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Can the Prerequisites for Diffusion of Innovations Be Enhanced in a Local Government?

A case study of Lerum's local government in Sweden

Master's Thesis in the Master's Programme Management and Economics of Innovation

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Gothenburg, Sweden 2017
Report No. E 2017:078

MASTER'S THESIS E 2017:078

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Gothenburg, Sweden 2017

Acknowledgements

This study has been performed during the spring of 2017 and has naturally required many hours of work. What is for sure is how it would though not have been possible to perform without a large number of supervisors and supporters cheering along the way. First of all, thank you to the whole development department at Lerum's local government for the warm welcome, the support along the way and for making us feel both included in and important for your work. Special thanks to the group being focused on innovation - Katarina, Jenny, Mathias, and our supervisors Carolina, Anders, and Karin. With all of you always cheering and believing in our work, this study has been very learning and with a lot of fun.

We do also want to thank Oriana Haselwanter and Thomas Saastad at Knowit Insight Business Consulting for your immediate and positive support along the way. And of course, Jonny Ivarsson Paulsson at Vinnova for your energy and your multiple reminders of your interest in this study, making it a lot more fun to perform also for us.

The study would also have been impossible to perform without our supervisor at Chalmers University of Technology, Andreas Hellström. Thank you for giving us direction yet freedom to design the study in the way we believed in as well as your way of emphasising and explaining the importance of this chosen topic. And perhaps most importantly, we are extensively grateful for all the support to make this study to our own. Not to mention the generosity of the free coffee.

Last but not least, we can perhaps not enough thank all interviewees and attendants at the workshop who have been taking your time to share your experiences and feelings with us in order to make this study as prosperous as possible. We very much hope that the result of this study will be favourable for you all.

Emelie Bertling and Klara Brattberg
Gothenburg, June 2017

Abstract

Innovation has been a field of studies where the focus on the private sector has been prominent. However, in recent years, the interest for public sector innovation has increased. In addition, also the field of diffusion of innovation has gained increased attention, but with limited studies within the context of a local government. The purpose of this study is to contribute to the understanding of the work with innovations in the public sector by addressing what factors that affect the diffusion of innovation in a local government, and how the prerequisites for diffusion can be enhanced by an improved implementation process. In order to fulfil the purpose, data has been collected at Lerum's local government in terms of two interview rounds and a conducted survey. The empirical findings were analysed together with the reviewed literature concerning diffusion of innovation theory, implementation theory as well as theory regarding public sector innovation.

The study resulted in one conceptual model illustrating the diffusion of innovations and one guide for implementation being of a more practical character. The diffusion model includes an innovation-decision process, where individuals and their adoption process are affected by a number of factors both within and outside the organisation. The communication is also seen as one integrated and important part of this process. The implementation guide highlights areas being recommended for practitioners to take into account in order to improve the implementation process and thereby also the prerequisites for diffusion of innovation. After the development of the model and the guide, they were validated by a group of local experts and after this, revised in order to fit the operations of Lerum's local government. The result of this study will be valuable for Lerum's local government as well as other local governments.

Keywords: Innovation, diffusion of innovations, adoption, public sector innovation, local government, implementation

Glossary

Adopter	Individuals or organisations who are adopting an innovation.
Adoption	The stage when an adopter physically is using an innovation, either it is using a new product or adapting to a new process. Is sometimes also referred to the opposite perspective from spread, meaning that the idea is instead pulled towards the adopter.
Assimilation	A concept that occurs as a term for adoption on organisational level.
Diffusion of innovations	Diffusion is the process by which an innovation is communicated through certain channels over time, leading to an adoption of the innovation among the members of a social system.
Diffusion	Unplanned, informal, and decentralised communication. Usually horizontal or mediated by peers. Also referred to as passive diffusion i.e. 'let it happen'.
Dissemination	Planned, formal, often centralised communication. More likely to occur more through vertical hierarchies, also referred to as 'make it happen'.
Innovation	As stated by Rogers (1995, p. 11): *"an idea, practice, or object that is perceived as new by an individual or other unit of adoption. It matters little, so far as human behaviour is concerned, whether or not an idea is objectively new as measured by the lapse of time since its first use or discovery."* Other aspects related to an innovation is the value of the innovation, how an innovation includes a process and an implementation as well as the adoption of an innovation and in what context they occur.
Innovativeness	To what extent an organisation is successful in their work with innovations, from finding or creating them to being able to sustainably implement them.
Implementation	The term implementation is referred to as two slightly various concepts. Firstly, it refers to what follows when an innovation is assimilated within a system. But it is also sometimes referred to as the active and planned effort to mainstream an innovation.
New Public Management	A political approach for how to make government reduce bureaucracy and adopt private sector management practices. NPM thereby included a set of beliefs and reforms aiming to create a public sector more similar to the private sector. As a consequence, a number of practices, such as management

	techniques and performance measurement, were introduced in the public sector.
Public sector	The coordination, production and delivery of goods and services by publically owned and accountable organisations.
Public sector innovation	Any kind of innovation taking place within organisations of the public sector.
Organisational process innovation	Includes changes of organisational structures, strategies and administrative processes, for new ways of delivering services, new approaches to personnel, or the creation of new tasks and units.
Technological process innovation	A process innovation of technical character which usually has the aim to reduce delivery time or delivery cost, or to increase the operational flexibility. The technical process innovations in public organisations are usually concerned with the use of information technology, and the technological innovations do thereby affect the operating systems and processes of an organisation.
Spread	The adoption of innovation by others, through whatever means (including passive diffusion and active dissemination).
Sustainability	When new ways of working and become the norm. This implies that not only the process and outcome have changed, but also the thinking and attitudes behind them are fundamentally changed and the systems surrounding them are transformed.

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1 Introduction

This chapter presents an introduction to the study. Firstly, the reader is provided the background followed by the purpose of this study, where also the research questions are introduced. Following are the delimitations of the study. After this, a description of the case of Lerum's local government and the studied management system Treserva is included. Lastly, the chapter finishes with the outline of the report.

1.1 Background

The research field of innovation has ever since its emergence mainly covered manufacturing industries, with companies in the private sector producing innovative products in focus (see for example Hamel and Getz, 2004). Aligned with this, the general perception seems to have been that innovation is something belonging to the private sector, whereas the public sector has been regarded as not as innovative (Nählinder, 2013; Kattel, 2010). In contrast to this view, a number of researchers have expressed the opposite and state how also public organisations find new ways of working and delivering services as a response to the pressure from the external surrounding environment (Kattel, 2010; Walker, 2014). Several researchers have thereby stated that there are many examples of public sector innovations (see for example Albury, 2005; Borins, 2014). Hence, what may be perceived as a lack of innovation in the public sector rather seem to be a matter of received attention by researchers and society in general.

Aligned with the view of how innovation is perceived as less related to organisations in the public sector, its research field is instead of being a part of the mainstream innovation literature rather new (Nählinder, 2013). In contrast to the research on innovation in the private sector, the amount of studies regarding innovation within the public sector has been relatively limited, and in addition, often put in negative terms (Potts and Kastelle, 2010). However, the field has been expanding in recent years (Potts and Kastelle, 2010; Vries et al., 2006; Wihlman, 2015). Contributing factors to the increased attention were the introduction of the New Public Management guidelines and also an increased competitive environment in the public sector (Bhatta, 2003; Borins; 2014; Parsons, 2006; Wihlman, 2015). One additional contributing factor was the increased focus on public innovation research in the European Union, named the PUBLIN project (Albury, 2005).

The increased attention has further lead to how the field of public sector innovation has become more unified. But even so is the literature base of innovation in the public sector still considered to be diverse (Borins, 2014; Potts and Kastelle, 2010; Nählinder, 2013). One reason for this diversity may be the diversity in the number of fields contributing to the literature base, such as innovation studies, political science and administrative studies, and geography, as well as reports made by public agencies (Nählinder, 2013).

In addition to the various contributing field, various activities of innovation on various levels in public organisations have also been highlighted. Studies have been performed on both political, geographical and hierarchical level (Nählinder, 2013). Moreover, activities that have been raised are for example how to handle the lack of incentives for innovation (Potts and Kastelle, 2010), comparisons between the private and the public sector regarding innovativeness (Koch and Hauknes, 2005), the attitude to risk (Bhatta, 2003), an innovation's

emergence and its diffusion of innovations in multiple kinds of public organisations (Walker, 2014).

However, the main part of the research has covered the internal and external conditions leading to innovative products and services (Walker, 2014), rather than the factors and conditions leading to successfully being able to both implement and sustain the innovations. But even though to a in comparison limited extent, there are also a number of studies performed concerning what affects the implementation of innovations and what makes innovations sustain after implementation (see for example Greenhalgh et al., 2005; Lennox et al., 2014; Maher, Gustafson, and Evans, 2010; Massoud et al., 2006). In addition, Walker (2014) emphasises how there is a substantial evidence base on what affects the adoption and implementation of innovation, and that it has been growing also within the public sector.

It could thereby be stated how several researchers have raised their attention towards public sector innovation, but still there seems to be a majority of the studies being of a conceptual kind in order to highlight the importance and meaning of innovation in public organisations (for example Osborne and Brown, 2011). As a consequence, empirical studies have not been made within the field to the same extent, and has mainly been performed in the United States and United Kingdom (De Vries, Bekkers, and Tummers, 2016). It has thereby been stated how there is a need of a larger base of empirical studies also outside the US and UK (De Vries, Bekkers, and Tummers, 2016). In addition, it has also been underlined how studies of empirical character are important for understanding the current knowledge base of public sector innovation, and in addition, to give further directions within the research field (Greenhalgh et al., 2005).

Further recommendations within the field of public sector innovation is to combine it with existing literature within diffusion[1] of innovation theory in order to better grasp the conditions for the diffusion of public sector innovation (De Vries, Bekkers, and Tummers, 2016). Such work has for example been performed by Greenhalgh et al. (2005) within the healthcare sector, while other parts of the public sector, such as in local governments, seem to not have received equal attention, which raises the need for further studies contributing to the work with innovation in this field. Furthermore, the question remains what the diffusion process looks like at a local government and moreover, what practitioners can do to increase the likelihood of adoption of an innovation.

1.2 Purpose and Research Questions

The purpose of this study is to contribute to the understanding of the work with innovations in the public sector by addressing the diffusion of innovations in the context of a local government. This is done by investigating the factors affecting the diffusion as well as how the prerequisites for diffusion can be enhanced by an improved implementation process. Fulfilling the purpose is done in two steps; first by identifying the factors that affect, either by facilitating or obstructing, the diffusion of innovations, and secondly by highlighting areas that need to be considered when planning and executing an implementation. The outcome of this study will be valuable for local governments, as well as other public organisations, in order to make better use of innovations and thereby also better use of available resources for an increased public value.

[1] Diffusion is, referred to Roger's (1995, p. 5) definition of diffusion, *"the process by which an innovation is communicated through certain channels over time among the members of a social system".*

The following research questions are identified to fulfil the purpose of this study:

1. *What affects the diffusion of innovations within a local government?*
2. *What should practitioners in a local government consider during an implementation to improve the prerequisites for diffusion of innovations?*

1.3 Delimitations

This thesis suggests a model of the diffusion process and a guide with highlighted areas to consider during an implementation, developed to fit and be useful for Lerum's local government. The thesis is thereby not developed with the aim to be of a too generalised character in order to fit all local governments in their attempt to understand the diffusion of innovations and implementation of innovations present in their organisation. However, a broad terminology of the diffusion process and implementation guide is used and much of the content will possibly also fit, with more or less adaption, numerous public organisations.

In the study, it has also not to any larger extent been taken into account how the various factors in neither the model nor the guide affect each other during a diffusion process or during an implementation. Moreover, no prioritisation of what may be the most important factor or area have been done in the diffusion model nor the implementation guide since they are considered to be more or less prominent in various situations and organisations. Neither has the time aspect of what to consider when in the process been specifically stated. These aspects in terms of priorities and time are instead meant to be considered and adapted to every specific use of the model and the guide respectively.

As presented in the following chapters of this study, several factors affect the diffusion of an innovation. This study's following presented implementation guide has been derived from the diffusion model, and should as a consequence be seen as one out of many things affecting the diffusion process. Hence, a well performed implementation of an innovation should not be seen as the only things affecting an innovation's diffusion process. It should rather be seen as a way to describe how an organisation during the implementation phase may take these various areas into account as a way to handle them better.

In addition, it should be noted how the implementation guide is not a guarantee for successful implementation, but is rather to be seen as areas to consider in order to better understand and increase the likelihood of a successful implementation. This last point may not be concluded any better than the quote; "*All models are wrong, but some are useful*" (Box & Draper, 1987 p. 424).

1.4 Case Study of Lerum's Local Government

This master thesis aims to contribute with value for the innovation project that the local government of Lerum, from now on referred to as *Lerum*, has initiated together with the Swedish innovation agency Vinnova[2] in October 2016. Lerum is one out of 12 local governments being part of the Vinnova project, with the aim to develop an innovation process for the organisation. This is something that also supports the new vision of Lerum, "Vision 2025", where Lerum wants to become Sweden's leading sustainable municipality (Lerum, 2016a).

[2] Vinnova was established in 2003 and its aim is to improve conditions for innovation in Sweden (Vinnova, 2017).

The municipality of Lerum is located in southwest Sweden in Västra Götaland county, and has 40 000 inhabitants (Lerum, 2017a). The local government of Lerum includes 2850 employees (Lerum, 2016b) divided into three sectors *Support and Care*, *Childcare and Education*, and *Civil Society* (Lerum, 2017b). An overview of the organisation is provided in figure 1.1 showing the organisation chart (Lerum, 2017c).

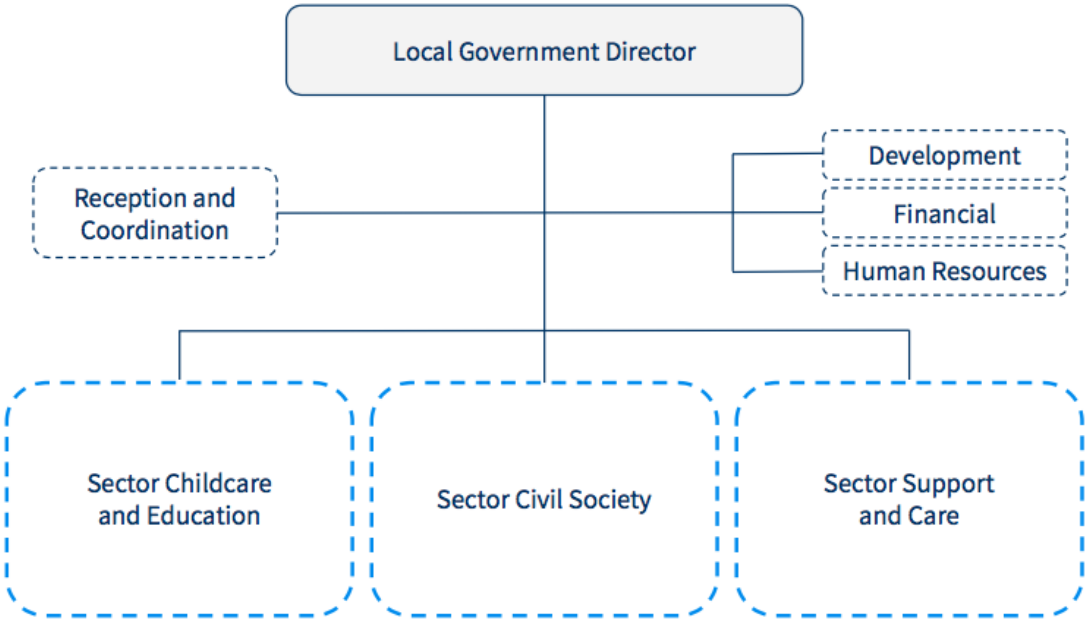

Figure 1.1 *The organisation chart of Lerum in 2017 (Lerum, 2017c).*

Having decided on the focus of diffusion and implementation of innovations within the context of a local government, the case of the implementation of the management system Treserva was proposed by employees at Lerum. The case Treserva was proposed as an appropriate suggestion since it had been an extensive implementation and not executed too long time ago. The employees at the department *Support and Care* (the organisation chart of the sector Support and Care is presented in figure 1.2) where Treserva had been implemented were also able to devote enough time and resources for the study which motivated the case further. In the phase of choosing direction and a case to study, there were also opinions raised regarding how the implementation had been executed and that the implementation still today affects how the system is perceived by employees, which increased the interest for this particular case.

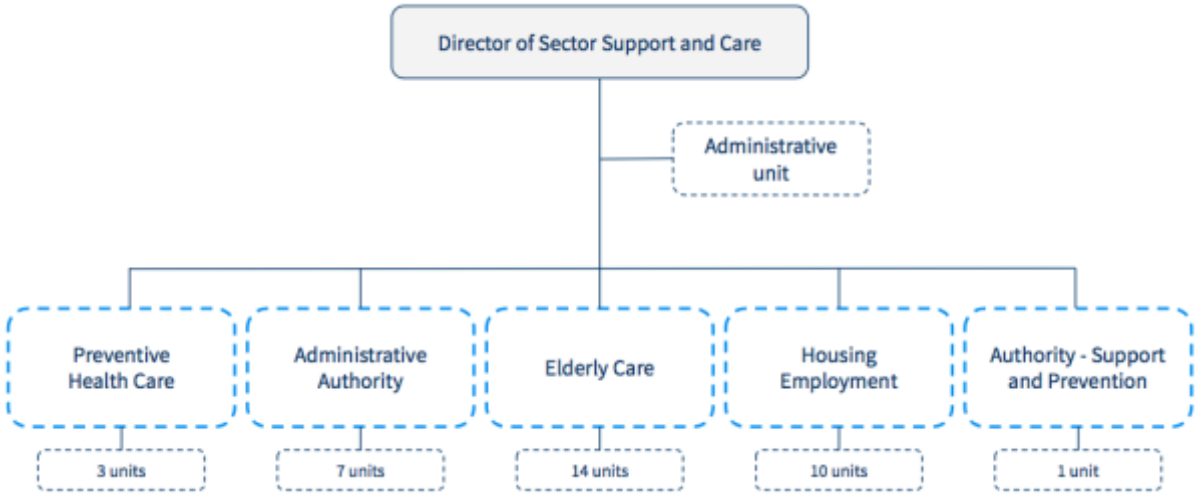

Figure 1.2 *The organisation chart of the sector Support and Care of Lerum in 2017 (Lerum, 2017c).*

1.5 Outline of the Thesis

The outline of the thesis is illustrated with chapter, title and a short description in figure 1.3 below.

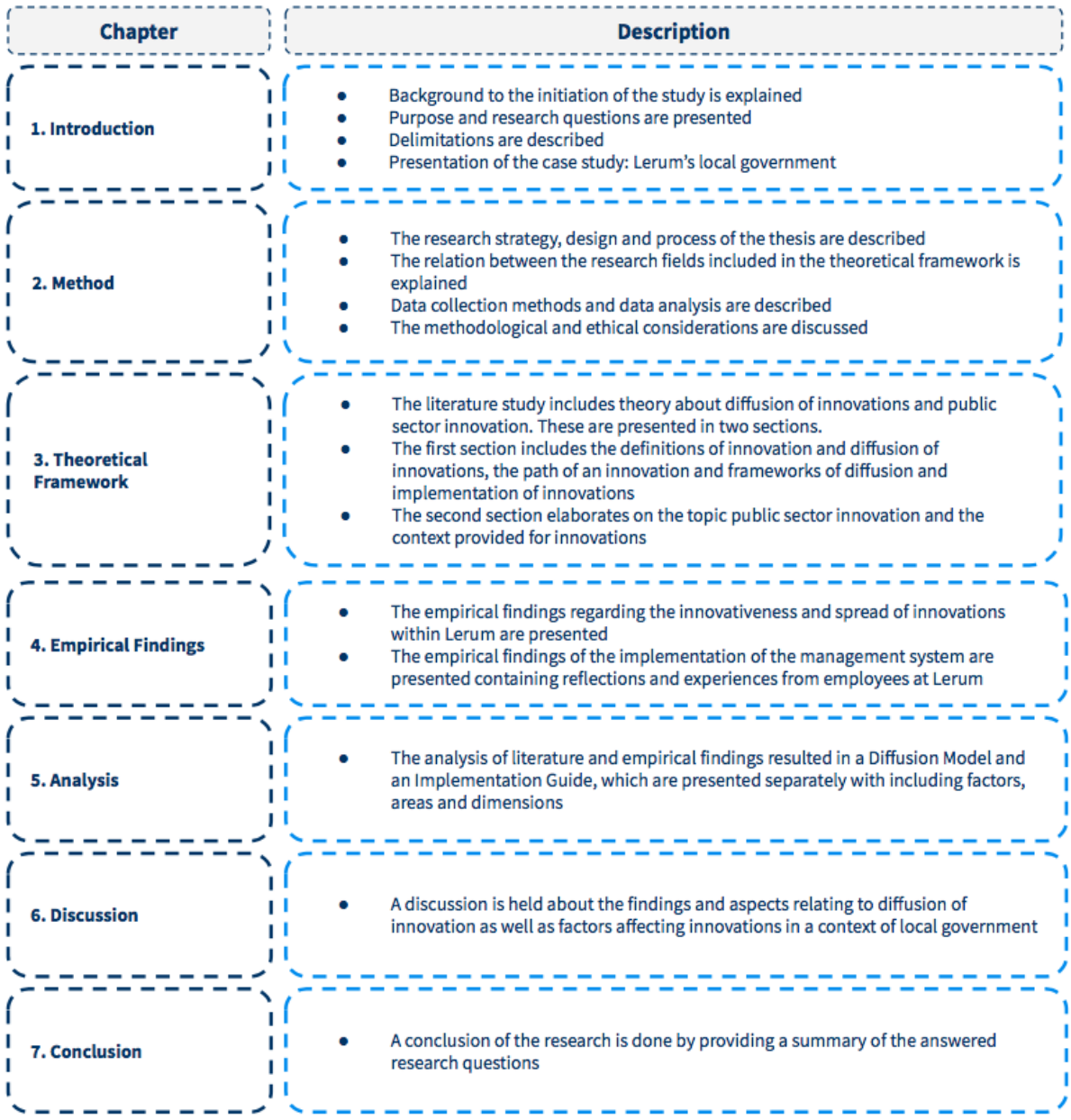

Figure 1.3 *Illustration of the outline of the thesis.*

2 Method

This chapter presents the research strategy, the research design and the research method used to fulfil the purpose of the study. Furthermore, a description of the research process of the study and a description of how data has been analysed are included. The relationship between the concept of diffusion of innovations and theories of public sector innovation are also explained. This chapter ends with a discussion regarding the quality of the research and the ethical considerations.

2.1 Research Strategy

This study has applied a qualitative research design. A qualitative research strategy was found appropriate since the outcome of this study was to be generated by emphasising and analysing information and opinions from individuals interviewed at the location of the case study, which are characteristics of a qualitative research strategy according to Bryman and Bell (2015). The qualitative research strategy was also regarded suitable for the research topic in matter, diffusion and implementation of innovations, as Rogers (1995) emphasises that the diffusion of an innovation regards the adoption process made by individuals.

During the period of the study, theory and empirical findings were used in an iterative process where the purpose and direction of the study were able to be refined and re-defined as more knowledge and understanding was gained. By doing so, the empirical findings and theory can be better understood as the researchers go back and forth between different research activities (Dubois and Gadde, 2002; 2014). Dubois and Gadde (2002; 2014) explain this iterative process as an abductive approach, which is fairly similar with what Bryman and Bell (2015) outline as an inductive approach. As the researchers experienced a learning curve throughout the period of the study, which may have affected their view on the chosen research topic, the abductive approach was considered suitable.

Even if the study predominantly has a qualitative research strategy, the study also included a quantitative element in terms of a survey to achieve a greater understanding of the empirical case study. The survey furthermore aimed to increase the understanding of the users' experiences of the implemented management system Treseva. The quantitative element also made it possible to collect the high amount of data considering the limited time and resources of the study.

2.2 Research Design

The research design describes the structure in which data was collected and analysed in a study (Bryman and Bell, 2015). In order to be able to facilitate the qualitative research strategy with an abductive approach this study was designed as a case study. This study was first initiated on behalf of Lerum as the organisation of the case study as well as the overall research topic was predetermined to regard innovations in the public sector. Related to the chosen research topic, the study aimed to investigate how to improve the prerequisites for diffusion of innovations in a context of a local government, the case study design was deemed suitable. According to Bryman and Bell (2015) a case study design is a common design thus a case study entails investigating and analysing the conditions of a specific case in a detailed manner. In line with previous arguments, a case study enables to capture a very good representation of what is being investigated (Flick, 2014).

2.3 Research Process

The research process can be divided into three main broad phases; 1) development of the theoretical framework based on existing literature, 2) the empirical study of diffusion of innovations and implementation of innovations, 3) data analysis and development of the conceptual model for diffusion of innovations and the implementation guide for practitioners. However, there are no clear lines between the different phases in the research process and they do overlap to some extent. The three phases are illustrated in figure 2.1 along with the activities conducted in each phase.

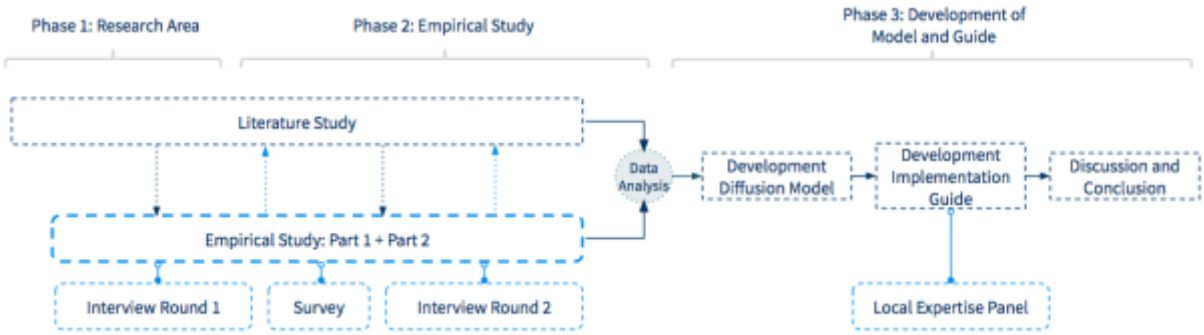

Figure 2.1 *The research process of the study.*

During phase one, the first step of the development of the theoretical framework was to conduct a literature scan where diffusion of innovation theory and implementation theory were identified and reviewed. In addition, two telephone interviews á one hour were held with a representative from Vinnova at two occasions during this phase for the researchers to get more familiar with the subject innovations in the public sector and to discuss common issues of innovations for local governments. During this phase new findings were allowed to impact the scope and to some extent also the purpose and research questions of the study.

The second phase of the research process concerned the empirical study and to some extent the analysis of the collected data. The empirical study was initiated in parallel with the development of the theoretical framework and was later on divided into two parts including a round of interviews each. The first part of the empirical study covered a general area of innovation and its diffusion whereas the second part studied an implementation of a management system executed in 2015 at Lerum. The second part of the empirical study also included a survey with employees to achieve a better understanding of the contextual setting of the case study. After the first part of the empirical study as well as in the end of entire phase two, an analysis of the data collected and the literature theory reviewed was performed, leading into the third and final phase of the process.

Lastly, the third phase of the research process started in the analysis of the data collected where empirical findings were incorporated with the theoretical framework. The analysis lead to a development of a diffusion model and an implementation guide, where the latter was derived from the diffusion model, meaning both being related to each other. The diffusion model illustrates the factors affecting an innovation-decision process from a theoretical standpoint whereas the implementation guide contains more practical elements for practitioners. In order to further adapt and develop the guide as well as to validate the suggested areas and improve the usability, a workshop was held with a local expertise panel consisting of employees from Lerum. The guide was revised and updated based on the

feedback received. The final phase of the research process also included a discussion about the result and summing up in a conclusion.

2.4 Research on Diffusion of Innovations and Public Sector Innovation

In this study, theories on diffusion of innovations and theories on public sector innovation have been merged to constitute the theoretical framework. In this section, it will be outlined how these two fields of studies relate to each other and how a merge of them, in combination with the empirical case study, enables reaching the purpose of the study. The introduced terms in this section will not be accompanied by any further explanations, and are further described in the theoretical framework. In addition, the concepts innovation, diffusion of innovations, implementation, and public sector innovation, are concepts that in one way or another relate to each other and are thus hard to fully disassociate. However, an attempt is made to explain how these terms and theories relate to each other, starting with the diffusion of innovations and moving over to the theory on public sector innovation.

Firstly, in the field of diffusion of innovations it becomes clear that the diffusion is not only affected by the characteristics of the innovation itself and the adopters, rather the diffusion is to a large extent also affected by the context the innovation appears in (see for example Barnett et al., 2011; Greenhalgh et al., 2005; Wejnert, 2002). As a consequence, to be able to develop a conceptual model for the context of a local government, it is of importance to investigate what factors that affect the adoption of an innovation in a public sector context, which general diffusion of innovation theories do not cover.

Moving over to the field of public sector innovation, the term *innovativeness* is frequently mentioned and various researchers discuss what may facilitate or obstruct the innovativeness in the public sector. One may thus consider what this term innovativeness implies. However, this term is seldom explicitly stated. Therefore, in order to outline this, the factors affecting an organisation's innovativeness may instead reveal what may be interpreted in the term innovativeness. Hence, when looking at what studies on public sector innovation include, it is clear how the mentioned conditions concern a holistic view of the term innovativeness and not only the creation of a new idea. This holistic approach to innovations is in addition supported by definitions of innovations (see for example Damanpour and Evan, 1984; Van de Ven, 1986), stating how an innovation also includes an implementation of it. Furthermore, in this holistic view in public sector innovation theory, the aspect of successfully implementing an innovation in an organisation is also included, such as the motivation by employees and resources for innovation, which is closely related to the theories on diffusion of innovations as both theories include the aspect of an innovation's adoption. The relation between the two research fields is illustrated in figure 2.2.

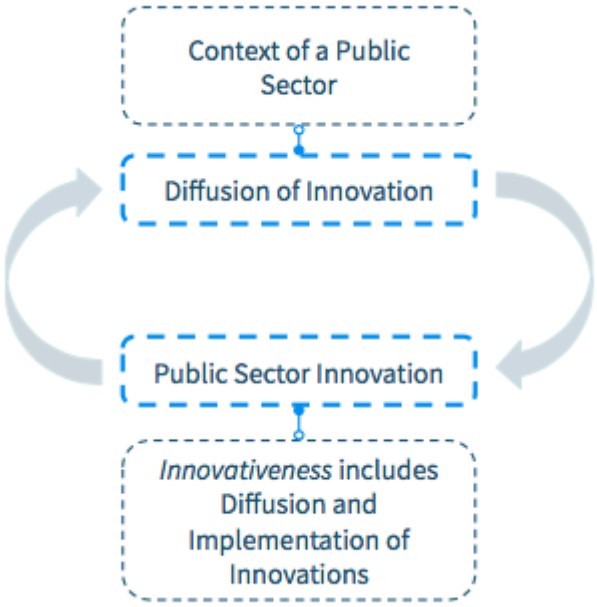

Figure 2.2 *Theories on diffusion of innovations and theories on public sector innovations have been merged to constitute the theoretical framework.*

2.5 Data Collection Methods

Multiple data sources have been used resulting in the empirical findings in this study, which includes both primary data from interviews and a survey as well as secondary data from internal documents. Using both primary and secondary data increases the quality of a case study as it benefits from multiple sources during data collection (Yin, 2013). In addition to the empirical data, an extensive literature study was first conducted with the focus on identifying and reviewing previous literature on diffusion of innovation theory as well as public sector innovation theories. The sections below elaborate on how the data collection has been carried out.

2.5.1 Literature Study

To create and develop an understanding of the chosen research topic a literature study was first initiated in the process. The literature study served several purposes as the research topic can be compared and positioned in relation to previous research as well as that the literature study can conclude with strategies for data collection, as pointed out by Bryman and Bell (2015). As a first step, in order to generate an overview of the research area and identify relevant previous research a literature scan was performed. The literature study then continued with a development of a theoretical framework which is stretched out through almost the whole duration of the study as the researchers gained more knowledge about the topic, thereby facilitating the abductive research approach. The literature study conducted during this thesis aimed to present existing research on diffusion of innovations as well as related concepts as dissemination and implementation of innovations. Since the focus is on innovation in the context of a local government, theory on innovation and public sector have been merged in order for the result to be adapted after the local context as explained in section 2.4. Furthermore, the literature study also concerned methodology research such as the strategy, design and method of a research.

Literature on the research topic have been collected from both scientific articles and books within the fields of diffusion of innovation and implementation theory as well as public sector innovation. Both articles and books were primarily accessed through the online library of Chalmers University of Technology. The most commonly used databases were Summon database, Sage Journal and Emerald as well as Google Scholar. Databases were searched using keywords such as "innovation", "public sector", "public sector innovations", "innovations in local governments", "barriers and drivers for innovations", "systems of innovation", "diffusion of innovations", "dissemination", "implementation", "adoption of innovation". To be able to search through more articles the abstracts and conclusions were first read in order to judge if the articles were of value for the study before the whole articles were read. In addition, reference lists of relevant articles conduced to identify other articles not identified through the searched keyword.

2.5.2 Primary Data Collection

The majority of the collected data in the study was obtained through a total of 21 interviews with employees at Lerum. As mentioned, the empirical study can be divided into two parts, including a number of interviews each, where the purpose of each part was slightly different. The type of interviews conducted in part one and part two of the empirical study are also to some extent different in nature and thereby structure. A key consideration has been to allow interviewees enough space to come forth with their own reflections and thoughts on various themes.

The first part of the empirical study concerned the topic of innovation in general and to give the researchers an understanding of departments and practices of the local government. Furthermore, the intention was also to obtain a holistic view of the organisation and the context of a local government in general. The purpose of the first round of interviews was further to find a specific case to investigate deeper. The employees interviewed during the first part were therefore asked if they could recommend other colleagues for the researchers to interview, further if they could think of a project executed in recent time potential for this study, resulting in the case of Treserva. The first round of interviews included ten interviews with employees at different levels and from different parts of the organisation. As flexibility and freedom of the interviewees was emphasised, the interviews were a mix of unstructured and semi-structured. According to Bryman and Bell (2015) unstructured interviews are quite similar to conversations while semi-structured interviews are more focused hence following an interview guide of topics to be covered during the interview. Hence, even though an interview guide existed interviewees of the first few interviews were allowed to elaborate more freely on the topics of innovation and spread of innovations and thus can be seen as more of an unstructured character.

The second part of the empirical study aimed to investigate on a deeper level the implementation of the management system Treserva, thus the second round of interviews were more focused in nature and thereby also more structured than the first round of interviews. Stated by Bryman and Bell (2015), semi-structured interviews are appropriate when the researchers address a specific issue and it is possible for the researchers to deviate from the guide if a particular example or story is found especially interesting. Semi-structured interviews are also preferable when more in-depth answers to a research question want to be achieved (Flick, 2014). In total, the second interview round consisted of eleven interviews which were mainly conducted with managers of different department and units of the sector *Support and Care*. In addition, semi-structured interviews also enable the interviewees' answers to easier be compared and related to each other (Bryman and Bell, 2015). Providing a

rough structure in the interviews also helped simplify the subsequent analysis of the collected material.

Interview guides were developed for each round of interviews, presented in appendix A and appendix B. The guides were derived from the theoretical framework where the first guide includes questions about the employees' perceptions of innovations and to what extent innovations are present and spread in the organisation today. The second interview guide is primarily derived from frameworks and models for diffusion of innovations and implementation of innovation proposed by for example Barnett et al. (2011), Greenhalgh et al. (2005), Maher, Gustafson, and Evans (2010), and Wejnert (2002). Prior both interview rounds, each guide respectively were subsequently pre-tested by letting the supervisors at the development department of Lerum and the supervisor at Chalmers University of Technology give input. Test interviews were also conducted to gain knowledge on how questions would be perceived and to make sure questions would address the stated research questions. Following the pre-tests, some questions were removed and some reformulated in order to for example encourage the interviewees to respond by giving examples.

The interviews were conducted through personal meetings where both researchers were present and acting as interviewers, except for one interview which was conducted over the phone due to a request from the interviewee. The researchers took turns in being responsible for leading the interview while the other had the responsibility to take notes. However, notes were kept to a minimal level during the interviews to create a more informal and open environment at the interviews. Both researchers had the possibility to ask additional probing questions during the interviews. In addition, all interviews were recorded to be able to verify the content in retrospect and avoid errors and misunderstandings. A summary of the interview was written directly after each interview where the summaries were structured after emergent themes from the interviewees' answers.

Regarding the sampling and choice of employees interviewed at Lerum, advice on employees to interview during part one of the empirical study was given by the supervisors from the department of development. Thereafter generated by the first round of interviews, the project Treserva was given as a suggestion for the researchers to study in-depth. The former project leader of Treserva and another well-grounded employee then gave further suggestions on employees to interview and therefore to include in the study. The respondents were chosen to get a wide understanding of how employees from different parts of the sector present during the time period of the implementation of Treserva perceived the implementation process. Table 1 and table 2 provide an overview of employees interviewed during the first and second interview rounds. To increase the level of comfortable in stating their opinions on certain issues and increase the honesty in answers no direct references to individual interviewees will be given later on in the thesis. All interviewees were informed of this measure in the beginning of the interview. As a consequence, the project as a whole is believed to have gained in relevance thus interviewees have been perceived to be able to speak more freely and share information that could otherwise have been sensitive.

Table 2.1 *Overview of the conducted interviews at Lerum in interview round one presenting department and job title of employees as well as date, type and duration of the interviews.*

INTERVIEW ROUND 1

Sector or department	***Job title***	***Date***	***Interview type***	***Approximate duration***
Department of Development	Real estate planner and coordinator	2017-03-07	In person	1 h
Department of Development	Communication strategist	2017-03-10	In person	1 h
Civil Society	#1 Division manager and #2 Energy and climate advisory consultant	2017-03-10	In person	1,5 h
Civil Society	Chef, meal services	2017-03-10	In person	1,5 h
Support and Care	Development manager e-health	2017-03-15	In person	1 h
Childcare and Education	Business developer childcare and education	2017-03-21	In person	1 h
Childcare and Education	Development manager ICT	2017-03-24	In person	1 h
Support and Care	Pedagogue for elderly	2017-03-24	In person	1 h
Childcare and Education	Division manager	2017-03-24	In person	1 h

Table 2.2 *Overview of the conducted interviews at Lerum in interview round two presenting department and job title of employees as well as date, type and duration of the interviews.*

INTERVIEW ROUND 2

Sector (department)	***Job title***	***Date***	***Interview type***	***Approximate duration***
Support and Care (Administrative unit)	Business developer and project manager of Treserva	2017-03-30	In person	1,5 h
Support and Care (Administrative unit)	#1 System administrator Treserva and #2 System administrator Treserva	2017-04-03	In person	1 h
Support and Care (Home Care Services)	Unit manager	2017-04-04	In person	1 h
Support and Care (Health Care)	Division manager	2017-04-04	In person	1 h
Support and Care (Administrative Authority)	Business developer and support user Treserva	2017-04-04	In person	1 h
Support and Care (Rehabilitation)	Unit manager	2017-04-05	In person	1 h
Support and Care (Administrative unit)	System coordinator	2017-04-06	Phone	1 h
Support and Care (Functional Support)	Unit manager	2017-04-06	In person	1,5 h
Support and Care (Elderly Care)	Division manager	2017-04-07	In person	0,75 h
Support and Care (Administrative Authority)	Unit manager	2017-04-07	In person	1 h
Support and Care (Health Care)	Nurse and business developer	2017-04-20	In person	1,25 h

In addition, in order to achieve a wider understanding of the empirical case study and the management system Treserva, a survey was conducted with employees from the sector Support and Care (the survey questions are presented in appendix C). The purpose of the

survey was to provide more knowledge about the contextual setting of the chosen case and questions were based on theory of innovation and implementation (see for example Barnett et al., 2011; Greenhalgh et al., 2005; Rogers, 1995). More specifically, the intention was to increase the researchers' understanding regarding the users' experiences of the implemented management system Treserva, thus also giving a picture of what the implementation process resulted in. The survey resulted in 69 respondents and is seen as a good complement to the conducted interviews. Empirical findings were then received from an extended number of employees, both managers and staff, who in addition also were people who to a larger extent use Treserva in their daily routines compared with the employees interviewed. The same amount of data could not have been collected if this activity had been left out considering the limited time and resources of the study. The result of the survey is presented in the empirical findings in section 4.2 as well as in appendix D.

2.5.3 Secondary Data Collection

Regarding the second part of the empirical study, as a complement to primary data collected through interviews and a survey, secondary data was provided from Lerum. The secondary data included documents of the organisational structure and internal project documentations of the implementation of the management system Treserva in 2015.

The documents included were a description of the organisation as well as the project organisation of Treserva, and the project plan for the implementation. The requirements specified of the system prior to the public procurement were also shared together with the invoice to the supplier of the project. Prior to the implementation a risk analysis had been conducted by the supplier of the management system which the researchers could take part of. Lastly, a description of the role of the support users, the different roles in the implementation project as well as the final report were shared. Some of these documents, for example the project plan and the description of roles, were found to be of more value for the study and were read more in detail while other documents as the specification of the requirements was judged to be of a character of "nice to know" but not relevant for the outcome of the study. These documents were primarily used to obtain a general understanding of the project of the implementation process and no direct references will be made to these documents in the empirical findings chapter. However, for the researchers and probably for Lerum later on, it was found interesting to compare the empirical findings with what had been documented prior to and after the implementation.

2.5.4 Workshop with Local Expertise Panel

As a way of verifying and adapting the implementation guide to Lerum's organisation and the way of working, input and feedback was received by a local expertise panel at Lerum. The panel consisted of employees from different departments and levels of Lerum and were thereby seen as experts in the way things work at Lerum. There were a total of twelve participants, attending a one-and-a-half-hour workshop. The researchers had prior to the workshop created workshop material, and divided the participating employees into smaller discussion groups. The employees participating had earlier been invited via email and joined on a voluntary basis.

The workshop with the local expertise panel is seen as a validation of the implementation guide. Input and feedback were given in two steps as the suggested areas of the implementation guide were first discussed in general and later on two or three areas were dedicated to each discussion group where the belonging questions for practitioners were discussed in more detail. The implementation guide has then been revised and updated

accordingly to feedback received from the expert panel. Areas highlighted especially from the expertise panel were leadership and the organisation's conditions prior to a project, these are further explained in section 5.2 where the implementation guide is presented.

2.6 Data Analysis

In the opinion of Bryman and Bell (2015) there exist few well-established approaches for analysing qualitative data. In this study the analysis performed is similar to the thematic analysis, where empirical findings have been clustered into themes (Bryman and Bell, 2015). In order to make the data analysis easier to handle, the data analysis was divided into different phases as inspired by the structure presented by Gioia, Corley and Hamilton (2013). Notably, the data analysis has been an iterative process between theory and data as the data analysis did occur continuously throughout almost the whole period of the study.

As a first step an initial coding was done of the empirical material. This was done at first in relation to each interview as well as after all interviews had been conducted and transcribed as summaries to enable proper coding. Codes were created mainly according to the theoretical framework, but also after the empirical findings in order to reflect interviewees' answers properly. Subsequently, the codes were refined and grouped together in a manageable number of concepts.

Secondly, larger themes (being presented as headings in the empirical findings, for example *Organisational Policies* and *Organisational Leadership*) were generated from clusters of concepts from theoretical and empirical findings. To ensure that the themes were relevant to explain diffusion of innovations, the framework approach was used to systematically organise the concepts into themes. In order to do so, a skeleton model was created from a mix of diffusion models containing an inner and outer context of an organisation. The draft of the model then functioned as a game field where initial codes, factors, barriers and drivers of innovations from literature and empirical findings were added and grouped together in the larger themes. In most cases, the themes could be recognised in previous literature. After dividing concepts into larger themes each theme was further categorised into sub themes (dimensions for example *shared vision and goals* and *clearly defined roles and expectations*).

2.7 Methodological Considerations

The methodological choices made during this study do also have implications on the quality of the study made. What is considered as the main implications on the quality of the research is presented below.

What is considered as one of the main choices having a large implication on the result was the choice of which implementation project that would be studied in more detail, resulting to be the implementation project of Treserva. In this choice, there was a limitation in the available alternatives within Lerum fulfilling the requirements. Requirements for the project were for example that it needed to be appropriate in terms of size and range and also where something being regarded as an innovation was implemented. Further requirements were that the implementation not had been performed too long time ago and in addition, where people involved were still employed in the organisation and had time for interviews. All these requirements simply gave rise to a quite extensive limitation. The consequence of the

limitation was that the researchers were given one suggestion to study. It could thereby be up for discussion whether other alternatives, if available, would have been better if there would have been more time.

Studying such a comprehensive project, as an implementation of a new management system in a large organisation, while only including a limited number of employees during a limited time has some obvious limitations. Such a large implementation does also affect far more people than what was possible to interview. Further limitations do also include how all aspects will neither be remembered by the employees nor perhaps not brought up the very first time the researchers and interviewees met. However, the researchers tried to be aware of this fact and thereby tried to make the interviewees feel as comfortable as possible in order to also be as honest as possible. The interviewees did also participate on a voluntary basis, which is considered as an increase of likelihood of willingness to share their perception.

Furthermore, to the fact how there was only one alternative in terms of available projects to study, also the interviewees were chosen by the organisation. A list was thereby handed to the researchers with the schedule for interviews with little insight in why exactly those people had been appointed. Potential risks may thereby occur in terms of the motives why the given interviewees were appointed. However, the perception of this situation is that it was in the organisation's interest to pick out the best suited interviewees to receive a broad understanding of the implementation. The sampling was also done by the former project leader and another well-informed employee, whereby it is hard to believe that the researchers would have made a better sampling lacking those insights. As a result, the interviewees participating in the interviews had also been some of the people on key positions during the implementation, and was thereby considered to have good knowledge of the process.

Regarding using interviews as a data collecting method, it does also need to be considered how it limits the collection to be dependent on the interviewees' perceptions. Having interviews as a data collection method thereby increases the risk of missing out on some important factors. However, having the local expertise panel confirming and refining the result of the interviewees strengthens the result to make sure that both the interviewees' perceptions as well as the researchers' interpretations of the data were relevant.

Bryman and Bell (2015) state the factors credibility, transferability, dependability and confirmability, which could be used in order to sum this section of methodological considerations. Triangulation is one method to achieve a higher credibility, which as mentioned has been performed in order to make sure that the findings have been interpreted correctly. The triangulation was made through informal discussions with employees at the development department and the local expertise panel. Regarding the transferability, the study has as mentioned not been made with the primary aim to make the model and the guide generalisable, implying the ability of making it transferable. In addition, Bryman and Bell (2015) does also state how it may be difficult to transfer the result of qualitative data. However, the findings are despite this seen as being only limited to neither Lerum nor only local governments. It is rather seen as possibly useful for other organisations within the public sector since the result are possible to adapt after the local context. In order to decrease the dependability, considering whether the study is possible to repeat, the process and approach has been comprehensively described in this method chapter in order for other research to be able to repeat the study. Concerning the last factor, the confirmability, regarding to what extent personal values and preferences have affected the findings, an attempt has been made

to keep it to a minimum. An objectivity has been strived for during the whole study in order to be able to provide a result as objective as possible.

2.8 Ethical Considerations

As the strategy of this study is of a qualitative nature with empirical data collected from interviews and a survey with employees at Lerum, there are some ethical aspects to take into account. The major ethical considerations are taken in regard to the participants of the study and the information they have provided. The ethical principles that have been taken into account are harm to participants, lack of informed consent, invasion of privacy and deception as highlighted by Bryman and Bell (2015) to be of relevance in business research. Furthermore, ethical and legal concerns taken into account are how data is managed to ensure confidentiality and no illegal copyrighting (Bryman and Bell, 2015).

Firstly, the Lerum has been informed about the publishing of this thesis and approved the information used in it. Secondly, participants were chosen on the criteria based on their experience and role within the organisation. For the first part of the empirical study, the employees chosen were considered relevant to the topic of innovations and the diffusion of innovations. The second part of the empirical study considered the implementation of the management system, where employees interviewed were in relevance to the implementation project. Furthermore, as mentioned, the researchers received help and guidance from the former project manager of Treserva and another well-informed employee to achieve an adequate sampling of interviewees.

Participating in the research was completely voluntarily and only allowed if consent was given by the participants. All participants were informed of their contribution and the purpose of the study before the interviews so that a well-grounded decision could be made regarding participation. In addition, to increase the level of trustworthiness of the collected data, all employees were kept anonymous and no quotations have been accompanied by identifiable references to specific individuals. However, a few exceptions have been made in the chapter of empirical findings when the source has been considered to be of importance for the implication and when it was not considered as sensitive to refer to a specific employee.

Employees participated in the survey was also informed about the purpose of the study and how the information would be used and published in a report. The respondents in the survey also participated on a voluntary basis. The responses will be kept anonymous and the data shown in this report will only include the median value of all responses and thus no specific individual answer is traceable.

Ethical aspects also need to be taken into account regarding material and document included in the study from the organisation of the case. The researchers have been approved access to some documents regarding the organisational structure, the innovation project in cooperation with Vinnova and project documentation related to the implementation project Treserva, some of a higher degree of confidentiality than others. All material and documents have been handled carefully, ensuring that information was used the intended way, not spread to others or lost by mistake. However, since the studied organisation is a local government which operates under the public procurement, this has not been considered of a larger issue in the research.

3 Theoretical Framework – A Systematic Perspective on Diffusion of Innovations and Public Sector Innovation

The following chapter presents a comprehensive theoretical background considered necessary for the later proposal of a conceptual model for diffusion of innovations as well as the following implementation guide. Throughout the report, a systemic approach has been applied on innovations and its diffusion. This approach is a result of how diffusion of innovations is an extensive and complex field to study, with a vast number of ingoing components which are all, directly or indirectly, interrelated and affecting the diffusion in various ways. Therefore, a view of factors being connected in a network structure is applied where factors are considered to affect each other as well as the innovation itself.

The chapter begins by briefly discussing various definitions and aspects of innovations as a foundation for the following sections highlighting diffusion of innovations, implementation theory as well as theory on public sector innovation, the outline is further illustrated in figure 3.1. Regarding the following section on diffusion of innovations in section 3.2, it should first of all be clearly stated how this is a complex and somewhat diverse field with several contributing research fields and thereby a large number of researchers. However, what have been highlighted in this chapter are the parts of the research field considered to contribute to the purpose of this study.

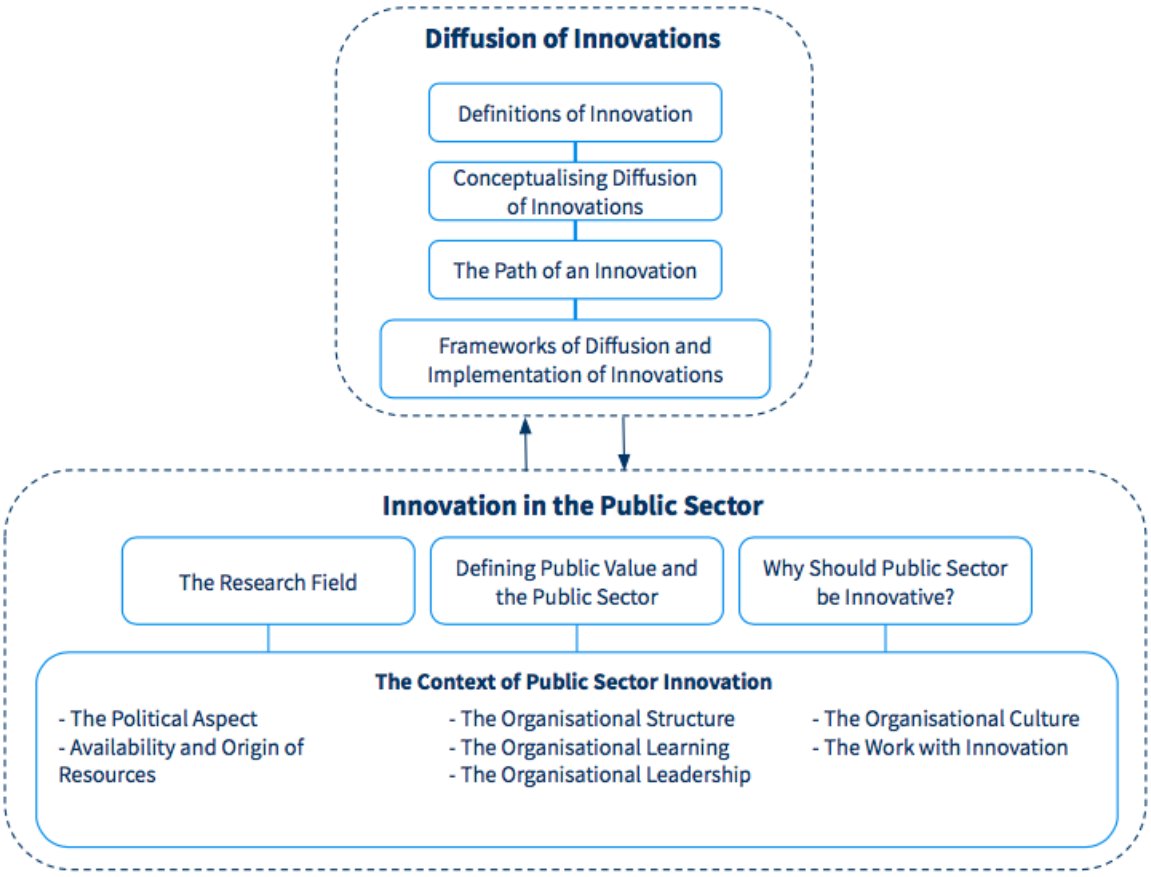

Figure 3.1 *The disposition of the theoretical framework.*

In section 3.3, different models of diffusion and implementation of innovations are presented one by one as a collection to avoid confusion and mix up between previous researchers'

contributions. A previous comprehensive literature review on the topic diffusion, dissemination and implementation is done by Greenhalgh et al. (2005), which is why their presented model has received a larger focus in this report than other models.

In order to further understand the context of innovation in the public sector, the research on innovation in the public sector, and thereby local governments, is included in section 3.4. In this section, the role of innovation is discussed as well as the related barriers and drivers of innovation in the public sector. Furthermore, the various conditions for public and private sector is then addressed and compared.

3.1 Innovation

For a long period of time, innovation has been a field receiving attention within both academia and among various industries. Innovation has been presented as the main driver for economic growth (Schumpeter, 1942), as well as being one key factor in an organisation's performance (Drucker, 1985; Higgins, 1995). As the research field of innovation emerged a long time ago, the interpretation of innovation and the way to define it have also evolved over time and between fields of research (Cumming, 1998). But not only has the definition of innovation evolved over time and between various fields of study, it has also become such an accepted word in social policy innovation despite lack of attempts of defining it. Osborne (1998, p. 1135) stated how innovation simply means "*all things to all people*", and emphasise that such issue needs to be solved in order to be able to also evaluate an innovation. The following chapter begins with presenting a number of definitions of innovation followed by a classification of innovation.

3.1.1 Definitions and Classification of Innovation

The interpretation of innovation, and thereby the many definitions of it, has been changing over time and various fields. The following section highlights some of them, covering a number of aspects of what may be considered an innovation. Starting with one of these definitions, Higgins (1995, p. 33) defined innovation as *"the process of creating something new that has significant value to an individual, a group, an organisation, an industry, or a society. Innovation is how a firm or an individual makes money from creativity."*. As seen in the definition, Higgins (1995) emphasises how innovation is a process, which is creating value for someone, who may also be a number of actors. The researcher also brings forward how innovation makes someone earn money. In addition to this, the definition by Mulgan and Albury (2003, p. 3) emphasises further how the innovation may imply a number of various ideas, as they define innovation as *"the creation and implementation of new processes, products, services and methods of delivery which result in significant improvements in outcomes efficiency, effectiveness or quality"*.

Continuing with Rogers' (1995) definition of innovation, this one further contributes in developing our understanding of an innovation, namely by stating how an innovation is an idea or practice which gets adopted by someone. Rogers (1995, p. 11) defines innovation as *"an idea, practice, or object that is perceived as new by an individual or other unit of adoption. It matters little, so far as human behaviour is concerned, whether or not an idea is objectively new as measured by the lapse of time since its first use or discovery".* By this definition, in addition to the aspect of adoption, it is also added how one may consider the *newness* as something being *perceived* as new, and not necessarily something being new in terms of never having existed anywhere before.

Regarding Rogers' (1995) definition, Greenhalgh et al. (2005) confirms the definition's use in describing individuals' adoption of an innovation, although emphasising some limitations when it comes to its use in an organisational context. The reason for Rogers' (1995) definition's limited use in the organisational context is due to its focus on the individual. Greenhalgh et al. (2005) thereby broadens the context of an innovation compared to Rogers (1983), explaining how other consequences follow an innovation in an organisational context. Such consequences are for example new roles among the adopters, new kinds of decisions, new relationships, and use of new technology etcetera (Greenhalgh, 2005). There is therefore a need of developing Roger's (1995) definition to adapt it to an organisational context. Another essential variety when adapting the definition to an organisational context is the one between an incremental organisational change and an organisational innovation. To outline both these questions, Greenhalgh et al. (2005) refers to Osborne's (1998) summary of innovation definitions.

In order to understand innovation in an organisational context, Osborne (1998) summarised the definitions of innovation used in organisation studies literature in four main characteristics of an innovation, being:

1. Innovation represents newness
2. It is not the same thing as invention (invention refers to the discovery of new ideas or approaches whereas innovation is referring to their application)
3. It is both a process and an outcome (enabling both studies of the process of innovating as well as the developed innovations)
4. It involves discontinuous change (which distinguishes innovation from incremental changes).

To further understand the process of innovation, as mentioned by Osborne (1998), one related question may thereby regard where the process of innovation starts and where it ends. One additional definition contributing to outline this, is the one by Damanpour and Evan (1984, p. 2) stating that *"Innovation is the implementation of an internally generated or a borrowed idea – whether pertaining to a product, device, system, proc*ess*, policy, program or service – that was new to the organisation at the time of adoption*." By this definition, aspects regarding where the innovation may be developed, as well as that the innovation may also include the implementation of it, are added.

Continuing on the aspect of implementation, another widespread definition of innovation is the one by Van de Ven (1986, p. 591) who defines innovation as *"the development and implementation of new ideas by people who over time engage in transactions with others within an institutional order"*. Van de Ven (1986) claimed how this definition is broad enough to use within technical, product, process, and administrative types of innovations. Lastly, further researchers including the role of implementation are Koch and Hauknes (2005, p. 9), who use the following definition of innovation: "*Innovation is a social entity's implementation and performance of a new specific form or repertoire of social action that is implemented deliberately by the entity in the context of the objectives and functionalities of the entity's activities.*" Along with this definition, also the context of where the innovation is implemented is taken into account.

All definitions above are seen to complement the understanding of what an innovation may represent. Aspects regarding the newness, value, type of idea, and process of an innovation is

brought up, as well as the adoption of an innovation and in what context they occur. Lastly, also the implementation of an innovation seems to be a part of its definition, which also by some researchers includes considering in which context the innovation is implemented and adopted. Furthermore, several similarities and differences are also found among the definitions stated above. But perhaps most notably for the context of this study, are the interpreted similarities between the definition by Koch and Hauknes (2005), Van de Ven (1986) and Greenhalgh et al. (2005) in how they somehow emphasise how an innovation takes place in a context (Koch and Hauknes, 2005), or among people who engage in transactions with each other (Van de Ven, 1986), or as explained by Greenhalgh et al. (2005), how an innovation may imply changed roles among individuals. These aspects regarding the implementation within a context where individuals engage with each other witness on the complex context of an innovation and its implementation, which is further elaborated on in section 3.2 and 3.3.

Just as the way of defining innovation, there are also several ways of classifying innovations. On this topic, the distinction between a product innovation and a process innovation (Bessant and Grunt, 1985) is probably still regarded as a main distinction within innovation studies. In this classification, the innovation is considered to be either a new product or a new process created in order to provide existing products. It should though be mentioned how limitations have been identified in dividing innovations into either products or processes. This is due to how it in many service delivery organisations, such as the public sector, is difficult to make the distinction between the product and the process. However, process innovations affect both management and the organisation with its roles, rules, structures, and procedures as well as the communication among people (Abernathy and Utterback, 1978; Damanpour and Gopalakrishnan, 2001). It has also been stated how process innovations are more common than product innovations in the public sector (Koch and Hauknes, 2005).

Building upon these characteristics of a process innovation, Walker (2014) summarises the difference between *organisational process innovations* and *technological process innovations* based on the work made by several researchers. He explains how *organisational process innovations* includes changes of organisational structures, strategies and administrative processes, which for example may be new ways of delivering services, new approaches to personnel, or the creation of new tasks and units. *Technological process innovations* do instead aim to reduce delivery time or delivery cost, or to increase the operational flexibility. The innovations are thereby often brought into the organisation as new production systems or service operations in order to improve the delivered service. Walker (2014) further explains how the technical process innovations in public organisations usually are concerned with the use of information technology, and the technological innovations do thereby affect the operating systems and processes of an organisation (Walker, 2014). In addition, De Vries, Bekkers, and Tummers (2016) state how there seem to have been less focus on technological process innovations compared to the organisational process innovations (which by De Vries, Bekkers, and Tummers, 2016) are referred to as administrative process innovations).

3.2 Diffusion of Innovations

The following section presents the large and complex field of studies ‘diffusion of innovations’. First of all, in order to constitute an understanding of the concept, the meaning of the term diffusion is presented below, followed by a conceptualisation of the term as well as explaining how it relates to innovation.

3.2.1 Conventional View on Diffusion of Innovations

The concept *diffusion of innovations* has received increased attention by researchers during the second half of the 20th century. The origin of the theory claims to be from Tarde's *Law of Imitation* theory dated back to 1903, where concepts of invention and imitation are explained as fundamental social acts (Greenhalgh et al., 2005). Today, diffusion of innovations is usually associated with Rogers (1995, p. 5) definition of diffusion: *"Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system."*

Factors influencing the diffusion of innovations are, according to Rogers (1995), the characteristics and complexity of an innovation, the type of innovation decision, how information is communicated, the social system and the role of change agents. The cumulative distribution of adoption over time in conventional diffusion theory can be visualised by a curve that take the expression of an S-shape curve. Adopters can be divided into different states and is referred to as innovators, early adopters, early majority, late majority and laggards (Rogers, 1995). The rate of adoption is initially slow and gradually increases after reaching a critical mass followed by a deceleration in adoption when the mass starts to get saturated.

But even though conventional diffusion of innovation theory refers to Rogers' definition, the meaning of diffusion of innovations can be slightly different depending on what group of researchers you ask. The concept has become widely used and exists in diverse research areas such as sociology, communication studies, economics, organisation and management among others (Greenhalgh et al., 2005; Wejnert, 2002). The complexity and confusion around the concept most likely have emerged through the wide diversity of theoretical perspective and research designs. Greenhalgh et al. (2005) have identified in a total of 13 research areas related to the diffusion of innovations, whereby some of their conceptualisations are presented below.

3.2.2 Conceptualisation of Diffusion of Innovations

The major differences between the research areas of diffusion of innovations can be categorised in features, assumed mechanism and metaphors (Greenhalgh et al., 2005). Greenhalgh et al. (2005) map out these research areas on a continuum from passive diffusion i.e. 'let it happen' to active dissemination i.e. 'make it happen'. For example, diffusion of innovations in *complexity studies* to the far left of the continuum is seen as highly organic (i.e. 'let it happen') where the adaptive process depends on the local context and not receptive to any external control (Plsek, 2003). In addition, and perhaps not the most initially intuitive argument, the organisation adapts to the innovation and vice versa (Fonseca, 2002), which may be seen as an abstract description but which refers to how there is a mutual relationship between the two. On the other end of the continuum is *classical management theory* where the diffusion is active and can be seen as a step-by-step process where adoption is an 'event' and implementation is a rational, controllable process (Greenhalgh et al., 2005).

Early diffusion research, as presented by Greenhalgh et al. (2005), includes the research traditions of rural sociology (including Roger's diffusion theory), medical sociology, communication studies, and marketing. Diffusion of innovations is conceptualised in rural sociology as *"influence of social norms and values on adoption decisions"* (Greenhalgh et al., 2004, p. 587). On the other hand, in communication studies, diffusion of innovations is rather focused around the structure and operation of communication channels and networks (Greenhalgh et al., 2005). In marketing, where the scope of study regards the production and

distribution of goods and services, Greenhalgh et al. (2005) present the diffusion as the profitability, market penetration, media advertising as well as the supply and demand. These four research areas, however, typically focus on the individual adopter and see the innovation as better than what existed before hence leaving the non-adoption and rejection outside which become theoretical limitations (Greenhalgh et al., 2005).

Another research area conceptualising diffusion of innovations is the study of adoption, adaption, and use of technology is development studies, which explains diffusion of innovations as the barriers to the use of more advanced technologies (Greenhalgh et al., 2005). In the area of structural determinants of organisational innovativeness, diffusion of innovations is referred to as the attributes of an organisation that influence the innovativeness. Such determinants may for example be the size, slack resources and management structure in terms of hierarchies and decentralisation (Greenhalgh et al., 2005).

Greenhalgh et al. (2005) present five of the research areas as interdisciplinary between different academic disciplines. The research area organisational process, context and culture is explained as the study of the development and impact of culture in organisations, where diffusion of innovations is featured as the changes in culture, values and identities (Greenhalgh et al., 2005). In knowledge utilisation research, diffusion of innovations is simply conceptualised as the transfer of explicit and tacit knowledge. These later research areas emphasise more on the individual and the team's ability to acquire knowledge, compared to the early diffusion research. The last research area being presented by Greenhalgh et al. (2005) is complexity studies which diffusion of innovations concerns creativity, emergence, and adaptation.

Having stated these various views on diffusion of innovations, one can conclude how they seem to differ depending on which research field one seeks answers in. The concept includes aspects of an organisation's communication, networks, creativity, values, culture, knowledge, and social norms as well as the adoption by individuals and groups of individuals. The range does also go from theories emphasising how the diffusion cannot be affected at all, to the belief that a lot can be done to affect the diffusion of innovations. However, in this study, the central part of the diffusion is the adoption of the innovation. However, all of the other ingoing aspects mentioned are seen as integrated parts of the adoption and diffusion process. Moreover, it is in this study emphasised how many various factors are affecting the diffusion process, but still a belief that the awareness and efforts to affect it may lead to better prerequisites for diffusion of innovations.

3.2.3 Various Concepts in Diffusion of Innovation Theory

When exploring the research field of diffusion of innovations, one does soon notice how words are used interchangeably by practitioners, for example when referring to adoption, diffusion, dissemination and spread. Despite the following explanations below, one should keep in mind, as pointed out by Hartley (2005), how the focus in diffusion studies should not be centred around the exact language or exact definition to be used for diffusion of innovations. The focus should rather be on the features leading to how and why some innovations are adopted in different context, and why others are not. However, explanations of the various concepts are still considered important to outline in order to minimise confusion.

One first distinction can be made between the concepts diffusion and dissemination even though the meaning is subtle. As illustrated in figure 3.2, Greenhalgh et al. (2005) place

diffusion and dissemination on a continuum from passive diffusion i.e. 'let it happen' to active dissemination i.e. 'make it happen'. Pure diffusion refers to the spread of innovations when it's *"unplanned, informal, decentralised, and largely horizontal or mediated by peers"*, and active dissemination when the spread of innovation is *"planned, formal, often centralised and likely to occur more through vertical hierarchies"* (Greenhalgh et al., 2005, p. 10).

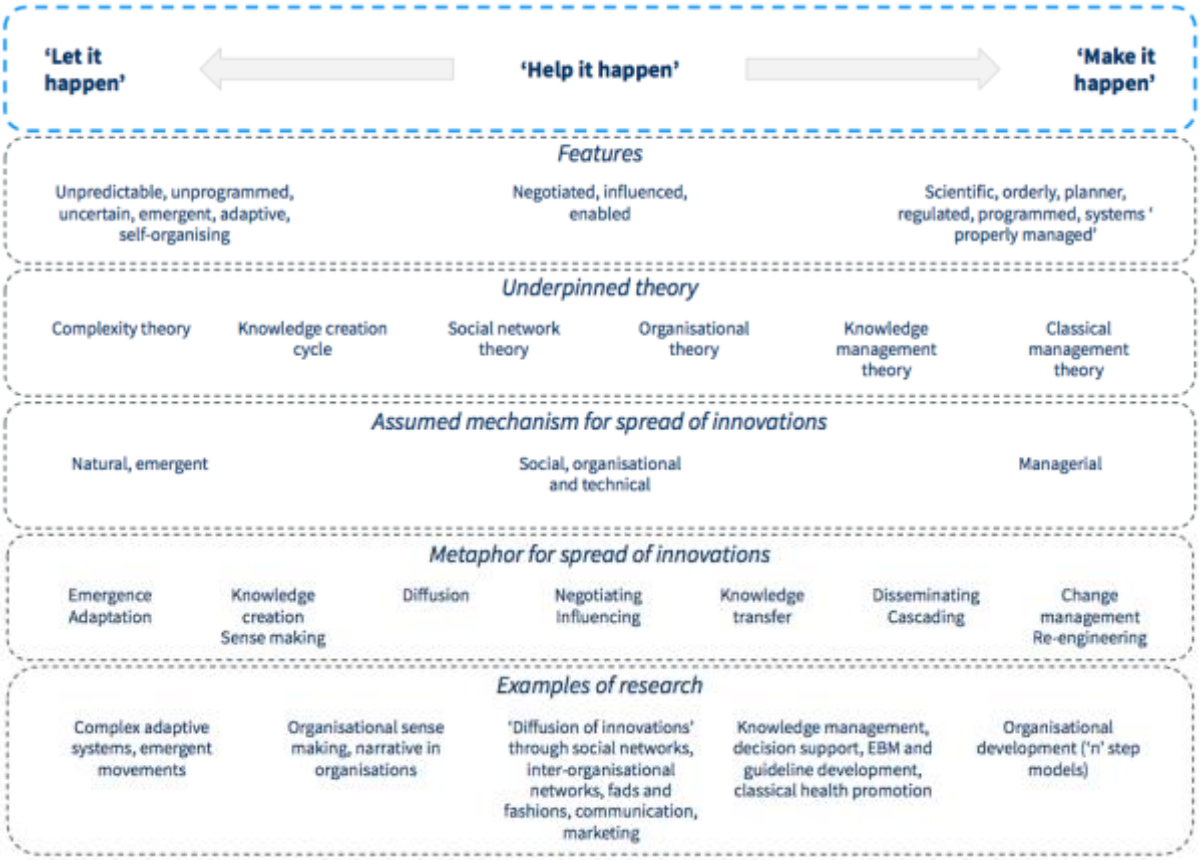

Figure 3.2 *The continuum of the spread of innovations with underlying features, theories, mechanisms and metaphors (Greenhalgh et al., 2005).*

Three related concepts to diffusion and dissemination, but with a somehow different perspective, are the concepts of spread, adoption and assimilation. Spread can be described as when an idea is pushed from the source outwards to others. Spread is according to Adler, Kwon and Singer (2003) the adoption of innovation by others, through whatever means (including passive diffusion and active dissemination). The focus of spread lay on the tools, techniques and processes used to transport the idea and use the organisational structure and hierarchy (Fraser and Plsek, 2003). Adoption appears from the perspective from the adopters and can be seen as the opposite perspective from spread, where the idea is pulled towards the adopter. Adoption has a focus, in contrast to spread, in the relationship and facilitation where the change is communicated through the social system (Fraser and Plsek, 2003). Assimilation in another concept that also occurs as a term for adoption on organisational level (Greenhalgh et al., 2005).

Implementation is another concept and can be explained to take place when an innovation is assimilated within a system or, as defined by Greenhalgh et al. (2005, p. 1), implementation is the *"active and planned effort to mainstream an innovation"*. Notably, sustainability is presupposed by implementation, meaning that for sustainability to occur something must first be implemented. Many definitions of the word sustainability can be found (see for example

Greenhalgh et al., 2005; Maher, 2012). Sustainability is also defined by the NHS Modernisation Agency (2003) presented as:

> "*when new ways of working and improved outcomes become the norm. Not only have the process and outcome changed, but the thinking and attitudes behind them are fundamentally altered and the systems surrounding them are transformed in support. In other words, it has become an integrated or mainstream way of working rather than something 'added on'.*"

3.3 The Path of an Innovation, Its Diffusion and Implementation

In this section, initially an innovation's path within an organisation is outlined. In order to further understand what is affecting this path, the work on what is affecting the adoption and thereby the diffusion of an innovation within organisations is presented. The illustration and explanations of these factors and this process are made by several researchers in varying ways, some being more similar to each other than others. Firstly, factors and frameworks by Wejnert (2002) and Barnett et al. (2011) is described, followed by an extensive presentation of the work made by Greenhalgh et al. (2005). After this, the focus is narrowed towards more practical tools for the dissemination and implementation of an innovation, where frameworks by Massoud et al. (2006), Ibanez de Opacua (2013) as well as Maher, Gustafson, and Evans (2010) are illustrated. The following theories are mainly presented one by one in order to avoid confusion and mix up between researchers' work, but an overview of how the researcher's themes vary and co-occur are presented in a summary in section 3.3.4.

3.3.1 The Path of an Innovation and Its Adoption

In order to understand what affects an innovation's diffusion within an organisation, a larger understanding of the innovation's path is needed. Again, this is something being differently described by various researchers. However, what may be concluded is how the path and development of an innovation is explained similarly, where an innovation starts with the generation and introduction of it, continuing with the adoption, and ending with the routinisation where the innovation has become a part of the organisation. A more detailed description of various researchers' standpoint in the question are presented below.

The path of an innovation, named as the innovation-decision process, is illustrated by Rogers (1995). The model describes the activities of seeking and processing information about the advantages and disadvantages of an innovation, which a decision-making unit passes. Rogers (1995) further explains the decision-making unit as an individual or an organisation where in the latter case the decision regards in-corporation of the new idea into ongoing practice. According to Rogers (1995), the decision process goes through five stages. In the first stage, uncertainty about the innovation is reduced while knowledge about the innovation is increased, leading into the next stage where an attitude towards the innovation is formed. The third stage then results in a decision between adoption or rejection made by the decision unit and potentially, if the idea is used, the idea also gets implemented and at last the decision is confirmed. The articulated stages are knowledge, persuasion, decision, implementation and confirmation. Hence, the process shows that a decision about an innovation is not an instantaneous act but rather a process that occurs over time.

Additional researchers presenting an innovation's path through an organisation is Dopfer and Potts (2008) and Plsek (2003), who do also present it in a similar way as Rogers (1995). Dopfer and Potts (2008) refer the innovation to be a process of economic dynamics following

a three phase path, ending with an institutionalisation of the innovation into the economic system. The three phases are explained as the *origination*, the *adoption* and the *retention* of an innovation. In the first phase, an entrepreneur introduces a new idea which is then adopted by a market through an individual process of adoption in the second phase. The third phase describe a habitation and organisational embeddedness of the idea into the economic system again. Moreover, Plsek (2003) describe the innovation's path in a healthcare context as a process being present in a setting of an inner and outer context, described as the healthcare system and the society at large. Three inter-related processes are explained, which can occur at any point of time, in any order and by itself or together regarding a specific innovation. The three processes are *the creative generation of ideas*, *the widespread adoption across organisations* and *implementation into routine work within the organisation*.

3.3.2 Frameworks Regarding the Diffusion of Innovations

Below conceptual frameworks and factors by Wejnert (2002), Barnett et al. (2011) and Greenhalgh et al. (2005) are described in more detail. Wejnert (2002) has highlighted diffusion variables that influence the actor's decision to adopt an innovation. The section continuous with the various factors addressed by Barnett et al. (2011) that either facilitate and obstruct the implementation and diffusion of innovations. Lastly, a comprehensive description of the framework of determinants affecting the diffusion dissemination and implementation of innovation made by Greenhalgh et al. (2005) is included. It should also be noted how the framework presented by Greenhalgh et al. (2005) also contains thoughts on how to perform an implementation of an innovation. Even though the implementation stage is described further in section 3.3.3, Greenhalgh et al.'s (2005) part regarding implementation is still included in this section since it is considered to be beneficial to present the whole framework in its whole in one section.

The framework presented by Wejnert (2002) states the variables that influence the actor's decision to adopt an innovation. The variables are in the study categorised into three components; *the characteristics of the innovation itself*, *the characteristics of innovators (actors)*, and *the characteristics of the environmental context*. The first component covers two sets of variables, public versus private consequences of and benefits versus cost of adoption. Characteristics of the innovators consider the actors who are seen as part of the social entity, being either people, organisations, states etcetera. Five other variables are present, including the familiarity with the innovation, the status, socioeconomic and personal characteristics as well as the actor's position in social networks. The last component takes the structural characteristics of the modern world in behold and consists of four sets of variables: the geographical settings, societal culture, political conditions and global uniformity.

Furthermore, Barnett et al. (2011) performed a qualitative study of healthcare organisations in the purpose of exploring factors either facilitating or obstructing the implementation and diffusion of innovations. The experiences of innovators were converted into four main themes that affect the success of implementation and diffusion of service process-based innovations are as following: *the role of evidence*, *the function of inter-organisational partnerships*, *the influence of human-based resources*, and *the impact of contextual factors*. The first factor, the role of evidence, is explained as a tool for dissemination and a pre-condition for the initiative, i.e. functioning as a proof of the effectiveness. The second and the third factor including inter-personal and inter-organisational networks, were seen as an integral part of the process of developing, establishing and diffusion of the innovation. The impact of contextual factors, regarding both the inner and outer context, was highlighted as a fourth factor critical to the innovators' efforts.

Lastly, Greenhalgh et al. (2005) have made an extensive work of diffusion of innovations and have gathered the view of a large number of researchers through a systematic literature review. The researchers gathered literature mainly from the fields of *rural* and *medical sociology, communication studies, marketing, development studies,* and *health promotion.* The researchers did, in combination with empirical findings, thereby conclude the material in a model over the diffusion, dissemination, and implementation of innovations in Health Service Delivery and Organisation, presented below. Greenhalgh et al. (2004, p. 594) emphasise how "*the model is intended mainly as a memory aide for considering the different aspects of a complex situation and their many interactions*" and that it "*should not be viewed as a prescriptive formula*". The following factors affecting the diffusion are described below.

The framework by Greenhalgh et al. (2005) below shows various factors affecting an innovation's path. Figure 3.3 shows how an innovation either is spread by diffusion, expressed as an informal spread, or through dissemination through a change agency. The individual adoption of an innovation is seen as one part in the broader assimilation of an innovation in organisations (Greenhalgh et al., 2005).

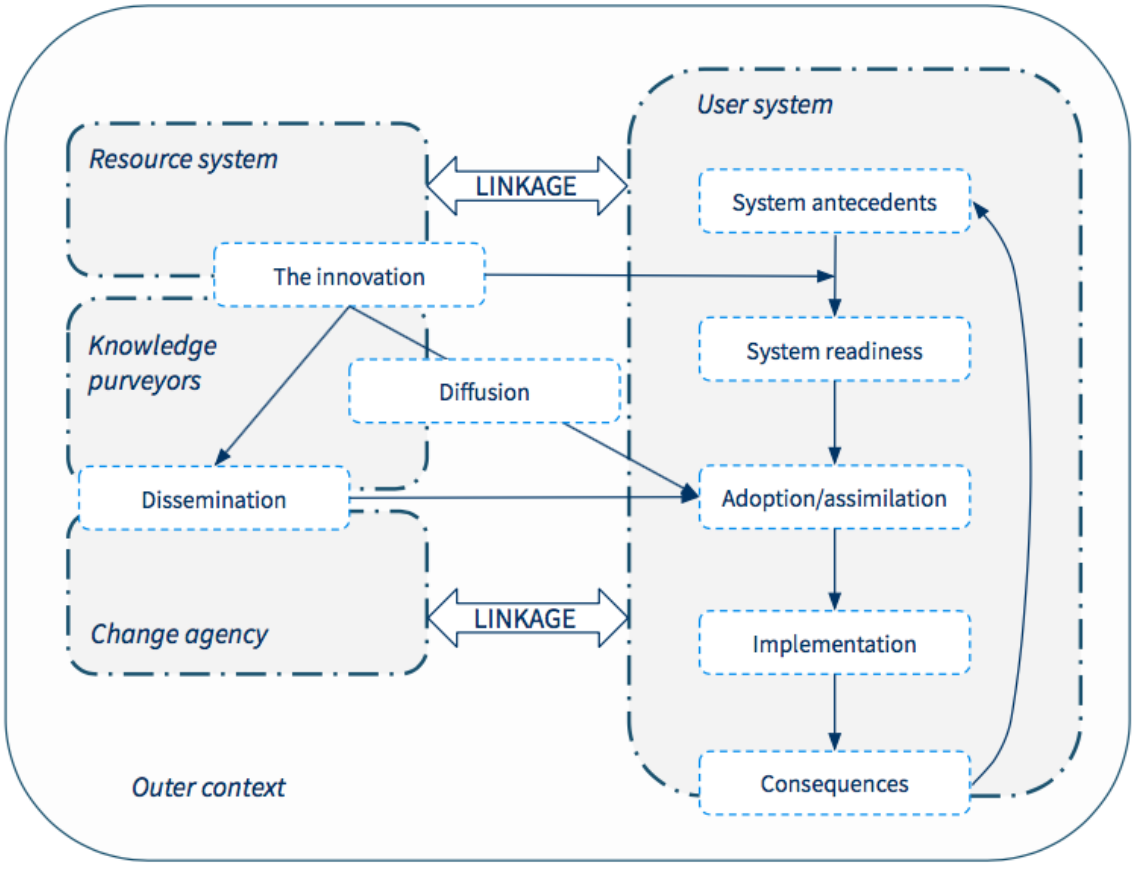

Figure 3.3 *Overview of the determinants of diffusion, dissemination and implementation of innovations as explained by Greenhalgh et al. (2005).*

Several factors are explained to affect the innovation's diffusion and dissemination, where the characteristics of the innovation is one of them. The researchers have identified eleven *characteristics of the innovation*, being relative advantage; compatibility, low complexity; trialability; observability; potential for reinvention; fuzzy boundaries; risk; task issues; nature of knowledge required to use it; technical support. The characteristics can be concluded to concern how the adopters needs to clearly see the advantage to adopt the innovation, having a low complexity, and to also be able to adapt it after one's own needs, and that the innovation

needs to be compatible with the adopters' norms and values. The nature of knowledge is another factor, emphasising how it is advantageable when the knowledge required to use the innovation is easily communicated between various contexts. The personal risk of deciding to start to use is should also preferably be low and support present when needed.

In the model by Greenhalgh et al. (2005), the *adopters* are explicitly expressed as not being passive receivers. Furthermore, it is emphasised how there is a larger complexity of the adopters than only putting them on a scale from early adopters to laggards (as explained by Rogers, 1995). Instead, there is a number of feelings developed and actions made by adopters in relation to an innovation. Concluded in seven aspects of adopters, their feelings and actions does for example include the individual psychological antecedents of the individual adopter, and also how these antecedents may be context-specific. The meaning that the adopters find with the innovation as well as their concerns in both the adoption stage as well as and during both the early and continuous use of the innovation. Furthermore, Greenhalgh et al. (2005) emphasise how adoption of innovation is influenced by the structure and quality of people's *social networks*. The researchers do also highlight the role of opinion leaders, being people with a particular influence within the organisation (either by being a manager, expert with authority or status, or a colleague with a high degree of representativeness or credibility), and how their influence can either be positive or negative.

The model's ingoing factors are also divided into an inner and an outer context, where the inner context shows the innovation's following steps within an organisation, being the s*ystem antecedents, system readiness, adoption by individual, implementation within the system, and the following consequences*. Related to the *system antecedents for innovation*, the researchers explain how both the *structural determinants for innovation, the absorptive capacity for new knowledge*, and *the receptive context for change* are adding up to this. The structural determinants for innovation contains factors of structural kind such as the size of the organisation, degree of centralisation, how specialised and functionally differentiated it is, the amount of slack resources to new projects. The absorptive capacity for new knowledge includes the ability to identify, capture, share and make use of new knowledge and to link it to the organisation's existing knowledge base. The receptive context for change related to an organisation's ability to utilise new ideas, where ingoing factors are for example, a strong leadership, a clear vision, an experimental and risk-taking environment, as well as effective data capture systems.

The factor *system readiness for innovation* emphasises several including aspects determining the sum of this factor, namely; *how the tension of change, innovation-system fit, assessment of implications, support and advocacy, dedicated time and resources*, and *the capacity to evaluate the innovation* are influencing the assimilation of an innovation. The first aspect, the tension of change, is related to whether the employees consider the current situation to be unbearable or not. If they do consider the situation to be unbearable, that increases the chances for the implementation to succeed. The innovation-system fit refers to whether the innovation fits with the organisation's strategies and goals, norms and values, as well as skills and supporting technologies. The further aspects include whether the implications are fully assessed, if more people believe in the innovation than people who do not, if the resources are sufficient, and if the organisation has the capacity to evaluate the innovation, the implementation will also be more likely to succeed.

Greenhalgh et al. (2005) do also explain how the *outer context* is a factor affecting an implementation's success within an organisation, although it has not been explored to any

great extent in previous research. However, *informal interorganisational networks, intentional spread strategies, wider environment, political directives*, are all aspects included in this factor. Knowledge whether other similar organisations have made something similar or are planning to, affects the decision to adopt. The researchers further explain how political directives may affect the adoption of an innovation when occurring at an early stage of an implementation, perhaps most notably because of making a funding stream available.

The research of the effect of the wider environment is explained to be limited, and Greenhalgh et al. (2005) refer to how various researcher have measured various kinds of external impact, leading to various results, whereby the outer context is concluded to have a relatively small impact. One further factor affecting the diffusion of an innovation is also the way an innovation is implemented. How an innovation is *implemented and routinised* refers to the first use of the innovation and the following routinised use of it. Greenhalgh et al. (2005) explain the difficulties in separating these terms from change management and organisational development and how the ingoing aspects are already closely related to the initial adoption decision, early stages of assimilation, as well as the aspects of system readiness for an innovation. The routinisation is further explained as a "*non-linear process characterised by multiple shocks, setbacks, and unanticipated events*". On the topic of routinisation, Greenhalgh et al. (2005) also point out a number of aspects being important for a successful routinisation. They mention how the *organisational structure* preferably is flexible and adaptive after new decision, how the *leadership and management* should be supportive and support a further development of the implementation. They also emphasise how the *human resource issues* motivation, capacity, and competence of the adopters are importance for a successful routinisation as well as the *funding*, referring to the need of dedicated and sufficient resources for the implementation.

In addition, Greenhalgh et al. (2005) emphasise how *intra-organisational communication, interorganisational networks*, and *feedback* are also factors emphasised affecting the routinisation. The intra-organisational communication refers to how communication across structural boundaries are important to improve the chances of successful implementation, as well as the influence of interorganisational networks which becomes increasingly important as the complexity of the innovation increases. The role of *feedback* includes how the information regarding the process' effect within the organisation needs to have both the right timing and content. The last aspect raised as a part of increasing the chances for a successful routinisation is the needed the innovations' *adaptation and reinvention*, which refers to how adapting an innovation to its local context is increasing the chances of a successful implementation.

In addition to the above presented factors influencing an organisation's assimilation of an innovation, some *linkages* between the factors are also presented as explicitly important (Greenhalgh et al., 2005). These linkages are summarised in the aspects of *linkages at the development stage, role of the change agency*, and *external change agents*. The linkages at the development stage highlights how including potential users at an innovation's development stage enhances the chances for a successful assimilation since the users' input thereby can be included at an early stage as well as an understanding process for the innovation is initiated. As seen in figure 3.3 above, the quality and nature of the information coming from the *change agency* has an important part when it comes to the dissemination of the innovation. Influencing the chances of adoption positively, the human interactions should include shared language, values, resources, and should work for creating new networks and collaborations within the organisation. Greenhalgh et al. (2005) emphasise how it seems to be

particularly important for technology-based innovations to have change agency having the commitment, capacity, technical and communication skills, as well as project management skills to positively affect the assimilation of an innovation. The last aspect in this factor, the external change agents, refers to the change agents from external agencies. Greenhalgh et al. (2005) address how these will have a larger positive effect on the assimilation if they for example are to establish training and support the potential users, as well as understanding their perspective and are able to communicate the users' needs to the developers of the innovation, and also are able to empower the users to make independent decisions regarding the innovation.

3.3.3 Frameworks Focused on the Implementation of Innovation

In the last section of illustrating models of diffusion, the presented frameworks are of a more practical character including factors more related to the implementation process of the innovation, and thereby also the dissemination of innovation. Further frameworks on this topic are described below, starting with the framework for the spread of an innovation developed by Massoud et al. (2006). Following is a description of the guide for spread and sustainability of innovations explained by Ibanez de Opacua (2013). Lastly, the Sustainability Model with factors that aims to increase the likelihood of sustainability and continuous improvement developed by Maher, Gustafson, and Evans (2010) is presented.

First, when discussing spread, the framework developed by Massoud et al. (2006) is a widely spread framework (Ibanez de Opacua, 2013). The framework is founded on Rogers's (1995) definition of diffusion and suggests areas that an organisation should take into account when planning for and executing a spread of an initiative. The framework does not aim to be prescriptive, but rather to suggest areas to consider when a project of spread is initiated. According to Massoud et al. (2006), how the framework will be applied in an organisation depends on factors as the organisation's infrastructure, culture, size and strength of its underlying social system. The framework generates strategies and methods for planning and guiding the spread of new ideas and includes the components of the responsibilities of leadership; the set-up; identification of better ideas; communication; strengthening the social system; measurement and feedback; knowledge management.

In this section, a brief description of each component in the framework by Massoud (2006) presented and is seen in figure 3.4 below. In terms of importance, the role of leadership cannot be emphasised enough and have a vital function when developing the plan for spread and actively support the process. The component better ideas includes packaging the idea in terms of developing the case and describing the ideas. An idea's benefit to adopters relative other ideas is seen as a key attribute that influence the rate of spread. In the set-up for spread, the targeted population should be identified along with the different adopting audiences. The social system is referred to as the key messengers, communities, technical support and transition issues. The researchers advocate the communication to be the key activity of spread. To raise the awareness and share technical knowledge many different communication channels should be used. The last two components are measurement and feedback as well as knowledge management. Measurement is argued to be integrated in the improvement work and provide information if the changes made have the desired effect. Lastly, since the spread of an initiative occurs between adopters, knowledge about the ideas and how to improve the outcome should be available to others on an ongoing basis.

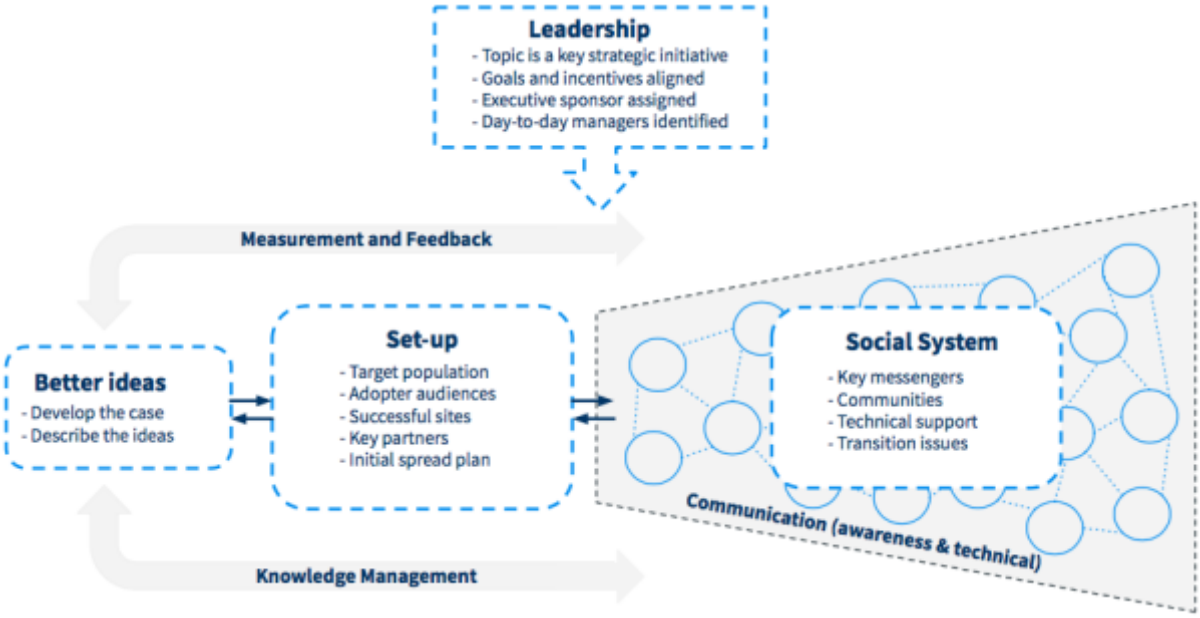

Figure 3.4 *A framework for spread of an innovation by Massoud et al. (2006).*

Secondly, Ibanez de Opacua (2013) has made a guide for spread and sustainability of innovations. The guide includes a process-driven framework and aims to be of more use for practitioners than earlier conceptual models within the field. The framework is illustrated as a process since they argue that adoption of innovation it not an event but rather something that occurs over time. The spread and sustainability framework is divided into five different stages; innovation; spread; decision to adopt; implementation; sustainability. These steps are presented in figure 3.5 below.

Ibanez de Opacua (2013) argues that each stage has its own specific concerns. The first stage regards the innovation itself and its characteristics and include factors as attributes, evaluation and contextual factors in the framework as aspects affecting the spread and sustainability of the innovation. The next stage aims to increase the awareness of the innovation to people by communicating what the innovation does and how it does it. Providing the information can be done by either a passive (diffusion) or active (dissemination) matter. The actual decision to adopt the innovation is drawn out in stage three and depends on the specific individuals, their internal and external context as well as the readiness of the system. If a decision is made to adopt the innovation, the next step is to implement the innovation by adopting and adapting it to the local context. The final stage in the process is called sustainability, which occurs when the innovation is embedded and institutionalised into the daily work.

Figure 3.5 *A guide for spread and sustainability of innovations (Ibanez de Opacua, 2013).*

The last model presented in this section has been developed by Maher, Gustafson, and Evans (2010) at the NHS institute for innovation and improvement have constructed a model for healthcare and clinics in the public sector, consisting of ten key factors that increase the likelihood of sustainability and continuous improvement. As seen in the figure 3.6, the ten factors in the NHS Sustainability Model are arranged into three areas: process, staff and organisation (Maher, Gustafson, and Evans, 2010). The model aims for creating a permanent change to the organisation in which the implementation or improvement takes place. Maher, Gustafson, and Evan (2010) emphasise that it is essential for people to integrate the mind-set of sustainability from the beginning and not leave it to the end of the project. The model is not a one-time-use model rather it should be used throughout the process to create a plan before, during and after the implementation. In addition to the factors presented below, Maher, Gustafson, and Evans (2010) do also state how relationships and social networks as well as the receptive context are affecting the spread.

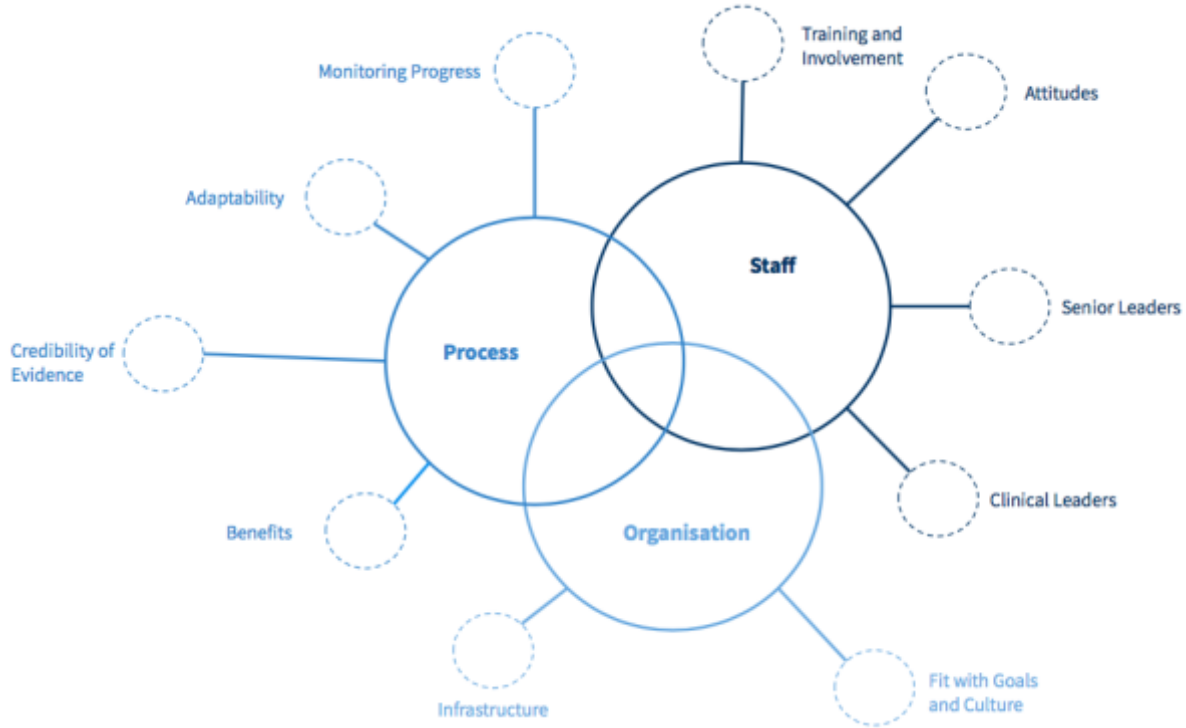

Figure 3.6 *The Sustainability Model for innovations and improvement (Maher, Gustafson, and Evan, 2010).*

The area process includes the factors *monitoring progress*, *adaptability*, *credibility of evidence* and *benefits* (Maher, Gustafson, and Evan, 2010). This area explains that the project is performed by people and that no matter how good the raw data is; the improvement will not be sustainable if these stated factors will not make sense to the people involved. For example, the improvements need to be visualised to staff involved. The model also emphasises the importance of staff being able to notice the difference before and after the implementation and that they also are able to communicate the benefits to others. In addition, the project should not be dependent on one specific individual or a group of people, but should rather aim to include an adequate number of people to minimise risk. To increase the chance of improvements to continue after the project, measurements should be incorporated into the organisational monitoring system.

The area staff also holds four factors which are *training and involvement*, *attitudes*, *senior leaders* and *clinical leaders* (Maher, Gustafson, and Evan, 2010). The purpose of this area is to provide a guidance of how the staff involved should be handled. For example, the level of training and support needed for staff are usually being underestimated. The training should

also start early to maintain the confidence among the staff. This area also emphasises that staff needs to get actively involved and empowered to make small changes themselves for the process to run smoother. Managers and leaders also have an important role in motivating the staff and acts as champions.

The factors *infrastructure* and *fit with goals and culture* are placed under the area organisation (Maher, Gustafson, and Evan, 2010). For the improvement to be implemented successfully this area highlight the goal to be clear and beneficial if they have strong connections to the organisation overall strategy. This area also stresses upon the infrastructure in the organisation so that the transition from project to daily work can be made seamless. This requires for example the staff to be provided with the right resources and job descriptions to be updated.

3.3.4 Summary of the Diffusion and Implementation of an Innovation

Having explored multiple frameworks and theories on diffusion of innovations above, one can conclude how some various, but yet mostly commonly mentioned, themes occur. For example, the characteristics of the innovation seem to be one initial factor affecting an innovation's diffusion (Greenhalgh et al., 2005; Ibanez de Opacua, 2013; Massoud et al., 2006; Rogers, 1995; Wejnert, 2002). The adopters or the decision-making unit of the innovation and their characteristics as well as interaction with each other are an additional present factor (Greenhalgh et al., 2005; Ibanez de Opacua, 2013; Massoud et al., 2006; Rogers, 1995). The communication is also pointed out in terms of relationships both within and outside the organisation (Barnett et al., 2011; Greenhalgh et al., 2005). What is also mentioned, although not by others than Wejnert (2002), is also how the characteristics of the innovators themselves have an effect on the diffusion.

Furthermore, both the inner and the outer context of an organisation is mentioned by multiple researchers. Both Barnett et al. (2011) and Ibanez de Opacua (2013) highlight the inner context as one affecting factor and Greenhalgh et al. (2005) do also mention a vast number of characteristics of the inner context. For example, the structural determinants, knowledge utilisation, readiness for change, as well as present support and resources are raised as characteristics of the inner context (Greenhalgh et al., 2005). Also Maher, Gustafson, and Evans (2010) state how the receptive context is affecting the diffusion of an innovation. Lastly, also the outer context is highlighted by a number of researchers, where for example the socio-political and environmental climate as well as the organisation's external networks (Barnett et al., 2011; Greenhalgh et al., 2005; Wejnert, 2002).

One may also notice that some of the frameworks are described on a more detailed level and include factors that are related to the implementation of the innovation and thus also have a more practical character. These factors are primarily included in the presented frameworks by Greenhalgh et al. (2005), Massoud et al. (2006), Ibanez de Opacua (2013), and Maher, Gustafson, and Evans (2010). The researchers highlight that these frameworks include areas that are of importance for an implementation and should be used multiple times during an implementation (Maher, Gustafson, and Evans, 2010; Massoud et al., 2006). For example, one factor mentioned by Greenhalgh et al. (2005), Maher, Gustafson, and Evans (2010) and Massoud (2006) is the importance of leadership. Furthermore, the communication is highlighted as a key activity for successful implementations and described in terms of communication channels, intra- and interorganisational networks (Greenhalgh et al., 2005; Ibanez de Opacua, 2013; Massoud et al., 2006). For creation of new networks and collaborations, change agents (Greenhalgh et al., 2005) and key messengers (Massoud et al.,

2006) are mentioned as especially prominent. Greenhalgh et al. (2005) also stress upon the adopters need for receiving continuous information during the process.

Moreover, factors relating to human resources are mentioned by several researchers (Barnett et al., 2011, Greenhalgh et al., 2005; Ibanez de Opacua, 2013; Maher, Gustafson, and Evans, 2010). Factors mentioned are for example the importance of sufficient training, support and staff involvement. Ibanez de Opacua (2013) also explains the importance of the involvement to occur *early* in the process. Regarding the process of the implementation, factors as monitoring the progress and feedback occur in several frameworks (Greenhalgh et al., 2005; Maher, Gustafson, and Evans, 2010; Massoud et al., 2006) as well as the adaptability and reinvention of the innovation (Greenhalgh et al., 2005; Maher, Gustafson, and Evans, 2010). In addition, organisational structure in terms of infrastructure and the projects fit with the organisational goals and culture are mentioned (Greenhalgh et al., 2005; Maher, Gustafson, and Evans, 2010). Lastly, funding of the project and need for dedicated resources are only mentioned by Greenhalgh et al. (2005).

3.4 Innovation in the Public Sector

Reviewing the various takes on diffusion of innovations, it can be stated how a large number of factors may affect an innovation's diffusion within an organisation. Not only is it thereby about the innovation and the adopters as individuals, but also the context they are present in with a large and dynamic number of factors, as presented in section 3.3 above. In order to further understand what thereby may affect an innovation's diffusion within a local government, this context is in this section explored and presented. Hence, the following sections start with a presentation of the research field of public sector innovation, definitions of public value and the public sector, which is then followed by the various aspects raised by researchers regarding public sector innovation.

The entering perspective in the broad field of the public sector has in this study been to explore what affects the work with innovation in the public sector. However, the research on this field does not highlight the presented factors as explicitly affecting the diffusion of innovations, but rather as factors affecting the overall work with innovation, sometimes referred to as an organisation's innovativeness, in the public sector. When reviewing this literature, it is though found how several researchers seem to highlight similar themes, where diffusion of innovations is one integrated part.

Worthy of note is how it in the theory on innovation in the public sector seldom is presented how neither innovations nor innovativeness is defined (as previously mentioned by De Vries, Bekkers, and Tummers, 2016). However, Greenhalgh et al. (2005) relate the diffusion of innovation to what is also an organisation's innovativeness, whereby the innovativeness of the public sector is of interest even though it is not explicitly stated what each researcher mean by the term. As a result, the section presents a general investigation of factors influencing the innovativeness in the public sector along with what is affecting the innovation and its way through the organisation, thus including its diffusion and implementation.

In addition, the various researchers in this field have mainly focused on the public sector's innovativeness in general, covering aspects from design stage to the routinisation, often without further explanations or investigations on which specific part of it one factor may affect. This has also given rise to how no such explanations have been made in the section

below, and that the following section rather states the context of public sector with the assumption of how these factors, some probably more than others but still all together, also affect the diffusion of innovations.

3.4.1 The Research Field of Public Sector Innovation

One newer research area within the field of innovation regards innovation in the public sector. As previously mentioned, most research within innovation come from the manufacturing industries and the private sector (see for example Hamel and Getz, 2004). The interest in the public sector has though been growing since the 1980's (Borins, 2001). But even though innovation has been promoted to be a key tool in the work of improving public services (Walker, 2006), the opinions whether the public sector's success vary widely (see for example Albury, 2005; Greenhalgh et al., 2005; Koch and Hauknes, 2005; Borins, 2014). But regardless the opinion whether the public sector is innovative or not, many researchers agree on that the public sector not always has got the best prerequisites for innovation (Greenhalgh et al., 2005), which is something that is developed further in this section.

3.4.2 Defining Public Value and the Public Sector

Moving on to the definition of the public sector, it is by Potts and Kastelle (2010, p. 124) defined as "the coordination, production and delivery of goods and services by publically owned and accountable organisations." Although seeming to be a clear definition, Koch and Hauknes (2005) claim that defining the public sector is a bit more complicated. To clarify the complexity in defining the public sector, Koch and Hauknes (2005) draw an example regarding health and social services, which belongs to the public responsibility, but which in some countries are provided by public institutions and in other countries by private ones, although being publically funded. By using the term 'public sector', people often mean different things. Khury and Van der Torre (2002) and Khury (2003) presented three definitions of the public sector, namely a *legal, financial and functional definition*. The legal definition refers to government organisations and organisations governed by public law. The financial definition of the public sector do also include private organisations funded by public means and does also include non-profit organisations providing education and health care. The last definition, the functional definition, includes all organisations handling public administration, social security, law and order, education, health care, and social and cultural services, regardless funding source and the legal form of the suppliers. The functional definition is also what is used by for example Koch and Hauknes (2005).

3.4.3 Why Should the Public Sector Be Innovative?

In order to improve the provided public value, Mulgan and Albury (2003, p. 5) and Albury (2005, p. 51) emphasise how the innovation "*should be a core activity of the public sector*". This is emphasised due to its effect on improved performance and improved public value, which raises the chance of meeting the expectations among citizens, to be more responsive to the changing needs among citizens, to increase efficiency and to minimise costs (Mulgan and Albury, 2003). Bason (2010) emphasise how the tightening economic climate, the aging population, and the "existence of so-called wicked problems" within local governments further strengthen the interest for innovations within the public sector. Hence, if not developing the work with innovation within the public sector, higher workload and lacking quality could easily follow. Albury (2005) follows the same line as Bason (2010), claiming that the public sector without innovation easily could increase the workload for the staff who already has a lot to do and is under great pressure.

An additional voice on why the public sector should be innovative is the one by Koch and Hauknes (2005) who outline both political and personal reasons. The researchers highlight how the public sector on the one hand lacks competitiveness, but how it one the other hand is a part of a political system putting the politicians and their parties in competitive elections, which motivates the need of innovation. This is due to how a political support is increased by the presence of improvements, where the cost and quality of public services are seen as an important part of the performance. The personal reasons, as stated by Koch and Hauknes (2005), do instead concern how employees by their improvement of the public sector also gain status within the organisation, being another motivation for public sector innovation.

Furthermore, Potts and Kastelle (2010) do also raise reasons for why public sector innovation is important. Among these reasons we find the argument that the public sector stands for to 20-50 percentage of the GDP in most OECD countries, and that innovation can make the public sector reaching the objectives and to solve problems in a new way. Potts and Kastelle (2010) also emphasise how the public sector needs to keep up with the technological and institutional change going on constantly around them, and do for example point out how the policies need to develop as society develops.

3.4.4 The Context of Public Sector Innovation

There are many characteristics making private sector innovation and public sector innovation differ. The various characteristics influencing the innovation within the public conditions are structured differently by various researchers, where some researchers in general discuss how the conditions differ between private and the public sector, whereas others bring light over the various barriers and drivers. Instead of presenting the opinions and thoughts from various researchers one by one, the following section is instead divided into areas covered by the research examined, regardless if they by the researchers are brought up as a condition, barrier or driver, although it is always presented what each researcher explain it as. The following themes presented are; the political aspect, the availability and origin of resources, the organisational structure, the organisational leadership, the organisational culture, and the work with innovation.

The Political Aspect

As presented above, public sector innovation takes place in a political context, where for example the local governments have elected politicians as members of the steering committee, tax payers as funders, high regulations as well as another setting of competition (Mulgan and Albury, 2003). In order to understand the settings for innovation in the public sector, one needs to consider how there is a distinction between private sector and public sector innovation in terms of the driving forces for innovation. Moore (1995) describes how the private sector mainly is driven by strengthening the competitive advantage, whereas the public sector is rather focused on creating an increased public value. Similarly, when Potts and Kastelle (2010) describe the various conditions differing between the public and the private sector, they do also explain how the motivation for innovation is different in the public sector in comparison to the private sector. The motive of being innovative with the aim to be more competitive is simply not the same in the public sector, as the public sector do not compete over market share in the same way. Instead, the competitiveness being present in the public sector is rather due to internal competitiveness for power or advancements. Mulgan (2007) is another researcher emphasising various aspects of why innovation not is favoured in the public sector, and highlights how the monopolistic structure of the public sector is one factor contributing to this. Aligned with this, Koch and Hauknes (2005) emphasise how the presence of competitiveness, if present, may be a potential driver for innovation in the public

sector. Similar to this view, Albury (2005) makes the comparison to the private sector, and explains how the market condition can stimulate innovation and its diffusion.

Moreover, Koch and Hauknes (2005) state how the political aspect of the public sector is important to consider when discussing the innovation within the public sector, which is expressed to have an impact on the innovation activities. For example, the researchers explain how private organisation also are affected by political directives in terms of laws, regulations, and financial support, but how this is different in the public sector. Koch and Hauknes (2005) do additionally emphasises how the public sector also is controlled by politicians who have been elected to represent the citizens, which raises another kind of situation than the one for private organisations. Moreover, political directives leading to a public sector where the targets and directives change quickly are highlighted (Koch and Hauknes, 2005). While the political climate changes the targets and directives initiating innovation, the organisation may experience how they lack time to assess and evaluate previous innovations, contributing to the resistance to new change (Koch and Hauknes, 2005). Adding to this, Borins (2014) also states how it is not rare that the goals vary between politicians and practitioners.

Another contrast between the public and the private sector is how the latter is considered to have natural interest in not spreading their innovations to maximise their revenue, whereas the public sector has got a larger interest in spreading their innovations. In contrast, diffusion of innovations to other organisations is particularly important for the public sector (Rashman and Hartley, 2002). However, the public sector seems to historically have been less successful in spreading their innovations (Albury, 2005). Albury (2005) argues that the diffusion of innovations is both more problematic and slower in the public sector compared to private sector. As a result, it seems like the transformation of services and service delivery has a longer duration. Albury (2005) continues with the comparison to the private sector, and explains how the market condition can stimulate innovation and its diffusion.

In addition to this, Koch and Hauknes (2005) do also raise that if there is some kind of political push, this may also be a possible driver for innovation in the public sector. Moreover, Borins (2001) explain how there are different expectations with regards to innovation and that there are lower expectations on the public sector to be innovative by stating how citizens probably do not want a public sector as innovative as the private sector. However, Borins (2001) does in parallel emphasise how citizens probably want a public sector that is more innovative than what it traditionally has been.

The Availability and Origin of Resources

Potts and Kastelle (2010), do also explain one differing condition between the public and the private sector to be how the public sector is guided by economic principles of efficiency where also failure has grave consequences. The fact that failure has grave consequences in the public sector is also related to the difference in who carries the risk. In the private sector, it is the financiers who are taking the risk, whereas it in the public sector rather are the tax payers. Koch and Hauknes (2005) are additional voices highlighting the same theme, stating how there is a limited space for potential innovations due to the stronger control of the funding. Cole (1988) and Potts (2009) adds to the discussion by highlighting how the public sector is characterised by set budget aims to minimise waste and maximise results. In addition, Albury (2005) express how the ever present delivery pressures and administrative burdens in the public sector may be a potential barrier for innovation in the public sector.

Another researcher highlighting the difference between the public and private sector in terms of financial terms are Koch and Hauknes (2005), stating how a potential barrier for public sector innovation is the absence of resources, either on a general level or regarding a specific innovation. In addition, Koch and Hauknes (2005) do also emphasise how the lack of resources may not only include financial resources, but also how the absence of essential skills may be a barrier. Moreover, Albury (2005) expresses how the budgets are handled differently in the public sector, where the short-term planning horizons and budgets may be a barrier to innovation. In addition, it is stated how the budget support is necessary in the strive for an innovative publics sector (Albury, 2005). Moreover, Mulgan (2007) highlights how innovation seldom is given space in the budget. Not very different from the conditions explained above, Borins (2001) do also conclude one difference between the private and the public sector with regard to innovation to be the funding of innovations, where it in the private sector is more common with some kind of venture capital. Integrating a venture capital logic is also brought up by Koch and Hauknes (2005) as a factor that may enable the public sector to be more innovative.

The absence of rewards, or the introduction of them if being put as a suggestion as a potential driver, is also mentioned as a current negative condition in terms of improving the innovativeness of the public sector. Borins (2001) explain how there is a difference in rewards between the two sectors, where it in the private sector is more common with rewards and bonuses for innovation whereas it in the public sector do not in general exist such things. Mulgan and Albury (2003) do also, along with Albury (2005) and Borins (2001), emphasise how there are few rewards (such as IP rights, bonuses or other kind of recognition) and incentives to both innovate and to adopt innovations in the public sector. One suggestion by Albury (2005) is thereby to make sure that both the budgeting process support innovation initiatives, but also that there exist rewards and support for individuals or teams who want to develop an idea.

Another factor, which is raised by several researchers, is the need of having information technologies being up to date and not inhibiting the work with innovation in the public sector (Mulgan, 2007). Koch and Hauknes (2005) emphasise how technology may be present as either a barrier or a driver depending on the quality and performance.

The Organisational Structure

The organisational structure is also defined by researchers within public sector innovation. For example, among what Koch and Hauknes (2005) state as differing ‘archetypal features’ of the public sector compared to the private sector, and their potential effect on the propensity and direction of innovation, the organisational structure is found. Koch and Hauknes (2005) describe how the structures of public organisations are complex systems where a large number of various tasks are performed, which sometimes also may be conflicting. The demands on an innovation is thereby that it needs to fit several various contexts within one organisation. Moreover, Koch and Hauknes (2005) emphasise how the implementation phase thereby needs be done in a politically acceptable way in terms of principles of economic efficiency and social equality. Koch and Hauknes (2005) continue by addressing the size and complexity of public (healthcare) organisations and highlight for example the high number of employees, a broad range of professional skills, and a diversity in arrangements and processes.

What these features of public organisations may lead to is a complex context for innovation, where difficulties in localising needed skills, reaching mutual agreements for problems and

solutions, as well as communication and knowledge management issues. Koch and Hauknes (2005) also address the barriers which may occur within the organisation, and does also explain how 'silo mentalities' may occur where separate practices, values, and beliefs are maintained. In addition to this, Mulgan (2007) does also emphasise how the 'high walls' between departments in public organisation may be a reasons to why innovation is not favoured in the public sector.

Given the complexity of the public sector and how the high walls may be a barrier, the interaction between people within an organisation is also highlighted as important, especially when focus is on improving the diffusion of innovations. Albury (2005) emphasises how professional and networks may enable the diffusion of an innovation, and brings it up as a suggestion to something an organisation should make sure they have developed. During the development, Koch and Hauknes (2005) do also emphasise the need of networks within an organisation to enable access to the competences within the organisation. The same logic does also go for competences outside the organisation, which need to be accessible (Koch and Hauknes, 2005).

The Organisational Learning

In addition to the aspects being of importance in the work with innovations in the public sector, also the characteristic of being a learning organisation is addressed by researchers. Koch and Hauknes (2005) state the need of having both a culture and an organisation structure allowing and encouraging learning in innovation processes. In addition, Albury (2005) highlights the importance of learning from failure. Moreover, Koch and Hauknes (2005) emphasise the need of having a learning within an organisation in terms of how reflectiveness and appraisal should occur on all levels, and does also broaden the perspective on innovation by stating how they consider innovation and learning to be closely intertwined. Moreover, by monitoring and reviewing the process of developing innovations, the information also needs to be interpreted and acted on, since it otherwise is no need of putting effort into doing it at all. On the topic of learning, Borins (2001) does also highlight the need of not only learning within the organisation, but to also develop a way to learn from the outside.

The Organisational Leadership

A number of researchers mention how the influence of management and leadership is an important factor in the work with innovations in the public sector. For example, Mulgan and Albury (2003) mention how management in terms of how innovation is prioritised is affecting the organisation in terms of innovativeness. In addition, Albury (2005) highlights how leaders and senior management stimulate innovation when they demonstrate its importance and emphasise its use in enabling the organisation to reach targets. Borins (2001) do also emphasise how the support from the top is a driver for public sector innovation.

Adding to this, Albury (2005) highlights how the need of a senior-level champion may be the most important when an innovation is going through an especially hard time, which is something most innovations go through, during their evolvement. Another take on this is what Koch and Hauknes (2005) mention as champions or entrepreneurs, whereby they do not only emphasise the need of leaders' support for innovation but also how also people on various, yet somehow influential positions, may be a part of the change towards a more innovative organisation. The aspect of stakeholders is also important, for example in terms of the support of an innovation throughout the development and implementation of an innovation, as mentioned by Koch and Hauknes (2005). Van de Ven (1986) does also emphasise the

importance of a good communication with stakeholders to not lose the needed resources and to have champions for the innovation who still manage to believe in the innovation even though difficulties are present.

Koch and Hauknes (2005) do also emphasise how there are various management incentives between the sectors and larger incentives to avoid innovation due to the lower ability to accept failure and stronger penalties. Cole (1988) and Potts (2009) also explain how the managerial accountability is stronger in the public sector. Potts and Kastelle (2010) thereby argue how innovation in the public sector requires a high level of political commitment and leadership to take responsibility for failure.

The need of having the right skills within an organisation is also brought up in the context of public sector innovation. For example, Koch and Hauknes (2005) emphasise how the lack of resources may not only include financial resources, but also how the absence of essential skills may be a barrier. Albury (2005) contributes with one example of skills being important by emphasising how lacking skills in project management and in change management may be a risk in the work with innovations. In addition, Borins (2001) does also emphasise the need of empowering staff for enabling innovation in the public sector.

The Organisational Culture

The organisational culture being present in the public sector is also seen as a crucial factor for the level and success of innovations. For example, Koch and Hauknes (2005) state the need of having a culture that allows and encourages learning in innovation processes. Aligned with this, Borins (2001) does also emphasise an innovative culture as a driver for public sector innovation. Moreover, Mulgan (2007) partly draws upon how the people that the public sector may attract as one influencing factor to the culture, stating how the rule-regulating characteristic of the public sector may also attract people who easily find themselves to fit into this culture, which adds up to be a barrier to innovation. But instead of only saying that it is because of the people attracted to the public sector, a larger number of researchers seem to emphasise the culture based on the political context as mentioned above.

The political context as well as how the funders differ in the public sector from the private sector, and further how this lowers the acceptance for failure, researchers also highlight the effect this has got on the organisational culture within the public sector and its effect on the work with innovations. Among the statements regarding the characteristics of the public sector organisational culture, a few of them stand out. The first of them is how the risk aversion seems to be commonly found in public sector organisations (mentioned by for example Koch and Hauknes, 2005; Mulgan and Albury, 2003; Albury, 2005; Mulgan, 2007). Mulgan and Albury (2003) do also highlight the lack of encouragement of radical thinking as a factor affecting the innovativeness in the public sector as well as how the potential presence of a resistance to change (both among professionals and the users of the services) may be a barrier for public sector innovation (Koch and Hauknes, 2005). In addition, Koch and Hauknes (2005) emphasise the need of thinking outside the box and how there needs to be an openness to new ideas. Furthermore, Koch and Hauknes (2005) highlight how the organisation needs to seize opportunities when they occur and explain how these opportunities may be of various kinds.

In addition to the risk adversity, the space for trying new ideas and accepting failure looks very differently in the public sector in comparison with the private sector as described by Borins (2001). This may for example be based on the public funding and thereby the lack of

venture capital, a media climate wanting to reveal any failure in the public sector, leading to how the space for failure is limited. Borins (2001, p. 311) does thereby state how the public sector is a "much less fertile ground for innovation than the private sector". Borins (2001) further explain how this is a challenge for the public sector, to accept the uncertainty and to work on building a climate accepting failure. In order to be an innovative organisation, risks need to be taken but also an ability to learn from them to open up for new possibilities. Another important kind of interaction to enable innovations within the public sector, which may also be seen as a part of the culture, for example during the development phase of an innovation, is teamwork and independent thinking in order to enabling a better development for an innovation (Koch and Hauknes, 2005).

Borins (2014) does also refer to how Light (1998) describes the four clusters of core values being present in the innovative non-profit and government organisations studied in Minnesota. The first core value presented is *trust*, which is demonstrated by collaborations both internally and externally. The second core value is *honesty*, which is present by a focus on the organisation's mission in parallel with having a supportive environment for experimentation. The following core value is to *measure performance* and maintaining disciplined management systems. The last core value is the presence of *faith* in the organisation itself.

The Work with Innovation

In order to improve innovativeness in the public sector, there is a need of enabling the organisation to look for new ideas, both within and outside the own organisation (Albury, 2005). Mulgan (2007) does also emphasise the need of actively searching for new ideas, and highlights how the responsibility of innovation is seldom explicitly stated. In addition, to maintain the support for new innovations, the utility of already implemented innovations should be communicated (Koch and Hauknes, 2005). But not only is it brought into the light how an organisation wanting to be innovative needs to search for new ideas, several researchers also express the need of having functional mechanisms for innovation. Koch and Hauknes (2005) explain how a driver for public sector innovation is when support mechanisms are in place, such as having the right resources, structures and systems promoting and stimulating innovations and making room for the to evolve and develop, as well as promoting network structures and competence development within the organisation. Moreover, Albury (2005) states how one key finding in the research of public sector innovation is how there need to be a 'set of linkages' between the innovation and the users as well as between elements in the supply chain. One factor pointed out by Borins (2001) was the need of having a process containing process reengineering, referring to the need of re-designing or adapting an innovation to the present context.

However, it is important to note how various researchers emphasise how there is no one defined way of how to work with innovation in the public sector, which regards both the process of working with innovations as well as in the process of developing a certain innovation (see for example Mulgan, 2007; Potts and Kastelle, 2010). Potts and Kastelle (2010) do also emphasise how this is something an organisation needs to mutually agree upon to be able to find their way. But even though not knowing the exact way forward, the people of an organisation should still agree upon the goals with innovation (Potts and Kastelle, 2010). Aligned with the view of how there is no one-way approach, Koch and Hauknes (2005) state how it is favourable with a pluralism in different approaches of how to work with innovation. Moreover, Potts and Kastelle (2010) clearly highlight how public innovation cannot be 'institutionalised or planned', but that a public organisation for example can enable

creative way of designing and testing new ideas. The researchers do also point out how the creation of a safe place where new ideas can be developed is favourable. Potts and Kastelle (2010) further highlight various benefits of an experimental approach in the work with innovation, being how it would improve an organisation's acceptance to failure as well as how rejections also lead to knowledge.

On the topic of developing an innovation, several thoughts on its origin and drivers of the innovation are lifted. Borins (2001) explain how the most common characteristics of successful innovations in his research on innovation awards was that there had been a holistic view and a systems approach to a problem. Koch and Hauknes (2005) discuss several themes regarding what drives innovation in the public sector, and does for example highlight how a problem orientation seem to be one driver for innovations in the public sector. However, Koch and Hauknes (2005) do also emphasise how innovation may also origin from non-specific problems, but rather an improvement of a certain situation, for example the introduction of an idea making something more efficient of with improved quality. *In addition to the origin or driver of a change*, Koch and Hauknes (2005) do in addition to this emphasise in what pace and scale an innovation is introduced to an organisation.

4 Empirical Findings

In the following chapter, the empirical findings from the interviews and the survey are presented. The interviewees are from various departments and levels of the organisation. The first section 4.1 mainly presents the data resulting from the first part of the empirical study with interviews held with employees at Lerum, although some input to the section 4.1 was also given during the second part of the empirical study. The first part of the empirical study focused on employees' perceptions of the innovativeness at Lerum and what conditions they regard as important for innovations' spread within the organisation. The second part of the empirical study focused on the implementation made in 2015 of the management system Treserva and the empirical findings are presented in section 4.2 below.

Findings will be presented and supported by quotations from the interviewees. The information from interviews has been complemented by documentations of the organisation of Lerum and the Treserva project. As a request from several interviewees and as an attempt of getting an honest picture, quotations will not be accompanied by identifiable references to specific individuals. However, exceptions are being made when the source is considered to be of importance and when it is not considered as sensitive to refer to a specific employee. Furthermore, there is no attention directed to explicitly evaluating if the implementation of Treserva has been successful or not.

4.1 Voices on innovativeness and how innovations are spread within Lerum

The following section presents the empirical findings mainly based on the first part of the empirical study. The findings concern questions about the innovativeness at Lerum and the interviewees' thoughts on what enables innovations' spread within their organisation. The following findings do thereby put an emphasis on what the interviewees have highlighted as important themes in enabling innovations and their spread within the organisation. The following themes were identified and are presented below: sufficient and the right kind of resources, having a supportive organisational structure as well as supportive policies, leadership, and culture, supportive information technology, and lastly the effect of external factors.

4.1.1 Organisational Resources

During the interviews different types of resources came up to discussion in several settings. In general, there exists a common standpoint among the interviewed employees that one of the main difference between public and private organisations results from how resources are managed in public and private settings. As one interviewee stated *"since we are handling the people's tax money we have more eyes on us"* and continues to explain the bigger exposure in media most public organisations get as a result of this. The same interviewee continued "*it is very important that the money spent in the organisation goes to the 'right things'*". Another employee elaborated on the concept of *"no free money"* in a local government's budget giving the consequence that it is much harder to perform pilots and use experimental methods in projects in the local government. However, a majority of the employees agrees upon the need for small-scaling implementations and benefits of doing *"trial and error based methods"* as a way of improving the operations of the local government.

The voices raised about resources are not only including financial resources in terms of budget, but employees also pointed out time and staff as resources that most often are limited in the organisation. When asked what effect limited time has on innovativeness, one employee's opinion is *"innovation will not be prioritised if there is no spare time".* In general, a majority of the persons interviewed experienced a lack of time in their daily work. Many of them did also express a short time plan as a barrier to successful implementations and further that most often more time is required than what is first given. For example, the quote *"time is a limited resource and we often lack the time to perform evaluation and reflection on the work we just did"* is stated by one person.

Continuing on the theme of time constraints, some employees brought attention to the type of operations a local government performs, where most of the daily tasks are of character that they cannot wait until tomorrow thus the operations cannot be paused. A manager reflected on the difficulties in making relevant time plans and said that it is key to bring in people from 'the floor' and other parts of the organisation and "*discuss the time plan with involved employees"*. She further elaborated that the short-term deadlines could emerge since *"the business areas are usually a lot bigger than what you may think as from a manager's perspective in the central building"*. In addition, several employees agreed on the need of continuous development and training for employees to keep competences up to date. A number of employees related the low priority of training to time being a limited resource and one interviewee commented *"it is hard to get time for education when time is sparse for daily working tasks due to a shortage of staff"*.

When questions about human-based resources in the organisation were raised many interviewees claimed that they have had a quite high rotation of staff the past couple years with many managers leaving the organisation. One employee expressed *"the lack of time and space for one's own ambition"* as a possible reason for this. The same interviewee continued with explaining that the persons on managerial positions are easily replaced if they do not succeed to keep their budgets, in addition with the reason above. Another employee brought in how the high turnaround on people on managerial positions, can be seen as both a cause and an effect on the narrow budget focus, leading to more short-term goals than what might be the best for the organisation from a long-term perspective.

4.1.2 Organisational Structure

The organisational structure of Lerum is presented in section 1.4. In this section, thoughts on how the organisational structure is experienced and its effect on collaborations are captured, rather than the very structure itself. Many of the employees interviewed expressed how there in general is little insight between the various departments within the organisation. One person explained the view of the organisation outside their own department, and emphasised how they "*do not know much about other departments*" and that they "*do not know much about what is happening in the organisation except in their own department*". Adding to this, another interviewee explained how she perceives longer distances between people as a result of a growing organisation, and referred to how people "*do not know each other as they did before*". The same person also referred to how quickly things are changing within the organisation, leading to that "*they do not even know the names of the various departments any more*".

When raising the question what the limited insight leads to, several interviewees referred to a non-collaborative organisation, where one employee for example stated how "*the various departments seem to only focus on their own needs and have difficulties to understand other*

perspectives". One additional voice stated how "*it would be much better if we all understood both our own but also others' role in a wider perspective, not only focusing on own interests*". When discussing those times various departments actually need to collaborate, the same interviewee claimed that there are some difficulties, and referred to how it "*even seems to be easier to get external parties into a project than teams from the own organisation*". When discussing how these issues affect an implementation, one employee emphasised the importance of good communication to overcome these issues and that effort needs to be put into "*understanding each other to have a holistic view and shared goals*".

4.1.3 Organisational Policies

One main difference for a local government to take into consideration compared to a private organisation, raised by several interviewees, is the effect of being an, to a large extent, integrated part of a political society. An influencing factor mentioned during interviews is the difference in needs between politicians and practitioners, leading to "*an ongoing wish from the politicians to make things happen faster*". The same interviewee continued by expressing how politicians *"do not want to hear that they need to be patient*". Several opinions were also raised pointing towards how goals set by politicians are not always aligned with the needs of the organisation. This ambiguity was although expressed as a somewhat natural part as goals are set by both politicians and practitioners in a local government and that these goals sometimes differ. As a consequence, there is sometimes a need to prioritise the organisation's needs before the other, as one person stated that she sometimes has to *"say no to initiatives by the politicians in order to focus on on-going projects thus lack of time and resources".*

Several of the employees claimed how there are unclear roles and vaguely defined responsibilities within the organisation. One interviewee exemplified by stating how she perceives it as "*unclear who is responsible for what within the organisation, and that there is no gathered information gathering such questions*". The same interviewee went on with stating that this leads to that she "*every time needs to start all over for every little new thing she needs to do*". Another person referred to the same issues as "*simple basic things that just needs to be there, but which are no*t". On the same topic, a person elaborated upon the lack of consensus in directives from year to year and explained *"new directives are given and the previous implementation is left behind"*.

The consequences of employees not knowing their roles are mentioned several times during the interviews. One person explained how the combination of having a high turnover of employees in combination with the unclarity in roles and responsibilities as a barrier in the implementation of new processes. In addition, another interviewee stated how it is "*very important to have guidelines of how to work when having such a high turnover of employees*" and says that "*we need to ensure that the work continues even though people come and go*". One further example of when it becomes problematic with unclear roles is when a new process is implemented but soon disappears again due to the unclear responsibilities for the future.

4.1.4 Organisational Leadership

The role of leadership within the organisation is not explicitly asked for during the interviews, but is yet mentioned several times. The importance of leadership is by many employees perceived as an important factor when it comes to various kinds of changes. One interviewee stated it clearly, saying that "*each change needs the right management*".

When discussing the leadership approach to a change, many employees explained the importance of having a bottom-up rather than top down approach. One employee expressed how all of their implementations "*come from different parts of their organisations or from an extensive analysis showing that something needs to be done*". The same person further stated how they do not believe at all in pushing any idea "*the wrong way*", referring to the top-down approach, and claims that "*such attempts leads to people reacting with having an initial negative mind-set if people do not know what it is good for*".

Continuing on the topic of how the leadership affects employees' willingness to change, an additional view to is how some leaders seem to not being transparent during changes. The same interviewee as in previous quote, being a leader herself, mentioned how "*it seems like some leaders do not believe that employees are able to understand why something is happening*", and goes on saying that they "*instead try to keep the information to themselves and wishes for the best*". She continued and added that "*employees of course most often have a great understanding of a change if they receive the information and the leader is not afraid of sharing it*". One further voice in the discussion about leadership emphasised its importance by stating how the "*motivation and energy needs to come from the leaders since they have the position to influence the organisation*".

4.1.5 Organisational Culture

When asking questions about the spread of innovation and implementation in the organisation there were many answers that lead into the organisational culture of Lerum. Many of the employees expressed unison thoughts and there were many noticeable themes that reoccurred. On the question of how the local government could become more innovative one employee have the answer that each individual needed to focus less on prestige and that they all needed to become *"less proud and have more courage*". The same person also had the opinion that for the organisation to not fail fatal all employees must have the courage to make minor mistakes. In line with the opinion above, another employee stated that managers should have the attitude of leading by example. More specific each manager should share their mistakes (and learnings) with co-workers avoiding them to make the same mistakes. By doing so, the interviewee continues, employees would be more willing of trying new things themselves.

As a contrast to the reasoning above, one employee referred to how the strong presence of political and legal regulations partly give an intelligibility in possible options, but that it also holds people back and might even make them "*afraid of doing something wrong*". Several interviewees pointed out that both co-workers and managers have a fear of making mistakes, thus the belief is that a mistake could lead for you to get fired. To quote another interviewee *"because if you fail there is a chance of you to get fired"*. Due to this, one interviewee added that the feeling of being safe sometimes is missing in the organisation. On the same theme, employees also expressed a fear of standing out and stated that there is a feeling that one need to *"fall in with the system"*.

Another aspect of the culture in the organisation that several interview subjects raised was the indication of a *"we-and-them-feeling"*. One person stated that she had heard an expression about the workers in the main building as *"all the ones over there"*. Many employees commented that it could be a bit sensitive and disturb other employees to go into the central building of the local government thus you could be taken as a 'squealer'. Furthermore, one employee referred to how some divisions seem to raise more attention to "*being the best division rather than the best local government*". This, she continued, does also have an effect

on the behaviours in the organisation such as building a more competitive environment within the organisation in terms of a lower willingness to share good ideas and other information.

In a discussion regarding what motives the employees have got to devote time to new ideas and potential innovations, several voices were raised. The general opinion seemed to be how the employees are guided by what they are actually paid for and what thereby is expected from them. One interviewee pointed out how they are not expected "*to come up with and test new ideas*", but rather to "*keep budget and to keep their organisation running*", with support from another interviewee stating that there are strong informal rules on "*how you should behave to have a satisfying salary trend*". The same person followed by explaining how there are not as strong incentives in developing an improved process for them as it might be to for example produce a new product within the industry, and referred to how "*the financial results are simply not as evident, which for sure affects the lacking incentives*".

4.1.6 Information Technology

One employee concluded that *"technical platforms does not automatically lead to the diffusion of innovation, it requires people to interact with each other"*, which can be interpret as information technology (IT) being a useful tool for communication and therefore lack of it could be a barrier for diffusion to occur. If IT is not maintained it can become a barrier for innovation to be spread. One employee highlighted an example where a service was offered online for both external and internal users of the local government, whereas the existing IT-system constrained most of the employees to use the service. Another interviewee claimed that a lot of IT-infrastructure has in the history been missing in the organisation and thus leading to a lag in development of other areas. In addition, the fact that many people at local governments often have chosen their workplace to work with people and not computers were raised by many interviewees. To quote one interviewee: *"Employees may not be as motivated to use a computer system when they have chosen to work with people as their occupation."* Another potential issue to take into account regarding the use and understanding of an IT system in the organisation is the IT maturity of each individual, which proof have shown of being low in previous implementations as one interviewee stated *"the IT-maturity in the organisation burst"*.

4.1.7 External Factors

This theme emerged through a series of interviews where the employees expressed their opinion about the local government itself and their jobs being affected in different ways by external factors like the politicians and other public and private organisations. One interviewee holds the opinion that the local government is specially exposed to external factors stating: *"a local government receives a lot of input from the side, in contrast with private organisations which perhaps more easily can carry out processes top-down in the organisation."* Another opinion that can partly explains the context complexity of a local government is that it is *"a living organisation – it is not possible to pause the operations; it must be working 365 days a year 24 hours a day."*

A local government is also affected and constrained by many laws and regulations. To quote one of the interviewee *"much of our decisions are regulated by law*". One other employee gave the example of the education act that controls what a (public) school does, however *how* to reach the set goals is up to each school to decide. The power of decision-making can therefore in one sense be seen to be very decentralised. Another example which is brought up by several employees is that Health and Human Services Department, named *Socialstyrelsen*, demand a lot of statistics about the local government's operations and as one interviewee

pointed out *"therefore it is not possible for us to configure for example IT systems the way we would like it to be."*

4.2 Experiences and reflections of the implementation of the management system Treserva

The following section, focusing on the implementation of the management system Treserva made in 2015, is based on the second part of the empirical study. To provide a better understanding of the empirical case study and the management system Treserva, the result from the conducted survey will be presented first, followed by the empirical findings from the interviews.

The aim of the survey was to increase the understanding of how the system is perceived by users and also give a picture of what the implementation process resulted in. The interviews focused on the various phases of the implementation, such as the planning in the process' pre-phase, the training of staff, the dedicated resources and how people were organised in the project, as well as what was done after the launch of the system in terms of evaluation. Characteristics of the innovation were also touched upon as well as what the employees overall considered to be barriers and facilitators in the implementation of Treserva. The following themes presented after the result of the survey are thereby partly the ones being directly asked for and in addition, what was brought to the interviewees' minds when more freely raising barriers and facilitators of the success of the implementation. As a consequence of studying an actual implementation, the themes presented are of a more practical character than the previous themes presented in section 4.1 above. The following themes, with including sub-sections, are presented below; the conditions of the organisation, leadership and communication, human-based resources, and the process of implementation.

4.2.1 Two Years After the Implementation - How Treserva is Perceived by Employees Today

Through the answers of the survey, the perceptions of the employees who are using Treserva today could be captured and can thereby be seen as an evaluation of the management system itself, the implementation process, as well as the sub-sequential work. The results of the survey do thereby put the following empirical findings in a context of what the implementation process resulted in. The survey puts an emphasis on the employees' perception of several dimensions of Treserva, but do also raise questions regarding the amount and quality of education, as well as the time they have to use the system. Below is a summary given to the result of each question's median value, as illustrated in figure 4.1, where the scale range from one to six where one (1) being the lowest score relating to the answer "No, not at all" or "Very hard" and six (6) being the highest score meaning "Yes, definitely" or "Very easy". More of the result of the survey is presented in diagrams in appendix D.

Figure 4.1 *The diagram presents the median value of all questions, where the answers are on a scale from 1 ('Very difficult' or 'No, not at all') to 6 ('Very easy' or 'Yes, definitely').*

On the questions regarding the characteristics of Treserva, the questions receiving the lowest score were regarding if the system *is easy to learn* and if the system *can be adapted after one's needs*. Both these questions received a mark of (3). Considering the *user experience* and if employees perceived they *see clear benefits* of using the system both got a score of (4). The question asking if the *expectations on employees are known* received a mark of (5) as well as if the employees *use the system that way*. The score of (4) was given when asking if the system *fulfils the employees needs* and if the system *ease their work*. Employees perceive *the system is important* in order to executing their daily tasks as the question received the highest score (6).

Three questions were asked regarding if employees perceived they had enough competences and support of the system. *General competences needed*, the right amount of *training* and *support needed* received all a median mark of (5). Regarding if employees perceived they have enough time and resources to work with Treserva the employees answered the question *there is sufficient time to use the system* with a score of (4).

To further increase the understanding of what areas or factors that were highlighted as particularly significant, the survey also contained an open field where participants were asked to give a voluntary comment. In order to give a broader view of how Treserva is perceived today, some of these comments are presented below. Note that quotations are presented without any order of importance.

Quotes:

"I am very pleased with Treserva. It feels less time demanding when we all document in the same journal."

"There are some functions needed today that do not exist in the system. Very many different ways of doing the same thing, which results in everybody doing things differently."

"Huge quality risks with such a large and complex management system."

"We have changed a lot of things ourselves since the launch of the system and it starts to get better, but there is still a lot to be made."

"I have learned a lot by myself which I have carried on to co-workers. Instruction manuals or clear descriptions of doing things do not exist, rather you have to test what works."

"It is often difficult to find enough time to work with Treserva."

"No good evaluation of the system, neither practically nor theoretically."

"I would have LOVED to be a part of a team developing a system that saves time, is logical, easy to use and patient safe. That would save both money, energy and time. I am still waiting for such an offer!"

"There are many things being unclear how to do in the system, and no one really knows what is the right way."

"I received educated through previous workplace - wished my colleagues could get more education in the system."

4.2.2 The Conditions of the Organisation

When discussing the factors affecting the implementation of Treserva, the current state of the organisation is referred to by several interviewees. First of all, and as mentioned in section 4.1.3, the lack of clearly defined roles and processes is explained as an important part of the organisation. The lack of clear processes and roles is also brought into the light as an issue when starting an implementation project like Treserva. One employee explained how "*it is very difficult to know what to expect from each other when there is no overview of what the various processes within the organisation looks like*". Another person claimed how "*we had to outline the organisational processes during the project since no such information was gathered earlier*". In addition to this, another person explained how one consequence of the lack of information about the organisation also was that "*the needs of the various parts of the organisation were not captured in an early phase*". With unclear processes, roles, and thereby also unclear needs of the organisation, this may also lead to an alternative outcome. Aligned with this, one employee stated how "*Treserva would have looked differently if we knew before what the organisational processes looked like*".

Another condition in the organisation present during the implementation of Treserva was a reorganisation going on during the same period of time. One of the persons on a managerial position explained how the "*organisation was not ready for this*", referring to the

implementation project. She continued to explain that she insisted to push the deadline forward and that she also to some extent succeed to do so, even though she did not consider it as sufficient. One additional voice has got the same view, emphasising how "*focus should have been put on detangling the organisation before doing the next change*". One further thought brought up in this context was also how some essential IT issues were not in place, stating that "*some IT infrastructure was missing before the start of the project*". As explained in section 4.1.6, IT can have a big impact on the development of the organisation.

4.2.3 Leadership and Communication

The following section is divided into the subsections leadership and a shared vision and goals and communication and networks.

Leadership and a Shared Vision and Goals

In section 4.2.2 above, there is a great need of knowing and understanding the processes of the organisation. This, in combination with what was discussed in section 4.1.2 and 4.1.3 regarding the lack of understanding other parts of the organisation, one can understand how a following consequence is that creating shared perceptions not follows automatically. This issue was highlighted several times during the interviews, stating the lack of understanding the organisational needs and the following difficulties in creating common goals. One employee stated how "*we should have outlined much earlier what we actually needed, but still we have not made such attempt*". The same interviewee continued to emphasise the importance of understanding an organisation's needs by stating how "*outlining the needs of the organisation need to be done all the time*". Several interviewees put it similarly, another example is that it is "*important to have a fundamentally shared view and that we understand each other perceptions*". How the lack of understanding the organisation's need also raise issues in creating common goals is exemplified by one person emphasising how it "*seems like others do not seem to understand what we actually need and how important it is*".

On the topic of a lacking common view, another employee also referred to how there was "*no clear picture of what was prioritised and not*". She explained how it thereby was difficult to choose the right direction, and added that "*if I got to do it again, I would demand a prioritisation in demands".* As a consequence of the unclear goals of the project, one employee also explained how the employees were given strict directions of what they needed to do in order to contribute to a successful implementation. However, after their work was done their gathered information was not captured. One interviewee explains that they "*put a lot of effort in gathering the right information on very short time, but we do not know anything about what happened with it*". She continued explaining that "*I don't even think they even used the material at all in the end*".

The role of leadership in the implementation of Treserva is mentioned throughout a number of sections in this chapter due to its close relationship with many other categories presented. One main thing being mentioned by several interviewees was the importance of leadership and the importance of support from persons on managerial positions. Two interviewees emphasised the need having both a top-down view and the bottom-up in parallel. One person stated how there is a great need of "*meeting the organisational goals set by management by having the perspective of the practices in the organisation*". Voices were also raised regarding the level of support received from managers during the implementation. One employee stated how she "*did not get enough support from her manager during the change"* and explained that she would have needed more. Another interviewee further emphasised the importance of good

leadership during a change and emphasised "*clear directives from the management during a change*" as a key factor.

Communication and Networks

Closely related to the previous paragraph regarding how there seemed to be a lack of information about all the information they gathered but which seemed not to be used, concerns regarding the overall process was also shared during the interview sessions. Several interviewees also expressed the lack of understanding why it was such an urgency to launch, and one person said *"looking back, one can question why it was such a hurry to launch the 8th April"*. The same employee continued *"the importance of the implementation was something that was never communicated out to workers"*.

Both the importance and difficulties of communication are raised by several interviewees. One employee explained how *"information is the crucial link in making people sharing the same view*" and continued by stating that *"without communication, you cannot know what to expect from each other or obtain a holistic view"*. In addition to this, another voice expressed how the communication needs to be planned for, and referred to how they after a while understood that they *"needed to start document guidelines on how to use Treserva, due to the high turnover of employees"*. Another person expressed a similar need, emphasising how she was facing *"a whole new process of working but had no guidelines of how to do it"*. In addition to the discussion about what kind of communication that needs to be present, wishes of a better communication is also expressed. One employee stated that she *"would like to know more about how Treserva is perceived"*. The planning of communication can thereby be assumed to include both what type of communication but also regarding who needs to be addressed. One further view regarding the information path is also that it seems to sometimes take too long before people reaches each other.

As mentioned, there are many aspects on how to work with communication and what needs to be in place. One additional aspect to it is how to ensure that the information reaches the person who is targeted. When more people are responsible for forwarding information, using a middle man, the risk of losing information on the way is also increased. On this topic, several opinions came forward during the interviews. One person stated that the many groups within the project relied on a few persons to bring the important information to other parts of the organisations, but adds that *"it is very important to control such thing"*. The hierarchical levels were also mentioned as a potential barrier, where one person explains how *"people on managerial positions were responsible for informing their departments, although such thing is very difficult to ensure"*. The same person continued stating that *"it surely needs to be ensured that the right information reaches the right people*". One further aspect of ensuring communication is mentioned by a project team member, explaining how they *"tried to inform about the progress being made through e-mails, newsletters and so on, but it still seemed like people did not get the information"*.

4.2.4 Human-Based Resources

The theme, human-based resources, has been divided into the subsections training and competence development and involvement and engagement.

Training and Competence Development

Training of employees of the system Treserva was a well discussed topic during the interviews and many employees had something to say about it, although the answers were more or less repeating themselves and many things did reoccur. In general, employees agreed

that training has been *"insufficient"* and "*of poor quality"* before the implementation and to some extent still lacks today. At the time of the implementation, in-house competences were primarily used, however, employees have expressed *"a lack of support"* in order to perform expected tasks. A number of the employees raised the concern of an inadequate plan for training for the implementation. As a consequence of this, several employees have pointed out the absence of modules and instruction manuals for the management system. One of the interviewees concluded *"it is much better today and now we have regular trainings twice a year"* while another employee added that *"there are still no trainings or instruction manuals for the system today"*.

Many thoughts have been shared about the training held prior to the launch date. The main training to support users was held by an external consultant from the supplier of Treserva and several interviewees are of the opinion that *"the consultant lacked skills in teaching"* and later on it also turned out that the consultant in some settings taught the employees wrong. Further opinions raised about the training regarded its content, length and timing. A majority of the interviewees agree that the training should have been held much earlier in the process and should also have been longer. In addition to the training held by the consultant, the so called support users were to teach the rest of the employees in the organisation, and surprisingly for them also had to create the training material. However, as one of the employees stated: *"even support users are out in the operations but still expects to answer all questions regarding the system from other employees"*, as the users are not always at the office and thereby reachable. Regarding the question asked what prevent employees from using the system one interviewee claimed *"their general computer knowledge and that they don't have enough knowledge about the system"*. Consequences of poor training that have been elaborated during the interviews are *"a worry of doing something wrong"*, *"everything takes much longer time"* and *"sometimes it feels like there is a lot of double work"*.

Another concern about training in Treserva raised by several of the employees is the current training offered to new employees as one employee stated *"there does still not exist routines or instruction manuals for new employees"*, and a few of the employees highlighted the increased difficulty due to the past years high turnover rate. Another interviewee added though that *"personnel from other local governments where Treserva has been used usually have more knowledge about the system because of a more thoroughly base training"*.

Involvement and Engagement

"*One learning from this implementation is that people from the operational practices of the organisation should have been more involved*" is one out of many examples emphasising the importance of employees' involvement. Several interviewees drew upon the needs of both involvement and engagement, and the need of having an engagement on all levels was highlighted. Voices regarding who should be involved and also how and when one should be involved where mentioned several times. The effect of not bringing in the perspectives from the organisation is according to one person that "*a lot will need to be fixed after the implementation*". One interviewee explained how a long-lasting effect thereby may be that "*the organisation needs to adapted after the innovation instead of the other way around*".

One thing being mentioned several times during the interviews was how some opinions were experienced as missed out on. One interviewee described how "*many more perceptions and opinions should have been included during the project*". Another example of a person who explains how their team did not get the chance to be involved explained that "our perspective was left out, even though we had a very important position in this change". In addition to this,

voices were also explaining how it is not an easy thing to get opinions through, even though you physically have the chance to influence the process. One interviewee expressed how "*some people seemed to have been tougher on getting through with their own opinion, which also meant that our needs were not as prioritised*".

The timing of receiving opinion from people is one further challenge being raised during the interviews. One person expressed how they in their team were able to give input, but that it took more time than what was planned for, leading to that their input were given too late. Answers from interviewees also reveal some further difficulties when it comes involving employees, where one person stated how "*we were given the chance to give input to the design of Treserva but it was very difficult*". She went on explaining how the limited experience was a barrier, explaining how "*we did not know what was possible which made is very hard to say what we wanted*". She was thereby of the opinion that one had to consider how people were to give input and said that "*it is good to give people the chance to raise their opinion, but you have to think about how you do so*". One additional important thing to consider, according to one of the interviewees, is to also give power to the people being included. She explains how they "*were included in a group given the role of giving input to the design of the system, but after a while it became clear how we did not have the power to decide*". She continued and stated how the lack of power led to "*a decreasing enthusiasm and less people started to prioritised the meetings*" as a consequence.

4.2.5 The Process of Implementation

Included in the theme the process of the implementation are organisational resources, pilots and reinvention as well as monitoring and evaluation.

Organisational Resources

Regarding dedicated resources, a major concern among employees interviewed about the implementation of Treserva was the constant shortage of time and resources. Most of the employees have a common opinion that the project did not receive enough resources in relation to the size and impact of change in the organisation. As mentioned in section 4.2.3 the reasons for the urgency to launch were not clearly communicated, where one person said *"looking back, one can question why it was such a hurry to launch the 8th April"*. Besides the exhibited short timeframe, a few interviewees also pointed out the extra pressure put on each individual during the implementation period and to quote one of the interviewees *"many employees worked with Treserva after office hours"*. Another employee expressed her feelings as *"this whole period was a struggle"*. Furthermore, in terms of budget Treserva did not have its own dedicated money and the project team did not include an economist. This lead to additional costs items which added up in the end.

Pilots and Reinvention

When Treserva was implemented in 2015, the whole system was launched in all operations at the same time without any previous live tests. Many of the employees raised an opinion about such procedure. When asked if they would have done anything differently most of the interviewees have something to say similar as *"to implement little by little"* or *"to first test the system in one or a few departments and then evaluate the system before implementing in the whole organisation"*. There occurs a general positivity about gradually scaling-up and one employee also added" it *is good to start small and add things"* and, as mentioned in section 4.2.4, another person stated how it was difficult to give input when they did not have any experience in developing a new system which led to her opinion that *"it is good to have a*

base to give input to". The same employee concluded with *"it makes it easier to engage workers in that way*".

During multiple interviews it became clear that there are a few things in the organisation that prevent employees from using a trial and error method. For example, the way communication is travelling regarding support is said to be long and it can take months to get a reply from the supplier maintaining the system (as mentioned in section 4.2.3). As a result, *"the system is very heavy and changes can take a very long time to execute"* as one of the employee pointed out. Furthermore, as mentioned in the section 4.1.5, many employees have a fear of making mistakes which prevent them from trying new things. One of the interviewee said encouraging *"you must test and practice doing new things".* What also may limit the amount of experiments performed is the way financial resources is expected to be kept down as much as possible at a local government, as mentioned for example in section 4.1.1.

As one employee claimed, the condition for having an experiment approach is to have the possibility to change direction along the way and in some cases even stop the project. Before the implementation project started some employees had raised their voice that it could be difficult to pursue the project in the set timeframe. However, despite many discussions around the risk of failure the project kept the same pace as initially set.

Monitoring and Evaluation

"I really hope they have evaluated this so the same mistakes are not repeated" stated one of the employee when discussion the implementation of Treserva. Here 'they' is referred to the people responsible for the implementation. The same employee elaborated that an evaluation is needed to be done on both the system itself and the line of action. Another employee claimed *"no evaluation has been done"* and explained the abrupt end of the project after launch date. The interviewee also added *"I have a lot of knowledge about the implementation that no one have asked for"*. Adding to this line of thoughts, a third employee said *"some of the lessons learned have been gathered, however a lot of people that were involved have quit".* One employee explained that *"no plan forward existed, how to develop the system further, and there was no person held responsible for such thing"* which could be one reason for the lack of evaluation.

Another factor which could have been captured during an evaluation is whether the users are satisfied with the system or not. According to what was mentioned during the interview, the opinions of satisfaction with the system is not completely unison. One person stated *"I think a lot of the employees are satisfied with the system"*. The opinion is shared by many employees, however there are also employees who would oppose, expressed in terms of *"there exists an uncertainty if I do things the right way*", *"I need support but no one has the time"* and *"functions that I need are still missing in the system".*

Several examples of what the organisation could have reacted on in an evaluation occurred during the interviews. For example, several voices were raised regarding improvement suggestions how the system can be developed to better meet their needs. There is a split vision if the system makes sense and is logical among employees. Some employees claimed that *"the system is very strict and you get navigated in procedures*" while another stated that *"there are many different ways of doing the same thing".* Employees of the latter opinion said that this can be very confusing and creates the feeling of doubt if you are doing things the right way.

Furthermore, employees elaborated on the lack of understanding between different departments and the worry of executing a function wrong in the system due to the many different ways of doing the same thing. As a consequence of the lack of understanding current processes and shortage of time (as mentioned in section 4.1.1), the planning was thereby also perceived as difficult. Some employees also commented on the system as being heavy as mentioned in section 4.2.5 above. As a consequence of the implementation, some workers have to spend more time in the computer system each morning to get an overview of today's tasks. One of the interviewee questioned if managers have reflected upon this or if no one really knows about it.

5 Analysis

The following chapter presents the result generated from analysing both the theory and the collected data. A conceptual model in terms of a diffusion model is presented in section 5.1, including several factors affecting an innovation's diffusion in a local government. The diffusion model is related to the first research question of the study: What affects the diffusion of innovations within a local government? The second part of the chapter, section 5.2, presents a practical take on the diffusion model, presented as an implementation guide for practitioners in local governments. The implementation guide is thereby related to the second research question of the study: What areas should practitioners in a local government consider during an implementation to improve the prerequisites for diffusion of innovations? The guide is derived from the diffusion model and complemented with empirical findings from the implementation of the management system Treserva.

In addition, the empirical findings from the investigation of the management system Treserva regards a technological process innovation, according to the classification made by Walker (2014). However, no evaluation of which factors being especially important in the diffusion of technological process innovations has been performed. This is due to how the themes in both the diffusion model and implementation guide are of a much more general character than only limited to what may only regard technological process innovations.

Moreover, as mentioned in section 3.2 in the theoretical framework, there is a continuum from passive diffusion to active dissemination of an innovation, which also may be explained as a scale from 'let it happen' to 'make it happen'. Before moving on to the analysis of this study, it should be pointed out how a foundation for this study has been to comprehend the presence of the whole continuum. In other words, it should be kept in mind how both the passive diffusion and the active dissemination are both parallel present when introducing an innovation to the organisation and during the implementation of an innovation. However, the profound persuasion is still that practitioners within a local government have strong incentives to both understand the diffusion process and actively try to make the implementation of an innovation as good as possible in order to enhance the prerequisites for diffusion.

However, in the opinion of the researchers of this study, the practitioners should not be naïve and assume that everything affecting the diffusion of an innovation can be monitored and controlled. Relating to the continuum of diffusion, the diffusion model and implementation guide below could be referred to as 'help it happen'. Hence, the importance of being conscious of the factors affecting diffusion and which areas to consider during an implementation should be emphasised. The suggestions of what factors affecting the diffusion of innovations in local governments as well as what areas to consider during an implementation are thereby presented below.

5.1 The Diffusion Model

The following model illustrates the diffusion of innovations and is developed from empirical findings as well as theoretical studies on diffusion of innovations, implementation as well as innovation in the public sector. Each factor in the model is described along with a number of prominent dimensions. Naturally, some factors and dimensions have received a larger input

from either the literature reviewed or from collected data. Moreover, the model is created with the aim to contribute to an increased understanding of the diffusion process and the context for innovations in local governments, and is thereby considered to be especially valuable for practitioners in local governments.

As seen in figure 5.1, the diffusion model consists of several components. In the centre of the model, the innovation-decision process is found. In this process, the communication and interaction as well as the adopters are seen as an integral part, meaning that they do not have their own illustrated space in the model but are although an essential part of it and explained below in section 5.1.1.

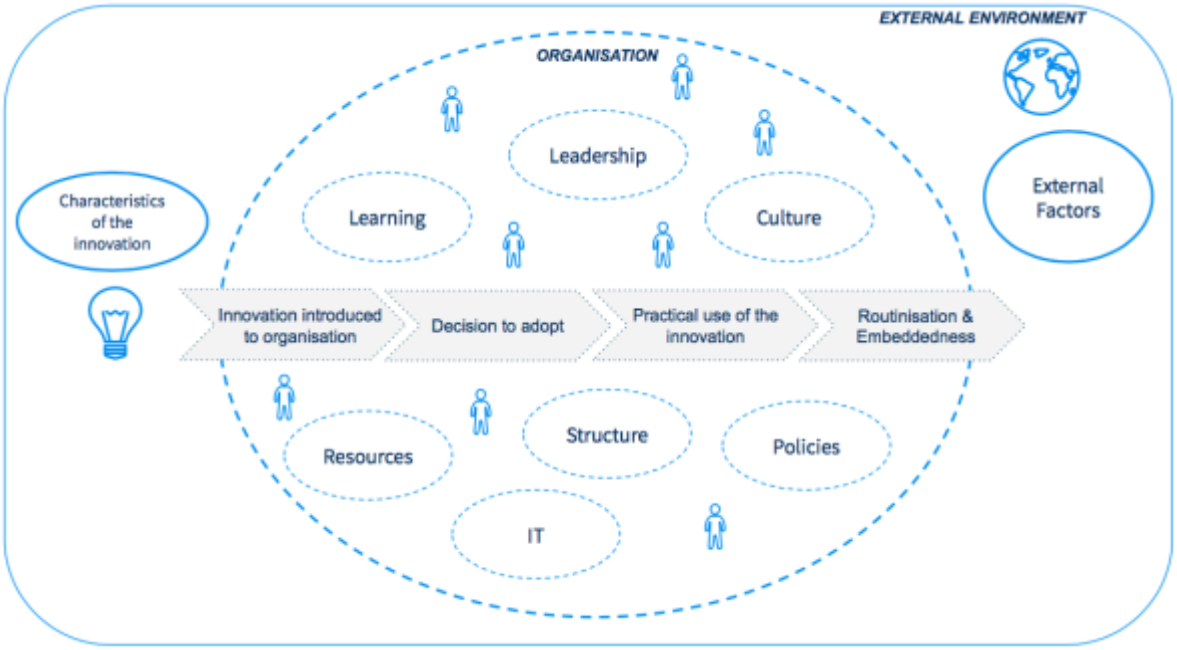

Figure 5.1 *The diffusion model with including factors affecting the innovation-decision process.*

Furthermore, the innovation-decision process is affected by several factors. The various factors influencing this process are divided into an inner and an outer context, where the inner context refers to the present factors within an organisation, and the outer context refers to an organisation's external environment. The following factors, with including dimensions are: the characteristics of the innovation, organisational resources, organisational structure, organisational policies, information technology, organisational leadership, organisational culture, organisational learning and external factors. These are further explained in the following sections 5.1.2 to 5.1.10 below.

The model has been developed with inspiration from several researchers and their work on diffusion models. First of all, the way Greenhalgh et al. (2005) considered how both the inner and outer context affects the diffusion gave inspiration on how to illustrate the internal and external environment of an organisation. Furthermore, both Barnett et al. (2011) and Plsek (2003) treat the external factors influencing the diffusion process separately, hence being additional inspirers to the model. Moreover, inspiration has been received from Massoud et al. (2006) in terms of the ingoing factors affecting a diffusion process. No priorities of importance are neither explored nor suggested in the model, but is rather seen as being dependent on each specific situation. In other words, depending on the local government in question, one or a few factors may be more or less prominent than others. However, the following model should not be considered to be a full-coverage model or guaranteeing that

the ingoing factors include all possible ones being present in every situation, but rather as a model lifting factors that have been raised in this study. However, the model is still of a broad character, which enables an adaption to other contexts.

Before moving on to the following factors of the diffusion models, it should also be noted how the work with innovation, in terms of how innovations are both developed and implemented are also affecting the following factors described. How to actively work with innovation is explained for example by Greenhalgh et al. (2005) in section 3.3.2, emphasising the need of planning how to take various factors into account such as the leadership, human resource issues, funding, communication as well as adaptation and reinvention. Similar themes are also explained in section 3.4.4, for example by Koch and Hauknes (2005) stating how support mechanisms need to be in place for innovation or by Albury (2005) naming it 'a set of linkages' between the innovation and adopters. Other factors such as having an explorative approach (Potts and Kastelle, 2010), establishing reengineering (Borins, 2001) as well as to agree upon the goals with innovation (Potts and Kastelle, 2010), and how problem-oriented drivers for innovation should be present (Koch and Hauknes, 2005). It should thereby be emphasised that how all these factors are coped with by the organisation, the project team or the change agent (as referred to by Greenhalgh et al., 2005) is integrated in the various factors below, and thus has not received its own space in figure 5.1.

5.1.1 The Innovation-Decision Process, Adopters, and Communication

The component *innovation-decision process* in the model has been illustrated as a path of how an innovation gets introduced to an organisation, to get adopted, leading to a practical usage of the innovation and finally embedded and routinised in the organisation's every-day work and routines. The path has been based on work by researchers such as Dopfer and Potts (2008), Ibanez de Opacua (2013), Plsek (2003), and Rogers (1995). The explicitly stated phases in the process are; *the creation of the innovation, decision to adopt, practical usage of the innovation, and routinisation and embeddedness*.

The process is aimed to be illustrated in a simple way rather than to give a too detailed description of an innovation's path. Furthermore, even though the process has been illustrated as a path similar to a timeline, it is rather a closed-loop that is a part of an ecosystem where the innovation returns to get further developed after being routinised in the organisation. As explained by Dopfer and Potts (2008), the innovation emerges from the organisation (what they refer to as the economic system) and returns by getting embedded in the organisation again.

The *adopters* of an innovation are in this model considered to be individuals interacting with each other, who either work with or in some way are affected by the innovation. As the whole model considers the diffusion of an innovation, and thereby the adoption by these individuals and an assimilation by the organisation as referred to by Greenhalgh et al. (2005), the adopters are not seen as one ingoing component of it, but whose adoption the model aims to explain. The factors pointed out in the model should thereby be seen as factors that somehow, directly or indirectly, affect the individuals' and the organisation's likelihood to adopt an innovation. It should though be noted how the factors in the model may affect more individuals in the organisation than only the possible adopters.

When considering the adopters' likelihood to adopt, many factors are, as seen in the model, highlighted to possibly affect this process. The characteristics of the individuals are also an influencing part of the likelihood of one person adopting an innovation (Greenhalgh et al.,

2005; Rogers, 1995). In addition to the characteristics of an individual depending on the context, also personal characteristics affect the likelihood of adoption, such as the individual's motivation, skills, needs, values, goals, motivation, learning style as well as established social networks (Greenhalgh et al., 2005).

Another influential part of the model, illustrated by being integrated in the innovation-decision process, is the *interaction and communication* between the individuals in the organisation, which is naturally present throughout every step of the process. Moreover, the information reaching the individuals in an organisation is communicated through a number of informal and formal channels, implying both the passive diffusion and active dissemination process, and are without doubt a key through the whole process (Greenhalgh et al., 2005; Massoud et al., 2006). It should also be aimed for to use a number of various channels for communication (Massoud et al., 2006). The communication may for example go through individual's social networks, peer opinion, marketing initiatives, some kind of opinion leaders in terms of change agents, experts or champions of an innovation (Greenhalgh et al., 2005).

5.1.2 Characteristics of the Innovation

Although not explicitly handled in this study's interviews and hence not presented in the empirical findings, several researchers emphasise how the innovation-decision process, is naturally affected by the characteristics of the innovation itself (for example Greenhalgh et al., 2005; Rogers, 1995). The results belonging to this factor has been divided into the four dimensions; *design stage, benefits vs. costs, trialability & adaptability*, and *compatibility*.

The *design stage* refers to the phase when an innovation develops, although an explicit end to this phase is not necessarily defined. A well performed design stage is influenced by a large amount of factors, for example that the involved people communicate in a good way, and also that they have established a common view on the outcome, including what results they want to achieve and which perspective that are included (Borins, 2001; Greenhalgh et al., 2005; Potts and Kastelle, 2010). Several researchers also emphasise the need of having a holistic view (Borins, 2014), the importance of having drivers that are either based on a problem or some kind of improvement, and additionally how the involvement of potential adopters increase the possibility of a successful outcome (Greenhalgh et al., 2005; Koch and Hauknes, 2005).

Not only is the diffusion influenced by how an innovation is developed, but also the result of it. The dimension *benefits vs. costs* of an innovation is considered to be of importance for the diffusion. Along with adopting an innovation, there are both private and organisational consequences and benefits following (Wejnert, 2002). These benefits and consequences are for example based on what the advantages of the innovation is compared to the current way of working, and to what extent these benefits are observable by the adopters (Greenhalgh et al., 2005; Maher, Gustafson, and Evans, 2010; Massoud et al., 2006). Further factors pointed out by researchers affecting the process are how complex the innovation is in terms of how simple it is to use, which required skills there are and how easy these are to communicate to new users. Having an innovation where there are more visible benefits to the adopters than its costs increases the chances for an innovation to be adopted.

The third dimension is the innovation's *trialability and adaptability*, referring to the extent an innovation can be experimented with and thereby adapted after the context it is implemented in. It is advantageous if the adopters are able to experiment with the innovation before a full-

scale implementation, as well as refine it afterwards, leading to that the chances for a broader adoption does also increase (Greenhalgh et al., 2005; Maher, Gustafson, and Evans, 2010). In addition to the ingoing dimensions above, several researchers also emphasise how an innovation's level of *compatibility* affects its chances for adoption, which is expressed as the fourth dimension. When there is a fit between the innovation and the system, being the organisation's goals and culture, existing knowledge, processes, norms etcetera, the likelihood for adoption increases (Greenhalgh et al., 2005; Maher, Gustafson, and Evans, 2010)

5.1.3 Organisational Resources

The factor organisational resources has been proven from both theory and empirical findings to affect the diffusion of an innovation within a local government. Under the factor resources, three dimensions have emerged. These are the *economic climate*, *availability of resources*, and *budget structure and time horizon*.

The dimension *economic climate* has been identified to affect the view on resources, and concerns the economic principles of being efficient, the ever present delivery pressure on local governments and the presence of budgets aiming to minimise waste and maximise results (Albury, 2005; Cole, 1988; Potts, 2009; Potts and Kastelle, 2010). Furthermore, as expressed in the empirical findings, the financial resources of a local government come from tax payers, giving consequences on the importance of 'right' allocating of money, which also is highlighted by Borins (2001). Furthermore, Borins (2001) explains how the tax payers also are the risk carriers and mentions the lack of venture capital in the public sector as a further reason for the present economic climate.

The second dimension, *available resources,* is pointed out to be of importance by both researchers and interviewees in terms of financial, human and time resources (Barnett et al., 2011; Greenhalgh et al., 2005; Koch and Hauknes, 2005). Greenhalgh et al. (2005) advocate on the slack resources needed to develop a creative climate, strengthened by the argument of Mulgan (2007) as innovation seldom is given enough space in budgets. The argument is repeated again in the empirical findings and referred to as "no free money". Furthermore, support mechanism for competence development is highlighted as a crucial factor in both theory (Koch and Hauknes, 2005) and by the interviewees.

Throughout the empirical findings there is an emphasise of the lack of time, leading to a narrow budget focus and short-term goals giving rise to the third dimension of *budget structure and time horizon*. As interviewees conclude, there are seldom enough time or money in projects, which Albury (2005) claims to be important factors by stating that innovation initiatives should get budget support as well as that individuals who want to develop an idea should receive support and get rewarded for it.

5.1.4 Organisational Structure

The overall organisational structure is considered to affect how well prepared an organisation is to embrace a change (Greenhalgh et al., 2005; Maher, Gustafson, and Evans, 2010). The impact of the organisational structure concerns how the organisation is structured in terms of *divisional structure*, the *size, maturity and complexity of the organisation* as well as to what extents *cross-functional networks exist*.
Continuing the elaboration on the organisational structure, the dimension *divisional structure* concerns how an organisation is divided into various groups of people performing various tasks. Having very strong barriers between divisions, with so called 'high walls', are

considered to affect the work with innovation (Mulgan, 2007). The empirical findings do also witness on this, emphasising how the employees are not familiar with what other departments are working with or what is going on there and how this has a number of consequences, for example in terms of limited collaboration. What is also underlined is how these 'high walls' may result in the so called 'silo mentalities', where practices, beliefs, and valued are not shared (Koch and Hauknes, 2005).

The *size, maturity and complexity of an organisation* is the second dimension of the organisational structure and is also affecting to what extent the employees adopt an innovation (Greenhalgh et al., 2005). Having a large and mature organisation increases the likelihood of adoption in an organisation, as well as if it is functionally differentiated (Greenhalgh et al., 2005). In addition, the complexity is considered to affect the extent of adoption as well, and having a very diverse organisation does also have consequences as a result from various needs (Koch and Hauknes, 2005).

The last dimension, *cross-functional networks*, refers to the extent people from various functional areas within an organisation are able to meet and to collaborate. During the interviews, employees stated how the lack of collaboration also leads to a lack of understanding each other and how various parts tend to focus on their own needs rather than possessing a wider perspective. This is also expressed by various researches, stating how a wider collaboration throughout the organisation have a positive impact on the diffusion of innovations (Barnett et al., 2011; Greenhalgh et al., 2005; Koch and Hauknes, 2005). By having established collaborations, it enables connection between needed skills and does also enable reaching common goals (Koch and Hauknes, 2005).

5.1.5 Organisational Policies

The influence of organisational policies is an extensive factor with what seems as almost an infinite number of possible ingoing dimensions. However, there are some dimensions that have been more prominent, both in the reviewed theory as well as in the empirical findings. These dimensions are the need of having a *shared vision and goals* and *clearly defined roles and expectations*.

Having *clear and shared goals*, as well as decentralised decision-making, is mentioned several times by researchers as a way to positively affect an innovation's diffusion (Greenhalgh et al., 2005; Potts and Kastelle, 2010). Moreover, it is also important how the vision and goals are aligned with the organisation's and employees' incentives (Massoud et al., 2006). However, the targets and goals in the public sector varies quickly, leading to difficulties in obtaining as well as maintaining shared goals (Koch and Hauknes, 2005). In addition to how interviewees stated how the goals vary quickly in Lerum, the difficulties in having shared goals throughout the organisation in Lerum is also expressed as difficult. The lack of shared goals, with the politicians on the one side and the practitioners on the other, is also expressed, for example when it comes to the time aspect, where the politicians seem to wish for things to happen faster.

The need of having *clearly defined roles and expectations* were mentioned multiple times during the interviews. Several interviewees mentioned how it is difficult to know the responsibilities among people in the local government and that the information regarding this is nowhere to be found. It has also been emphasised how these matters are increasingly important with the present high turnover rate in the local government. One additional voice was also how it was not a part of their roles to come up with and test new ideas. This voices

are very close to what Mulgan (2007) states, emphasising how innovation seldom is someone's responsibility, as well as what researchers have underlined by stating how innovations imply new roles and procedures among people (Abernathy and Utterback, 1978; Damanpour and Gopalakrishnan, 2001; Greenhalgh et al., 2005)

5.1.6 Information Technology

Another dimension that emerged through both empirical findings and theory was the importance of the information technology in terms of having a suitable *IT strategy* and *IT landscape*, having adequate *IT support* as well as the to take the *IT maturity of individuals* into account.

An *IT strategy* has been expressed in theory and empirical findings as relevant in order to achieve the right and an updated *IT landscape*. Greenhalgh et al. (2005), Koch and Hauknes (2005), Mulgan (2007) and the empirical findings underscore the barriers for innovation or lag in development in other areas as a result from inferior or outdated technology. Empirical findings do also stress upon the right IT infrastructure needed in order to achieve successful implementations and express IT as a useful tool for communication, supporting other functions of the organisation.

The second dimension of IT concerns the *IT support* needed in order to implement the innovation (Greenhalgh et al., 2005; Massoud et al., 2006). In addition, the last dimension, supported by empirical findings, the *IT maturity of individuals* must be taken into account, especially when implementing an IT system.

5.1.7 Organisational Leadership

The influence of organisational leadership has also been raised by several researchers as well as by interviewees. The ingoing dimensions in this factor are *priorities, level of responsibility and transparency, project and change management* as well as *support from leaders*.

First of all, the importance of what expressed *priorities* leaders have has been emphasised multiple times, for example in terms of the formulated goals, their priorities and the way they lead (Borins, 2001; Greenhalgh et al., 2005; Massoud et al., 2006). The leadership is of course naturally interconnected to the organisational policies. Moreover, the leadership and the leaders' priorities do for sure also affect the organisation, and in the matter of innovation the natural consequence may be both fewer innovations as well as a limited diffusion of the developed innovations. Lacking top management support for innovation may possibly also affect the outcome of the diffusion process, as emphasised for example by Borins (2001).

Another factor brought up in the theory of public sector innovation, and also found in the empirical findings, is the *level of responsibility and transparency* among leaders. It has been pointed out how there in the public sector is a strong managerial accountability with a low acceptance for failure and high penalties (Cole, 1998; Koch and Hauknes, 2005; Potts, 2009). The empirical findings do also support this, but rather in terms of how it is expressed that some leaders tend to not always be transparent, but instead simply wish for the best even though they have not been completely honest with the situation. In contrast, there is rather a need of transparency and a high level of responsibility to be able to succeed with innovation (Potts and Kastelle, 2010).

Related to the dimension above, skills in *project management and change management* are highlighted both in the review of literature as well as mentioned multiple times during the

interviews. It is for example stated how there may be risks related to the implementation if there are lacking skills in project management and change management (Albury, 2005). Several voices were also raised regarding this during the interviews, as found in the empirical findings, where it is stated how the leadership needs to be adapted to each change as well as having the right motives for a change, with the employees' needs in mind.

The last dimension of this factor is the *support from leaders*, referring to how an innovation needs to be supported by either managers or employees having some kind of important position (could be for example being an expert or simply having a large influence among peers), in order for the likelihood to increase of getting the innovation adopted (Greenhalgh et al., 2005; Koch and Hauknes, 2005; Maher, Gustafson, and Evans, 2010). The support is of high importance throughout several phases in the 'life' of an innovation, but it may perhaps be increasingly important when the innovation is having some kind of 'hard time' (Albury, 2005).

5.1.8 Organisational Culture

The factor organisational culture has emerged through theory and empirical findings and is further explained in the four dimensions; *risk adversity*, *attitude to change*, *creative climate*, and *core values*.

The dimension *risk adversity* was identified in both theory and empirical findings as an important factor affecting diffusion. The empirical findings show of a fear for making mistakes which could inhibit creativity and hold back new initiative, thus the diffusion. For the creation and diffusion of innovations, Borins (2001) emphasises the space needed for trying new ideas and the acceptance of failure. Put in other words but with the same logic, other researchers relate to how the space for trying new ideas is limited due to the culture of risk adversity (Albury, 2005; Koch and Hauknes, 2005; Mulgan, 2007; Mulgan, and Albury, 2003) or absence of a risk taking climate (Greenhalgh et al., 2005). In addition, the empirical findings give the suggestion of letting managers and leaders share their mistakes in order to first learn by others mistake and secondly to encourage employees to try new things themselves without the fear for mistakes.

If there is a resistance or tension for change it will affect the innovativeness negatively as well as the diffusion of the innovation (Greenhalgh et al., 2005; Koch and Hauknes, 2005). Therefore, the second dimension of culture highlight the *attitude to change* as an important factor for diffusion. The empirical findings underline the existence of informal rules influencing the behaviour of employees, focusing on meeting the budget and keeping the organisation running, whereby the status quo gets prioritised in order to keep an satisfying salary trend. Hence, employees are not expected to come up with new ideas and test them. In order to achieve an attitude welcoming innovation initiatives, the organisation should seize opportunities, and develop an absorptive capacity for new knowledge (Greenhalgh et al., 2005; Koch and Hauknes, 2005).

Furthermore, many researchers underline the importance of having an innovative climate; encouraging openness to new ideas and radical thinking as well as thinking outside the box (Borins, 2001; Koch and Hauknes, 2005; Mulgan and Albury 2003), expressed in the dimension *creative climate*. Empirical findings give examples of the non-existence of such culture, but rather a culture of 'fall in with the system', which thereby holds the creativity back. Mulgan (2007) gives a warning sign and explains that the public sector tends to attract people who easily find themselves in such a strict environment, which are by nature fund of

playing by the rules. Another factor included in the dimension of creative climate is the importance of teamwork as well as independent thinking as emphasised by Koch and Hauknes, 2005.

As a fourth dimension under the factor culture, *core values* emerged through both theoretical and empirical findings as an important factor for diffusion. The core values for innovative non-profit organisations should according to Light (1998) include trust, honesty, measurement of performance and faith in the organisation. Empirical findings explain the existing culture as two-sided through a 'we and them'- feeling and a competitiveness between divisions, which differs from what Light (1998) concludes as favourable. However, as Potts and Kastelle (2010) enlighten, since the public sector do not compete over market share in the same way as private sector, the motives of being innovative usually express in internal competitiveness for power or advancements rather than external competitiveness.

5.1.9 Organisational Learning

The factor organisational learning has been divided into the dimensions *gather knowledge from inside and outside the organisation, interpret the knowledge and act on it* as well as *manage and transfer the knowledge*.

The importance of learning has been underlined both by previous researchers as well as in the empirical findings of this study. This factor has, as well as many of the other ones, an extensive integration with other factors, for example the organisational structure and organisational culture within an organisation (Koch and Hauknes, 2005). In the empirical findings, it is also stated how employees wish for a better evaluation of projects as well as gathered information to use the next time to do things better. The first dimension of this factor is thereby to *gather knowledge from inside and outside the organisation*. As mentioned by interviewees, the need of evaluating projects and to be able to learn from both success and failure is important to improve the performance until next time, which is also underlined by for example Borins (2001), Albury (2005) and Greenhalgh et al. (2005). Gathering knowledge from the outside is also highlighted by Albury (2005), who emphasises the need of also looking for new ideas outside one's own organisation.

After gathering knowledge, by evaluating and gathering information from either the organisation's own projects or from the outside, the next dimension emphasises to not only leave the information behind but to also *interpret the knowledge and act on it*. Without this stage, the first dimension is not of much use, as mentioned by Koch and Hauknes (2005). The following interlinked dimension is thereby also to *manage and transfer the knowledge*, in order to make the best use out of the knowledge obtained (Massoud et al., 2006). This could mean to together develop a routine in the local government on how to evaluate a project, how this knowledge should be gathered as well as to discuss how to make use of learnings as good as possible.

5.1.10 External Factors

As illustrated in several models for diffusion, the innovation and its diffusion does not only get affected from factors within the organisation, but also from external factors in the environment around the organisation. The factor external factors have been divided into three dimensions; *regulations and political climate, socio-economic and cultural climate*, and *external networks*.

In the context of a local government, the political conditions and the socio-political climate will give rise to consequences for the diffusion on an innovation (Greenhalgh et al., 2005; Wejnert, 2002). This dimension is referred to as the *political climate and regulations*. The political context defining a local government is for example the presence of elected politicians, tax payers as funders, high regulations as well as another setting for competition, as explained for example by Koch and Hauknes (2005), Moore (1995) as well as Mulgan and Albury (2003). The empirical findings emphasised on the many regulations concerning the local government and therefore decisions get constrained by regulations, in agreement with Koch and Hauknes (2005). In addition, the operations also get affected by other public organisations such as the *Health and Human Services Department.* Furthermore, another factor why innovation is not favoured in the local government is the monopolistic structure of the public sector (Mulgan, 2007).

The second dimension *socio-economic and cultural climate* is based on theory from presented diffusion models as questions regarding this was not specifically asked for during the interviews. The environmental stability and the pressures from external parts affects the diffusion of innovations (Greenhalgh et al., 2005). Furthermore, the underlying values and beliefs of the society expressed as the societal culture as well as the geographical setting is underlined to influence the diffusion (Wejnert, 2002).

The last dimension of external factors is *external networks*. The enablement of knowledge sharing and the accessibility for competences outside the organisation via external networks are vital for diffusion of innovations (Greenhalgh et al., 2005; Koch and Hauknes, 2005). External networks have also been featured by other researchers in the theory as functioning interorganisational partnerships, interorganisational networks and external collaborations (Barnett et al., 2011; Greenhalgh et al., 2005). Furthermore, the norm-setting between organisations will also affect the external network and thus the diffusion (Greenhalgh et al., 2005). Inter-organisation cooperation is also underlined as a key to achieve a holistic view (Borins, 2001).

5.2 The Implementation Guide

In this section, an implementation guide for practitioners to improve the implementation process is presented, which is related to the second research question. The usage of the guide thereby aims to increase the likelihood of getting the innovation adopted and thus enhance its diffusion. The guide is derived from the diffusion model presented above in section 5.1, and is thus based on the same theoretical and empirical findings. However, researchers work regarding the implementation stage has been considered to a larger extent than in the previous section. Furthermore, the guide has been complemented with empirical findings from the implementation of the management system Treserva presented in the empirical findings in section 4.2. The guide has also been revised according to input from a local expertise panel, which is expressed when considered relevant to mention.

The following guide contains areas of which practitioners within a local government are recommended to consider during the planning and execution as well as after an implementation of an innovation. Attached to each area are detailed questions practitioners should ask themselves during the process, some of immediate action character and some on a more holistic perspective of the organisation. If there would be a negative or doubtful answer to a question, the natural follow up question regards how this will be achieved. The questions

aim to be of a practical nature and have been composed by the researchers of this study through translating literature as well as empirical findings into practical actions questions.

The implementation guide is not to be seen as a step-by-step guide, but rather a tool to be used continuously and at multiple times before, during and after an implementation. The guide may be used to create other relevant plans such as a project management plan, a communication plan, a competence and development plan etcetera, needed for an innovation to be implemented more successfully. The use of the guide may thereby enable the practitioners to find questions which need to be handled differently or to give more attention to, as well as to find the areas where things are handled in an desirable way. However, no 'right' answers or priorities are given but are rather to be found by the people handling an implementation.

Figure 5.2 illustrates the areas included in the implementation guide. Worthy of note is that there exists no internal ranking of importance of the areas and thus they should be seen as all improving an implementation. However, the value received of each area depends on the context and conditions of the organisation.

After a first version of the implementation guide had been developed, a local expertise panel at Lerum was asked to give input and feedback on the guide during a workshop. The purpose of the workshop was to further adapt the guide according to the operations of the local government. The guide was then revised with the feedback received, for example the areas *What and for Whom, Conditions of the Organisation*, and *Leadership* was added to the guide in order to make the guide more useful for practitioners. These three areas were in one way or another already included in other areas of the implementation guide before the workshop, but the expertise panel was of the opinion to give these areas more room in the guide and thus have their own areas.

Figure 5.2 *The implementation guide with including areas.*

5.2.1 Why, What and for Whom

The area *Why, What and for Whom* (figure 5.3) enables the practitioner to think of the relevance of the innovation by addressing questions about the users and the relative advantage of the innovation. It is thereby closely related to what is mentioned in section 5.1.1 and 5.1.2 regarding the adopters and the characteristics of the innovation and the adopters, as referred to by Greenhalgh et al. (2005) and Rogers (1995). This area was added to the implementation guide after input from the local expertise panel in Lerum. The purpose of the area is to make sure the implementation is made for the right reasons and that the innovation facing implementation is adapted according to the users' needs. Moreover, the questions included aim to guide practitioners to think about how motivated the user is to adapt to the change and if there may occur any barriers of some sort that could inhibit the users from adoption. The benefits of an innovation and the relative advantage are emphasised in many researchers' work in order to achieve both a better implementation and thereby more widespread diffusion (Greenhalgh et al., 2005; Maher, Gustafson, and Evans, 2010; Massoud et al., 2006). Furthermore, the problem oriented view is seen as a driver for innovation and thereby increase the innovativeness of an organisation (Koch and Hauknes, 2005).

Figure 5.3 *Illustration of the implementation guide with focus on 'Why, What and for Whom' with including questions.*

Why, What and for Whom

- *Why is the implementation done?*
- *What* is to be done and *for whom*?
- *Whose needs* should the implementation meet?
- Who is *affected* by the implementation (NB necessarily not only the end-user)?
- What are the *benefits* of the implementation and how *clear* are they for people affected by the change?
- Do these people *believe* that the change will lead to the better?
- How easy is the change to *accept*?
- How *motivated* are users to take on the change? Is there anything that *prevents* them from doing so?
- What will the *consequences* be if the implementation is not completed?

5.2.2 Conditions of the Organisation

The area including the *Conditions of the Organisation* (figure 5.4) reminds the practitioner to see the implementation from a holistic point of view by stating practical questions about the context of the organisation. According to Borins (2001), a holistic view and a system approach are the most common characteristics of successful innovations. The area covers the factors *Organisational Structure*, *Information Technology* and *Organisational Culture* in the diffusion model by letting the practitioners reflect upon potential barriers for the implementation in these areas.

Empirical findings stressed upon the importance of clearly stating processes in the organisation and roles in each project as well as other projects present during the same period of time. How an innovation also implies new roles is underlined by several researchers (Greenhalgh et al., 2005; Abernathy and Utterback, 1978; Damanpour and Gopalakrishnan, 2001), which raises the need to understand this change following an implementation and to thereby update role descriptions (Maher, Gustafson, and Evan, 2010). Moreover, the purpose of this area is further to find out if the organisation from a larger perspective is ready and can

handle the implementation, as emphasised by Greenhalgh et al. (2005). The area also touches upon the factor of *Organisational Learning* by asking if something similar has been done before and if experiences from previous implementations has been taken care of, as underlined as important by Borins (2001), Albury (2005) and Greenhalgh et al. (2005).

Notably, the area was added after feedback from the local expertise panel, expanding the implementation guide, since the opinion was that questions needed to be asked explicitly about the organisation's conditions and previous implementations.

Figure 5.4 *Illustration of the implementation guide with focus on 'Conditions for the Organisation' with including questions.*

Conditions for the Organisation

- How have the organisation's *conditions* been taken into account (in terms of planned and ongoing projects, the stability of the organisation etc.)?
- What are potential *technical, cultural* or *structural barriers* that may complicate the implementation?
- Has *something similar* been done before (either inside or outside the organisation)?
- How has *previous experience* been outlined and utilised?
- Have *processes* in the organisation, affected by the implementation, been *mapped out?*

5.2.3 Leadership

The area of *Leadership* (figure 5.5) is mainly linked to and thereby derived from the area *Organisational Leadership* in the diffusion model which advocates the priorities, level of responsibility and transparency, project and change management as well as the support from leaders. The role of leadership is stressed upon by several researchers (see for example Borins, 2001; Greenhalgh et al., 2005; Massoud et al., 2006; Maher, Gustafson, and Evans, 2010; Mulgan and Albury, 2003) as well as empirical findings. Especially the clear directives and support needed from leaders and managers are underlined in the empirical findings. To guide practitioners during an implementation, questions concerning who is leading the implementation and if roles are clearly defined are raised in this area. Other questions included are if the relation between responsibility and mandate is clear and if enough support will be provided to employees, which was mainly pointed out in the empirical findings.

As leadership was considered to be a part of all other areas in the implementation guide, it was not at first presented as an own area in the guide. For example, the leadership was considered to be a prerequisite and an integrated part of the following area *Shared Vision and Goals*. However, after the local expertise panel had emphasised the importance of leadership and raised the need of clearly communicating this need in the implementation guide, the area was added.

Figure 5.5 *Illustration of the implementation guide with focus on 'Leadership' with including questions.*

Leadership

- Who will *drive* the change forward and how will they do so?
- Are there clear *role descriptions* and is everyone aware of what is expected of them?
- Are there appointed leaders at *all levels* of the organisation?
- Is the relationship between *responsibility and authority* united, in order to get the process work smoothly?
- Do managers and leaders provide enough support and give *clear directives*?
- Is there enough *interest* and *commitment* from leaders?

5.2.4 Shared Vision and Goals

In the empirical findings, recurring themes of the implementation of the management system were the lack of a shared vision and understanding of other departments. As a consequence, the organisational needs were not clearly stated and thereby leading to difficulties in creating common goals. These themes built up to the area *Shared Vision and Goals* (figure 5.6). These issues are highlighted under the factor *Organisational Policies* in the diffusion model along with researchers' opinion on the matter.

Articulated questions included in this area to help practitioners cover if the vision, goals, and the effect of the implementation are clearly stated and shared with affected employees in the organisation (as mentioned for example by Potts and Kastelle, 2010). The questions also highlight if these are aligned with the overall goals and values of the organisation as argued important by Maher, Gustafson, and Evans (2010) as well as by Greenhalgh et al. (2005). As a result of the lack of mutual understanding in the empirical findings, questions also underline if different perspectives are taken into account and if there is a common view of what the consequences would be if the implementation is not executed. As Borins (2014) stated, there tend to be various goals among politicians and practitioners, which further motivates the need of having a shared view of the implementation.

Figure 5.6 *Illustration of the implementation guide with focus on 'Shared Vision and Goals' with including questions.*

Shared Vision and Goals

- Is the *vision*, purpose *objectives* and *impact* of the implementation clear and communicated?
- Is the *vision, purpose and objectives* of the implementation *consistent* with the overall vision and values of the organisation (e.g. regarding sustainability and equality)?
- *Who* needs a *common view* of the vision, purpose, objectives and impact? Do they have it?
- Can all involved explain the *purpose, objectives and benefits* of the implementation?
- Is there an understand of each other's *needs* and *perspectives*?
- Is there a *common understanding* of what the consequences will be if the change is not implemented?

5.2.5 Communication and Networks

As expressed in the diffusion model, the communication is a key factor for diffusion of innovations and includes various channels and agents (Greenhalgh et al., 2005; Massoud et al., 2006). Therefore, the implementation guide aims to emphasise the importance of communication during an implementation by letting practitioners reflect upon practical questions regarding the *Communication and Networks* (figure 5.7) within the organisation. For example, questions include who needs to get what information, and how one can ensure that the information is received and understood. A prominent theme in the empirical findings was especially the lack of communication about the importance of and reasons behind the implementation, which is something being underlined in theory as important to handle in a good way (Koch and Hauknes, 2005; Van de Ven, 2016). The need of receiving feedback about the process has also been underlined by for example Greenhalgh et al. (2005). Furthermore, the empirical findings pointed out the difficulties to obtain a holistic view without proper communication. Moreover, questions cover the need of documentation and for practitioners to decide when documentation should be done during the implementation. The purpose of the area communication and networks is thereby for practitioners to create a functional communication plan.

Figure 5.7 *Illustration of the implementation guide with focus on 'Communication and Networks' with including questions.*

Communication and Networks

- *Which* people need to get *what* information? *How* and *when* do they need to receive it?
- How will it be ensured that adequate information is *delivered and understood*?
- Which people need to communicate with each other?
- How will the *goals and progress* of the process be communicated to everyone?
- What *documentation* should be made during the various stages of the implementation? *When*, *by who* and *for whom*?

5.2.6 Training and Competence Development

The area *Training and Competence Development* (figure 5.8) has the purpose of guiding practitioners in the relevant competences and thus training needed to achieve a successful implementation. These matters are articulated under the factor *Organisational Resources* in the diffusion model where researchers express for example the importance of human-based resources and mechanism for competence development (Barnett et al., 2011; Koch and Hauknes, 2005). Moreover, literature covering implementation theory emphasise the significant value of training for the employees (Greenhalgh et al., 2005; Maher, Gustafson, and Evans, 2010).

The empirical findings show of a dissatisfaction within this area in the implementation of the management system Treserva, and especially mentioned is the lack of support and continuous training for employees. Therefore, stated questions to practitioners include if there is a way to find out what competences employees currently have and what they need for the implementation as well as for the subsequent work. In addition, a training and development plan should be developed for the people involved including when and how the training is

achieved. To handle the empirical findings regarding the lack in support, questions regarded this matter is also included to practitioners.

Figure 5.8 *Illustration of the implementation guide with focus on 'Training and Competence Development' with including questions.*

Training and Competence Development

- *Which skills and competences* are needed for the implementation and is there a way to find out what knowledge and expertise is *available* in-house and what is missing?
- Which *persons or groups* need skill and competence development for the implementation? What training is necessary?
- *When and for whom*, should the training be held?
- *How and by who*, inside or outside the organisation, should the training be held?
- Is there *relevant* and *adequate support* for all people involved during all phases of the implementation?
- How, when and by who will the level of training and competence development be *evaluated*?

5.2.7 Involvement and Engagement

Many researches as well as the empirical findings emphasise upon the need for making employees involved and engaged early in the process (Barnett et al., 2011; Borins, 2001; Greenhalgh et al., 2005; Maher, Gustafson, and Evans, 2010). This is to some extent addressed under the areas *Organisational Resources* and *Organisational Policies* in the diffusion model. The empirical findings show of employees mentioning multiple times about people feeling left outside of the loop and that people should have been involved earlier in the process. Hence, the researchers of this study saw the need of *Involvement and Engagement* (figure 5.9) to be articulated as an area of its own. The purpose of this area is thus to handle these issues by asking who and what functions need to be involved and engaged both within and outside the local government.

Moreover, to emphasise the need for employees to be willing to express improvement suggestions and new ideas during an implementation questions also cover these matters. In addition, leaders and managers have a vital role for motivation and engagement of staff, whereby questions regarding the leader's role is also expressed to help the practitioners.

Figure 5.9 *Illustration of the implementation guide with focus in 'Involvement and Engagement' with including questions.*

Involvement and Engagement

- Which *persons and functions* need to be involved and engaged inside and outside the organisation?
- *How and when* should these people become involved and engaged?
- Are the people affected by the change *included early* in the process?
- Are the people affected by the change involved in the *decisions taken*?
- Are employees encouraged to *express their ideas* and their suggestions and how are their ideas interpret?
- Are managers and leaders involved in the implementation, do they *understand* the change and can they *convey* it to the organisation?

5.2.8 Available and Dedicated Resources

The context of a public organisation gives consequences on how resources are handled in a local government, which is elaborated on in the diffusion model under the factor *Organisational Resources*. Certain difficulties for a local government lay in the pressure of using financial resources to the 'right' things which results in very strict budgets for projects without any slack resources needed for innovation according to several researchers (Albury, 2005; Greenhalgh et al., 2005; Koch and Hauknes, 2005; Potts and Kastelle, 2010). Somehow, this issue needs to be handled to give better prerequisites for an implementation, and the guide does therefore include specific questions regarding *Available and Dedicated Resources* (figure 5.10). From a holistic perspective, the questions also cover if the organisation currently has the possibility to assign the resources needed for the implementation, as underlined by Greenhalgh et al., 2005, or if the project need to be postponed. Worthy of note is how this area does not only regard financial resources, but also resources in terms of time, the right people as well as needed equipment such as facilities needed. The aspect of time has for example been brought up by Koch and Hauknes (2005), stating how the lack of time may create a resistance to change.

The purpose with the area is in addition to help practitioners predict if the change will remain and can be further developed with the assigned resources. Furthermore, it is also to prevent the implementation to get dependent on a few people in the organisation.

Figure 5.10 *Illustration of the implementation guide with focus on 'Available and Dedicated Resources' with including questions.*

Available and Dedicated Resources

- Does the implementation have *adequate resources* in terms of time, budget, people, equipment etc.?
- Is the organisation able to devote sufficient resources from an *overall perspective*?
- Will the change be able to *remain* and *further developed* after the implementation has been completed with dedicated resources?
- Will the change be sustained even if *key people* leave the organisation?

5.2.9 Pilots and Reinvention

Many researchers express the benefit of an experimental approach to the work with innovations as there is no one defined way of how to work with innovations in the public sector (Mulgan, 2007; Potts and Kastelle, 2010). As a consequence, public organisations are recommended to enable a creative way of design and test new ideas and also that it is favourable with a pluralism in different approaches of how to work with innovations (Koch and Hauknes, 2001; Potts and Kastelle, 2010). The area *Pilots and Reinvention* (figure 5.11) aims to help practitioners achieve an experimental approach and try out ideas in small scale at first to later gradually scale them up. In congruence with the empirical findings, many employees suggested such approach for an implementation of a management system and many questioned the big launch of the whole system at once.

Regarding the development of an innovation, researchers state the need for a safe place where the new idea can be developed and the process to contain a re-engineering element in order to adapt the innovation to the present context (Borins, 2001; Potts and Kastelle, 2010). Therefore, questions included in this area also cover if it is possible to later adapt the change or even stop the implementation if conditions in the organisation have changed. Furthermore, practitioners are encouraged to reflect upon if improvement suggestions from employees can be given and how these should be handled in practice.

Figure 5.11 *Illustration of the implementation guide with focus on 'Pilots and Reinvention' with including questions.*

Pilots and Reinvention

- Is it possible to first *test* the implementation on a smaller scale?
- How will the implementation be *adjusted* after it has been tested on a smaller scale?
- Is it possible for employees to do *small-scale tests* based on their ideas to see if more improvements can be made?
- Is it possible to *change direction* or *cancel* the implementation if conditions change?
- Is there a way to receive *improvement proposals* and put them into *practice?*

5.2.10 Monitoring and Evaluation

The area *Monitoring and Evaluation* (figure 5.12) aims to help the practitioners reflect upon the evaluation and feedback processes of the implementation. The reason for this is to improve the process along the way as well as to achieve further experiences to coming implementation projects. The importance of gathering knowledge, from both the inside and outside the organisation as well as how knowledge can be interpreted in the organisation are covered under the factor *Organisational Learnings* in the diffusion model. Evaluation and feedback as well as monitoring the process is articulated as important factor in both diffusion and implementation theory (Greenhalgh et al., 2005; Maher, Gustafson, and Evans, 2010; Massoud et al., 2006) as well as theory regarding innovation in the public sector (Koch and Hauknes, 2005). These factors are translated into a practical matter in the implementation guide to further help the practitioners to improve the likelihood of success in implementation projects.

The empirical findings show of a lack in the evaluation procedure and unfortunately miss to gather a lot of the experiences and lessons learned from the implementation of the management system. In order to deal with this issue and create a mechanism for monitoring the process and furthermore provide feedback on the process, related questions are included in this area. For example, questions ask how the evaluation will be performed and if there is a plan for how the evaluation process can be further developed. In addition, practitioners are asked to create beneficial ground for the change to remain by appointing responsible people after the implementation and make sure that processes and routines are updated in order to support the change. The area also covers how the lessons learned can be communicated out to others in the organisation.

Figure 5.12 *Illustration of the implementation guide with focus on 'Monitoring and Evaluation' with including questions.*

Monitoring and Evaluation

- How will *follow-ups* be performed during the process? Does the follow-up need to be done in any other way than before?
- How will *time and space* be created for the follow-ups?
- How will the follow-up process be *further developed* during the implementation?
- How will it be ensured that the change *remains and develops* after the implementation is completed?
    - Are responsible persons appointed?
    - Are the new routines described in role descriptions?
    - Does the organisational structure, policies, process descriptions, support the new way of working?
- Is there a way for the actual implementation process to be *developed* in the future?
- How will *lessons learned* be shared and *made available* to others in the organisation?

6 Discussion

In this following chapter, a discussion regarding this study is held. Suggestions for how to use the model and the guide are also provided.

By having studied the factors affecting the diffusion of innovations in a local government, it can be stated how there is a large amount of factors that may affect this process. In addition, related to the diffusion process, there are also a vast number of areas and related questions to take into account in the various phases of an innovation's implementation. Having studied and explored these various factors affecting the diffusion, one can also conclude how an innovation's presence in an organisation is a complex thing to understand and more importantly, it may also be perceived as difficult to know how to handle it in a conscious way. In addition, the diffusion and dissemination of an innovation can never be totally planned for or completely controlled, which makes the work with innovations additionally complicated.

Due to this complexity and unpredictability of what an innovation may result in, in combination with the context-specific characteristics of a local government as a public organisation, a natural doubt to the focus on innovation may occur. The presence of questions such as if innovation perhaps is something being too insecure, too complex, and even inappropriate to be given both space and resources in a local government, could easily be considered as low hanging fruit. Underlying reasons for this may be how available resources in public organisations need to be securely handled, without any risk for either funders or customers, and how there are vast consequences to every mistake. However, due to the funding of the local government and the people it aims to serve, an extensive need for innovation in order to increase the public value is also raised. In other words, since public organisations aims to deliver services for all people in the society, the aim should also be to deliver as good services as possible, which raises the need for innovation.

If agreeing on the balance between the need of improvement but yet a need of keeping the risk of failure down as much as possible in a local government, this is also considered as one further argument for how practical tools for practitioners are of high importance. In other words, the ever present limited space of failure in a local government raises the need of having reliable tools to hold onto during unpredictable situations like innovation projects. Not to derogate from the complexity of the diffusion process in mind, the effort put in an implementation project of an innovation is essential to make the prerequisites for diffusion as favourable as possible. Hence, having a diffusion model developed for local governments, which increases the understanding of the situation, and an additional practical guide raising areas to consider during an implementation, do immediately direct the focus to essential areas to consider. This study thereby contributes with both an understanding and recommendations of actions to be made when working with innovation at a local government through the model and guide. When using these tools, the possibility increases to save both time and resources, and does also raise the likelihood to make the most out of an innovation's investment and to limit failure as much as possible.

In the matter of the usefulness of the model and the guide developed, some areas seem to be more prominent in the reviewed literature as well as in the empirical findings and are thereby more important to consider, whereby these have been given space in the diffusion model and the implementation guide of this study. However, the focus of raising questions rather than giving specific answers in the implementation guide of this study may raise concerns among

practitioners of where to find the specific and correct answers. In addition, one could in these complex questions easily understand a practitioner's wish for a simple step-by-step guide with areas being consistent and reliable for each situation. However, there is a reason to the approach of raising areas and questions for practitioners to consider.

The reason to why there are questions in the guide is based on the importance of assessing one's own specific context by opening up for reflection and discussion together with peers. As a consequence, the handling of an implementation and the diffusion of an innovation is believed to become more beneficial than if some exact, yet general, answers were already provided. In other words, it is extensively emphasised how each organisation and situation have areas being more prominent from one situation to another, implying the need of understanding how every situation is not any other one alike. Worthy of note is though the importance of creating a base of knowledge and learning from others in the field of public sector innovation, but how this should not be mixed up with how the context-specific factor always need to be taken into account, assessed and analysed.

Expanding on the need of assessing each situation present in an organisation, even though having guiding tools as a support, the explorative approach should not be forgotten in the work with innovations in local governments. Hence, having an approach to the diffusion and implementation of an innovation that includes to experiment and refine in order to be able to learn and make the best out of every situation should be strived for. Establishing an accepting view on experimentation is thereby seen as a key in every situation relating to an innovation to enhance the chances for a successful outcome as well as in order to gain more knowledge of the own organisation. But again, the context-specific characteristics of the public sector influences and limits the acceptance of experimentations, which thereby further strengthens the need of discussing how to cope with the experimental approach at local governments.

In addition to what already has been suggested in terms of how to work with practical tools supporting innovation in a local government, an extended and proposed way of using the implementation guide is also to use it as an assessment tool for an increased organisational learning. The diffusion model and the implementation guide of this study could thereby highlight the areas being more, or which seem to be, returning 'problematic' areas for the organisation to handle. In this regard, 'problematic' could for example be referred to as something being difficult to change during the period of time of an innovation's implementation. Instead, it may rather be changes having a longer time horizon and/or more related to the overall aim of the organisation, and therefore demanding a broader approach within the organisation. The idea with this additionally proposed usage of the model and the guide is to use it as a tool for evaluation of the organisation, where also this information is gathered, handled, analysed and which lead to new initiatives and learnings. This proposed learning approach is to some extent already covered in the implementation guide in terms of the area of *monitoring and evaluation*, but without directions on how to gather this information and how to analyse and use it. No further directives on this is given in this study, but additional usage of the guide is rather proposed as a recommendation to additionally increase the value of the implementation guide. Inspiration from previous work and explanations of how this can be done, in terms of checklists and scorecards, is found in the work made by Ibanez de Opacua (2013) as well as Maher, Gustafson, and Evans (2010).

Moreover, going back to the definition of an innovation, it should once again be noted how this study has been performed based on empirical findings of what is defined to be a *technological process innovation*. However, due to how these empirical studies have been

combined with studies emphasising the more general public sector and diffusion of innovation theory, the study resulted in what is considered to be of a broader character than only to fit a certain local government and in addition, not even considered to only be limited to local governments at all. In other words, both the diffusion model and the implementation guide of this study are most likely to also fit other public organisations. However, the need of exploration and adaptation to the specific context and situation should not by any concerns be forgotten when transferred to other contexts within the public sector.

Having discussed the view on the result of this study, there is again a need of going back to the essence of the study. And as previously mentioned in this study, the field of innovation in the public sector has gained increased attention over the past decades. This increased focus is important due to many reasons. One reason is how there is a need of understanding more about how to work with innovation in public organisations, where multiple aspects are interesting and important to consider. One of these important aspects in order to make the work with innovation better is the question of what affects the diffusion of innovations in local governments and in addition, what can be done to enhance the prerequisites for diffusion. Having performed this study, a larger understanding of what affects the diffusion of innovations in a local government and in addition, what can be done to handle an implementation in a better way to enhance the chances for diffusion, has contributed to the research on innovation in the public sector.

7 Conclusions

This concluding chapter will reflect back to the stated purpose and provide a summary of the answers to the research questions. Lastly, suggestions for future research are also proposed.

In conclusion, this thesis has contributed with an understanding of how the diffusion of innovations in local governments is a complex process with many factors affecting the outcome. The study has thereby increased the knowledge of how to work with innovation in the public sector by addressing diffusion of innovations at a local government, as stated in the purpose of this study. The need of practical and reliable tools for practitioners have been emphasised, whereby two tools have been developed, one of a more conceptual character and one of a more practical character.

Regarding the first research question of this study (*What affects the diffusion of innovations within a local government?*) a large number of factors have been identified. The developed diffusion model is of a conceptual character and aims to increase the understanding of the context for diffusion of innovations in local governments. First of all, the innovation-decision process is in the very centre of this process, and is driven by communication among the adopters of the innovation. The factors affecting the innovation-decision process are in the model separated into an internal and an external environment, emphasising how the diffusion of innovations within a local government is also affected by its surrounding environment. Moreover, the characteristics of the innovation are also naturally affecting the extent of adoption and thus diffusion. Seven factors have been identified within the organisation, where the first one out of the internal factors is the organisational resources referring to the availability of resources in the local government and how these are handled. Further present factors are also the effect of the structure, the policies being present as well as the current IT strategy and landscape. Additional factors which have been identified as prominent are the leadership of the organisation, the organisational culture as well as the degree of learning present in the organisation. Included to each factor is also a number of dimensions that have been found in both literature and empirical findings to be of more importance. All these stated factors are interacting in a complex and dynamic way, affecting the diffusion of innovations in the local government.

The second research question of this study (*What areas should practitioners in a local government consider during an implementation to improve the prerequisites for diffusion of innovations?)* was fulfilled by developing an implementation guide for practitioners in the context of a local government. The guide was derived from the developed diffusion model and includes ten areas, which as underlined are to be of high importance for the success of an implementation of an innovation, supported by both theory and empirical findings. The areas included in the guide are: what and for whom, conditions of the organisation, leadership, shared vision and goals, communication and networks, training and competence development, involvement and engagement, available and dedicated resources, pilots and reinvention, and monitoring and evaluation. Furthermore, attached to each one of these areas in the guide are detailed questions for practitioners to act on during an implementation project, enabling the guide to be of a more practical character compared to the diffusion model. The guide is recommended to be used multiple times during the project where the frequency will be up to each project team to decide, as well as if any areas should be more prioritised. However, the researchers still recommend that every area is addressed in one way or another.

These two tools do in combination provide an increased understanding for diffusion of innovations in a local government and what to consider during an implementation, whereby the usage of these aims to increase the chances to achieve a more extensive diffusion of innovations. The usage of the diffusion model and the implementation guide developed in this study will be valuable for local governments and when adapted, also to other public organisations.

Future Research

The studies on the diffusion of innovations in local governments and what areas to raise attention to during an implementation further raises the interest of three suggested directions of future research. The first field of interest is further similar studies in other contexts, being either other local governments or in other public organisations. Another interesting topic to investigate would be how various types of innovations, in addition to technological process innovation, would be affected by the stated factors, or an extended number of factors. One additional suggestion for further research is to study the time aspect of when to take the stated areas into account in order to make the practical guide for implementation even more practical, by also giving guidelines of when to prioritise which questions and areas. If the focus on innovations in the public sector is further increased with a focus on how to understand the context and thereby how to work with innovations - a lot of value will be brought to the public organisations, and in extension, to ourselves as a part of the society.

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Appendix

In the following chapter, the interview guides used in the two rounds of interviews are presented, followed by the conducted survey as well as the result of the survey.

Appendix A – Interview Guide 1

This appendix includes the interview guide that was used during the first part of the empirical study. Questions are related to how innovations are perceived in the organisation and how innovations are spread today.

Purpose of interview
Get an overview of the current situation - a better understanding about the sector, as well as challenges and opportunities for spreading ideas. Learn more about the conditions for improvement, for example through an innovation forum.

Short introduction of ourselves

Ask them to introduce themselves

<u>About the concept of innovation</u>
How do you think you talk about innovations in your workplace?

- Do you think you talk about technical innovations and working methods in the same way?
- Is there an example of any of it?
- Do you think these can be spread the same? Do you think you have to treat them differently?

Interesting how the concept of innovation is received - if you would like to think freely, what does innovation mean to you?

- What could innovation in a municipality mean?
- How we look at innovation - a concept used in very many contexts, many people working with innovation, both in the private and public sectors. Both product and new technologies, but perhaps primarily that there may be a process or way of working here in a municipality.

<u>How innovations are spread today</u>
To what extent / in what way would you say that you are working with new ideas and working methods? Either in your device or overall in the sector?

<u>Spread own ideas</u>
Could you give examples of ideas you had and implemented in your department or sector?

If you have found a good way of working. Do you know how you would do to spread this?

- Is this something that is done regularly?

- Is there any way of working / routine around this? Or does it build more on informal contacts?

Bring in new ideas from the outside

If you heard about a good way of working, how would you do to use it yourselves? What opportunities do you have to take part of ideas outside of your own business? In what way does the information reach you?

- *Internal*: How do you communicate with other devices?
- *Hierarchy*: to what extent does the line work? Do you report to the manager and it is spread?
- *Network / Forum:* Is there any obvious meeting place / forum? Is there time to get ideas? Does attempting new ideas stop somewhere?
    - What works well / bad with these? Something missing?
- *External*: How do you get to what others do, such as other municipalities?

Have you ever taken an idea from outside? Ask for examples (outside the department, sector, municipality, company)

Can you give an example of a project that has succeeded / failed to spread?

- What do you think are success factors / barriers to the spread of ideas?

How could ideas spread in a better way?

If you think completely free: How would you like to see that ideas / practices are spread as good as possible? What could be done better?

Related to the spread of ideas and ways of working - do you have any other thoughts / ideas about what we missed out on? Is there anything you would like to tell us about?

Other people to meet

In order to proceed with the topic of spreading ideas, who do you else think would be interested in talking to us? Have something to share? Has completed a project that succeeded / failed?

Appendix B – Interview Guide 2

Appendix B includes the interview guide that was used during the second part of the empirical study. Questions are therefore related to the management system Treserva and the implementation process done in 2015. The questions also cover how the system is used today, user-experience and address characteristics of the system.

Purpose of interview
Discuss the process of the implementation of the management system Treserva.

Short introduction of ourselves

Ask them to introduce themselves

General about their work responsibilities
What are your work tasks today?

How do you get in contact with or work with Treserva in your daily work? What do you think about the system? How do you think it works? Is it easy or difficult to use according to you? (Complexity)

How did you participate in each phase? / What has your role been in each phases?:

- pre-study/preparation
- Implementation
- evaluation

How would you say that the system has been received by employees and staff? Would you say that the implementation was successful and what does a successful implementation mean to you?

Do you think the project received the priority and resources needed?

About the implementation
(Human / People-based Resources)

- What attitude did the employees have to the system and the change of systems according to you?
- How was training planned for? What kind of training and when it would be needed? How was training of the system conducted?
- Was there enough support from above (from both leaders and managers)? What was done in order to provide support to the employees?
- Were there any appointed ambassadors in the organisation?

(Process / Evidence)

- Was there given any milestones in the projects? Was the process of the implementation communicated to others during the project?
- Did you have any metrics to measure the progress and results? What measures were taken to make the change more permanent?

(Context / Environment)

- Did you know how the system compiles with the organisation's mission and values?
- What was the level of change in the system and how did it affect the operations?
- Have working methods changed for employees after the implementation? Has work shifted in any way (e.g. more administration lies with each employee and not the manager)

Success factors and obstacles

What would you say worked well in the implementation (things which you would have done in the exact way if you had the chance to do it again)

If you could have re-implemented the system (going back in time or do the implementation in at another employer in the same situation) is there something you would have done differently? Is there anything you would have like to be done differently in the process or by the organisation?

Did you perceive that the organisation had the prerequisites for a successful implementation when the project started? What conditions should be present in your opinion?

Would you say that there were any specific barriers among employees or within the organisation that complicated the implementation or the use of the system?

Do you think that it would be possible to gradually rollout the system? In other words, do you think it would be possible to first test the system in a smaller scale and not launch the whole system at the same time?

About the system, the use today and spread

How would you say that the system is used today? Is it used as it was thought to be used? Do all divisions/departments use the system equally?

How well does the system fit into the current working methods and other systems? (Compatibility)

Would you say that there is something that prevents employees from using the system as much as they could? Why / why not? (Risk)

Would you say that the system's full potential is used, i.e. all the intended functions?

What factors would you say affect the extent to which each employee uses the system?

Does Treserva facilitate the work? How / in what way? (Task issues)

Did you see any direct benefits / advantage with Treserva compared to previous systems? Do you think Treserva is better / worse than previous systems? Are these benefits clear? (Relative advantage / observability)

Is there any possibility for each user to customise the system based on their needs? (Trialability/ Reinvention)

How much knowledge is required to work with Treserva and to be able to use it? Is knowledge easy to transfer between users? (Knowledge required to use it)

What would be needed today for the system to be used more, alternatively in a better way?

Possibility to conduct a survey in your division/department?

Is there anything you would like to share about Treserva that we have not talked about?

Other people to meet

In order to get a good understanding of the system Treserva and about the implementation process, who do you else think would be interested in talking to us? Have something to share?

Appendix C – Survey about Treserva

The survey presented in appendix c was sent out to employees using the system Treserva in sector Support and Care. The purpose of the survey was to provide a better understanding of the management system and also to some extent, address what the implementation has resulted in. The questions focus more on the system itself, the user-experience as well as training and support employees have received.

Investigation of management system Treserva

Gender
- ❑ Woman
- ❑ Man
- ❑ Other
- ❑ Do not want to say

Roll
- ❑ Employee
- ❑ Unit manager
- ❑ Operations manager

Usage of Treserva
- ❑ Daily
- ❑ Every week
- ❑ Every month

Years you have been employed in Lerum: _____
Working group / Unit: _____

Question 1. How easy is the system to learn? (1=Very difficult; 6=Very easy)

1	2	3	4	5	6

Question 2. How easy is the system to use? (1=Very difficult; 6=Very easy)

1	2	3	4	5	6

Question 3. Do you know how you are expected to use Treserva? (1=No, not at all; 6=Yes, absolutely)

1	2	3	4	5	6

Question 4. Are you using the system in the way you are expected to? (Do not know, 1=No, not at all; 6=Yes, absolutely)

N/A	1	2	3	4	5	6

Question 5. Do you see clear benefits of using Treserva? (1=No, no clear benefits; 6=Yes, I see many benefits)

1	2	3	4	5	6

Question 6. Do you have sufficient time to use Treserva? (1=No, not at all; 6=Yes, absolutely)

1	2	3	4	5	6

Question 7. Does Treserva fulfil your needs of it? (1=No, not at all; 6=Yes, absolutely)

1	2	3	4	5	6

Question 8. Is Treserva important in order to execute the daily tasks? (1=No, not at all; 6=Yes, absolutely)

1	2	3	4	5	6

Question 9. Does Treserva ease your work? (1=No, not at all; 6=Yes, absolutely)

1	2	3	4	5	6

Question 10. Can Treserva be adapted to your own needs - either by yourself or to give suggestions? (1=No, not at all; 6=Yes, absolutely)

1	2	3	4	5	6

Question 11. Do you have enough IT competence to use Treserva? (1=No, not at all; 6=Yes, absolutely)

1	2	3	4	5	6

Question 12. Have you received enough training for the usage of Treserva? (1=No, not at all; 6=Yes, absolutely)

1	2	3	4	5	6

Question 13. Do you receive enough support for the usage of Treserva? (for example from colleagues, managers, system developers etc) in the usage of Treserva? (1=No, not at all; 6=Yes, absolutely)

1	2	3	4	5	6

Is there something else regarding Treserva (for example regarding the user experience, reasons for why you use or do not use the system, amount and quality of training etcetera) you would like to share? Please write below:

_____
_____
_____
_____
_____
_____

Thank you for your time!

Appendix D – Result of the Survey

In this appendix, the result of the survey sent out to the sector Support and Care is presented. Each diagram illustrates the answers from all 69 respondents and no further references has been provided to each department or employee. The first two diagrams show the median value (figure A.1) as well as the average score (figure A.2) of each questions, followed by the result of each question in figure A.3 to figure A.15.

Figure A.1 *The diagram presents the median value of all questions, where the answers are on a scale from 1 ('Very difficult' or 'No, not at all') to 6 ('Very easy' or 'Yes, definitely').*

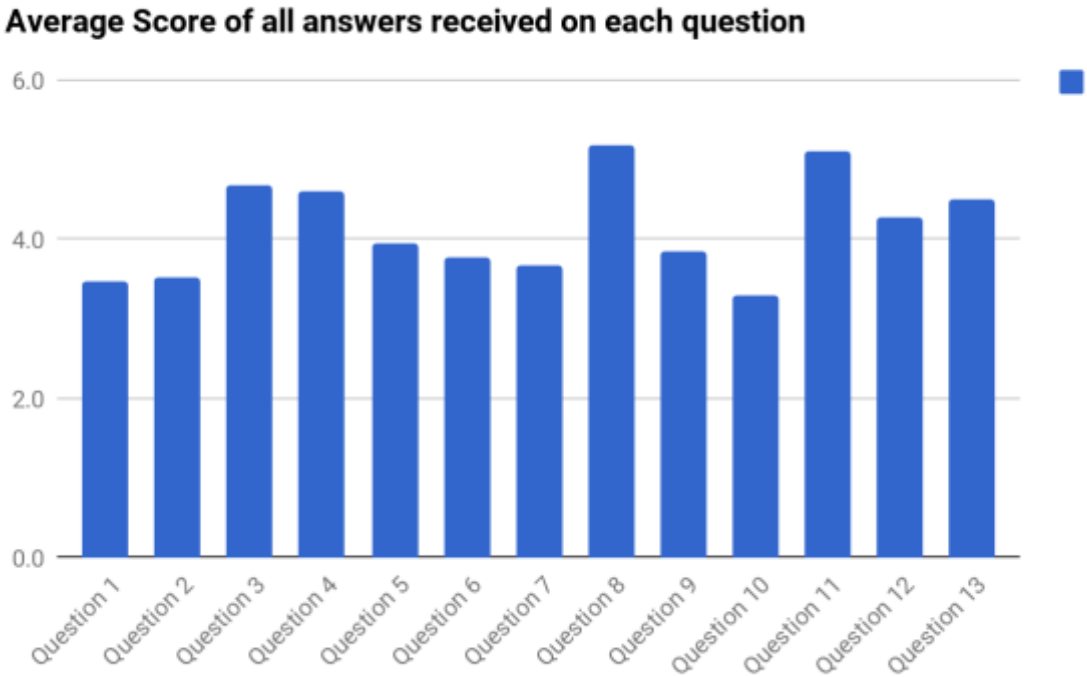

Figure A.2 *The diagram presents the average score of all questions, where the answers are on a scale from 1 ('Very difficult' or 'No, not at all') to 6 ('Very easy' or 'Yes, definitely').*

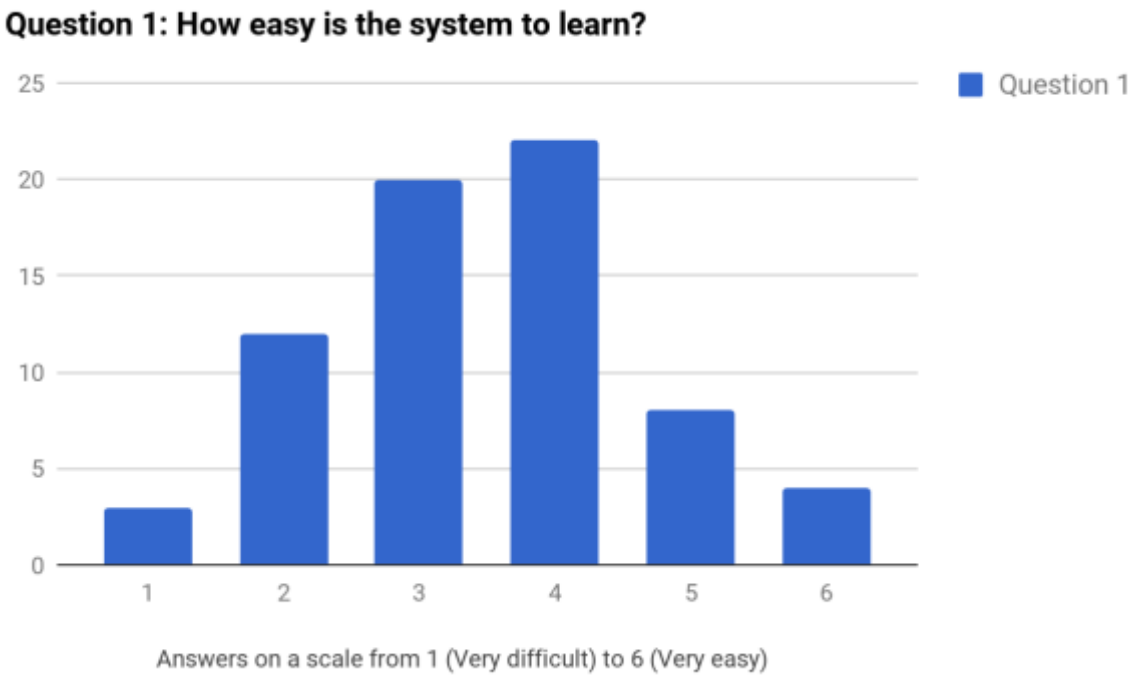

Figure A.3 *The diagram presents the result of question 1, where the answers are on a scale from 1 ('Very difficult') to 6 ('Very easy').*

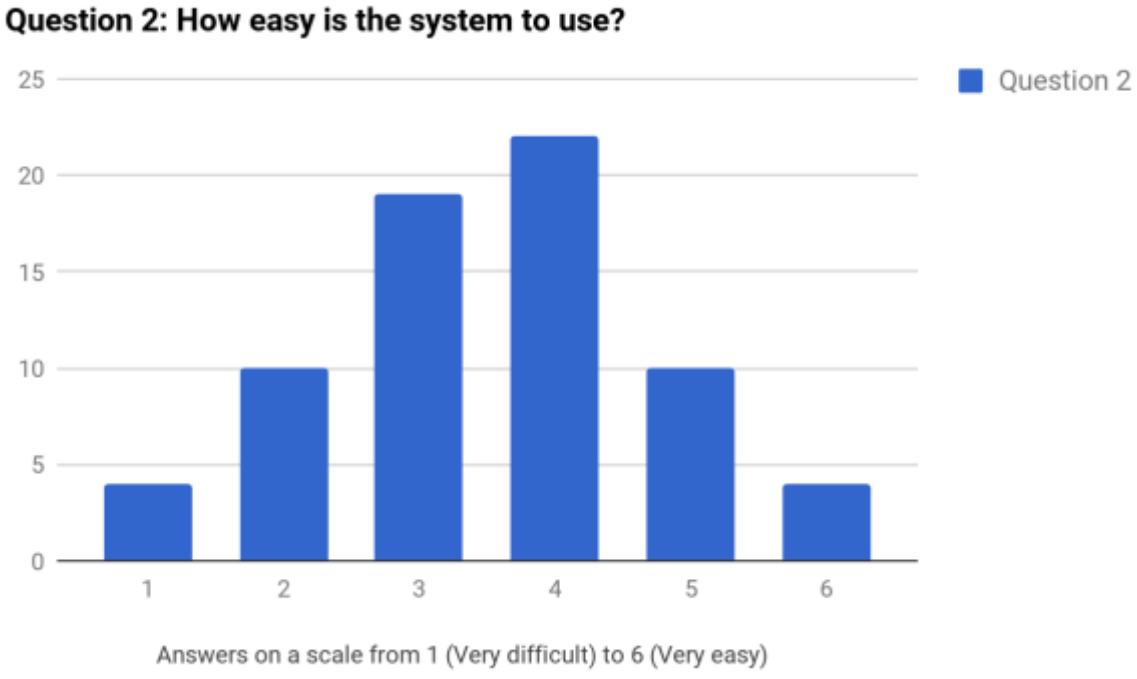

Figure A.4 *The diagram presents the result of question 2, where the answers are on a scale from 1 ('Very difficult') to 6 ('Very easy').*

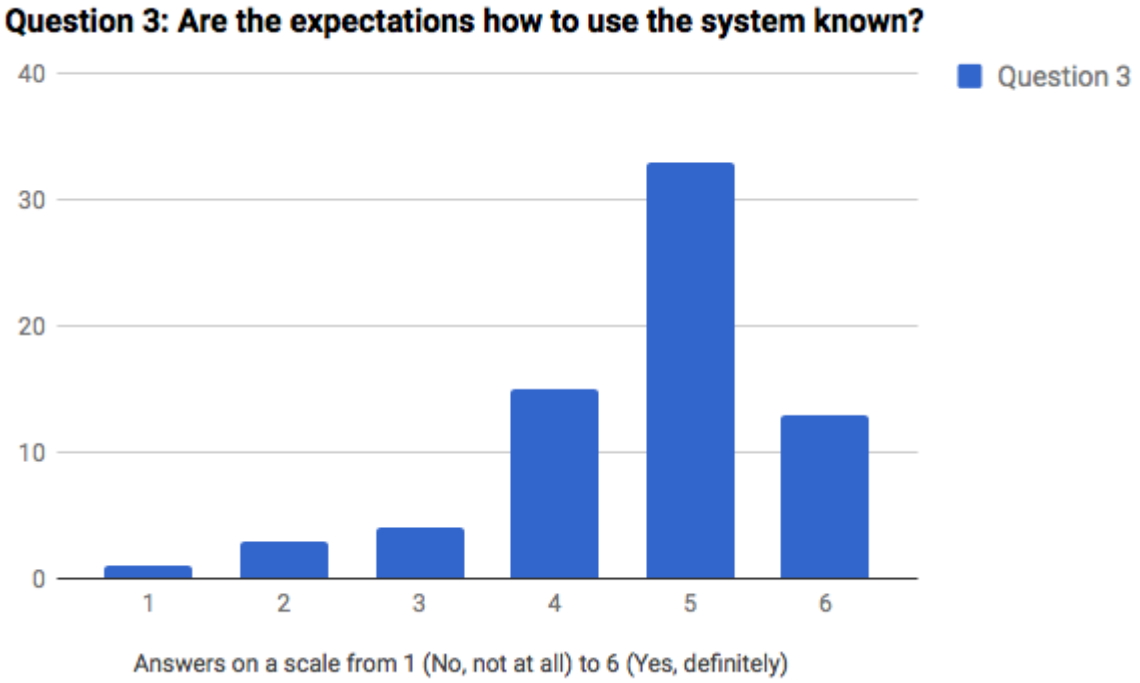

Figure A.5 *The diagram presents the result of question 3, where the answers are on a scale from 1 ('No, not at all') to 6 ('Yes, definitely').*

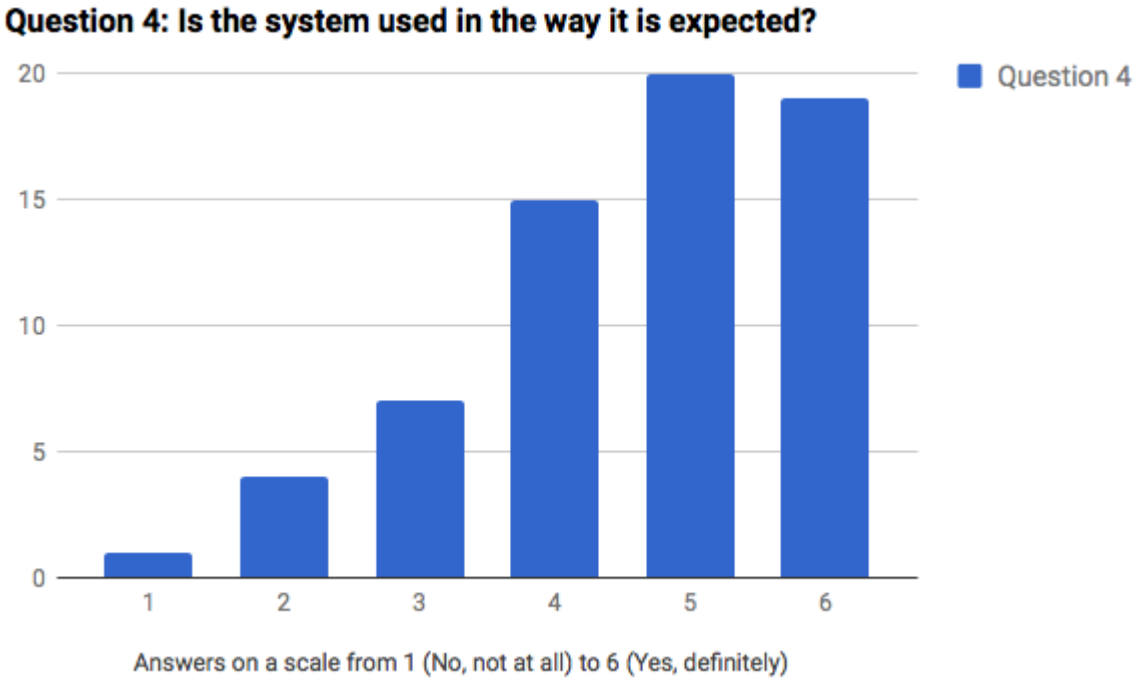

Figure A.6 *The diagram presents the result of question 4, where the answers are on a scale from 1 ('No, not at all') to 6 ('Yes, definitely').*

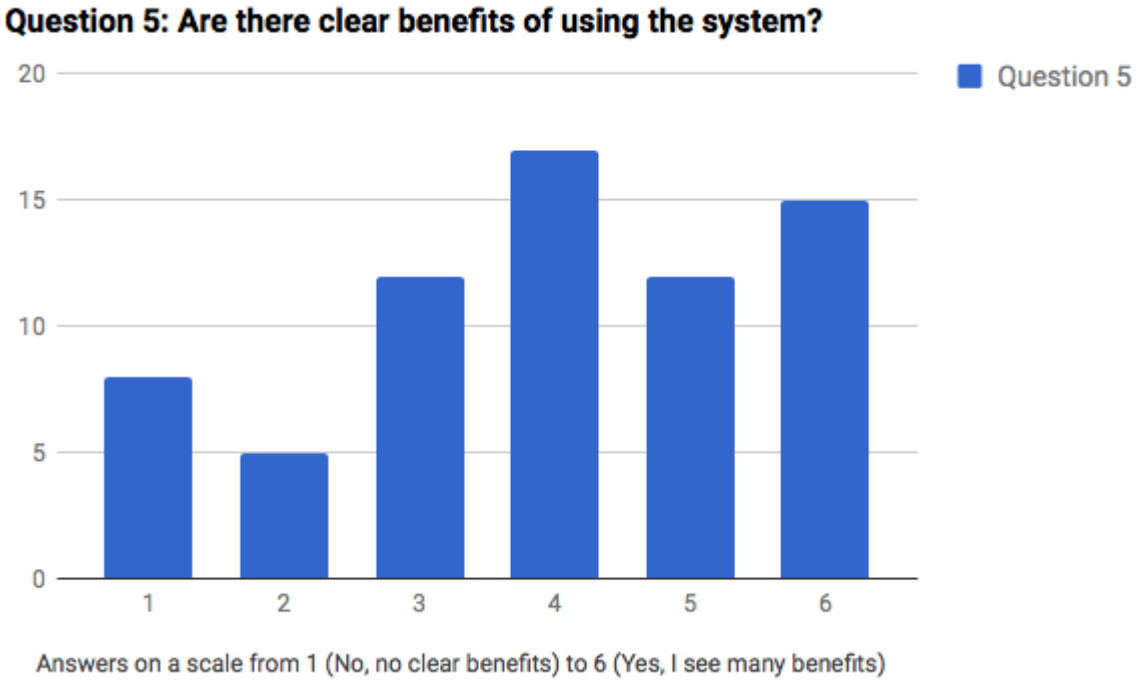

Figure A.7 *The diagram presents the result of question 5, where the answers are on a scale from 1 ('No, no clear benefits') to 6 ('Yes, I see many benefits').*

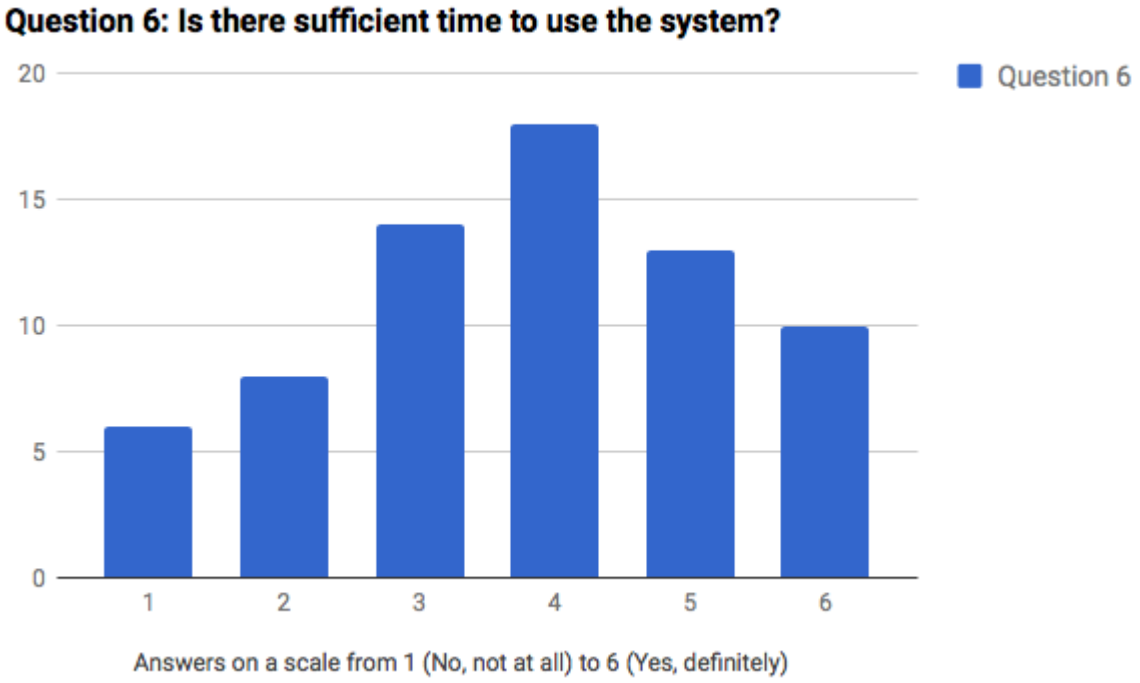

Figure A.8 *The diagram presents the result of question 6, where the answers are on a scale from 1 ('No, not at all') to 6 ('Yes, definitely').*

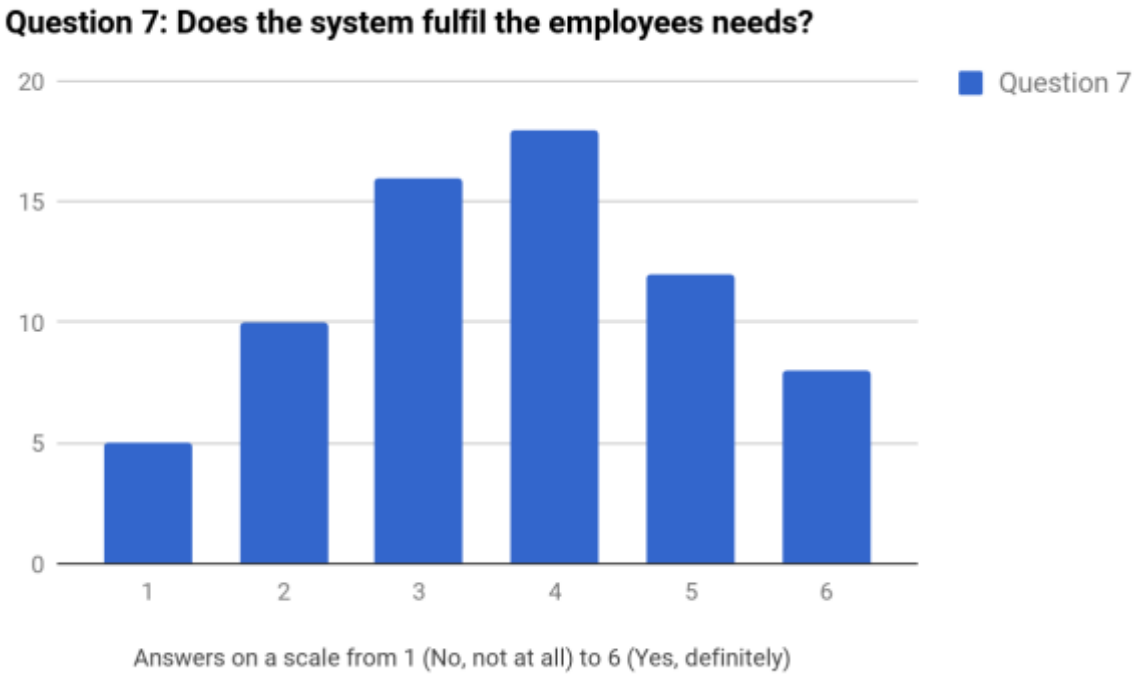

Figure A.9 *The diagram presents the result of question 7, where the answers are on a scale from 1 ('No, not at all') to 6 ('Yes, definitely').*

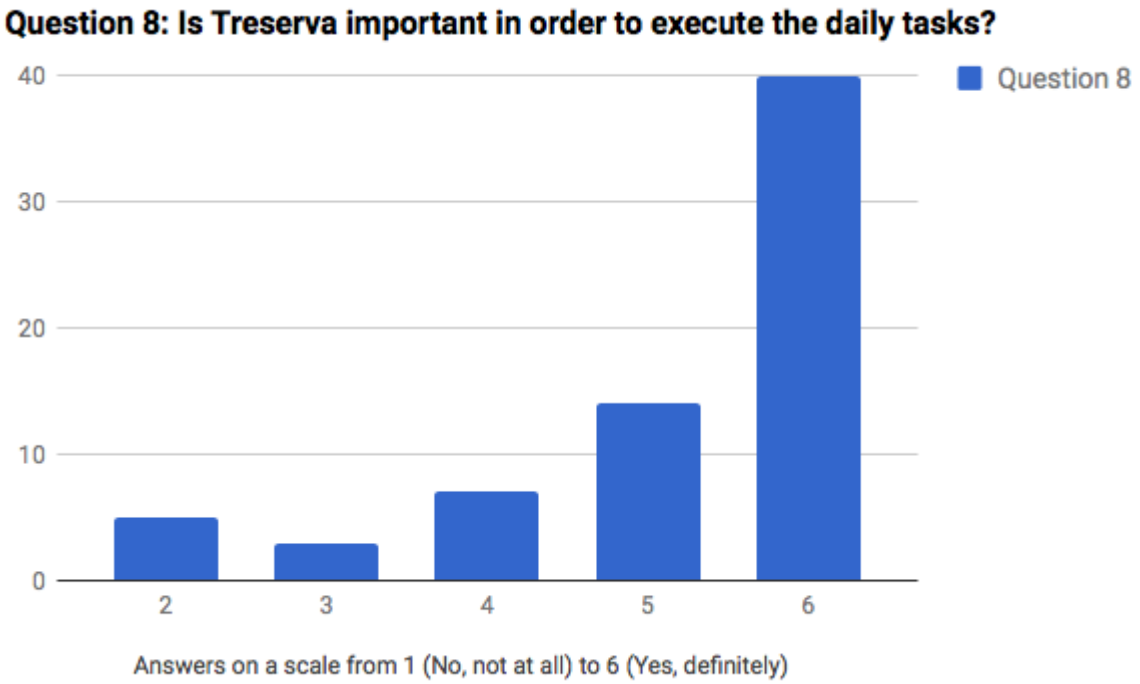

Figure A.10 *The diagram presents the result of question 8, where the answers are on a scale from 1 ('No, not at all') to 6 ('Yes, definitely').*

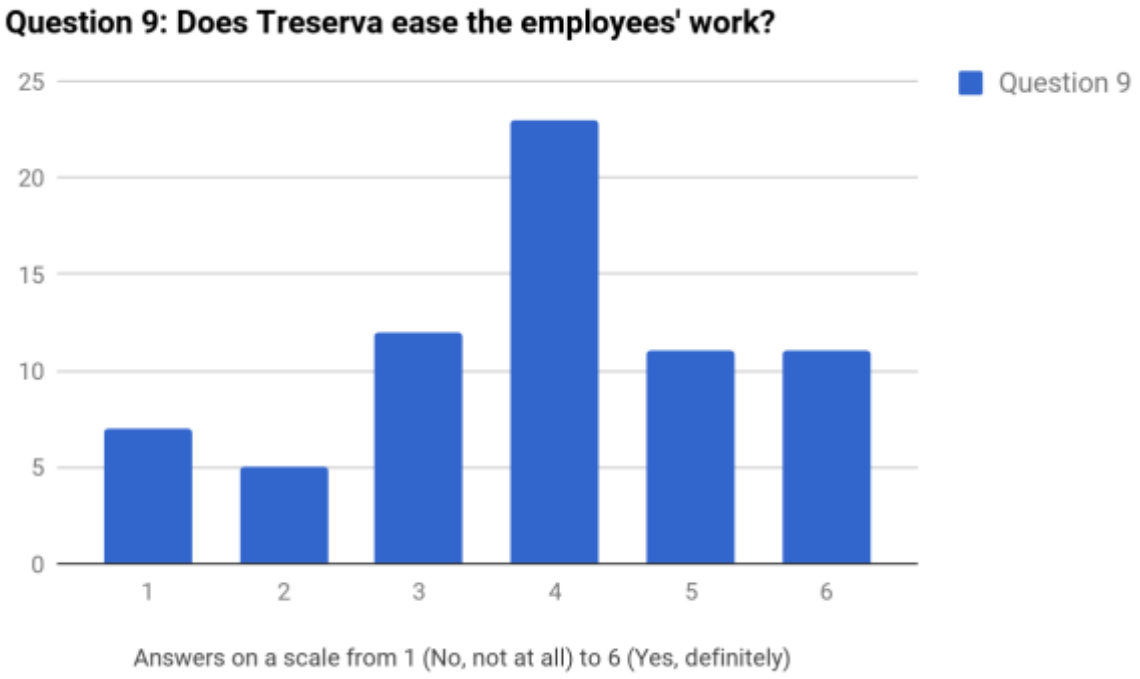

Figure A.11 *The diagram presents the result of question 9, where the answers are on a scale from 1 ('No, not at all') to 6 ('Yes, definitely').*

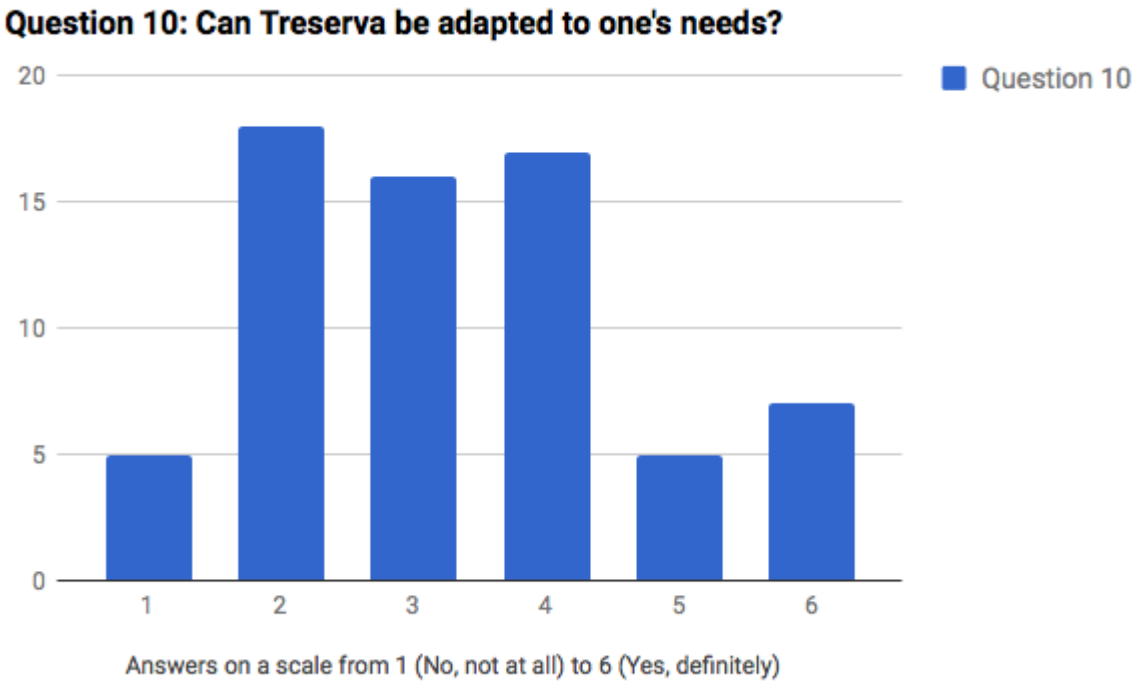

Figure A.12 *The diagram presents the result of question 10, where the answers are on a scale from 1 ('No, not at all') to 6 ('Yes, definitely').*

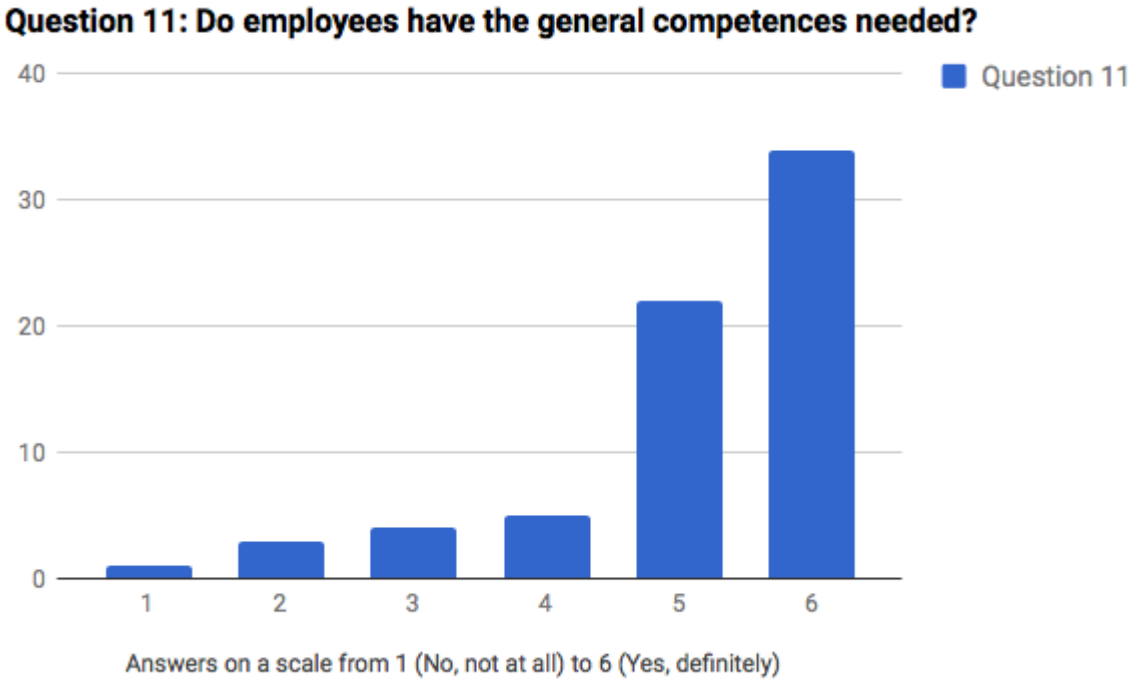

Figure A.13 *The diagram presents the result of question 11, where the answers are on a scale from 1 ('No, not at all') to 6 ('Yes, definitely').*

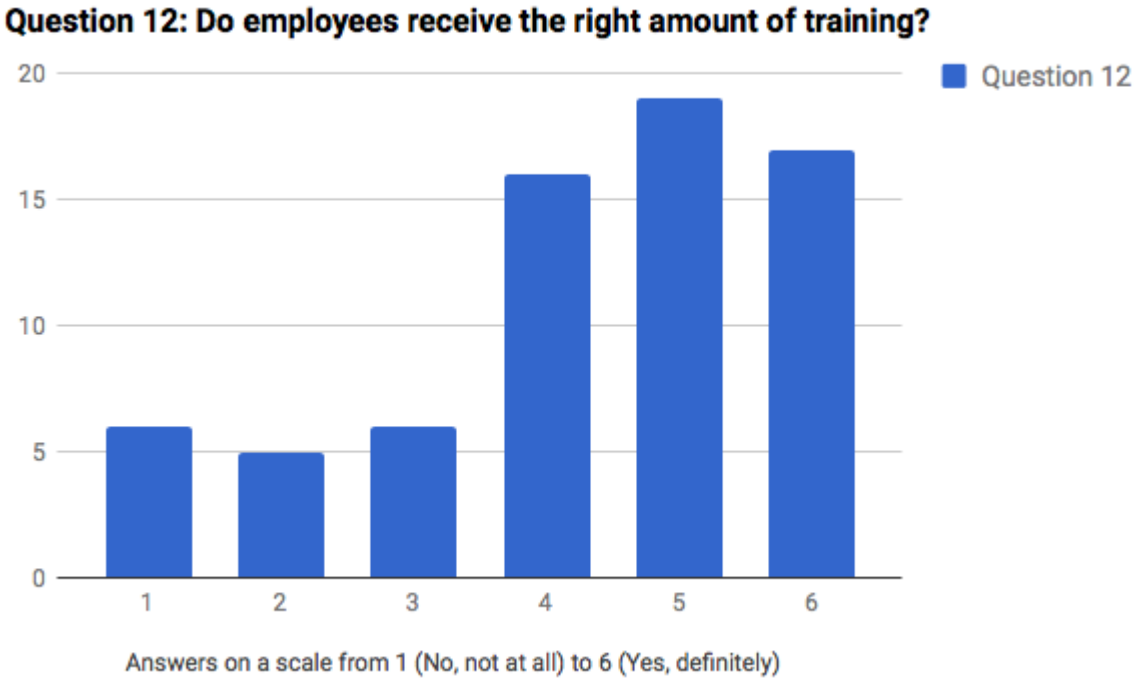

Figure A.14 *The diagram presents the result of question 12, where the answers are on a scale from 1 ('No, not at all') to 6 ('Yes, definitely').*

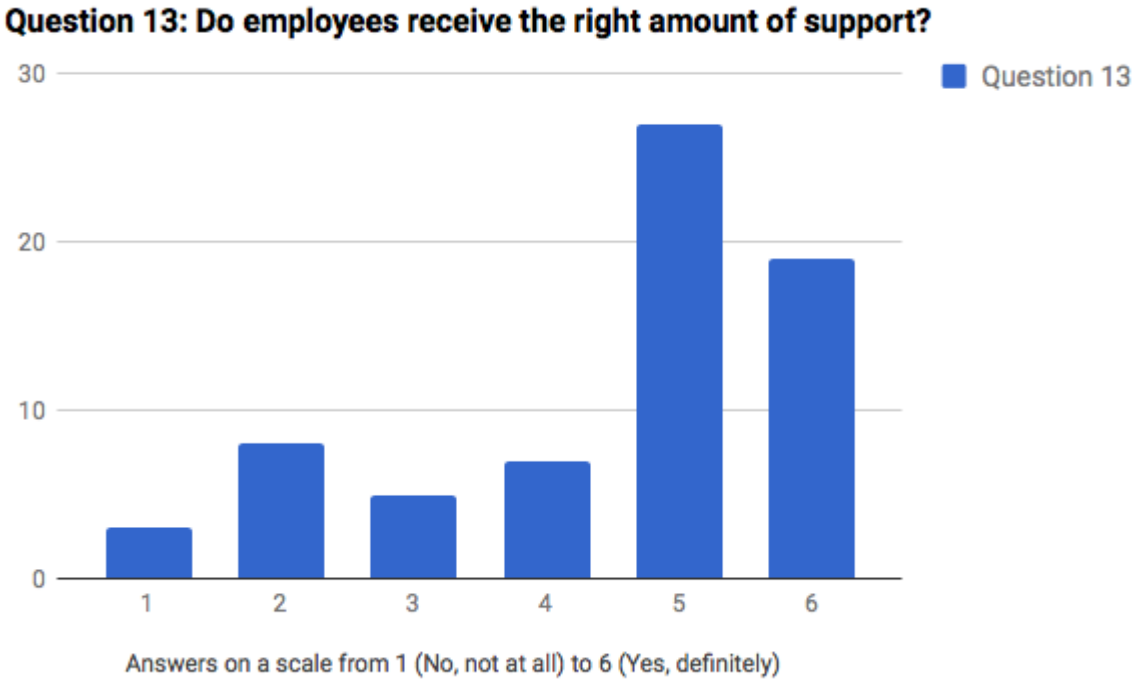

Figure A.15 *The diagram presents the result of question 13, where the answers are on a scale from 1 ('No, not at all') to 6 ('Yes, definitely').*