper amounts are going down, people are saying no to the newspaper subscriptions, they are going for online subscriptions and they are saying no to these printed, "Nej tak til reklammer", to these printed leaflets, which is per household, one of our small areas is the largest in Denmark with 100kg of just of these unsolicited mail or commercials, or. 100 kg per household, that's, it's insane yes, but it's only two kilos per week, but still. So, that one is going down, so it's changing, but the cardboard is going up, because people are buying online, so, then you get a lot of more packaging, so you</p>
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<p>Are there any agile principles which you are aware of and follow in your daily work at AVV?</p>	<p>15:41 – 17:48</p>	<p>get a cardboard box for your, if you buy a phone like this, it doesn't come in a small box at all, or if you buy a cable you will get a box from a. So, yes, we have to be flexible and because the waste is changing and the market is changing dynamically as well, so, for instance, here in January, China shut down on recycled plastics and therefore, suddenly the prices went from maybe, polyethylene would have been 3.000Kroner per ton plus, so you get money from selling it, to, now it's going down to almost nothing or maybe even minus, so, the prices are changing and therefore, and you can't sell it to China anymore, so, you have to find new customers and it is fluctuating. And as in total we have around 42 fractions and there is always something changing, yeah.</p> <p>I don't know. I don't know the agile principles and I don't know if we work by them. So, we are quite open to new ideas and so, when a student is approaching us I'm writing about agile companies are you, could that be, well, in most cases we say yes, come on let's hear about it, and so at the moment, yeah, I guess we have some five student projects going on and in most cases we say yes if it's well-planned and we have time for it and so on. So, we are quite open to new ideas and yeah. I think there is the right mind-set and probably, also due to the people, and especially the head of innovation, who has been there for 30 years. I don't know if he speaks English so well and if, but he has been around for 30 years and he is really promoting that culture or sub-culture.</p>
<p>Part 2:</p>		
<p>How important is customer satisfaction and in which ways do you collaborate with them to be more innovative or to find ideas?</p>	<p>18:34 – 24:02</p>	<p>So, customer satisfaction is very important to us and one of the things we are doing this year is, is we are starting household sorting and so people, instead of having one waste container and that is emptied every week, we will have two and each one of them will even be split in two, so you will have four, and one of them is a mixed fraction of both metals and plastics, so actually it's five, and, so, where you used to have one container with a 140 liters you will now have two with, I don't know, 220 liters each. So, it will take up a lot of space, so customers, some customers are saying ahhh all these containers, where do you want me to put them, and so, some, a very few, it's probably less than a percentage, are frustrated or saying ahhh and to satisfy them and also to satisfy if someone is calling, we usually say, we don't send them a written answer saying nah, or arguing, no, we invite them out. So, coffee is the answer to a lot of these questions that we invite people in. So, for instance, and it's not only customers, it's also other companies. So, now that we are setting up this white goods repair shop, then probably some of the companies selling big appliances like El Giganten or Punkt1 or Skousen or IKEA maybe, if they see us as frightening competitors, to take that away we invite them, we, I sent them an email, a personal email or even brought up to a written invitation to the shop: please come for coffee and home-baked cake on Thursday morning before you are opening your own shop and we will tell you what we are doing. So, that's, we also have one on our Facebook who complained about something and again we invited him to come to the recycling station and we invited our chairman of the board to meet him and to have this discussion face to face, because sometimes it's too easy to write</p>

<p>Are the customers directly involved in coming up with new concepts?</p>	<p>24:22 – 27:07</p>	<p>something on Facebook blablabla and it's a lot easier if you meet them face to face and if the coffee is still right out of the oven and hot and the coffee is, oh well, our coffee is not that good, but anyway, it's fresh. So, it is very important for us to take out the, no, to meet the customers and if they, most of course are satisfied, but those who are saying that nah, then explain it face to face and invite them and go through it and we also do that by going out, so, the last two weeks we, no, the last three weeks, at the recycling stations we had this, we call it, what do we call it, "Sorteringsbilen", so, it's a small bus kind of thing where we went to the recycling stations and we brought the two new containers that we will send out to the households in October and we showed them how big they are and how they can make their installations in the household, in the kitchen differently, so, and that was actually a collaboration with IKEA, so IKEA set up their kitchen equipment in this bus and we can then show it, you can do it like this if you want to sort in your kitchen. And then we went to all these 18 recycling stations with the bus showing the equipment, having coffee, probably also cake. Yeah, it is quite important to take any criticism face to face and meet people out there.</p> <p>We set up, or we reorganized our website two years ago and before doing that we had a pilot and we invited some customers to assess and go through all the links and also when, right now, we are arm chairing a or I'm leading a project where we will make new signs and new pictograms, no, new signs, we need 875 signs at the recycling station and they need new graphics that have been decided throughout the whole business industry, so, but the wording, we wanted some inputs on that and therefore we invited some techno-anthropologist students to spend, I think they spent three weeks on the recycling station talking to people what do you see when looking at this sign and how do you understand this word and they also organized a workshop, a workshop with customers, taking place at AVV, where they talked about the different words and so what is now called "brændbar", which means that it can burn, you can make a fire and then it would burn, that will change, so, because paper will burn and so some could sort it in to this incinerable fraction, if they understood it very literally and they did, so, they said cardboard can, you can make a fire out of that and wood, you can make a fire out of that and paper and plastics burn fine and so we changed the wording, so now it will be called leftovers after sorting and hopefully that new wording will, which is inspired by the customer workshop made by these techno-anthropologist students has made a change. So, that's an example.</p>
<p>How do you ensure that you respond to such changes accordingly and how do you deal with</p>	<p>27:40 – 29:56</p>	<p>Ahh yeah, I have to find an example, where the. Well. Changing requirements, something that you try and then it didn't work and then we made it a new way. Yeah, I can't, we make a lot of changes, but. Yeah, depending on how late in the process it is, although we want to be flexible, we also want to organize well in advance. So, if it's someone coming up on a very short notice: okay tomorrow is this application deadline, do you wanna join? Then we probably say no, because we, we are not that fast. So, when it comes to speed we also want to minimize the risk of annoying people too much. So, our customers they should know well in</p>

changing requirements?		advance what will the containers be like or what will the sorting be like. So, there is a certain deadline and after that deadline, well, you were too late, but until that deadline then we are change, yeah.
In which ways does speed play a role in your business?	30:22 – 33:37	So, for instance, when it's about customer satisfaction we had one also on Facebook during the weekend, I think, yeah, he was complaining, you know we have these 450 bubbles, where you can put in a glass bottle and he complained that there, well, there's a, at one of these 450 he found some glass and he, I think he is in bicycle repair himself and he was then complaining on behalf of his customers that you puncture your bike if you run on this glass, actually I think it's good for his business, but anyway, but you should clean this up and even though it was a complaint made on a Sunday, our communication officer just noticed and because things happen so fast on Facebook, you really have to answer them, even though it's on a Sunday, or if it's holidays, so, because otherwise it spreads and oh yeah I also found a piece of glass somewhere. So, she was very fast at inviting him in and okay, where was it and we will do something about it right away and so she called the guy responsible for driving and emptying these containers, also still on a Sunday and made sure that this problem was solved right away, but she also invited him out, okay, how can we collaborate and so you see us as a part of your network. So, because we sell all these used bicycles, he might have, they are stealing my business or I don't know, so, we want him to get added sales from our bicycles, so, maybe we will give his leaflet to the customers and put his name on the list that okay, if you want this bicycle to be legal you need to put on reflectors and a proper lock for the insurance to cover and you can get that at this bicycle, we don't sell that. So, that would add business on his side. So, in some cases, if it's something on the social media you have to be very fast, but yeah.
In your opinion, which measures are taken that you can take decisions quickly and in an effective way in your team?	34:01 – 38:05	One of the things is that we show our department, it's an open space, so, we can talk with our boss and with the experts sitting around us and making better answers to those calling and also to avoid that two people are doing the same, or that no one is doing it, so, that's one thing. Then we have these, every two weeks we have a department meetings, where everyone is saying what they are working on and the head of the department, the head of innovation is very focused on what is everyone doing and making sure that it's quite effective. Then we also have this, we have a template for the bigger projects, where we should, that we, not should that we have to fill in, where, well, it's a lot of these different tools, we have a Belbin test on every staff and that means when setting up a project we take these different test results and make sure that the team working on a project has all the necessary competencies to accomplish the tasks. So, okay, do we have an idea developer, do we have an analyst, do we have one that is finishing the stuff on time, do we have, so, we score them in a spider-web diagram and then we need to score more than 60 on each of these nine different parameters and if that's not the case we need one who can finish this by the deadline, okay, who do we have, oh yeah we can take this or that one and then we make sure, okay, now we are covered and if we are not covered up to scoring 60 out of 100 on each of these parameters, then we can either pay

		<p>an external consultant to get us, to get the missing, or, of course, even though the Belbin test, you score below 60, it just means that you don't have a preference in this direction, then we have to be focused and work on even our weak personal preferences and so okay, this is not my biggest advantage, but it has to be done, but then at least there is more focus on the weak points. And then we have these, yeah, we all been on this project management course, so there are some, there is that mind-map tool and other Gantt charts, SWOT analysis and risk analysis and these things we have to fill in for the bigger projects before we even start, but that doesn't mean that they will run smoothly and effectively, but it probably increases the chances.</p>
How long does it take approximately to develop anything new, is there a certain time frame for a project?	38:34 – 39:49	<p>Some are big projects and they take a year or two years or three years and some small things that take a few months. So, for instance, and then there is business as usual, things that are, that doesn't need much preparation, so, if there's a, today we had two different school classes coming from primary school and we just have to decide who is taking them on a guided tour, but that doesn't take any preparation. But, for instance, at the Naturmødet, we had to set up a stand and a tent and make some preparations and organize to have someone to cook some food and some exercises and some exhibitions and that has probably taken months for the one in charge.</p>
In which ways do people and developers/innovators work together at AVV and are interactions or meetings part of daily/weekly routine?	40:18 – 41:45	<p>Yes. Not of daily routine, so, it's not like using Scrum or something like that, but on one of the projects I'm involved in is about the signs and there we have internal meetings every, I don't know, every eight or ten days and just meet and just take the same document that we are working on, going through, are we on track here, are we on track there and then did we get this feedback from other companies. So, yes, we, but, so there will be different teams for different projects, so, this about the signs, okay, we need the guy who is in charge of the older recycling stations, we need one or two site managers from the recycling stations, we need me as the project manager and then we need one responsible for the communication. So, yeah, there are five people set on this task and then on other projects it will be different people across.</p>
In which ways is there an environment created that supports and motivates you at work?	42:01 – 44:46	<p>Yes. Yeah, that is extremely important and again it comes down to the sub-culture that is part of at least that department, but I think of the whole organization that okay, you, there is flexibility for each person to try to go and try out some ideas and there is also, we have this annual MUS samtaler, "medarbejderudviklingssamtaler", so, employee development talks that has to, that goes for the whole of Denmark so everyone, also here at the university, you have these talks, but it's taken quite seriously, or it is taken more seriously here than anywhere else I've been and so it's about what are your personal ambitions and what kind of courses do you need to take and to be able to make that happen and yes, we go to a lot of different either courses or network meetings or seminars, or conferences, where we learn from others. And to be on the forefront and to be noticed in Copenhagen, I think we have to do a bit more than those waste management companies near Copenhagen and near the authorities. So, that internally there is a lot of</p>

<p>How important are face-to-face conversations, also with other departments and why, especially in your case when you work on or develop new innovations?</p>	<p>45:08 – 48:36</p>	<p>support that okay if we want to be at the forefront of which is one of the core values being at the forefront and then we have to be out there and we have to take part in all these meetings. And it's, isn't it all ten, yes, it is all ten people in the innovation department going to a lot of different meetings, so, every month.</p> <p>It is extremely important at AVV, more than in any other company I've been with this face to face and perhaps it's related to the fact that some chose this industry, because they are not that good at writing or reading. So, we have some of our drivers who do not write and do not read very well. And maybe due to that and also some of our site managers they are very good at talking with people, but they are not necessarily good at reading a letter or a, so, therefore, in this job there isn't much written information. It is oral, so you have to go and talk with people, even if I did some analysis and I wrote a recommendation to our CEO and I sent it to him, I did that one of the first years, a long very well explained and documented analysis and coming up with recommendations and I spent a lot of time doing that and after that he said ah yeah, Henrik you sent me an mail, an email, can we just talk about it and so it is very much about talking and making agreements and, but on the other hand, so, you have to be there and you have to meet people. And, but you also have to, but there's also a very positive element about it that you don't need to fill in a lot of forms and so on. So, in this case system, if you need to go for something you need to apply and you need to write and here you just ask can we do this, yeah, good idea, sure. And then, I would, in the beginning, I would ask should I write a written recommendation and so that you can sign, sign? No, we just agreed, I just told you. So, it is about oral, fast communication, so not about making small problems develop, no, we're also very open about our personal lives in this department and if there are personal problems at home we know about that and try to support each other. So, there is a positive atmosphere and expectation that we talk about it.</p>
<p>How do you measure progress in your business? Is it the number of new innovations?</p>	<p>48:58 – 51:06</p>	<p>We, I don't know if we have a measure for innovations, but in this EMAS report we set up new targets and there's often a measure put to it, okay, how do we measure it and by when do we have to meet what kind of target, so, in there and there is a new one coming up next week, I think it will be published with our new targets, but one of the indicators is the usual one used in the sector is, so, according to the, you know, the waste hierarchy and the five levels, okay, what percentage do we treat on each and do we, we want to move up the waste hierarchy, so, what is the percentage on reuse, right now it's two percent, but we want to increase it to five percent within three years I think it is. And the same goes with how much do we incinerate and how much do we landfill, yeah. So, weight and based on the weight, the percentages that's one simple indicator, but it could also be, another indicator is also the number of people we have been knowledge sharing with, so it could be students or it could be researchers, I just been at a research meeting with my AVV, not with my AAU. So, we are setting up different meetings and we have a measure about how many people on which level we want to network with and so it's also about giving these key note presentations at</p>

<p>How do you ensure sustainable development, meaning how do you guarantee something like a constant flow of innovations?</p>	<p>51:25 – 55:18</p>	<p>conferences and then they count, okay, there were 325 people listening, okay, 325, okay do we reach the 3000 or, yeah.</p>
<p>In which ways do you guarantee working services and good quality products to satisfy the customers?</p>		<p>Yes, so right now we are setting up, for instance, the handling of the organic fractions and also this bricks and the white goods of the large appliances as well as the leather repair shop and the wood workshop and, yeah. And we discussed for this Godtjort brand were we upcycle products that we should have a measure for success, but we should also be so much on the forefront that we risk that some of these ideas will not succeed, so we should be so risk-oriented or that was my, I don't know if the CEO agreed, I think so, that we should also have failures. If we failure fast, we learn from it and as long as we pick up the learnings from the failures, they are still useful if they are very fast before we invested a lot of time and a lot of money in doing something then we find out okay, is this a good idea, ahhh no, kill it and then we continue with the other five or ten ideas. It comes, it is a very dynamic business, the new ideas come from all the people we meet and so, it's actually about keeping the number low enough to be able to handle them seriously. But how we make sure that we get enough ideas, I don't know, no. It's not a problem. In most cases people don't really request the new things we come with, but once they get them, they will not live without, so, for instance, the sorting, then they do we need those containers, in the pilot village with only a thousand people, where we tried it out, which was also an example of this incremental strategy, or iterative, that before rolling it out across all our households, we tried it out in one village and to see does it work and are there any problems that we should take into consideration when two or three years from now, I think it was three years ago, we started that pilot, that we should learn from. So, and in that village they, at the beginning, they said no we don't need it, but now they said yes of course, everyone should do this and yeah. So, people's conception or perception of waste handling is also changing and always has.</p>
<p>Which role plays simplicity when it comes to new approaches, models</p>	<p>56:04 – 57:39</p>	<p>[covered with other answers and lack of time]</p>
		<p>I think, for instance, when, I wasn't in charge of those projects, but when we set up the new website and also when we set up the new version of our online auction, we have this auction where you can, I don't know if I showed you that, some of the waste for second-hand we sell in the second-hand shop, but some of the more advanced things we put on an online auction and this, I think 5.000 registered consumers who are then bidding for this waste it actually is, but it could be some nice, it could be vintage toys or it could be</p>

or other types of innovation?		vintage cameras or something, but and when we set up, when we wanted to change these two platforms I think we, from this user panels, these test panels, we then listed okay, what do we need to have and what would be nice to have and then some of these nice to have, we said okay, how many would actually use them and do we need it and no, cut it out. So, make it simple and also, yeah.
In which ways do you make use of self-organizing or cross-department teams to come up with new solutions?	58:07 – 1:00:25	Self-organizing, yeah, at this recycling stations there is one or two, self-organizing. Yeah, so, for instance, the price setting of the things going into the second-hand shop, it's the, there are some people, two or three guys who are in charge of that and it's based on their experience and as long as, as it's sold and it works fine they organize themselves and the same goes with, yeah, no, that is one example and I think, yeah, you have quite flexible maneuverability to do what you think is needed, of course, if it needs external funding or you need to buy something, then you have to ask someone for money, but if it's your own time that you put in and then, yeah. No, maybe it's not that clear, that how the teams are self-organizing, there is always a team leader, or, no. Well, that is about the price setting there is no team leader there, they know who, if in doubt, who they should ask and otherwise they are free to do it. And yeah, and also the kitchen, for instance, there is one or two people working there and what they serve is, it's up to them, whether we like it or not.
[But in your case, in the innovation department?]	1:00:33 – 1:01:25	If there is something we think is a good idea, then, to some extent, we can go with it and some cases we need to ask for permission, but I think there's also a support if the boss thinks okay, this is important for you and you think it's important well then, try it out and let's meet in a week and see if it's worth going in that direction. So, there is support if you have your own ideas but it's not necessarily a team around you, no.
How do you reflect on what you are doing? And do you do it regularly (e.g. daily or weekly) and why do you do it?	1:01:50 – 1:05:04	So, when we have had a big project or a open seminar or something, then we always finish with a debriefing, where we sat together the key involved employees, okay, what went well here and what can be refined and improved next year if we are to repeat it and which are the conclusions, what to, yeah. So, that's a good tradition that we have these debriefing, summarizing and more informal discussion maybe with a beer or something where we try to focus on what are the learnings. That's after a project, yes. Otherwise, it's more together with the head of innovation that we do it, we also do it on these every two week, in these meetings where we discuss everyone's tasks and so there, we also, but no it's not systematically done about how we can do it more effectively, efficiently next time, because a lot of the tasks is a once only, so, okay at this big nature meeting in Hirtshals yes, we had a tent last year and setting up the tent and we can do that more effectively this year, but the seminar we will host, last year it was about plastics in the oceans and this year it's about biodegradable ones and so it's different people and it's different set-up, so, yeah, it's not necessarily the same tasks in our department, but in the more operational focused departments, I mean if you are incinerating waste it is the same thing you do and how they actually try to be more and more

		effective I don't know. To some extent it is also, we also help by this external audit that they go through all our procedures and see if they are improving and if we can do it more safe and do it faster and with less environmental impact and. So, yeah, but internally it's probably not as systematized as it could be.
Part 3:		
In which ways do you benefit from this way of working or why do you like it?	1:05:21 – 1:08:40	I like it very much and I like the fact that it is not a lot of writing and reading compared to the university, so, it's a good mixture of doing practical stuff, I mean sitting in a truck and turning this compost, not in a truck in a big, what do you call it, yeah, turning it around these tons and tons of compost and learning from that and taking the temperature and getting smelly shoes and then the next day you are showing a kindergarten around or something and then you're talking with, so, I like that every day is different and I like that the team is very close and that we are good friends and we can trust each other and I like that. I also like that it's an ambitious company that they want to make a difference and they don't see the barriers, whereas most companies in the sector they would say could we maybe face a, someone, a law causing problems here, at AVV they would say we do what we think is the right thing to do and then we'll see if there are problems then we will have to tackle them once we hit a wall we will try to find a way around, but otherwise we have an ambition and we go in that direction and so, yeah. And I think it that is quite important to many of us that, if it, I mean I have 85km to go to work every day, so 170km driving and I wouldn't do that if I didn't found it to be interesting and fun. Now, because it's all oral based and you have to be there physically, you can't work from the distance, which is, which could be in some cases nice to avoid all this driving, but I, yeah, was it a different management and a different ambition level or another waste management companies closer by, I would not want to work for them.

Interview Transcript AVV – Head of Incineration – KK:

Question:	Minutes:	Answer:
Part 1:		
According to your opinion, to which extent do you work in a collaborative and flexible way at AVV?	01:04 – 02:43	I think the, as I told you we have this mission and vision here in our department and if you say our task in the community is to remove waste from all the citizens and you do it as best as possible regarding the environment , this is what we are here for, but our vision is to do it, we want to always improve and be new thinking, we always want to be, what do you say it, innovation, be before others, we want to be faster than, we don't just want to wait, we want to do it when we can see it. And this is what we do all the time. Now we, the last two three months we are making a new organization here in our department and we have decided that stop all the new things, because we have always a lot of things, always making improvements in all places and it just take time and resources from all employees and I said no we have to stop now, because now we are changing in our organization, people are having a new job and new position and we need to learn in that and find our places again. So, stop all the new for maybe half a year or something and after that we can start again. So, this is how we do everything here, we want to be, we want to improve all things.
[Why are you actually changing all these things?]	02:50 – 04:10	It's a, AVV has started a whole new organization last half year or something like that and we want to put more responsibility out to all the employees, we don't want to have them just in the leadership, we want to, yeah, everybody needs to have some kind of responsibility. And we have more, we have a two people job here 24/7 365, so, that means we are 12 people doing that working day and night and afternoon, so we have three shifts and that, when you are working at night it's not very healthy. So, we want to change that, because we have for maybe 20 years worked like they have seven nightshifts in a row and that's not healthy, we need to go down to three, because of your inner system in your body and we want to change that, so making all, so all the people have been here for 25 years we say now you need to do something else. So, you can imagine how you do that.
Do you know any agile principles, or principles that you work with knowingly at AVV?	04:32 – 05:04	Framework, what do you mean, what is that? [explanation] Yeah, we do that. No, it's not something we decided from some system, it's just because it makes sense.
Part 2:		
How important is customer satisfaction in your department	06:03 – 07:25	It's a, in AVV it's very important. In the innovation and administration, they have all the communication out to the citizens and we do that a lot and it's very important for us that we are the best and we also want to adapt that to our department, but as you say, we don't have that much customer contact. So, it's important that we

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and in which ways do you collaborate with them?		can make good service when the trucks come with the waste, we want to remove the waste fast so they can get away again, they need to collect some more waste, they are, of course, busy and that is an important issue for us, but in, yeah, we do it as good as possible. We would like to make a bigger place to avoid waiting time out there, but you need to also, how much will it cost to do it, if it is far too expensive to just expand for having more trucks, do you understand that? So, but it makes sense to us, we want to make, we want to, they are important to us.
How do you ensure that you respond to such changes accordingly and how do you deal with changing requirements?	08:06 – 10:28	The system with those things are that they are not very fast. If the law come and say you need to improve those limits for some kind of SO2 or whatever, then they say we will come with this demand in three years or in two years, they always make some kind of plan. So, it's not like you have to do it tomorrow if they come with something. So, it's actually not very fast to react to those things. Yeah yeah, but we are always in front of that, so if they say three years we are always ready in two years, something like that. But we also do, we don't jump into conclusions that a very, we just do it, we want to make sense before we invest in something, before we, for instance, they came with a new demand with the, what do you call that in English, Hg, what is that called in English, quicksilver like that, from terminators and batteries and stuff like that, also know they demand about, they discussed a little bit the system how should we document this and only one plant before us had bought a new system to measure this and it's maybe, I don't know, 200.000€ or something to make a measuring system for this, plus you will have to maintain it all year. So, it's an expensive cost, but we bought it as number second and after that they decided that it will not be a rule anyway, you don't have to do it, but then we had already invested. And then there was one more year and then they said now you have to do it, so it was okay in the end.
In which ways does speed play a role in your business?	13:06 – 16:00	Not regarding the law demands, but new customers with a new type of waste, some kind of, we burn a lot of different things out here, a lot of different fractures that not everybody is doing, everybody like our plant is saying no, we can't do this, but we do a lot of different things, really strange things. We have from a place where they make chickens, there's a lot of water with a lot of chicken, I don't know what, it's not, you know, garbage from the production of chickens and is coming to our waste and is more or less water, maybe it's coming 20 cubic meter of water with something fluffy inside, I don't think everybody is burning that but we do it. We burn from the, what do you call them, from the sewage system in Brønderslev, all the sewages going to a plant and cleans the water and then it goes to the sea, but all the things they take away from this process we burn here. A special system we have built in and we bump it into the oven directly. Yeah, that's also very special and we burn clinical waste, I think maybe, I don't know, five or six plants in Denmark is doing that, but we do it also. How many plants are there, maybe there are forty fifty plants in Denmark and we are one of the five plants who are burning those clinical things. So, we do a lot of things, we do a lot of strange. On the other side, on the MV, have you been there, okay, but this is also a small department in

In your opinion, which measures are taken that you can take decisions quickly and in an effective way in your team?	16:33 – 17:43	<p>AVV where we collect waste oil and a lot of chemicals and a lot of different things. And in that department, they take all the things and recycle whatever they can and send it to wherever they can, but there is some kind of waste product and we burn it here. So, yeah, we do a lot of different things actually.</p> <p>I think the way we decide things is very fast. If I see something that's, even though it costs some money, maybe 200.000 Euros or something, if we can see it's a good idea, then within two weeks we can decide it, it's not a problem. I can talk directly to my boss, Steen, have you talked to him? So, it's very fast to decide what we do. If it makes sense. Of course, if something is, for my point of view is of course some kind of improvement of the plant or something, but if it's regarding customers, citizens, then it needs to be evaluated somehow, because I'm not the customer contact. So, even though I have a good idea somebody else needs to decide is that what we want, is that AVV spirit to do it like that, but if it's supported we can do it very fast.</p>
In which ways do people and departments work together at AVV and are interactions or meetings part of daily/weekly routine?	18:10 – 19:40	<p>Within our department we have a everyday five ten minutes meeting in the morning and just to say what is everybody doing today, we have a, I have several meetings with Tony one hour a week and with Gustav doing our maintenance planning once, one hour per week, we have all the daily works, we are three or four people, we meet every three or four weeks one hour to say what is it we are doing the next three or four weeks, we have a lot of planned things that we need to do, but if we are running out of time, so to say, if all the planned things are made, what should we do. So, we ask some kind of lists, we say okay then we have those five things, those are the most important, does it make sense? Steen or AVV has decided last six month that they want to do it like this, make all the responsibilities more down, but we have done it here for the last four five years.</p>
In which ways is there an environment created that supports and motivates you at work?	20:31 – 24:55	<p>It's a very open and they communicate a lot about what they are planned to do and they, we have a, two times a year we have a meeting where everybody can come and the director Steen is talking a bit to all people and tries to involve people in, he does a, I think he is doing a lot in explaining, we are doing a lot of new things, always always new things and I think Steen is good as, in explaining all the people we do it because it makes sense this way and makes sense this way and we have those problems and it's difficult because law, he tries to explain a lot of why he decides as he does. I think that's very important. It's like this, we call it "værdier baseret ledelse" value based management, is that do you know what this means? That is what Steen would like to do. So, we have those four values and if you can do that, put that in people's mind and make the decisions as low as possible, or as close as possible to the job or the situation, then you make people responsible about the job and that's actually what we will do with all the twelve guys we have here that are driving the crane one is, we want to involve them in more, in doing some daily maintenance, we want them to touch the plant, don't just go around and look at it. We want to make them repair and have their own responsibility and their own areas. It's difficult, we had actually the first meeting yesterday, we</p>

		<p>made a group in five persons that's should decide how we can do this, how can we manage, how can we do it and I actually told them that or asked them, normally when we make a group like that, the leader takes, I call in the meetings, I tell everybody about and I make the referent, I do all the practical things and they just come to the meeting and go again. But yesterday I asked them I would like you to do it. Can you, who would take the notes, ah okay one guy he told to take the notes and I said when we come after summer we need to make a new plan, this is the, you know a schedule how they should work and one of the other guys said yeah I will take that and a third guy said when we want to tell our colleagues about it in the meeting, when we are ready to tell something about it, I will tell them. So, that was actually, hmm. They were little bit afraid about it, but it's very important that they like the idea and they think it's, we need to win this, because it's a very difficult process to make, we call them old grumpy men here, because they have been here for, I think in average they have been here for 25 years, in average. So, now, and I just tell them now you need to do something else. So, it's very difficult, yeah yeah, that's interesting.</p>
How important are face-to-face conversations, also with other departments and why?	25:10 – 26:55	<p>Very important, for my opinion it's very important. When you know people,when, it's so easy to just send an email, there are no, you don't have any responsibilities how you not, you don't see people's reaction somehow and you don't get the right angles on issues or problems or whatever. So, I think face to face is very important and we do it a lot here also. All, from all the departments in my position we meet once a month and discuss what is going on, what are we doing. Not to say I want to solve this problem or I want to do this, everybody is telling about what is going on in each department. And with my boss, we have a, now it's new for my position, so, the next month we meet one hour per week to just help me with the solving of some kind of problem. And then we have, the plan is that we meet once a month and take a one to one talk about what is going on here and yeah. So, it's not just in our department, it's in all the departments. Everybody is meeting across and talking.</p>
How do you measure progress in your department?	27:17 – 28:59	<p>It's a little bit, everybody would say it's measured by money, how much can you produce a year, what will it cost in maintenance and having people cost, get a salary for people, all the money you need to pay for this and how much they produce. That's everybody, if that is good then we are doing good and if the line is going upwards then you can measure. What else can we do? We do a lot of things, but not actually to make progress. I am looking for that measure all the time because it's so important to me. I like, you know, KPI, I like those to have to have some kind of measure every month, to say okay it's like this and when you can see it something is going on what is happening. And we do it, we take a lot of statistics on how we run the plant and also on the economical side, how much money do we use for producing this amount of heat and electric and removing waste. So, we have a lot of KPIs, but I need some kind of system to make it a little bit better, a little bit more, but we are not ready, maybe in a year or something.</p>

How do you ensure sustainable development, meaning how do you guarantee something like a constant flow of ideas for improvement?	29:49 – 33:33	<p>Actually, I haven't decided that yet how we do it, but historically seen, we have always built, make new things, new ways to clean the exhaust gases, new ways to raise the effect on the ovens in the plant, we have just built in a condensing system at the end of the exhaust system to be more effective. And actually, I don't know where they [ideas] came from, because, it's of course a process two or three years or so, it's not, it costed maybe, the last project was, how much was it, 5.000.000 Euro or something, so, it's not something that you just do, you need to make some kind of idea. But I think it's a little bit cooperation between departments, because we have meetings every year with plants like ours, we meet them two times a year, we have a day where we have some kind of seminar where you see some kind of plants tell their stories and from there, that's, from those days we steal ideas of course. And if somebody, we always discuss it, how was it, was that a good idea, is this something we should go for. So, I think it's a little bit in cooperation between, it is not one person, who is looking at this say what should we do the next five years, yes. But maybe it should be my job in the future actually. Maybe if you talk agility now, it's something you should implement, right? And it should be some kind in your system that somebody needs to, has the job to always be better somehow. Because every time there is a good idea we do it, no question about that, we just do it, but with, I think the ideas is a little bit random, they just come from different places. So, maybe we need to this is your job. I just think it means that every six months I ask those ten people what have we, any ideas and collect and then, no, no, no, yes, yes, yes, no, no, yes, not that I need to find ideas, everybody. You can do it, you can go out in other businesses, you can meet people, you can, what do you call this, learning people to know, face to face, what do you call it, it has a fancy word, ahhh networking, that, do a lot of networking, right. So, you can be more in front instead of just waiting.</p>
In which ways do you make use of self-organizing or cross-department teams to come up with new solutions?	34:10 – 35:38	<p>The last three or four years, our daily work, those are three or four guys, we have made some kind of planned jobs, schedule for them, but besides that I don't do anything, they more or less do everything themselves regarding how they do the jobs, they are not discussing economy, they are not, they just handle them themselves. But if you say, what did you call it, those, a group like that could, some companies also tell them to say okay you have those money and you have that time, you are that many people, but that's not how far we are, they just do it. The twelve guys in doing the crane, they also do it themselves when somebody is ill, they just do it within the group, find another one and somebody needs to have a vacation they just find it within themselves in the system, I'm not involve in that. Actually, I am a little bit involved, but that will disappear very soon.</p>
How do you reflect on what you are doing? And do you do it regularly (e.g. daily or	36:14 – 39:29	<p>We do it all the time I think, not planned maybe, but we always do it. Yeah, I think actually we have a, we started something last year, when we have a situation in the plant, we had a situation where the control vowel was defect, meaning that we could not get out, lead out any steam from the system and the boiler, so it was really an emergency, where we need to stop the boiler pretty fast, it's not, we have done it before, but</p>

weekly) and why do you do it?		<p>this time I thought we need to learn something about it. The consequences was that we need to stop for a day, maybe 24 hours or something, start up again and so, maybe 36 hours we didn't produce anything. And it had some side effects, also we need to buy some new spare parts to different places in the system, because we stopped pretty fast. So, I made some kind of, what do you call it, a history about what did happen in that situation, some kind of evaluation, first the history and then the consequences and then the plan what can we do about it. And it was not to, we have done it now three or four times from different situations and that is actually for evaluation, it's not to tell people that it was stupid what you did, it's more to tell okay this is, was the situation everybody learn about it. I don't know what you call that in a smart way, but. And we have decided we do that when we have some kind of situation that are, we had a system, but the environment with the accident in all AVV we have this system, some kind of ISO, ISO codes system, I cannot remember. So, we do it when somebody has an accident or nearby accident, then we make a note about it and say what can we do and what was the consequences and that is sent to all our people here in the department. So, that we evaluate like that, but what I talked about was a new thing, it's not in regarding environment and it's not regarding accidents, it's more economic, more money talks I think, it could also be a accident, it could also damaged environment, you could have some other consequences, but we have started and put in the same system.</p>
[And if there is nothing special going on, do you also reflect on your daily work?]	40:11 – 41:21	<p>We have a meeting every month with all departments here, so, there we have the same bins for every meeting and that is also if we have environments issues or if we have accident issues, if we have new projects or if we have decided new way to handling waste or a lot of different things and also how is it going here between us, how is the social life, a lot of different things and a lot of those bins are empty when we start the meeting, but we still take the talk about it. If I don't have any issues with the social thing between all the people here, there are nothing, but I still ask, we still talk about it and everything is good, check. So is, we do it in some way I think, make some kind of evaluation.</p>
Part 3:		
In which ways do you benefit from this way of working or why do you like it?	41:54 – 43:06	<p>I think that value based management, for me that's the most important, that's how I am as a person and that is how AVV is as a company. It's just more fulfilling for people to have responsibilities and they are able to decide things and I actually don't care if they decide wrong now and then, no, so what, I know they did what they thought was best. So, what do I benefit? For me personally, it's the good culture in the department, everybody are able to make mistakes without getting killed more or less, you need to be open and rely on people and if people do something wrong, then say okay that's what happens, you must learn about it and don't do it next time. For me, that's the most important thing I think.</p>

Interview Transcript AVV – Innovation Employee – KOZ:

Question:	Minutes:	Answer:
Part 1:		
According to your opinion, to which extent do you work in an iterative, collaborative and flexible way at AVV?	02:08 – 05:10	I think we work in a flexible way, yeah. I think it's just a culture that's been built up through the years I guess. Just to understand the question right, how I think that we work in an iterative? Yeah, I think it's part of the mindset, it's the culture, but of course there are some tasks that have to be done, but it's, well for me, I have very, I feel that I have a lot of freedom to decide when I do what and how I do it. So, I have some tasks and a lot of those tasks are some that I more or less invented myself, for instance, the thing we just spoke to Peter about in the hallway, that's about bio, I want to do more about biodiversity. We have a lot of green areas, where we just cut the grass with a, what's it called, I don't know the word, mower? Yeah, you know, they are just ordinary green fields and there we could do something more about that, let us some different kinds of plants grow and so, I suggest that and that's alright, I just go ahead with that. So, it's very much that's the way we work and that's nice, it's interesting, because I get a personal, I'm more personally engaged when I can work like that, but sometimes it's also, it becomes a little too much, because we start a lot of things and maybe we forget some other things that we started, I have, it's hard to keep the overview sometimes of all the tasks and all the little projects that we start. We start a lot of little projects, investigate could that be something here or there, could we, yes, since I ended my PhD I had to invent a lot of, I didn't have to but I have seen some things during my PhD that I felt this could be improved and so I dig into it and investigate and talk a little and we start something up, but if you start too much up, yeah, that's a challenge, yeah to follow up on everything. And also to implement as I said before.
Are you familiar with any agile principles or agile frameworks that you work with at AVV?	05:26 – 06:10	No, I don't, it's not like we. Well, we talk about it, we are aware that we have a mind-set, a different mind-set, but we don't have like a procedure or this is how we do it. We have something where we have to fill out a form if we start a new project, but I'm not sure everybody does it, it's not, I don't really use it. Some of the others have been to a project leader course some years ago and I think they got a lot out of it and I think they use it, but unconsciously, or it's not like, no.
Part 2:		
How important is customer centricity and in which ways do you involve or directly collaborate with them at all in your department?	07:12 – 09:47	Yeah, I worked a little bit with this in my PhD about what is customers in AVV's case, because we are not a producing company, so, I think our main customers, if you can call it like that, are the citizens for whom we provide the services of collecting the waste. So, they, we are very aware about their, how satisfied they are with the solutions that we provide, the containers they have enough capacity for their waste and that they get their bins emptied. And that's, and there is a dilemma between customer satisfaction and collecting much waste for recycling, so separating waste, because the customers can get annoyed with having many different bins, so, that dilemma has been present and something that we try to talk openly about and put it

Interview Transcript AVV – Innovation Employee – KOZ

		<p>on Facebook and yeah. And it has, of course it has been the solution, I don't know how much you actually know about AVV that in October we are starting to collect that source-separated waste in four fractions for four different waste types. So, of course, it would be better if we could collect eight different types of waste or something, but customer satisfaction that is always there. And, but, we can also, we also have a different type of customer, so maybe there are more, well, we sell the waste, so when we have collected all the paper waste, we have to get, sell it to a paper mill. So, that's also another type of customer. Yeah, we have to live to their standards, if they, we can only deliver waste with 10% impurity, then we have to ensure that the paper is that, yeah. And there is also the customers in the shop that is also a different type of customer.</p>
In which ways does speed play a role in your business?	10:08 – 10:27	<p>I don't think it's something that we, I don't think that we have to be quick, it's not like we feel a pressure to, I don't feel a pressure to. I think that would limit the creativity if you have felt that pressure.</p>
[So, you would say speed hinders creativity?]	10:32 – 10:42	<p>No, the expectation of speed or the pressure to be fast and quick would hinder creativity, be forcing your ideas.</p>
In your opinion, which measures are taken that you can take decisions quickly and in an effective way in your team?	10:54 – 11:32	<p>What measures? I think it's Torben, the innovation manager, who is very open to new ideas and he always just says go ahead. There is not a limit there, the limit is more if we as workers feel too much workload, sometimes he brings up ideas and I have to say if we are going to do that I have to do it in a month or something, I don't have time.</p>
[But it's not like it will take up to a month until you know?]	11:40 – 11:59	<p>No. It's always I say something and he replies. Of course, there might be some other barriers, maybe, I can't really find an example, maybe if it depends on someone else, if it depends on the municipalities acceptance, or.</p>
In which ways do people of different departments work together at AVV and are interactions or meetings part of daily/weekly routine?	12:47 - 16:08	<p>Well, we have meetings every two or three weeks in this department and then we have meetings with all, the entire administration, I think it's maybe every second month or something, but that's not really collaboration, it's more information about what's going on. So, it's more, we collaborate with the driving department or the recycling station department if it's relevant and it is, well I am talking to Peter every second day or something, because what I'm working with right now is dependent on his department. We would just go and talk. But it's difficult actually with working on many different projects with different people to prioritize and to know when to set a lot, set time aside. Yeah and I think we lose some effectiveness by zapping between,</p>

		<p>that's my experience. I am not as effective when I zap, I work maybe on five projects, if I can work on one project in one day, I would more effectively, because I don't have, if I go for working about, if we work with Henrik's project about, sorry, I haven't spoken English for a long time. You know the project about washing machines and repairing that? And, but I also work on something completely different about digging down containers, measuring how much capacity different city areas need. It's very very different and if I've been working on that for two days and then zap over to working on the washing machines, I have to spend maybe half an hour to get into what, where did I end last week, what yeah, what was it that I was going to do. I've found out that I forget things, yeah, and then I worry maybe I don't notice, maybe I don't find out that I forgot something. So, I didn't check off efficient on your, yeah, for that reason, because I don't think it's an efficient way to work.</p>
In which ways is there an environment created that supports and motivates you at work?	16:32 – 17:50	<p>Well, that's very much what we've talked about, I can't bring up anything. But I think it's very much in our department, I, are you, have you interviewed anyone from the administration? It could be interesting because you might get completely different answers. I think I could imagine that he [Michael] is used to working in a very different way, because they've been running the incineration plant. Yeah, and that is actually one of my concerns that I think some of the people out in the departments might be annoyed with us, because we bring up new things and the ones who are going to carry it out in reality are them. So, they get a lot of extra workload, because of our ideas. So, I sometimes feel a little bit, I, yeah, I think it's important that the ideas are good before we bring them out.</p>
How important are face-to-face conversations, also with other departments and why, especially in your case when you work on or develop new innovations?	18:17 – 19:09	<p>Yeah, they are important, because if you just write an email you only get response on what you asked for and if we talk face to face, yeah, we might get some extra information that's relevant or. I think it's also, some things you just can't figure out on an email, you have to, I always go and talk to Peter if there is something, because it's easier just to talk and then you don't have to sit and wait on a reply. Yeah, of course, I could call him on the phone but, and yeah, we do that do of course. And you know, I'm worried about sitting on my chair too much.</p>
How do you measure progress in your business? Is there a specific indicator in your department?	19:33 – 20:26	<p>We have the environmental management system EMAS, I guess that's a way to, where we make a status on how did it go with the projects from this year, we set new goals for next year and then of course, there is also the recycling rates, yeah how much waste we send for recycling, that's basically what, yeah, we just found out a new way how to do that how we want to, it could be measured in different ways. Yeah, that's the thing that comes to my mind right now.</p>

How do you ensure sustainable development, meaning how do you guarantee something like a constant flow of innovations?	20:46 – 22:10	Yeah, that's something, it's a question that we are often asked, it's a question that everybody asks us that, so we talk about it. Well, we get ideas from outside, I think. We regularly attend conferences and seminars in the sector. And Torben has a very large network with other companies or, and actors and yeah, Henrik has a large network too. Yeah, Henrik is just very good at creating contact. I don't know. But it's also something, people say that you always have so many ideas here, we make a lot of new things, but it's not, I don't know, do we actually, maybe we do, but doesn't everybody. I don't know.
In which ways do you guarantee that the services you create satisfy the customers?	22:48 – 23:50	Well, it's not all the things that we do that has any impact on the customers. Well, for instance, the washing machines project, I know you don't call them washing machines, but you know, the art appliances, it doesn't impact our customers. Of course, it creates a new service, but if we say that our main customer is the citizens who, to whom we provide the waste collection service, I think that's a main customer, then we have a few, I know there are a hundred customers there, but that's a few compared to the 100.000. Yeah, the biodiversity doesn't impact them, a new way to measure recycling waste doesn't impact our customers.
[But when they are concerned or when it directly affects them?]	24:00 – 25:06	I think we are, that's, we always consider that very much. And yeah, I don't know. I guess it's mostly the communication department. Of course, we think about it, we know that our customers wants it as easy as possible and we also know that a large part would like to do something for the environment, would like to make an extra effort for collecting the waste, for recycling, but it shouldn't be too bothersome. And we made, we got a consultancy making a report and making interviews with many different focus group interviews in some projects, then we have the, every week we have groups coming for guided tours. So, I think we have a good feeling with the citizens.
In which ways do you make use of self-organizing or cross-department teams to come up with new solutions?	25:33 – 26:44	I think it's just a way, that's a culture, it's, we don't, it's a very, we don't have this hierarchy I imagine German companies have and American companies with a boss who decides and tells everybody what to do. We also just sometimes talk in the break and then we come up with new ideas, it's not like we sit down say now we have to get a new idea, how can we get a new idea. It's something that happens just when we talk. Yeah, and sometimes we make up ideas and then we talk to Torben afterwards, he is not always involved in all the first thoughts about something. He is more, of course, he sometimes comes with, he actually generates a lot of ideas, but it's not, he is more like a person we can always go and get some advice from and test ideas adjusted to him and see what his reactions are, he is not, he is more like a parent. Of course, before we go, before we spend too much time on it.

[It's not like he would say you think about this or that and come up with a solution?]	27:10 – 28:07	No, no, no, no, never like that. The thing, we always, right now we talk about this thing AVV always making good ideas and other people have been talking, asking us about it, but it's not like we sit down and force ourselves to make ideas. It's the environment that, yeah, the culture. It's not like when then we have an idea that we are aware now we got a new idea. It's just a natural way of working and I think the most important thing is our that Torben is like he is, he stays there, present, always empathic and never bossing us around and always just, yeah, supervising.
How do you reflect on what you are doing? And do you do it regularly (e.g. daily or weekly) and why do you do it?	28:31 – 30:35	I don't think there is much focus on effectiveness, I think we could be much more effective actually, I don't think we are very effective. If we were going to be effective, we should close down the innovation department and just do what we are supposed to do, collect people's waste and send it for recycling and then nothing more. A lot of what we do is, we are not obliged to do it, we are not obliged to have a repair shop to repair things, we, sometimes, we don't even know is it legal, we are not, the people we have in work, what is it called, they are building up their skills. Is that actually the purpose of a waste management company to bring people out in employment again, do you know what I'm talking about? Isn't that the municipal task in some, of some social department. So, it's inefficient and it's expensive I think, I don't think, we are not making money on that. We are spending money on all our salaries, if you have to be, you can choose to see it that way. There are many other waste management companies in the country that work that way, they just do what they are supposed to do and nothing more and that's of course more efficient. Yeah, it makes sense. You could from a societal economic perspective argue that that is better, you could if you are on the devil side, why should we do all this.
[Do you reflect on your projects or work in some way?]	30:45 – 33:00	Yeah, we do, we probably do it when something doesn't go as well as we had imagined it would. We had a project that was the first year I was here, where we just put all too much, too many activities in it. It was a citizen project called "Nulskrald" in a small village, I don't know if you heard about it, I think that, some of the employees were more or less burned out after that, because we just kept on bringing new ideas and taking new tasks on and making activities, it was too much. Yeah, and then of course, if we do something that doesn't have the effect that we imagined as well. We had the project the "grønne spor" on the recycling station up here, where we painted green pain, have you heard it? The purpose was to collect more waste for recycling and to limit the waste being delivered for incineration. And they set a lot of things, we started with a lot of things, yeah, and I think that was, I was, it had an effect that was because they put more employees out there, but afterwards, when you've said a lot of things, we started a lot of things, it's difficult to see what actually worked or to admit that you maybe made some mistakes. Yeah, and it's difficult to talk about, I think it's very difficult, if some employees sees what other employees said and initiated and I'm sure, now about the biodiversity, some employees going to think why are you going to do that, but nobody would come to me and say to my face why are you going to do that.

Part 3:		
In which ways do you benefit from this way of working or why do you like it?	33:29 – 34:31	I have to say, same story, I don't have much to compare with, I can compare with making the PhD, which was very, a very lonely task, it's nice to work in teams, where you share the responsibilities for the success and for the failure, I think that's really nice. So, it's, that was something that burdened me during my PhD that everything, the success of failure was totally on my shoulders and it's not like that when you work in a team. Of course, that it's more interesting to have influence on your own tasks than to being bossed or being told this, but I don't know if it's like that anywhere in other companies, of course it is in some companies, but I think.
[Small-talk at the end]	35:18 – 35:53	You imagine it to be more focused on efficiency. But maybe that's the success of it, that it is public, that we, I don't think a private company would never make up a workshop out there, because it's inefficient. Yeah, why should we do it if we had been a private company. I don't know.

Interview Transcript AVV – Head of Innovation – TN:

Question:	Minutes:	Answer:
Part 1:		
[Introduction to topic]	00:45 – 01:15	And many many times we don't have the word daily, even if we does do it and make it happen. And we don't know, because my name in the first twenty year was technical director, but I'm not a "tekniker", now I'm innovation manager.
According to your opinion, to which extent do you work in an iterative, collaborative and flexible way at AVV?	01:58 – 03:11	Yes. I think we have the capacity to do it in different ways and we have the economy, we have our incineration plant and it makes it possible for us to do it in different ways and to do it in new ways. So, and, it's special our incineration plant that makes it possible to do it in new ways. And we have our politicians that want to show AVV in a different way, not like all the other companies.
Are there any agile principles or agile frameworks that you work with at AVV?	03:47 – 04:42	I think we do it in the first time and then afterwards we reflect it and see why does we do this, but of course we have a plan, and "værdier", values and we have made values, we have four values. So, we have a plan, but often we do it first and afterwards we reflect, yes, you know what I mean.
[So, basically, you act and then you think about it?]	04:48 – 05:20	Then we think about it, but it's different in our company. It's my way to do it and my employer [employees], but some of our colleague do it in their way and together we have a fantastisk company.
Part 2:		
How important is customer centricity and in which ways, or do you directly collaborate with them at all in your department?	06:17 – 07:11	Yes, and our customer is our citizen, and it's all citizens in the two "kommunen". And there is about 1.000, 100.000, but we are a small company in Denmark. Many other companies that work with waste are 200 or 300.000 inhabitants. So, it's very important how they react and how they like the way we do it. So, we often have a discussion to the citizen.
[How do these discussions look?]	07:17 – 07:36	We invite citizens to see our plan and to hear about our company and how we want them to sort the waste, to reuse the waste.

Interview Transcript AVV – Head of Innovation – TN

[So, they are directly part of it?]	07:40 – 08:05	They are part of it. And we have the social media, where we, in, what do you call it, we ask the citizens what they think about our system.
[So, you ask them and they say their opinion?]	08:11 – 08:16	Yeah, and if we don't ask they say opinion also.
[Do you also ask them before you introduce something new?]	08:23 – 09:03	Yeah, before we make a new system we ask them. And perhaps we listen to the citizen and sometimes we don't, because perhaps some of them want another system and the majority would like to have like they do it today.
How do you ensure that you respond to such changes accordingly and how do you deal with changing requirements?	09:39 – 10:48	We, as I told you, we have our social media, where we are daily in contact with citizens and they often come to us or phone to us what they think and what they mean. Many peoples have a meaning [opinion] of waste and recycle. And special, if there come a new system, if we want them to sort in another way, then they have a meaning,
[If someone says it's not okay, do you change things again?]	11:06 – 11:29	If we have a new system, a new idea, we often have it in many years, in six, eight years and sometimes 20 years. We don't make a new system every year or every third year.
In which ways does speed play a role in the waste management sector?	11:55 – 12:43	I think there is a difference between us and a company who makes new product every day, we make not products, but service and it's very different from a company who makes a product. A product you will change in a year, but, and often, but the service it must be the same in five, six, seven years. It's not so easy yeah if we produce a product.
In your opinion, which measures are taken that you can take decisions quickly and in an effective way in your team?	13:07 – 14:59	Yeah and sometimes we have the same here, it takes lots of time. We have politicians and it can takes two years to introduce and have, get a new system. Now we are, we make, in this year we make a new system where all citizen must sort in four different types, in four different waste group. And it have, we have been planned and produced it in three or four years. That's long. We have a small city that is called Vrå, where they are 2.000 citizens and we tried to get them to sort it in the last two and three years. And now we have

		the new system, we have planned it and from this year, in about half year, we will introduce it to all citizens. It's taken a long time.
In which ways do people and work together at AVV and are interactions or meetings part of daily/weekly routine?	15:45 – 16:49	Yeah, we have a daily meeting in this part of our company and every second week we have a meeting in, it takes about an hour and a or two hours and then on the top of the company, we have a meeting in every week. Yeah, it's a lot of meetings. My ma asked me if I am not doing else but meeting. Yeah, no, it's my work.
How do you ensure sustainable development, meaning how do you guarantee something like a constant flow of innovations?	17:18 – 18:25	We must have the right employer [employees] and it must, they must have a different quality. I don't, my colleagues must have a different way to think and to do it. It's not engineers all of them, I'm myself a engineering, but we have an employer that, they have humanistic.
How important are face-to-face conversations, also with other departments and why, to develop new ideas?	19:07 – 19:31	Yeah. Face to face is very important for me and for others it's not so important, but for me it's very important. So, I often have a face to face situation with my colleague.
How do you reflect on what you are doing? And do you do it regularly (e.g. daily or weekly) and why do you do it?	20:06 – 21:01	It's not daily, but weekly. We see how our, how the other companies do it and what's their price is, how is the service. So, we look how they do it, or what's the price for the citizen and so, we have a price to incineration, to our incineration plant and we look how is the price in Aalborg, how is the price in Frederikshavn. If it's different we must do it in a better and another way.
	21:12 – 21:24	We ask them how they do it and we have a discussion to our employer how we can do it in a better way.

[And do you call them then and ask what do you do different?]		
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Interview Transcript AVV – Head of Recycling – DMN:

Question:	Minutes:	Answer:
Part 1:		
According to your opinion, to which extent do you work in a collaborative and flexible way at AVV?	01:57 – 03:53	That's the way it is here. I've been here for fifteen years and I've only been one other place, so, it's normal for me this, but I know, everybody tells me that's not the way it is everywhere, but for me it's very normal the way we do it. I can see it's changed, of course, in fifteen years, but, there was other director and a bit more, the decision were made he and two more, Torben and Niels, were at the very direction, I don't know if that's the right word, three highest people at the take the decision and then they told to do a little bit more, but, a little bit more if it's today filled out, a little bit more flat organization today. Look, I were only 27 when I started here and then I grew up and started as a "consult" and now I'm the leader at my, at the recycling and now, for one or two month, now my title is in Danish "genbrugschef", chief, and now I'm the board of direction now for one or two months. So, it's still new and I don't know what it means full.
Are there any agile principles you are familiar with or which you follow in your daily work at AVV?	04:12 – 05:16	I'm not sure I understand what that is, I'm not sure what it means. [explanation] I'm not sure what you are asking me to answer, I'm not sure. So, you are asking for a name of it? I'm not sure what you are asking me about. I don't any names, no, now I understand. We do it because it makes sense, we don't know what it named or any theory or.
Part 2:		
How important is customer satisfaction and do you directly work with them?	06:06 – 07:46	It's how we define customers, is our citizens, is that our customer? We are not a normally production, yeah. It's very important because we exact, we use Facebook, because we want to make the, in Danish "afstand", let them get closer to us, we want the dialogue, the, we like to hear their opinion even if it's bad or wrong, then we will explain and tell, we want to get as close as possible, sometimes we are talking about we want to go to the citizen's kitchen, because our job is to place right garbage outside the house, but that's not, the most important is that it works in the kitchen for the citizens. Our colleagues in Denmark only think the right container or the right beside the house, they can find out in the house themselves, that's not us, we think it has to see the whole thing. So, we like to get close to citizens. Is that any sense?
[If you come up with new ideas for recycling, do you also ask the customers?]	08:18 – 09:06	For me, it's still new for me, so I can't say what I'm done, but it's not new with the recycling shop. Then we have a Facebook, we tell and ask for their opinions and so on, so yes, we do, but it's recycling shop, I only can. At the recycling places, we could also, I can imagine, we could also ask the citizens from there, that would be a thing we could consider, I think.

Interview Transcript AVV – Head of Recycling – DMN

In which ways does speed play a role in your business?	09:51 – 10:32	We are not a production factory, so we haven't new materials every month, but we, we are continued thinking new services, all the time we can do better service, better waste to recycling or to burn or what we have to do with the garbage, with the trash, all the time we have to think new, better ways to more better ways for the environment, so, yeah.
[And how do you come up with ideas?]	10:37 - 11:54	That's many different ways, you see the room here, we don't sit at the table and say now come up with new ideas, that don't works, so it's all the time, this is sometimes in the car, sometimes when we are together, my favorite is to and we have some, one of that meeting in the afternoon, ten twelve people here come on, I have to work with this, come and share your ideas and then ping pong, you know, something and there the new ideas come, when we, it's three four five departments, it's nearly, not all of it, where it get meaning it, and often two three four from innovation, because they are good for ideas, yeah.
In which ways do people in your department work together with other departments at AVV and are interactions or meetings part of daily/weekly routine?	12:29 – 13:56	Oh yeah, very important, we have lot of meetings and sometimes we say to each other: oh can we do less meetings, we have, all of us have, but that's the way we work, always in teams, always some from innovation, some from economies, some from, me from the recycling shop as a, we always teams and always work together and that's have to be a lot of meetings and we are very, we are not so a writing place, we are more a speaking, lots of projects, of course, we are write something down, but more when we agreed that's the way and you do and I do, that's, we don't have to write everything down, we look at each other and then we know. Every people here, it's not in person, that's my, that's no way. I hear about places where that's my work, don't, I want to have the clap, because of my work, I know we are together all work, so that, so, it's more open, we share every document, everything we share, because if I have wrote everything, something down, if you can use it, wait here you are, that's the way it is, yeah.
In which ways is there an environment created that supports and motivates you at work?	14:22 – 15:03	I have a, Torben has been my chief for many years, he places, sometimes he places a bit flower only one flower from his own garden, sometimes just a clap on the shoulder, but all the time you get the good work, good, so, that's the Torben-way, my way, I'm really also a leader, positive words, thank you, good work did, if all, if everybody is a success I will have success, so, you have to lift up all the people.
How important are face-to-face conversations, also with other departments and why?	15:31 – 16:04	It's everything, it's 100% face to face all the time, I would say so. Of course we work at our computers, but new ideas only get better if we share ideas and so, I don't, not a 100% but it's very important face to face, very. For me also.

How do you ensure sustainable development, meaning how do you guarantee something like a constant flow of innovations or ideas?	16:49 – 18:25	We have so many ideas, so, our problem is to don't run for everything, so, I'm not concerned about running out of ideas, but, yeah, it, AVV is a place, then there are artists, practitioners, we are contacted by new people all the time and the normalest thing is, no not a job for you, no that's not the way we work, but that's not our, oh come on in, act, you say how are you working and then we are listen and new people, new way to look we say thank you, that's, wow, that's a new idea for us, we got a lot of ideas from new people, other that, not like us, different ways, that's very inspiring us. So, I'm not afraid of running out of ideas, never, but so many ideas, there are so many innovative people, so, I haven't thought about it that way. My biggest problem is to pick the right one and only run for that thing, because we can't run for everything and that's our problem here, we have so many things we would like to do all the time, so, that's the biggest problem, that's to go for the right one. yeah.
How do you measure progress in your department?	19:01 – 19:19	It's in my head, we use normally project planning, we're using Gantt, mind-maps and time schedules and so on, but I'm not sure.
In which ways do you make use of self-organizing or cross-department teams to come up with new solutions?	19:50 – 20:17	We do that often, we have teams where there are no leader in, it's only a team leader for that project and a new team, it's a new project leader. I also have it in the recycling shop, I see you three come with an idea, come with an solution and then we, I will say go and then we do it or. So, we do that a lot.
How do you reflect on what you are doing? And do you do it regularly (e.g. daily or weekly) and why do you do it?	20:45 – 21:28	Yeah, we, in my department we, yeah, we do it weekly for small scale and then every three months we have a meeting for the whole, I think we are fourteen people, yeah, and then we all the time look at our numbers and say how is it working here and what can we do to get better and so yeah, week-basis for small scale and then every three month for a little more details and meeting there.
How do you ensure that you respond to such changes accordingly and how	22:18 – 23:58	I think of course we can change it if it make sense, that's, of course it have to make sense, but the most important for me is to share agile, in Danish "inddrag" so, they are a part of it. So, the people at the team or at the department I have to take them in and the best is if I can make it their decision, that's, then they will feel it, it's a good thing to do it. If they have to, if they share the discussion and share the whole work with it.

do you deal with changing requirements?		That's the best way. So, they are a part of it, everyone, that's, I don't know if you understand what, it's not me saying then we have to do it another way do it, no way, that's not, that's never going to work. So, if I want to change anything I will tell them what's the point, what for, why, what have we to reach and then we will talk about how we will do that best and I'll listen to their and then we will, together will come up with an solution and they will say okay, I was, it was my decision too, I will go for it, yeah.
In which ways do you guarantee working services and good quality products to satisfy the customers?	24:50 – 26:37	Yeah, that's, it's recycling garbage and so it's a little bit, we only put a price and put it in the shop and sometimes we try to, but we are not repairing or anything, before it's in the shop, maybe we are cleaning it a little bit, but that's. So, that's the way we do it at the shop, but I don't know, is that what you mean by quality. It's not normally products, it's recycled and yeah so it has to be cheap and, but also the environment at the shop, it look good, don't smell bad, it's a whole experience to shop here. We do a lot, you also look at the, it's not a boring normally conference room. That's the way we think, we have to make it an experience and maybe it will make you think about, hmm, garbage, no, that's not garbage, it's beautiful. If we can make our customer think a little bit otherwise, that's our job, I think.
Part 3:		
In which ways do you benefit from this way of working or why do you like it?	27:07 – 28:48	I'm not sure, I don't know, that's the way it is, that's always been and I like so much being here, so I can't imagine doing otherwise or I'm not sure what I have to say here. It's a little bit difficult to explain, but the culture here, the culture is, everybody is something, everybody is having good ideas, everybody that work is very important, so the culture here is the most important, the positive culture here and the culture that we think the environmental before we make any decisions, that's and we also think about human beings, human, there are people out here that haven't a job you and me we have to share, we have to give a job and how, I like three, in Danish it's "bundlinje", economy of course, they have to care about economy, but also people and the environment, so we are looking for, that's give me a, I don't know, the culture here.

Interview Transcript AVV – Former Head of Incineration – MB:

Question:	Minutes:	Answer:
Part 1:		
According to your opinion, to which extent do you work in an iterative, incremental, collaborative and flexible way at AVV?	01:19 – 02:45	It's definitely flexible, yeah. So, we are ready to adjust the way we are going. Yeah, I think the other words you said, what was that. I don't know if it's what you are asking for, but it's a, the company is a very interesting in to find new ways to do things, we will, we always said, we will be the best waste company in the world. We have willing to try new things and if somebody gets an idea our manager would say okay let's try.
Are there any agile principles or agile frameworks that you work with at AVV?	03:04 – 03:05	What does that mean?
[But you are not aware of that, are you?]	03:15 – 03:16	No, no.
Part 2:		
How important is customer centricity and in which ways, or do you directly collaborate with them in your department?	04:04 – 05:18	Normally, I am the manager of the incineration plant, but now I am, for one week, since I have got a new job here, I am in charge of many departments. So, it's a little bit new for me, but in the incineration plants we don't have so much contact with the customers, because they are just coming in with the trucks and delivery the waste to the plant, but I know in this part of the company, where they are in contact with the citizens and there is a lot activity to talk to the citizens, to the customers. As, what's it called, focus, they are very, what's it called, in Danish it is, you say you have focus on the, you do your, I don't know that.
[In the incineration plant it's like almost no contact?]	05:27 – 05:57	Yeah, because they just have to come and deliver it, but in the other parts the company it's very, it's important that the customer is outsourcing the waste, what can be recycling, they have to do it right, that it's very important to.
How do you ensure that you respond to such changes	06:36 – 07:28	What do you mean? If the kind of waste is, there is coming some different types or. We will always be the best to handle the waste and therefore, we always have the, we look carefully, we have focus on the type of

Interview Transcript AVV – Former Head of Incineration – MB

accordingly and how do you deal with changing requirements?		waste so we can change our way to handle it, if the government comes with a new laws that we have to separate something. We are, we have a very, we are very good to find new ways to do that.
[And how do you find such new ways?]	07:33 – 07:57	We have a lot of clever people here, but often we are talking to our colleagues in other companies. So, we have, there's companies who give us good ideas, we can talk to and we can pay them to help us, you know.
In your opinion, which measures are taken that you can take decisions quickly and in an effective way in your team?	08:47 – 10:34	I think maybe it's a little bit different here than if you are selling a product, because often it is something the government decide that we have to recycling 50% of something, then we have to make a system that can fulfill that we have to give the customer, the citizen a system, where they can do something to fulfill the goal. And it's not a, sometimes, the citizen is not happy for that, but they have to do it. It's not like a pair of jeans or you have to make another size or. So, we have to do something to fulfill the law or what the government says, but we also have to do it in a way that the citizen will be happy for it. So, sometimes it's not good to do it too quickly, you have to tell the citizens that this is a good idea, you have to, sometimes you have to do it slowly, to, so you can, so people will be happy for the solution.
In which ways do people of different departments or within a department work together and are interactions or meetings part of daily/weekly routine?	11:12 – 12:55	Right now, I am manager for four departments, for the incineration plant, hazardous waste and transport department and facility department, but there is a department manager for each and I am, I have meeting with each these four every months, with some of them every week and we will, often when we have a projects, we will invite some other employed, who have to be part of the project and then it's different, sometimes we have meeting every week, that depends how it's. And then we have, I have a meeting with the department manager, head manager, Steen Madsen, I don't know. Every month three people takes a meeting to discuss what is going on in the department, what is going on in the whole AVV. So, everybody knows what are we doing.
In which ways is there an environment created that supports and motivates you at work?	13:38 – 15:27	I think AVV is doing a lot for the employed, we have free coffee and free food and massage and we are making a lot fun and going on the bicycle or have a party and so on. I think this is very good because we are coming together more closely, we know each other on a other way, but we have, it's allowed to go talking to each colleagues, you can step up, I don't know how to say it, but there's, nobody is coming and say don't, stop, don't talk you have to work. It's very, we have it very free to do what we will do. I don't know, do you understand that? When we have something new, have to find a solution, we invite different people to come and sit down like here maybe and take a free talk, what can we do, what do you think, it's calm and there is no stress, you can take it easy and talk about things. I think that's important.

How important are face-to-face conversations, also with other departments and why?	16:05 – 17:20	A lot of communication is by email, of course, because it's quickly and it's easy, but we have departments who is placed different places than here, different places around. So, it's not so easy just to walk, but we have, once in a month, all the people in this location is meeting, just to get information from our manager is telling about what is happen in AVV and two times a year all the employees from the whole AVV is together to talk and get some information. So, I think it's important that we are, have face to face meetings often, but, of course, it's, sometimes it's quicker to send an email, but I think we are very good to have face to face meeting.
How do you measure progress in your business? Is there a specific indicator in your department?	17:52 – 19:22	We are, especially for this kind of company, we may not earn money, so we can't see the bottom line, it's all we have to be zero, but we can, it's not easy, but we have a feeling when we are talking to all our colleagues in the whole of Denmark and other waste companies, we often can hear they are talking about AVV, because we always are in front and that, for me, that is a sign that we are doing the right way. We will be the best and with people saying the same, but of course we can measure on the amount of waste we are, is coming to us, but that is not necessary a good, if we are working for, to reduce the waste to incineration plant, because we will recycle more. So, we have to get this waste to that department, it's different from department to department how we can measure it.
In which ways do you guarantee working services to satisfy the customers?	19:51 – 20:20	I'm not sure I understand the question: how we guarantee it? That's a good question.
In which ways do you make use of self-organizing or cross-department teams to come up with new solutions?	20:52 – 22:07	I think in this department here, which I don't know very well yet, because I'm new here, I think they have been very good to make teams, teams here and teams across, but it's something that Steen Madsen, our manager, is, he are working hard for we are making more teams now, small teams in all the departments that can take care of themselves, we make some team leaders, so it's not the department manager who have to take all the decisions and so we will make more small teams, because we think that the people in the teams will be stronger like their works more if they can decide something themselves. So, we are in progress now on making teams, more teams than we have earlier.
[Just out of interest, you can feel the difference?! From first being the head of the incineration to now	22:23 – 22:24	Yeah, yeah!

being the head of all four?]		
How do you reflect on what you are doing? And do you do it regularly (e.g. daily or weekly) and why do you do it?	23:00 – 24:40	In the incineration plant we have focus on how many hours the plant is running, if something is broken down we have to shut the plant down, it's bad, so we all, we are messing the hours the plant is running, we are messing how much energy we produce from the waste and that is some, what's it called, KPI. We are looking for it all the time. I don't know, was it something like that you mean? I think maybe, I don't know here, but you are going to talk to some other guys, maybe they can tell you more about what they are doing here, but we have some cipher, some KPIs we are measuring every month and all the employed on the incineration plant are, we are showing them and they can see how it goes with the plant and what we, how much we produce and it's important to see how much energy we can take out of the waste if we are not handle the plant very good, the amount of energy is going down.
Part 3:		
In which ways do you benefit from this way of working or why do you like it?	25:33 – 26:20	I think it's a, it's given me a different day every day. There is often something new happen, it's not the same every day. I don't know how to explain that. But when somebody is, sometimes have a crazy idea and then because oh no oh no, but we start thinking about it and suddenly something's come out of it. Yeah and I think that is very inspiring to work that way.

Interview Transcript DWA – Director – JHS:

Question:	Minutes:	Answer:
Part 1		
How would you actually see the waste management sector – is it really a low-tech sector, as it is often perceived by people from outside? Or is there actually a lot of technology involved? How would you characterize it?	00:55 – 02:25	To being a low-tech sector. Of course, it's not a very, it's not a traditional high-tech sector, but I think there's a development from being low-tech into more and more high-tech. Especially when you are talking about sorting technology and so on. If you also look at the, at waste energy, waste energy have been existing and the treatment method as such has not been developing for many years, or, and that's again you need to modify that, because a lot of technology, technological advances have actually been made, but I think in the forefront of technology you have the waste energy sector and you also have the sorting of waste sector and some of the technology developed there, for example sorting of bottom ashes, sorting of plastics, sorting of different kinds of waste material is getting more and more high-tech. But, I still think it's ahm, it's a sector where there's a very large proportion of low-tech, people sorting on sorting stations and so on. In that way it is a low-tech and also a place where people that have difficulties entering the labor market can actually find the foothold.
Part 2		
What would you tell me about the waste management sector in this context in just a few sentences?	03:15 – 05:03	I think in Denmark at the moment, a few years ago we had a reform and the aim of the reform was to focus a lot more on recycling and sorting of waste. And because we had this reform and some pretty hard goals, recycling goals to meet, I think there has been a lot of innovative process going on. You are trying to set up a different kind of collecting system, sorting systems, trying to see how much reuse you can actually get out of waste, so, the whole dynamics of the sector change with the new goals and the new focus that this is actually all the, I think this is a global kind of change in the focus from waste being a problem to waste being a resource. And of course, waste is not, I think one of the problems that we see is that waste is not a resource as such, because it is not an economical resource, it is not a positive economic entity, waste is still a cost. You still need to collect it and to treat it and that costs more money than the item, than the ton of paper or ton of cardboard or methods and so on were actually on hold, so it is still a cost. In that sense it's not an economical resource but it's a resource in the way that it is an environmental climate and resource, material.
Is there an actual necessity of being agile in this sector?	05:11 – 05:30	Extremely, I think. A lot of development is going into the sector these years and I think the agile and the companies that are in the forefront are doing best are the most agile and change-orientated companies, for sure.

Interview Transcript DWA – Director – Jacob Hartvig Simonsen

In which ways can agility be practiced in the waste management sector?	05:52 – 05:55	I'm not sure I actually understand what you mean. [covered later on]
Is there a difference between publicly owned and private company noticeable when it comes to agility, innovation and adaptability?	06:13 – 08:59	I think there is and that, I think the public companies, they have an obligation to try to work for the double or triple bottom lines, to work for climate, environmental positive effects and of course also economical positive effects and maybe also a positive effect on the labor market. Whereas the private companies, at a starting point, the major of business is business, they need to make money in order to survive and that, the public companies does not need to make money in order to survive, because they are funded in a different kind of way. So, there is, for sure, a difference, you can't set up a public responsibility getting private companies to carry out that responsibility, but everything comes from the public responsibility, somebody, an administrative body, a public body willing to pay for the services that the private need to deliver. Because the problem with waste and waste management is that if it's only cost-driven to do what we want to do, to recycle more, to reuse more, to do more with waste to make it into a material resource, so to speak, it costs money. So, the cheapest is to do less, do you understand? The cheaper, if you want to have very cheap waste management, you need to do as little as possible, right? And that is not the way that you move waste up the waste hierarchy, because whatever you want to move up the waste hierarchy it will cost money. And therefore, the, if it's, if private companies are only driven by profit and economy, then they will do less. Where the starting point from a public company is that they are driven by political goals, they are driven by recycle goals and so on and they will then do more. You can of course get a private company, it's not to say that one is good and another one is bad, because you can of course get a private company to work for same kind of environmental goals, but that then needs to come from a public body having the responsibility, the money and the power to demand that the public or the private company will deliver this kind of service to them. Do you understand?
[I thought the private companies would have more resources available to be innovative?]	09:11 – 10:31	I don't think so. I think all innovative things in the waste market comes from, at least in Denmark we are seeing that a lot, and I think I have seen it quite a lot all over Europe, comes from a well-defined public responsibility. Saying that you want recycling of PET bottles at a certain level or something like that and because it's driven by that, then, you know, a public body will go out and say who can fix this for me and they will make a contract with the private operator, but, and the private operator will of course then deliver on the goals, because he will be given the money to do so, but you will never see a private operator, or it's very very seldom that you see a private operator in the market just for business, just for the money, you can see that in the scrap market, because methods actually carry a price that will drive the business as a economical business and sometimes also in the paper market, but the rest of the waste fractions you will never see that,

		then you need a public body demanding that the private operator will deliver a certain amount of certain level of service for the public entity.
Part 3		
Is this similar in other companies in this sector or is AVV more like an exception?	11:02 – 12:01	I think AVV is a first-mover in Denmark. We have a few in that league, we have AVV, Renosyd, which is in Skanderborg or other, I don't know how familiar you are with the Danish companies, but you probably have about four five waste management companies that are on the very forefront of this agenda, together with the AVV. But AVV is ahm, you know, they've had a recycling shop for about 30 years, I think nobody in Denmark have had a municipal owned recycling shop for 30 years, only AVV, right? A lot of people are coming and investing in recycling shops at the moment, but that is driven by this new political agenda I told you about. And it's a pretty new thing, but for AVV it is not a new thing, it has been a part of their DNA for many many years.
How can innovation be achieved in such a sector that has in general rather little technology involved?	12:52 – 16:20	I think so, because, you know, a lot of, for example if you look at AVV, they have this cooperation with "old bricks/gammel mursten", you know this project probably. And, but that all comes from, you know, that somebody wanted, you know, to have access to all the building debris built up in AVVs area, and how could they then help this private operator to run his business to recycle bricks? But this wish comes from, you know, that we need to be, to do more recycling. And we need to, because it's environmental a very sound way of handling the materials. The amount of energy that goes into building a new brick is far more than if you want to recycle the brick, right? So, I think this kind of innovative thinking and this urge for new methods and the way that they will now then treat the bricks and all the industrial process behind it and so on, that comes from a need and a political will to try to enhance recycling. And that's just one project maybe, and we have seen other kinds of projects doing exactly the same, that it starts with, you know, you sort out some part of the waste fractions, some part of the plastics or old speakers or whatever and a local company will take it to a different level. But you need this kind of cooperation between the private and the public sector in order to do that. So, I think, a lot of the innovation in that way and a lot of the creative thinking, because in, I know in AVV's shop they make different kind of products, of course they make new bicycles, but they also, they have these iPad covers and all this kind of stuff. They make this from, for example, an old leather sofa, but at the leather sofa is worthless, it is dumped at the recycling station, because nobody wants it. But, of course, if you color up the leather and make a it's suddenly worth something. And people, who are actually, I've heard that people steal the stuff from the shop, right? And then it has a value, but I think the innovative step there is to see the sofa as not just scrap and to see that there are materials that can be utilized for something else. And the same with the cloths and all the other stuff that they actually make. I think and then the second step in the innovation so to speak, we go to say okay, can we then industrialize this, can we make it something more than just a socio-economic companies, so to speak. Socio-economic companies I think are the first step on the ladder to industrial or private sector success, right?

<p>[So, basically the main driver for agility is the regulations and other things that are set by the government?]</p>	<p>16:33 – 18:57</p>	<p>I think so. Our local, in Denmark, so it is of course the municipalities that have the responsibility and then it is the local politicians, their ambitions that will drive this. They are actually, when you see them, it is not their, they are willing to take on a lot of costs in order to gain environmental benefits and that is not just driven by the states and the goals and so on, it is driven by, you know, you want to have a good local community, you want to have a low waste fees and so on and, because if you are into the costs, you also have the chance to lower the fees. It's a little strange thinking but, if you instead of treating the sofa as scrap and paying a 400Kr.a ton to get it incinerated and you make that iPad covers and they will actually have an income for you about 40.000Kr.a ton, so, it's worth a lot more in the way, but you need to do something. So, you need to take on some costs in order to make a positive environmental and economic benefit as well. But if you don't do that, then and that is driven very much by I think local, political initiative. And that, and I actually think as well, we have some very square rules in Denmark and so, so are the people that are on the forefront and making I think great gains in these years. They are operating in the gray areas, they are not, you can challenge them if they are within the boundaries of the law. For sure, right, you can challenge AVV, you can challenge Aars in Southern Jutland and so on and they say, you know, this is civil inobedients, because we want to do this, it is clever to do this. And that is politically driven and not driven by national policy. National policy is of course pushing the same direction, but the local politicians are even more ambitious sometimes.</p>
<p>[But it's not the company itself?]</p>	<p>19:03 – 19:39</p>	<p>It's a symbiosis I think, you know, you would never get just the, it's because the company are driven by or the managing director is a person that he is and he has the stand that he has, and they have position themselves by they are and so on and the politicians they of course back this and they are supportive of that and they are then, you know, want it to, to advance that kind of thinking as well. So, I think it's a symbiosis between the administrative company level and the political level to push this forward.</p>
	<p>19:54 – 20:56</p>	<p>But I think you need to understand that, you know, if AVV are going to put out a certain kind of sorting system and so on, they need to go to the politicians, there will be a stage where they need to go the local politician and say: do you want to do this, yes or no? Do you want to fund it? It will be so and so much and so on and that's the way the political system works. So, if you don't have ambition on the administrative, on the managing director, on the CEO side, then you will never get this kind of decisions put forward for the politicians to make out. And then, you know, when the CEO comes with it, then the local politicians can of course say no, we don't want it, or they can say this is a great idea. And sometimes they even say, you know, this is a good idea, but we need to be even more ambitious. And that's what happening in AVV as well, I think. So, in that way it is really a symbiosis between the different kind of layers in the organization</p>
<p>Part 4</p>		

According to your opinion, how important are these four characteristics in your sector? Can one find them there at all? Or which ones play a role in the waste sector and why?	21:29 – 22:30	I think they are all very important. The examples we are just discussing have all four elements in them, right? They have the mind-set, because you should have the mind-set, otherwise you will never start, right, and if you don't have the agility, then you will never make it happen, you need this, these kind of systems are heavy systems to operate and they are heavy systems to get the right decisions, so, you need to be agile and wanting to take on a certain amount of risk as well, as administrative person, because if you are just a civil servant, as a traditional civil servant, then these things will rarely happen, okay, the civil servant will have the idea that if nobody complains everything is okay. But that is not the way that the thinking is in AVV, right? The more noise they make, the better they think they are doing. And I think it's a very clever approach. And that actually comes back to the four principles that you are discussing, I think they have them all four on board.
[And just out of interest – how is customer centricity involved?]	22:39 – 24:55	I think, you know, AVV, they need to have the customers on board, I think every day, you have seen it for yourself I'm sure, that every day the recycling shop opens there is a queued-up line outside. And, and, but, ahm, if there was no backing from the local citizens, you know there would be no line, they would not view AVV as being a cool company. They would not have the local backing that they need, then they would say: oh you know why, why is it so expensive, why do we need to pay AVV to come and collect our trash and so on. And, but, but from the customers satisfaction and from the customer focus and giving them a good service, then I think AVV has a, the license to operate and the license to try to develop the service. So, a lot of things are centered through the customers and that is what the politicians also understand, because the politicians, they are only politicians because they are voted into the local government. And, so, if they didn't, if they didn't understand, if they didn't hear that the customers were satisfied, then they would definitely or if they were dissatisfied, then, you know, they would play a different tune, because you don't want to be in the board or, and in the driving seat of an unpopular municipal service, then you will never get voted into the local government. So, the politicians are in that way also kind of maximizing the votes of the or the voices of the local people. It's democracy. And, therefore, I think you know, you need your customers and your voters on board in order to develop. And the politicians they understand that very well, extremely well, they are very sensitive to this.
[So, it is the same throughout Denmark?]	24:59 – 26:27	I think so. I've, you know, in Danish Waste Association we have 54 members and they all, they all have boards consisting of the local governments and so on and I'm surprised, you know, how in tune with the voters that they are. We have actually tabled a very very ambitious national plastic policy and our members on the board consists of the members of the board of our members, so, the chairman of AVV could actually be in our board as well. So, that is just to say that when we table this, our politicians, we thought we were very ambitious and we thought, I actually thought I'd have a very hard time to pass this in my board, because they are, they consist of a lot of liberal politicians, and it's a very green agenda. So, I thought I will have a

<p>What is the biggest challenge for the waste management sector at the moment?</p>	<p>26:40 – 29:00</p>	<p>hard time doing that, but when I tabled the proposal, they were even more ambitious, they say we want to go further, because they understand that they that their voters and the people, they think that plastic is a problem and to see if they can handle this. And I think that's a mechanism that work in this kind of companies.</p> <p>I think our biggest challenge at the moment is to try to find the way that we can recycle and reuse even more and doing it in a way so we will make a very good sense, because of course you can scoop up water with a spoon, and it doesn't really make sense, but to make a kind of clever investments and so on to, in technology or in sorting systems, collecting systems and so on, they will actually have an environmental and climate benefit. That's a hard task, but I think that is what they need to do. On the national agenda there is a lot of, there is a lot of political fight about, you know, does this need to be private or public owned and so on, it's a huge debate, but that debate is actually, if you try to, if you go into the helicopter and have a huge overview of what the challenges really are, it's not about who owns the waste management companies, if they are public or private, it is how should you, how can you actually get the sector to work for better environmental and climate solutions. So, that we will have access to the raw materials and to the resources of the future and we do not deplete the resources that we have in our hands so quickly as we do. And that's the real challenge and how to bring the challenge is not only done by the waste management sector. That is done by the producers of our goods as well. So, it's a very huge challenge, but if you don't get the waste management sector on board, you lose a very important brick in the puzzle.</p>
<p>Or are there any changes going on within the sector?</p>	<p>29:17 – 30:11</p>	<p>I think many of the changes that we've had is due to changing policy and that is of course very important. And the changes in policy that we now have on the table are not for the good and that comes back to what we started with, you know, will this be driven by businesses wanting to make business or will this be driven by a need to fulfill some environmental and climate goals and I think the fulfillment of the goals will bring us further, because the economy and the economic side is very short-sided. So, you will not make, we need to make some very long-term decisions in order to transform our society to a more sustainable society. Does this make sense?</p>

14. Appendix 6: Scrum, Kanban & Extreme Programing

This section aims at providing a short explanation of three agile frameworks, namely Scrum, Kanban and Extreme Programing. In my opinion, it is of great importance to be familiar with some of the most popular techniques within the field of agility to get an in-depth understanding of the topic. These descriptions are therefore thought of as a supplement to the section about agile ways of working in the thesis, where agile frameworks in general and their common features are explained.

Scrum

The scrum approach's main goal is to be adaptable to whatever might happen and thus there are as few rules as possible. This is, again, the main difference compared to the waterfall-approach, where one sticks strictly with every step. The idea behind Scrum is that the developers are empowered and collaborate to take decisions together in a quick and effective way without a lot of interference from outside. The teams are usually cross-functional and the members are ascribed new roles within the team. So, for example, there is the Scrum master who is responsible for removing any kind of obstacle or distractions which could hinder the team in delivering the products or services. This role cannot be compared to the one of a team leader, since the person is more like a gatekeeper between the team and the outside environment. Another role is the product owner who keeps the vision in mind of what the team wants to create and reminds the members of it all the time. The organizing of work into sprints, daily standup meetings, sprint planning and reviews are some of the few must-have components of this approach. Quality is guaranteed through ongoing testing, meaning that each part necessary for a product or service is tested before it is put together with the other parts at the end of a sprint. On a scrum board, team members visualize which tasks are in the backlog, what has to be done in this sprint, what people are currently working on, what has been verified and what is already finished ("AGILE FRAMEWORKS", n.d.; "An introduction to Agile Frameworks", n.d.; McDonald, n.d.).

Kanban

Using this approach means that the existing organizational structure as well as the processes and roles are kept and that is also why Kanban is often used at the beginning of becoming agile, as it does not bring extreme substantial changes along.

Agile Frameworks – Scrum, Kanban & Extreme Programing

The workflow is broken down into small steps and gets visualized, for example on an electronic or physical Kanban board, to see the different tasks in context. Important is that these pieces of work, or at least not all of them, do not necessarily have to be put together to a product or service in the end, as it is the case with Scrum. The main goal is to reduce waiting time and to identify capacity constraints by limiting the work in progress, meaning the team focuses on some tasks that have priority and then on the next. As Kanban has set project limits, follows certain process policies and measures as well as manages the flow, it is easy for the company to see when they get off the track. A so-called “information radiator” which can be any kind of display showing crucial, up-to-date information for the project, ensures that everyone is on the same page. Moreover, a continuous delivery is possible since the tasks are not bound to sprints (“AGILE FRAMEWORKS”, n.d.; McDonald, n.d.).

Extreme Programing

The concept of Extreme Programing (XP) is based on engineering principles and the overall goal is to deliver high-quality software by focusing on the actual development of software, not just the agile framework within which it happens. Therefore, the development cycles in this approach are usually even shorter and lead to more frequent releases. In so doing, the approach allows more flexibility and adaptability. Known technical practices that belong to Extreme Programing are Test Driven Development, Pair Programming or Refactoring, whereby they are not explained in more detail here, since they cannot be applied outside the software industry anyway (“An introduction to Agile Frameworks”, n.d.; McDonald, n.d.).

Interesting is that this approach is the only one that focuses more on how to develop the software, pointing out that agile frameworks do not tell anyone how to actually produce the best product or service. It just sets a different, more flexible environment for achieving this. This is why working in an agile way often requires the incorporation of techniques from other fields, for example product management, user experience or business analysis. These concepts can then help the team or company to find out what the actual product or service should look like, what it should include or when it should be released or rather discarded (McDonald, n.d.).

Having read these descriptions, it should become clear that there are many different types of agile frameworks, all having different starting situations and foci.

Agile Frameworks – Scrum, Kanban & Extreme Programing

Dynamic Capability and Stable Backbone

Please check all the words that describe your company and how it currently feels to work there:

- ☐ Start-up
- ☒ Quick to mobilize
- ☐ Uncoordinated
- ☐ Risk-averse
- ☐ Chaotic
- ☒ Nimble
- ☐ Stuck
- ☐ Efficient
- ☒ Creative
- ☒ Collaborative
- ☐ Empire-building
- ☐ Slow
- ☐ Frenetic
- ☒ Easy to get things done
- ☐ Fighting fires
- ☐ Bureaucratic $\frac{1}{2}$
- ☐ "Free for all"
- ☒ Responsive
- ☐ Local tribes
- ☐ Standard ways of working

- ☒ Ad hoc
- ☒ Free flow of information
- ☐ Finger-pointing
- ☐ Siloed
- ☐ Reinventing the wheel
- ☒ Quick decision-making
- ☒ Under attack
- ☐ Decision escalation
- ☐ No boundaries
- ☒ Empowered to act
- ☐ Rigid
- ☐ Reliable
- ☐ Constantly shifting focus
- ☐ Resilient
- ☐ Politics
- ☐ Centralized
- ☐ Unpredictable
- ☒ Learning from failures
- ☐ Protecting "turf"
- ☒ Established

Are there any other words, which you would use to describe your company:

ahead (per present)

33 admin / ledelse 110 ialt

Agile 9

Bureaucratic: 1 (2)

Trapped: 1

start-up: 2

Agile: 8

Start-up: 3

Afdeling: EA

KENNETH KRISTENSEN

Trappad: 1

Dynamic Capability and Stable Backbone

Sæt kryds ved alle de ord, der beskriver dit firma, og hvordan det føles at arbejde der for øjeblikket:

- | | |
|--|--|
| <input type="checkbox"/> Start-up | <input type="checkbox"/> Baseret på hurtige løsninger |
| <input type="checkbox"/> Hurtig til at mobilisere | <input checked="" type="checkbox"/> Fri informationsstrøm |
| <input type="checkbox"/> Ukoordineret | <input type="checkbox"/> Peger fingre |
| <input type="checkbox"/> Varsom/risikosky | <input type="checkbox"/> Hver afdeling fokuserer på sig selv |
| <input type="checkbox"/> Kaotisk | <input type="checkbox"/> Reinventing the wheel/genopfinde hjulet |
| <input checked="" type="checkbox"/> Fleksibel | <input checked="" type="checkbox"/> Hurtig beslutningstagning |
| <input type="checkbox"/> Fastlåst | <input type="checkbox"/> Under angreb |
| <input checked="" type="checkbox"/> Effektiv | <input type="checkbox"/> Beslutningseskalerende |
| <input checked="" type="checkbox"/> Kreativ | <input checked="" type="checkbox"/> Ingen grænser |
| <input checked="" type="checkbox"/> Samarbejdsvillig | <input checked="" type="checkbox"/> Ansvarlig |
| <input type="checkbox"/> Fokus på at gøre virksomheden til et imperie | <input type="checkbox"/> Ufleksibel/stædig |
| <input type="checkbox"/> Langsom | <input checked="" type="checkbox"/> Pålidelig |
| <input type="checkbox"/> Hektisk | <input type="checkbox"/> Skifter konstant fokus |
| <input type="checkbox"/> Har let ved at få tingene gjort | <input checked="" type="checkbox"/> Robust/solid |
| <input type="checkbox"/> Finder løsninger i det sekund problemer opstår | <input checked="" type="checkbox"/> Politisk |
| <input type="checkbox"/> Bureaukratisk | <input type="checkbox"/> Centraliseret |
| <input checked="" type="checkbox"/> Tilgængelig for alle | <input type="checkbox"/> Uforudsigelig |
| <input checked="" type="checkbox"/> Lydhør | <input checked="" type="checkbox"/> Lærer af fejl |
| <input checked="" type="checkbox"/> Gør tingene som de altid er blevet gjort | <input type="checkbox"/> Beskytter sit territorium |
| <input checked="" type="checkbox"/> Arbejder ud fra standardiserede arbejdsmetoder | <input checked="" type="checkbox"/> Etableret |

Er der andre ord, som du vil bruge til at beskrive din virksomhed:

Agile 10

Start up 9

Afdeling: Administration

Trapped 2

Dynamic Capability and Stable Backbone

Sæt kryds ved alle de ord, der beskriver dit firma, og hvordan det føles at arbejde der for øjeblikket:

- | | |
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| <input checked="" type="checkbox"/> Start-up | <input checked="" type="checkbox"/> Baseret på hurtige løsninger |
| <input checked="" type="checkbox"/> Hurtig til at mobilisere | <input checked="" type="checkbox"/> Fri informationsstrøm |
| <input type="checkbox"/> Ukoordineret | <input type="checkbox"/> Peger fingre |
| <input type="checkbox"/> Varsom/risikosky | <input type="checkbox"/> Hver afdeling fokuserer på sig selv |
| <input type="checkbox"/> Kaotisk | <input type="checkbox"/> Reinventing the wheel/genopfinde hjulet |
| <input checked="" type="checkbox"/> Fleksibel | <input checked="" type="checkbox"/> Hurtig beslutningstagning |
| <input type="checkbox"/> Fastlåst | <input checked="" type="checkbox"/> Under angreb |
| <input checked="" type="checkbox"/> Effektiv | <input type="checkbox"/> Beslutningseskalerende |
| <input checked="" type="checkbox"/> Kreativ | <input type="checkbox"/> Ingen grænser |
| <input checked="" type="checkbox"/> Samarbejdsvillig | <input checked="" type="checkbox"/> Ansvarlig |
| <input type="checkbox"/> Fokus på at gøre virksomheden til et imperie | <input type="checkbox"/> Ufleksibel/stædig |
| <input type="checkbox"/> Langsom | <input checked="" type="checkbox"/> Pålidelig |
| <input type="checkbox"/> Hektisk | <input type="checkbox"/> Skifter konstant fokus |
| <input checked="" type="checkbox"/> Har let ved at få tingene gjort | <input checked="" type="checkbox"/> Robust/solid |
| <input type="checkbox"/> Finder løsninger i det sekund problemer opstår | <input checked="" type="checkbox"/> Politisk |
| <input type="checkbox"/> Bureaukratisk | <input type="checkbox"/> Centraliseret |
| <input checked="" type="checkbox"/> Tilgængelig for alle | <input type="checkbox"/> Uforudsigelig |
| <input checked="" type="checkbox"/> Lydhør | <input checked="" type="checkbox"/> Lærer af fejl |
| <input type="checkbox"/> Gør tingene som de altid er blevet gjort | <input type="checkbox"/> Beskytter sit territorium |
| <input type="checkbox"/> Arbejder ud fra standardiserede arbejdsmetoder | <input checked="" type="checkbox"/> Etableret |

Er der andre ord, som du vil bruge til at beskrive din virksomhed:

Hej Niels
Kan du udfylde denne og
returnere til Henrik
til videre sendig til
Birgit
Reichner

Agile: 9

10. 20. 2020

Dynamic Capability and Stable Backbone

Sæt kryds ved alle de ord, der beskriver dit firma, og hvordan det føles at arbejde der for øjeblikket:

Afdeling: Genbrugsbutik

Start-up: 2

Trapped: 3(2)

- ☐ Start-up
- ☐ Hurtig til at mobilisere
- ☐ Ukoordineret
- ☐ Varsom/risikosky
- ☐ Kaotisk
- ☒ ~~Fleksibel~~
- ☐ Fastlåst
- ☒ Effektiv
- ☒ ~~Kreativ~~
- ☒ ~~Samarbejdsvillig~~
- ☐ Fokus på at gøre virksomheden til et imperie
- ☐ Langsom
- ☐ Hektisk
- ☒ ~~Har let ved at få tingene gjort~~
- ☒ ~~Finder løsninger i det sekund problemer opstår~~
- ☐ Bureaukratisk
- ☒ ~~Tilgængelig for alle~~
- ☒ ~~Lydhør~~
- ☐ Gør tingene som de altid er blevet gjort
- ☐ Arbejder ud fra standardiserede arbejdsmetoder

- ☐ Baseret på hurtige løsninger
- ☒ ~~Fri informationsstrøm~~
- ☐ Peger fingre
- ☒ Hver afdeling fokuserer på sig selv
- ☐ Reinventing the wheel/genopfinde hjulet
- ☒ Hurtig beslutningstagning
- ☒ ~~Under angreb~~
- ☐ Beslutningseskalerende
- ☐ Ingen grænser
- ☒ ~~Ansvarlig~~
- ☐ Ufleksibel/stædig
- ☒ Pålidelig
- ☐ Skifter konstant fokus
- ☒ ~~Robust/solid~~
- ☒ ~~Politisk~~
- ☐ Centraliseret
- ☐ Uforudsigelig
- ☒ ~~Lærer af fejl~~
- ☐ Beskytter sit territorium
- ☒ Etableret

Er der andre ord, som du vil bruge til at beskrive din virksomhed:

Høj Dorte
kan du udfylde og
returnere så sender
jeg til Birgit
Reithofer

Agile: 7

Dynamic Capability and Stable Backbone

Sæt kryds ved alle de ord, der beskriver dit firma, og hvordan det føles at arbejde der for øjeblikket:

Afdeling: Innovation (KOZ)

Start-up 1
Trapped 2

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| <input type="checkbox"/> Start-up | <input type="checkbox"/> Baseret på hurtige løsninger |
| <input type="checkbox"/> Hurtig til at mobilisere | <input type="checkbox"/> Fri informationsstrøm |
| <input type="checkbox"/> Ukoordineret | <input type="checkbox"/> Peger fingre |
| <input type="checkbox"/> Varsom/risikosky | <input type="checkbox"/> Hver afdeling fokuserer på sig selv |
| <input type="checkbox"/> Kaotisk | <input type="checkbox"/> Reinventing the wheel/genopfinde hjulet |
| <input checked="" type="checkbox"/> Fleksibel | <input type="checkbox"/> Hurtig beslutningstagning |
| <input type="checkbox"/> Fastlåst | <input checked="" type="checkbox"/> Under angreb |
| <input type="checkbox"/> Effektiv | <input type="checkbox"/> Beslutningseskalerende |
| <input checked="" type="checkbox"/> Kreativ | <input type="checkbox"/> Ingen grænser |
| <input checked="" type="checkbox"/> Samarbejdsvillig | <input checked="" type="checkbox"/> Ansvarlig |
| <input type="checkbox"/> Fokus på at gøre virksomheden til et imperie | <input type="checkbox"/> Ufleksibel/stædig |
| <input type="checkbox"/> Langsom | <input checked="" type="checkbox"/> Pålidelig |
| <input type="checkbox"/> Hektisk | <input type="checkbox"/> Skifter konstant fokus |
| <input checked="" type="checkbox"/> Har let ved at få tingene gjort | <input checked="" type="checkbox"/> Robust/solid |
| <input type="checkbox"/> Finder løsninger i det sekund problemer opstår | <input checked="" type="checkbox"/> Politisk |
| <input type="checkbox"/> Bureaukratisk | <input type="checkbox"/> Centraliseret |
| <input type="checkbox"/> Tilgængelig for alle | <input type="checkbox"/> Uforudsigelig |
| <input checked="" type="checkbox"/> Lydhør | <input checked="" type="checkbox"/> Lærer af fejl |
| <input type="checkbox"/> Gør tingene som de altid er blevet gjort | <input type="checkbox"/> Beskytter sit territorium |
| <input type="checkbox"/> Arbejder ud fra standardiserede arbejdsmetoder | <input checked="" type="checkbox"/> Etableret |

Er der andre ord, som du vil bruge til at beskrive din virksomhed:

Apile 8

Afdeling: TEAM AFFALD

Start-up 3 (MB)
Trapped 1

Dynamic Capability and Stable Backbone

Sæt kryds ved alle de ord, der beskriver dit firma, og hvordan det føles at arbejde der for øjeblikket:

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|---|--|
| <input checked="" type="checkbox"/> Start-up | <input type="checkbox"/> Baseret på hurtige løsninger |
| <input checked="" type="checkbox"/> Hurtig til at mobilisere | <input checked="" type="checkbox"/> Fri informationsstrøm |
| <input type="checkbox"/> Ukoordineret | <input type="checkbox"/> Peger fingre |
| <input type="checkbox"/> Varsom/risikosky | <input type="checkbox"/> Hver afdeling fokuserer på sig selv |
| <input type="checkbox"/> Kaotisk | <input type="checkbox"/> Reinventing the wheel/genopfinde hjulet |
| <input checked="" type="checkbox"/> Fleksibel | <input type="checkbox"/> Hurtig beslutningstagning |
| <input type="checkbox"/> Fastlåst | <input type="checkbox"/> Under angreb |
| <input checked="" type="checkbox"/> Effektiv | <input type="checkbox"/> Beslutningseskalerende |
| <input type="checkbox"/> Kreativ | <input type="checkbox"/> Ingen grænser |
| <input checked="" type="checkbox"/> Samarbejdsvillig | <input checked="" type="checkbox"/> Ansvarlig |
| <input type="checkbox"/> Fokus på at gøre virksomheden til et imperie | <input type="checkbox"/> Ufleksibel/stædig |
| <input type="checkbox"/> Langsom | <input checked="" type="checkbox"/> Pålidelig |
| <input checked="" type="checkbox"/> Hektisk | <input type="checkbox"/> Skifter konstant fokus |
| <input type="checkbox"/> Har let ved at få tingene gjort | <input checked="" type="checkbox"/> Robust/solid |
| <input type="checkbox"/> Finder løsninger i det sekund problemer opstår | <input checked="" type="checkbox"/> Politisk |
| <input type="checkbox"/> Bureaukratisk | <input type="checkbox"/> Centraliseret |
| <input checked="" type="checkbox"/> Tilgængelig for alle | <input type="checkbox"/> Uforudsigelig |
| <input checked="" type="checkbox"/> Lydhør | <input checked="" type="checkbox"/> Lærer af fejl |
| <input type="checkbox"/> Gør tingene som de altid er blevet gjort | <input type="checkbox"/> Beskytter sit territorium |
| <input type="checkbox"/> Arbejder ud fra standardiserede arbejdsmetoder | <input checked="" type="checkbox"/> Etableret |

Er der andre ord, som du vil bruge til at beskrive din virksomhed:

Aflever til
Henrik, som
sender videre til
Birgit R

Agile 6

Dynamic Capability and Stable Backbone

2 spørgsmål

Sæt kryds ved alle de ord, der beskriver dit firma, og hvordan det føles at arbejde der for øjeblikket:

- ☐ Start-up
- ☐ Hurtig til at mobilisere
- ☐ Ukoordineret
- ☐ Varsom/risikosky
- ☐ Kaotisk
- ☒ ~~Flexibel~~
- ☐ Fastlåst
- ☒ ~~Effektiv~~
- ☒ ~~Kreativ~~
- ☒ ~~Samarbejdsvillig~~
- ☐ Fokus på at gøre virksomheden til et imperie
- ☐ Langsom
- ☐ Hektisk
- ☒ ~~Har let ved at få tingene gjort~~ - rimelig
- ☐ Finder løsninger i det sekund problemer opstår
- ☐ Bureaukratisk
- ☒ ~~Tilgængelig for alle~~
- ☐ Lydhør
- ☐ Gør tingene som de altid er blevet gjort
- ☒ Arbejder ud fra standardiserede arbejdsmetoder - delvis

Afdeling: Innovation (Torben)

Trapped 2
Start-up 3

- ☐ Baseret på hurtige løsninger
- ☐ Fri informationsstrøm
- ☐ Peger fingre
- ☐ Hver afdeling fokuserer på sig selv
- ☒ ~~Reinventing the wheel/genopfinde hjulet~~ ~ Videns udelelses hjulet
- ☒ ~~Hurtig beslutningstagning~~
- ☒ ~~Under angreb~~
- ☐ Beslutningseskalerende
- ☐ Ingen grænser
- ☒ ~~Ansvarlig~~
- ☐ Uflexibel/stædig
- ☒ ~~Pålidelig~~
- ☐ Skifter konstant fokus
- ☐ Robust/solid
- ☒ ~~Politisk~~
- ☐ Centraliseret
- ☐ Uforudsigelig
- ☒ ~~Lærer af fejl~~
- ☐ Beskytter sit territorium
- ☒ ~~Etableret~~

Er der andre ord, som du vil bruge til at beskrive din virksomhed:

Venligst returnér til
Henrik som scanner og
sender til Birgit Reithof

BIRGIT
REITHOFER

Dynamic Capability and Stable Backbone

Sæt kryds ved alle de ord, der beskriver dit firma, og hvordan det føles at arbejde der for øjeblikket:

- ☐ Start-up
- ☒ Hurtig til at mobilisere
- ☐ Ukoordineret
- ☐ Varsom/risikosky
- ☐ Kaotisk
- ☒ Fleksibel
- ☐ Fastlåst
- ☒ Effektiv
- ☐ Kreativ
- ☒ Samarbejdsvillig
- ☐ Fokus på at gøre virksomheden til et imperie
- ☐ Langsom
- ☐ Hektisk
- ☐ Har let ved at få tingene gjort
- ☐ Finder løsninger i det sekund problemer opstår
- ☐ Bureaukratisk
- ☐ Tilgængelig for alle
- ☐ Lydhør
- ☐ Gør tingene som de altid er blevet gjort
- ☐ Arbejder ud fra standardiserede arbejdsmetoder

Er der andre ord, som du vil bruge til at beskrive din virksomhed:

Afdeling:

Genbrugspladser
Miljøanlæg

Agile 5

Trapped 2

- ☐ Baseret på hurtige løsninger
- ☐ Fri informationsstrøm
- ☐ Peger fingre
- ☐ Hver afdeling fokuserer på sig selv
- ☐ Reinventing the wheel/genopfinde hjulet
- ☐ Hurtig beslutningstagning
- ☒ Under angreb
- ☐ Beslutningseskalerende
- ☐ Ingen grænser
- ☒ Ansvarlig
- ☐ Ufleksibel/stædig
- ☒ Pålidelig
- ☐ Skifter konstant fokus
- ☒ Robust/solid
- ☒ Politisk
- ☐ Centraliseret
- ☐ Uforudsigelig
- ☐ Lærer af fejl
- ☐ Beskytter sit territorium
- ☒ Etableret

Send til ventigt
Henrik

Dynamic Capability and Stable Backbone

Sæt kryds ved alle de ord af, der beskriver dit firma, og hvordan det føles at arbejde der for øjeblikket:

- ☐ Start-up
- ☐ Hurtig til at mobilisere
- ☐ Ukoordineret
- ☐ Varsom/risikosky
- ☐ Kaotisk
- ☐ ~~Fleksibel~~
- ☐ Fastlåst
- ☒ Effektiv
- ☒ Kreativ
- ☒ Samarbejdsvillig
- ☐ Fokus på at gøre virksomheden til et imperie
- ☐ Langsom
- ☐ Hektisk
- ☒ Har let ved at få tingene gjort
- ☐ Finder løsninger i det sekund problemer opstår
- ☐ Bureaukratisk
- ☒ Tilgængelig for alle
- ☒ Lydhør
- ☐ Gør tingene som de altid er blevet gjort
- ☒ Arbejder ud fra standardiserede arbejdsmetoder

Afdeling:

Agile 7
Bureaukratisk 4
HR. Innovativ
Trapped Z
Start-Up Z

- ☐ Baseret på hurtige løsninger
- ☒ Fri informationsstrøm
- ☐ Peger fingre
- ☐ Hver afdeling fokuserer på sig selv
- ☐ Reinventing the wheel/genopfinde hjulet
- ☒ Hurtig beslutningstagning
- ☒ Under angreb
- ☐ Beslutningseskalerende ?
- ☐ Ingen grænser
- ☒ Ansvarlig
- ☐ Ufleksibel/stædig
- ☒ Pålidelig
- ☐ Skifter konstant fokus
- ☒ Robust/solid
- ☒ Politisk
- ☐ Centraliseret
- ☐ Uforudsigelig
- ☐ Lærer af fejl
- ☐ Beskytter sit territorium
- ☒ Etableret

Er der andre ord, som du vil bruge til at beskrive din virksomhed: