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The Wicked Problem of Covid-19 Pandemic

The Experiences of a Finnish Municipality Administration

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Abstract:

The aim of this thesis was to study the experiences of municipal administrators on Covid-19 pandemic using the theoretical background of the complexity studies especially the wicked problem framework. Preparedness was also part of the theoretical background of this work with the focus on preparedness for infectious disease outbreak to define the level of preparedness in a municipality. The research was conducted by interviewing 10 municipal administration officials in a Finnish municipality in the Ostrobothnia region. The analysis was conducted by using the content analysis. The interview and analysis produced six features that describe the wicked problem of Covid-19 in the municipal level, which are emerging practices, actions taken by the municipal management, the elements of leadership, wicked problem, pandemic preparedness and collaboration and networks during the pandemic. There were unexpected results in this study such as the political steering from top national administration and the lack of municipal preparedness to the pandemic. Yet, the officials pointed out the improvements in the matter such as changing the way of thinking and the increase in awareness of risks during the pandemic. The municipal level needed to develop new practices during the pandemic and the importance of planning for possible disasters stood out. It was also discovered that the Covid-19 pandemic posed a wicked problem and difficulties in the municipality for the interviewees had difficulties to name the problem causing conflict with the responses and definitions. The positive effects of the pandemic were the increase of collaboration and networks and the development of digital services during the pandemic. The results in this study indicate that it is a wicked problem to prepare for the unprecedented and unexpected situations but by using the gained knowledge and taking the complexity into account the planning for future disasters is not impossible task for municipalities.

Keywords: Wicked Problems, Complexity, Municipalities, Administration, Preparedness, Covid-19

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TIIVISTELMÄ:

Tämän pro gradu -tutkielman tarkoituksena oli selvittää kunnan viranomaisten kokemuksia koronaviruspandemiasta. Työn taustalla oli kompleksisuustutkimus ja erityisesti pirullisten ongelmien tutkimus. Myös varautumisen tutkimuksella oli iso rooli tässä työssä ja teoriataustassa ja etenkin tartuntatauteihin varautuminen oli tärkeässä osassa suomalaisen kunnan varautumisessa pandemian aiheuttamaan kriisiin. Tutkimuksessa haastateltiin erään Pohjanmaalaisen kunnan kymmentä hallinnon virkamiestä, ja haastattelut analysointiin sisällönanalyysin avulla. Tutkimuksessa nousi esiin kuusi koronapandemiaa kuvaavaa piirrettä kunnan näkökulmasta: uudet toimintatavat, kunnan johdon toimet, johtamiseen vaikuttavat tekijät, pirullisuuden osatekijät, varautuminen pandemiaan ja pandemian aikainen yhteistyö ja verkostot. Tutkimuksen yllättäviä tuloksia olivat valtion hallinnon tasolta tullut poliittinen ohjaus ja kunnan vähäiset varautumistoimet pandemian varalta, jossa on kuitenkin tapahtunut parannusta ajattelutavan muutoksen ja tietoisuuden lisäämisen takia. Kunnan hallinnossa kehitettiin uusia toimintatapoja pandemian aikana ja suunnitelmien teko tulevien katastrofien varalta nousi tärkeäksi huomion kohteeksi. Tutkimuksessa tuli esiin myös koronaviruspandemian aiheuttama pirullinen ongelma ja haasteet kunnassa, sillä haastateltavien vastaukset olivat ajoittain ristiriitaisia ja myös käsitteet menivät sekaisin. Pandemialla oli kuitenkin myös positiivisia vaikutuksia, kuten yhteistyön ja verkostoitumisen lisääntyminen ja digitaalisten palveluiden parantuminen pandemian aikana. Tämän tutkimuksen tulokset osoittavat varautumisen ennakoimattomaan ja yllättävään tilanteeseen olevan pirullinen ongelma, mutta kunnissa on mahdollista suunnitella ja varautua uusiin katastrofeihin ottamalla huomioon opittu tieto ja asian kompleksisuus.

AVAINSANAT: Wicked Problems, Complexity, Municipalities, Administration, Preparedness, Covid-19

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1 Introduction

The year 2020 was unprecedented due to the Covid-19 pandemic and the effects of the restrictions related to it. This new type of pandemic has caused the implementation of the emergency law, economic challenges, restrictions on movement and social gatherings and changes in work and school life among others. It is possible that some of the effects are not visible yet. As Covid-19 pandemic affects the whole society both domestic and global, the role of administrative processes is central. There is a need for studying the administrative processes and responses of the pandemic.

The Covid-19 pandemic began to spread from China at the end of 2019, and by March the virus had spread to 141 countries and World Health Organisation had declared it as a pandemic (Eduskunta 2020). The first Finnish case of Covid-19 was reported at the end of January 2020 (Kajander 2020). The Finnish government decided on 12.3.2020 to implement restrictions and preparation against the spreading of the pandemic which included cancellations of public events and the recommendation to avoid close contact with other people (Eduskunta 2020).

As the Covid-19 is a new type of virus, the research about the pandemic was very limited at the beginning of the year, spring 2020, research was very limited. However, as the situation developed throughout the year, there has been significant increase in academic knowledge in medical but also administrational research. This study contributes to the accumulation of academic knowledge related to the administrational effects of the Covid-19 pandemic.

The background of this thesis is in the complexity theory specializing in wicked problems. The Covid-19 pandemic as a global disaster has proved to be a difficult and complex problem for the administration. This thesis focuses on the local level of administration that is the municipal level and approaches the covid-19 pandemic as a wicked problem in leadership perspective. The main focus shall be on the municipal leadership and administration.

Preparedness and disaster management have also a major role in this study for this theoretical framework includes the administrative practices required by the Covid-19 pandemic. The starting point for this study is that due to the unexpected appearance of Covid-19 the administration needed to develop new practices to cope with the disaster at hand. This assumption is based on theoretical background presented in chapters 2 and 3.

1.1 Goal

The goal of this research is to study the experiences of municipal officials on the Covid-19 pandemic. The study has theoretical basis on the complexity studies especially on the research of wicked problems but also the on study of preparedness against disasters. The wicked problem describes the difficulties arising during the pandemic and the preparedness refers to the actions taken before the pandemic. The research questions are stated here:

1. Which characteristics of a wicked problem can be found from the covid-19 pandemic?
2. What are the experiences of municipal administrators on preparedness in case of the covid-19 pandemic?

These questions help to map the experiences of municipal administrations during the covid-19 pandemic in Finland and the level of preparedness in Ostrobothnia region before the pandemic. This thesis has been constructed as follows: first the theoretical background is introduced in the chapters 2 and 3, then on chapter 4 the research methods are introduced, and finally the results and discussions are at chapters 5 and 6. The appendix contains the translated interview form of this study.

1.2 Data

The data was gathered by interviewing a group of municipal officials. The study focused on one municipality in the Ostrobothnia region in Finland. The total amount of interviews was 10 and they were conducted between 20.1.–12.2.2021 using the Zoom program. The recordings of these interviews were used later in the analysis and shall be deleted after the publication of this thesis.

The interviewees hold management or supervisor positions in the municipality and their work is related to the Covid-19 pandemic or the municipal preparedness. The interviewees are both male and female gender and their municipal post range include all areas of municipal administration from the health care to education. Most of them have held their current post for several years and many had several years of experience in working at the said municipality.

All of the interviewees had occupied their post during the time of the Covid-19 pandemic from the beginning of the year of 2020 up to the time of the interviews. During this time, they experienced Covid-19 pandemic in the municipal administration and observed the effects on the administration and the community. These experiences are introduced further in the chapter 5.

1.3 Method

Interview is a study method that is widely used in society, such as in media, for it focuses on the experiences people have on their daily lives (Hyvärinen 2017, p. 11–12). The data gathered from interviews allows the researcher to gain access to information after event has occurred (Hyvärinen 2017, p. 12). This type of information associates with several points: the researcher must be aware of the situation during the event but also how it affects the present situation (Hyvärinen 2017, p. 12).

Hirsjärvi and Hurme (2008, p. 35) endorse interview as a method to gather information on an unknown and unmapped subject when the answers might be complex. As the information might be scattered or extensive it may be hard to from a comprehensive view on the situation. Yet, interviewing presents the opportunity to deepen the acquired information by asking additional questions during the interview (Hirsjärvi & Hurme 2008, p. 35). For this reason, interviews can be used to discover information about new and unexpected events such as the Covid-19 pandemic.

Interviewing is a suitable method for this study as the goal is to map the experiences of municipal administrators about the events of the year 2020. Covid-19 pandemic has been unexpected and has had an unseen effect nationally and globally. This study is mapping the extent of these effects on the municipal level. During the pandemic outbreak in spring 2020, it is likely that the municipal administration developed new procedures and policies which this study aims to discover.

2   Coronavirus pandemic as a wicked problem

Schomaker and Bauer (2020, p. 846) present the Covid-19 pandemic as a wicked problem and demonstrate further the organisational difficulties. They give the administration two ways to cope with sudden crises: to follow traditions and normal routines of the organisation or to form new and fresh routines (Schomaker & Bauer 2020, p. 846). Despite that a pandemic develops slowly the spreading phase can happen suddenly. Schomaker and Bauer (2020) emphasise that organisations need to learn from past crises and use this knowledge to prepare for future threats. In their research they found that those administrations who had implemented the the preparedness procedures were able to learn from the situation and managed the crisis situation better (Schomaker & Bauer 2020).

In Finland, the Prime Minister's Office has published a report (Valtioneuvosto 2021) on the experiences of the national administration officials on the Covid-19 pandemic. The viewpoint in the report was at the crisis management in the national administration for which they interviewed the top government officials (Valtioneuvosto, 2021 p. 6). This report of the Prime Minister's Office has a national perspective to the pandemic and yet it is similar to this study despite the differences with the level of administration and the theoretical viewpoint. The report presents the organisational difficulties related to the Covid-19 pandemic which are presented next.

The leadership and decision-making were for the most part successful due to the rapid actions and decision which were based in the medical knowledge (Valtioneuvosto, 2021 p. 6–7). Also, the collaboration within the national government was seen as functional, yet there was the need for development with both collaboration and the communication related to it (Valtioneuvosto, 2021 p. 6–7). The communication especially with the information distribution was regarded as effective for the clear, fact-based and sufficient information, yet it was conceded in the report that some of the information was conflicting (Valtioneuvosto, 2021 p. 6–7). The report stated that the national preparedness for pandemic was not up to date for the learning related to previous preparedness training was

not applicable for this pandemic (Valtioneuvosto, 2021 p. 6–7). These results correlate strongly with the results of this study and shall be discussed further in chapter 6.

2.1   The Wicked Problem in Complexity studies

Cilliers (1998) defines complexity as a kind of network system that has an element of self-organizing the activity and the structures. One of the main points of complexity studies is that complex is not same as complicated (Cilliers 1998, viii). Cilliers (1998, viii–ix) points out that the key difference between a complex system and a complicated system is that one can analyse the parts of a complicated system to fully understand it, but a complex system is more than the sum of its components. Complex system is changing all the time, and it is comprised parts that affect each other like a network (Cilliers 1998, viii–ix). Cilliers (1998, x) states that despite this difficulty it is possible to describe complex systems and model them. In this study preparedness is seen as a complex operation that includes the Finnish health service but also global health governance systems. As the Covid-19 pandemic has been a global issue, the national health systems are related.

Raisio et. al. (2019, p.11) describe the interwoven nature of wicked problems and complexity research and some researchers do not differentiate between a complex problem and a wicked problem. Despite the several similarities, the differences are found mainly thought comparison with opposing concepts, as complexity can be compared with order and wicked problems with tame problems (Raisio et. al. 2019, p. 11).

Vartiainen et. al. (2013, p. 20–21) describe a tame problem as clearly defined with straightforward rules and outcome. A tame problem is not necessarily easy to solve but it is not ambiguous which means it is possible to solve (Vartiainen et. al. 2013, p. 20–21). A wicked problem, however, is different since it can be described as complex or ambiguous. Vartiainen et al. (2013, p. 22) explain this as the social and cultural aspects of a wicked problem which makes it complex. They suggest some characteristics for a wicked

problem: the problem is ambiguous and unique, so the solutions are not definite or right or wrong for there are multiple ways to solve it (Vartiainen et al. 2013, p. 22–26).

Wexler and Oberlander (2020) go even further with their argument pointing out that besides the tame and wicked problems there is also a super wicked problem which addresses more controversial, threatening and larger scale of a problem than a normal wicked problem. They name the Covid-19 pandemic as a super wicked problem since it has a large impact on a society and as the public attention and increased public anxiety focuses on the matter, it causes pressure and demands to the public leadership (Wexler & Oberlander 2020). However, in this study the Covid-19 pandemic shall be interpreted as a normal wicked problem as the viewpoint is not global but smaller and local in the municipality level.

2.2 The Wickedness in Leadership

Marion and Uhl-Bien (2011, p. 385) observe the complexity studies as the leadership from a new perspective for complex matters cannot be handled with traditional methods such as top-down directing. There are several events and phenomena that influence organisations in unseen ways causing new and changing problems that are impossible to solve with traditional ways (Marion & Uhl-Bien 2011, p. 385). This means that there are no quick and simple solutions to some issues. Marion and Uhl-Bien (2011, p. 385) illustrate this by stating that complex matters require complex solutions, further, they recognise the role of complexity research as studying leadership strategies that successfully manage complex issues.

As this is a rather general view of leadership and complexity the specification to problem-solving shall be covered next. Indeed, as Raisio et. al. (2019, p. 14) state, it is important to observe and understand the wicked issue at hand to be able to deal with it, to adapt and react to it and to solve smaller issues in daily processes. They indicate two ways to handle a wicked problem: the increase of cooperation inside a network and the part that

a leader takes in the solution (Raisio et. al. 2019, p. 13). They also emphasize the need to concentrate on functioning networks rather than hierarchical structures in health care (Raisio et. al. 2019, p. 13).

Vartiainen et. al. (2013, p. 43–44) present a variety of leadership models related to wicked problems: authoritative, competitive and coworking leadership model. Authoritative leadership aims to reduce wickedness of the issue by holding information within a small group of leaders which may not introduce sufficient number of solutions (Vartiainen et. al. 2013, p. 43). Competitive model introduces competition of power and leadership leading to decision-making by the winner, consequently, this may bring new ideas to be produced or respectively cause dysfunction of the unit (Vartiainen et. al. 2013, p. 43).

The third and, according to Vartiainen et. al. (2013, p. 43–44), the best solution for resolving wicked issues is the coworking leadership model that involves a great number of people with the decision-making procedure. This distributes the power, risks and benefits reducing the burden of one individual (Vartiainen et. al. 2013, p. 43–44). However, this is also more costly and time-consuming method, since there are many people involved (Vartiainen et. al. 2013, p. 43–44). Further, coworking and cooperation should not be limited only to one unit for it ought to be directed to organisational level even including other organisations (Vartiainen et. al. 2013, p. 43–44).

The coworking leadership model is suitable for public administrations since administration shares the same goals and follows the same regulation with other public offices. However, in practice this it is difficult to involve different administration units to decision-making for even in municipal level there are several administration units to govern the daily activities. In Finland, the health care of one municipality may involve their own leadership such as council, a joint municipal board that operate the health care of two or more municipalities, a regional administration office and the national decision-making and politics, making collaboration challenging.

Vartiainen et. al. (2013, p. 44) present public health care as a good example of the need of interorganisational cooperation for there are also other parts of society involved. Therefore, Vartiainen et. al. (2013, p. 43–44) claim for a holistic approach to leadership to map out the scale of the problem and to visualize the goals for the operation. There should also be collaboration with the citizens since the number of people dealing with the matter increases the knowledge and innovations (Vartiainen et. al. 2013, p. 46–47). Further, the solutions for wicked problems often require alteration in the behaviour of the people as public health is acquired only if the public agree to follow the guidelines (Vartiainen et. al. 2013, p. 46–47).

Yet another consideration to the wicked problem is provided by Mäki (2020, p. 105) as she endorses the role of emergence and self-organisation in leadership. These two are the result of interaction and practices in the daily work life, and as the networks surrounding the work unit changes independently, there are new practices emerging with the daily work (Mäki 2020, p. 105). The emergence and self-organisation are influenced by the surrounding organisation and its environment, but they also affect the daily functioning of the work unit.

2.3   Complex adaptive system

Johnson (2015, p. 151) describes a complex adaptive system (CAS) as similar to a complex system but emphasize the difference between them. The similarities include the active and complicated interrelation between the parts of the system leading to emergence within the system and to a bigger entity than a composition of parts (Johnson 2015, p. 151). Yet, the difference between them is the reactiveness of a complex adaptive system to the changes of the surroundings and evolving by them (Johnson 2015, p. 151). Complex adaptive systems may be used to analyse the Covid-19 pandemic as it causes unprecedent changes in societies that organisations must respond to. This shall be discussed next.

Angeli and Montefusco (2020, p.1) construct their article on viewing the Covid-19 pandemic and the functioning of health care administrative institutions through complex adaptive system viewpoint thus focusing on the social effect of the pandemic. This viewpoint introduces the Covid-19 and other pandemics as events that are non-linear for the spreading of the disease is unpredictable despite the efforts to restrict it (Angeli & Montefusco 2020, p.1). They raise the issue of linear thinking in Covid-19 pandemic, stating that for example closing schools causes problems for the domestic abused children (Angeli & Montefusco 2020, p.2).

Straightforward thinking may prevent learning from the pandemic thus affecting the measures taken against the virus (Angeli & Montefusco 2020, p.2). Further, Angeli and Montefusco (2020, p.2) assert that the normal conditions of a social system affect the implementation of policies during a pandemic for there is interrelation with implementation and the environment which causes particular outcomes. This means that the environment of a community affects the results of public policies and the normal conditions of the community are important during a pandemic as well. Consequently, the effective policies in one country may not be as effective in other national environments (Angeli & Montefusco 2020, p.2).

Angeli and Montefusco (2020, p.3) emphasize the non-linear nature and locality of problems that manifests with a pandemic. These are in line in relation to CAS, for complexity studies objects the straightforward thinking and CAS specially highlights the role of environment and local conditions in solving the problem. Since solving complex problems is depending on the local conditions and different communities need different solutions, Angeli and Montefusco (2020, p.3) call for collectively responsible and collaborative administration.

Biswas et. al. (2020) used CAS as a framework to study the pandemic preparedness of Bangladesh finding deficiencies in pandemic readiness. The framework can be used to

map out the issues related to institutional preparedness such as leadership which has been problematic during the pandemic for insufficient testing, the lack of departmental coordination and political obstacles in decision-making (Biswas et. al. 2020, p.1605–1606). With this method CAS provides a new viewpoint to the research subject as a way to map the organisation with the environment.

2.4   The complexity in the municipal organisations

Thietart and Forgues (2011, p. 53) define the goal of complexity approach in organisational studies as understanding organisational processes and the ways they construct a complex system. These processes can be erratic, and they may be results of incidental possibilities, yet they may construct a cohesive system (Thietart & Forgues 2011, p. 53). In other words, complexity studies aim to understand the processes that go on in organisation for even the results of simple guidelines may create a complex system.

Thietart and Forgues (2011, p. 57) define the basis for organisational complexity research as follows: each organisation is a construction by its own unique parts, a chance plays a big role in organisational development, and there is emergence of phenomena within the organisation that have tendency to form an order. In other words, the organisation is formed by smaller units that are affected by unseen events or phenomena forcing the units to form new practices and functions. These changes in unit level affects the procedures and practices in the whole organisation.

However, on municipal level it is important to pay attention to the administrative policies as they are a vital part of the administration. Tenbensel (2015, p. 369) argues that hierarchical policies are not entirely problematic in complexity viewpoint for these policies have been drafted in a complex environment. He continues that hierarchical policies are usually seen as following the implementation order in linear fashion and that this should not be the way since local conditions and effects of random events ought to be acknowledged (Tenbensel 2015, p. 369).

Tenbensel (2015, p. 370) describes two complexity theory approaches to health policies that are upstream and downstream policy. Upstream in this context refers to the larger scale of health as definition of health factors and the effects of these definitions on public health (Tenbensel 2015, p. 370). In turn, downstream policies indicate the range, organizing and delivery of health care services (Tenbensel 2015, p. 370). The downstream health policies are more commonly studied within the range of complexity since the work in health care is quite independent related to the knowledge and diagnostic authority (Tenbensel 2015, p. 370). This means that the practitioners have medical experience that is hard to control by policies. It is the doctors that determine which type of care is needed for the patient. For this reason, there is a greater possibility for emerging trends in health care.

2.5   Complexity and preparedness

Therrien et. al. (2016, p. 100) describe the complexity theory as a study for interaction of a system and the surroundings containing unpredictable elements and components. They also introduce a hospital as an example of a complex system for it is highly connected and deal with unanticipated events such as surge of patients (Therrien et. al. 2016, p. 100). In the municipal viewpoint, this is an important matter for the limited resources. A hospital might be more aware of the possible risks due to the training related to major accidents which the municipality does not necessarily have. Municipalities need to prepare for unexpected events such as pandemics for there might be a shortage of supplies and other resources.

Further, Therrien et. al. (2016, p. 100–102) present complexity theory as the way to consider surge capacity introducing some challenges derived from H1N1 pandemic. Firstly, the virus was seen as special and the organization as a system, which lead to issues such as decisions of remote services in administration, deciding the order of the vaccinations,

the utilization of resources outside hospitals and coping with the limited amounts of vaccines and masks (Therrien et. al. 2016, p. 101).

Secondly, the decisions and procedures that are done in normal circumstances in health care before a pandemic make the system complex, which causes difficulties during a virus pandemic such as H1N1 (Therrien et. al. 2016, p. 101). These difficulties can be results of regional differences that can cause variation with the procedures causing confusion among public, forming plans for each disaster situation instead reparation for risk generally, and distribution of resources between nations for the pandemic is a global concern (Therrien et. al. 2016, p. 101). The causality may be vague since after a long period it may not be possible to see the desired outcome (Therrien et. al. 2016, p. 101).

Due to the close time period H1N1 can be seen as the predecessor to the Covid-19 pandemic. However, as presented earlier, the effects of H1N1 were largely related to hospitals and there was a need to ensure the functionality of the health services. Covid-19 has affected the entire administration let alone the society and rest of the world indicating the complex nature of the pandemic. As a result, preparedness is also a complex matter.

3 Covid-19 and administration

According to the World Health Organization (2021, p. 34) the countermeasures against the spreading of contagious diseases are the most important tools against the Covid-19 infection as there are limited possibilities to the medical treatment. The further basic actions against Covid-19 are monitoring the spreading of the disease, isolation and quarantines and tracking down the chains of infections (World Health Organization 2021, p. 22). These are the basic actions for the national administration to control the pandemic within the country. The report of World Health Organization states that the mortality rates of Covid-19 have been lower in those countries that have been able to control the outbreaks of the virus and to keep their health care services functional (World Health Organization 2021, p. 3). The actions of the administration against the spreading of Covid-19 are introduced further in this chapter.

3.1 Preparedness for the pandemic

Mayner and Smith (2017, p. 5) define a disaster as a disruptive situation that exceeds the daily capacity and demands remarkable effort to manage. The disaster situation calls for non-routine practices in organisational level (Mayner & Smith 2017, p. 5). The outbreak of the covid-19 pandemic fulfils these criteria as it is a new kind of virus to human population and the efforts to restrict the spreading of the virus have been done on a massive scale globally.

Preparedness is defined in this study by the concept of systemic risk and the practical level of the preparedness, that is the municipal level. There are also examples from the health care as the actions related to the pandemic require medical expertise and the pandemic affects greatly to the health care services. The concept of systemic risk shows the preparedness in a bigger picture that is the national level. Global disasters introduce risks that are complex for there may not be an effective way to prevent them in the national level. The Covid-19 pandemic is a good example of this since it is nearly impossible

to prevent the virus from spreading with tourists and other travellers in the modern world.

In Finland, there is a law stating that all public organisations have the duty to ensure adequate functionality of the public services during disasters or other emergency situations by forming preparedness plans (Valmiuslaki 2011/1552, 12 §). However, as the municipalities are required to prepare for possible disasters, these plans are not accessible to the public due to another law declaring these documents as classified (Laki viranomaisten toiminnan julkisuudesta 1999/621, 24 §). Thus, the supervision for the enforcement of this law is left to the regional authorities.

3.1.1   Systemic risk

The United Nations Office for Disaster Risk Reduction (2019, p. v) base their Global Assessment Report on the idea that risk management is complex, and that the broad view on the matter and context is more important than departmentalising. In other words, risk management and preparedness ought to be wide-ranging and the whole organization should be involved. A disaster rarely affects just one department or organisation but inflicts large-scale disruption.

A systemic risk indicates the possibility that small changes lead to a major disruption on a systemic or organisational level (United Nations Office for Disaster Risk Reduction 2019, p. iv). An example of this is the global financial crisis that occurred in 2008 for there were signals of the impending crisis, but the warning systems failed to notice them (United Nations Office for Disaster Risk Reduction 2019, p. 54). The financial crisis and ongoing climate change point out the need of global systemic risk management as the effects of these crisis are world-wide (United Nations Office for Disaster Risk Reduction 2019, p. 55–56).

Risk management involves analysing the collected information and determine the relevance of risks by evaluating practices, participants and surroundings (United Nations Office for Disaster Risk Reduction 2019, p. 54). One of the major issues concerning risk management is the uncertainty of the consequences of the events (United Nations Office for Disaster Risk Reduction 2019, p. 56). In other words, it is difficult to see clearly the outcomes of different actions let alone make decisions based on the information at hand. This makes the matter at hand a wicked problem, which shall be discussed later on in this study.

The Global Assessment Report depicts the progress of the Sendai Framework as developmental goals of risk management responding to current risks such as droughts, economical market crashes, human migration, cyberthreats and political issues (United Nations Office for Disaster Risk Reduction 2019, p. iii & 35). This indicates the practical level example on how the risk management and preparedness functions: working towards common goals to minimize hazards. The Sendai Framework refers to the national level, but on the organizational level preparedness include the stocking of equipment or ensure adequate staffing during a crisis situation. The local level of preparedness is introduced next through the municipal and health care viewpoints.

3.1.2   Preparedness in the municipal level

Juntunen, et. al. (2009, p. 13) define Finnish preparedness concept as the capability to manage a disaster situation but also to handle the normal day-to-day tasks. To achieve this, it is important to efficiently direct the public resources and thus secure the vital functions of the society (Juntunen, et. al. 2009, p. 13). Municipal preparedness is a key factor in societal security since municipalities are responsible for organizing the social and health care in Finland (Juntunen, et. al. 2009, p. 13). Further, Finnish legislature prescribes that preparedness is a municipal duty (Juntunen, et. al. 2009, p. 13).

As municipalities are in an important role regarding to civic preparedness, Juntunen, et. al. (2009, p. 114) found surprising in their research conducted in 2009 that the national and municipal roles related to preparedness were unclear and national politics set the goals and guidelines forgetting the role of municipalities in the matter.

Juntunen, et. al. (2009, p. 114) argue that Finnish municipalities were in different stages of preparedness, for example big cities seem to be more advanced in preparedness than the small municipalities. Generally, preparedness seems to be secondary to other political and administrative agendas (Juntunen, et. al. 2009, p. 114). Despite that there seemed to have been preparedness planning, they did not observe many actual procedures or actions related to preparedness (Juntunen, et. al. 2009, p. 114).

As the basic health care is included in the duties of Finnish municipality, the functioning of the health care services is vital part of municipal preparedness. During a crisis situation in health care, one of the most visible effect is the increased number of admitted patients. This calls for the capacity for the hospital to increase the hospital beds to meet with the need. Mapping the surge capacity in advance helps to develop health care systems in meeting future challenges (Therrien et. al. 2016, p. 97).

Therrien et. al. (2016, p. 97) define surge capacity as the capability to manage a sudden increase of patients due to a crisis situation in health care, and they introduce four key elements of surge capacity: staffing, supplies, facilities and procedures. Of these elements staffing describes the ability to work despite being understaffed, supplies indicate the increase the need of beds, medications and other materials, facilities are the space needed for care, and procedures mean the actions taken at the organizational level (Therrien et. al. 2016, p. 97–99).

Therrien et. al. (2016, p. 99) introduce two ways to handle a sudden surge of patients: to limit the scheduled care and services to move resources where needed, or to discharge patients from hospitals. Both of these ways have issues, such as ethical considerations and the possible worsening of the treated disease, hence it is important to acknowledge them in decision-making (Therrien et. al. 2016, p. 99–100).

3.1.3   The difference of planning and incident management

Gray (2015, p. 389) introduces five stages to the pandemic management process: planning, border control, managing the spreading of the virus, management of the situation of infected area and recovery stage. In other words, planning and management of the situation, that is incident management, are part of the preparedness but they refer to different stages of the process. Planning refers to the time before the disaster and incident management to the time when disaster is ongoing.

Introducing planning in detail, Cannadine and Hegner (2017, p. 156–159) endorse the importance of planning in preparedness effort. They state that the planning process is more important than the actual plan, as the disaster arrives suddenly with a great impact on the system and leads to confusion and a great need of supplementary staff and equipment (Cannadine & Hegner, 2017, p. 156–159). By planning for a possible disaster, the organization may be familiarised with threats, resources and goals of preparedness creating awareness of the situation should the disaster occur (Cannadine & Hegner, 2017, p. 156–159).

In turn, Fredriksen et. al. (2017, p. 194) bring forward the important elements of incident management in preparedness: authority, roles and responsibilities and evaluation. Authority indicates the jurisdiction of powers, roles and responsibilities refers to the identification of the central organisation and the duties, and evaluation means that the follow-up of functionality in relation to the procedures and their outcomes is important

(Fredriksen et. al. 2017, p. 194). In conclusion, incident management requires the coordination of duties and responsibilities in addition to the actions taken during the disaster. Also, the authority is important to ascertain for this coordination to be functional. As these actions do take time and energy, the planning process should be done before a disaster.

3.2   Lessons learned from past disasters

Before the outbreak of covid-19 pandemic by the end of 2019 there were discussion on the possible effects of a global pandemic. In 2011, Ruutu and Lyytikäinen (2011, p. 268) presented some reasons for the increase of infectious diseases in Finland: the developments in demography, growing number of travels abroad, climate change and the capability of microbes to adjust to new circumstances quickly. In 2013, Farooq and Majowics (2013, p. 42) illustrated the actions on managing the outbreak of a disease, which are informing to the public about the infectious disease, isolating the infected, keeping a social distance, tracking the people exposed to the infection, restricting traffic and travelling and establishing border restrictions.

In 2013 Farooq and Majowics (2013, p. 39) described the development of pandemic preparedness after H1N1, Ebola outbreaks in Africa, SARS and H5N1 as progressing but still insufficient as in the case of a virulent and transmissible virus. They introduce an example where a virus that resembles a seasonal influenza may spread undetected despite the surveillance method and because there is no certainty that there is a new kind of virus spreading (Farooq & Majowics 2013, p. 39–40). There may also be concealment of the virus outbreaks on a national level (Farooq & Majowics 2013, p. 39–40).

Farooq and Majowics (2013, p. 48) state that to restrict the spreading of a highly transmittable virus demands strong regulation and collaboration globally. This is endorsed by the research of Jones et. al. (2008, p. 990) who recognise the emerging of infectious diseases are influence by factors related to society, economy, environment and nature.

Jones et. al. (2008, p. 990) claim that the majority of emerging infectious diseases origi-nate from animals transmitting the disease to humans causing a major threat to human health. This relates to the current Covid-19 pandemic despite the fact that Jones et. al. (2008) conducted their research 12 years ago.

In their study Jones et. al. (2008, p. 991) discovered that the animal-originated disease transmission is likely to happen in an ecologically diverse environment, and further that antibiotic-resistant strains are likely to emerge in populous settlements. Jones et. al. (2008, p. 992) conclude their study with the statement that the surveillance of emerging infectious diseases is insufficient for the resources may not be allotted to cover the area of next major disease outbreak.

In her article Radin (2020, p. 743) emphasizes the need to describe the Covid-19 pan-demic as a wicked problem for it is unique character. Despite that Covid-19 pandemic has created a totally new situation regarding to administration and health care, there are similarities to the previous pandemics of the last century (Radin 2020, p.743). In the ad-ministration, there are experiences and protocols on how to manage the situation of infectious disease outbreak, while Radin (2020, p. 743) recommends looking at the situ-ation from new perspectives such as whether climate change may be connected to the Covid-19 pandemic.

Radin (2020, p. 744) endorses the role of implementation stage of new policies as the key part of combining the old procedures with the differences of the new situation. For this, it is important to map out the setting and circumstances at the implementation stage (Radin 2020, p.744). The key example that Radin (2020, p. 744) introduces is the transition process of the USA's presidential administration from Obama to Trump, as the staff of latter apparently neglected the information left by preceding administration leading to poor management of the Covid-19 pandemic. Despite that Radin (2020) draws her examples from the administration of USA, there are still important points to learn for other nations as well. As an example, Therrien et. al. (2016, p. 99) emphasize the

need to take into consideration the role of networks in preparedness as a pandemic affects the functions of administration from the World Health Organization to the local health care units.

3.3 The COVID-19 policies

Gray (2015, p. 384) describes the current health care system as a service that specialises in one area of treatment and not seeing human as an entity. In other words, the health care system regards health issues through specialized fields when a large view of medicine is needed. Further, the care policies are formed by studying several cases and deriving a generalized policy for all patients (Gray 2015, p. 384). This results in simplified rules for individual problems that is not ideal for complex matters (Gray 2015, p. 384). Therefore, Gray (2015, p. 384) argues that there is a need for a wider context in forming a health care policy.

Gray (2015, p. 385–386) recommends taking complexity into account in forming a policy: for simple problems one can draw up guidelines whereas a complex problem requires more actions and processes than a mere guideline to ensure successful outcome. He suggests the following actions to be taken before the outbreak of a pandemic: recognising simple problems and forming a guideline for them, identifying the values of the community and how they relate to the issue and observing the groups related to the solution and communicating with them (Gray 2015, p. 395).

Despite that Gray (2015) bases his arguments on an influenza type disease, there are some important points to be observed; one of these is the complexity of the situation. As Covid-19 is a new type of virus, there is little information of the side effects of the disease or the results of care policies. This points to the unexpected nature of complexity for a new type of infectious disease appearing suddenly to cause unprecedent consequences to society and health care. With this in mind the research on the Covid-19 by Mascio et al. (2020) forward the practical aspect of the pandemic policies. As the COVID-

19 pandemic has been a sudden and unexpected crisis causing a massive burden to the Italian administration, Mascio et al. (2020, p. 621) put forward the need of crisis management research in the administration studies.

Mascio et al. (2020, p. 622) describe the level of Italian preparedness before the Covid-19 pandemic as procedures regarding natural hazards that have not been up to date or long-term solutions. They also highlight the problematic administration of Italy due to the lack of funding for the public administration and the corruption (Mascio et al. 2020, p. 622). As a result, it is possible to argue that the resilience of Italian public sector against a pandemic was not up to date. Current research indicates that there was unpreparedness in staffing, equipment and intensive care beds in Italy before the Covid-19 pandemic (Mascio et al. 2020, p. 623).

The background for the Covid-19 pandemic being too heavy burden for the public administration in Italy is in the decentralization of administration in the late 1990s (Mascio et al. 2020, p. 624). This has been seen as a problem during the Covid-19 pandemic, since it isolates the administration units and prevents a large cooperation between them (Mascio et al. 2020, p. 624). Further, there has been lack of sufficient surveillance within the administration (Mascio et al. 2020, p. 624).

Kamradt-Scott (2013, p. 110) argues against the vaccination focused disease policies for he denies the role of vaccinations as the only important part of pandemic preparedness. Instead of merely relying on vaccinations, it is important to include other measures such as surveillance, quarantine and disease research into the preparedness planning (Kamradt-Scott 2013, p. 113). Further, he criticizes the policymaking as being influenced by vaccination-focused view that inflates the importance of vaccinations in the preparedness planning (Kamradt-Scott 2013, p. 116–117). He also comments that increasing vaccination-focused preparedness weakens the usage of the knowledge of medical ex-

perts (Kamradt-Scott 2013, p. 117). From this perspective, it may be argued that promoting vaccinations as the only important disease preparation method simplifies the pandemic preparedness planning to excess.

4   Interviewing the municipal administration

The interview as a research method is convenient in complexity and wickedness research for the possibility to examine the subject deeply. Further, as this study focuses on the experiences of the municipal officials the interview made it possible to be flexible and ask the interviewee to define the answer further. As a result, there were a large amount of data from the interviews and the natural method to analyse it was the content analysis. Both of these methods are introduced next. Also, at the end of this chapter there are a few words from the research ethics related to this study.

4.1   Interviewing experts

The interviewing method in this study is called a focused interview (Tiittula & Ruusuvuori 2005, p. 11). The theme of the interview remains the same throughout the interview, but questions may vary with their form and the order they are presented (Tiittula & Ruusuvuori 2005, p. 11). This gives the interview flexible structure which is needed for the interview of elites, or experts as this study addresses them. Interviewing experts has some special features as it is presented next.

Confidentiality is one of the most important aspect of interviewing experts as they are holding public offices and are therefore visible in their municipalities (Odendahl & Shaw 2002, p. 313). This visibility makes it possible for the members of the community to recognize these individuals regardless that they have not been named in the report (Odendahl & Shaw 2002, p. 313). It is therefore important as Odendahl and Shaw (2002, p. 313) demonstrate that the characteristics and organisational roles shall be excluded from the study. This approach requires to focus on the theme of the interview rather than the interviewees themselves.

Alastalo, et. al. (2017, p. 214–217) write about the interview of experts as having special features, such as influence or restricted knowledge. Experts can be defined as people

with special knowledge that no-one else has on the subject, but they may have a position of power to have a say in the way of management (Alastalo, et. al. 2017, p. 214–216). This knowledge or position makes it possible to discover changes or processes in society (Alastalo, et. al. 2017, p. 218–219). The changes that Covid-19 has caused in society have been present in the news and daily lives of people, however the changes on administration level are more ambiguous.

Alastalo, et. al. (2017, p. 221–223) observe that the interviewer should also present oneself as an expert of the matter which is why there is a need of diligent background research. The experts adapt the conversation according to the listener for the expert explains the matter as simplified to a non-professional person but uses professional expressions when speaking to another expert (Alastalo, et. al. 2017, p. 223). The professional expressions and perhaps complicated matters are important in discovering the restricted knowledge and expertise.

Brinkmann and Kvale (2018, p. 9) acknowledge the interviewer's role on building the structure of the interview. Further, they indorse the importance of background research in order to ask the right questions for the future analysis (Brinkmann & Kvale 2018, p. 9). As a result, the analysis may introduce new perspectives to the study subject (Brinkmann & Kvale 2018, p. 9). As the composition of the interview is important for the future analysis, the basic structure of the interview of this study is presented next.

Eskola, et. al. (2018, p. 40) state that the interview should start with easy questions giving the interviewee the possibility to speak freely on the matter and spare the defining questions until the end of the interview. As the questions ought to be derived from literacy or from a common theme (Eskola et. al. 2018, p. 40), the interview questions of this study relate to the Covid-19 pandemic. The translated questionnaire is at Appendix 1 and the results of the interviews are presented in the chapter 5.

4.2   Content analysis in practice

Tuomi and Sarajärvi (2018, p. 78–79) introduce a general description of the qualitative content analysis, which begins by deciding and confirming the focus point of the data analysis. They emphasize that the data has too many interesting aspects and directions that cause difficulties for the analysis (Tuomi & Sarajärvi 2018, p. 79). However, the researcher must focus only on one or two points (Tuomi & Sarajärvi 2018, p. 79).

The next stage is going through the data and picking up the relevant parts to the study (Tuomi & Sarajärvi 2018, p. 78–79). These parts are then assembled together and then categorised further to attain a unified conclusion, which will help to summarise the results and to form an overview of the studied matter (Tuomi & Sarajärvi 2018, p. 78–79). According to Tuomi and Sarajärvi (2018, p. 79) the categorization may be conducted by counting how many times a certain phenomenon appears in the data, but the other way is to divide the phenomena under different themes ignoring the number of appearances. The latter focuses in searching for different range of aspects regarding a specific theme (Tuomi & Sarajärvi 2018, p. 79).

However, content analysis includes more than just categorisation. Ruusuvuori, et al. (2010, p. 19–20) emphasise the need to omit the whole data to the analysis and not just the parts that support the hypothesis. Further, thorough analysis includes several stages of categorisation for there is a danger that the data will be compressed into few groups that do not reflect the whole data (Ruusuvuori et al. 2010, p. 19–20). Of course, during the analysis it is important to keep in mind, what the gathered data is collected for and what were the original research questions (Ruusuvuori et al. 2010, p. 19–20).

Keeping this in mind, the analysis was conducted on several stages as presented next. The first stage of the analysis involved simplifying the expressions from the interviews. At the second stage these expressions were mixed and categorized with generally similar findings which were then summarized, categorized further and translated from Finnish

to English at the third stage. Finally, these summarized findings formed six features that depict the wicked problem of the Covid-19 pandemic in the municipality.

4.3 The Research Ethics

The research was conducted by interviewing 10 officials in the municipal administration of an unidentified municipality in Ostrobothnia region in Finland. The anonymisation of the municipality in question was decided on the basis of Finnish legislation that rules that the documents that include planning for accidents or disasters are classified material (Laki viranomaisten toiminnan julkisuudesta 1999/621, 24 §). For this reason, the preparedness plans of Finnish administrational organisations are not public. This study does not examine the actual preparedness plans of the municipality, yet the contents of these plans were discussed in the interviews. This led to the decision to anonymise the municipality altogether. This matter was also brought out to the interviewees and some raised their concerns about the publicity and the stated law.

Further, as the municipality is anonymised so are the interviewees who are all officials of this municipality or otherwise strongly connected to the municipal administration to avoid any complications related to the publishing of this thesis. The anonymisation of the individual officials took place at the analysis process where the statements of each individual were mixed as part of the categorisation process. The examples from the interviews that are presented in the next chapter have been anonymised in a natural way due to the translation process from Finnish to English as the dialects and some phrases cannot be translated directly.

Further, it was discovered during the analysis that the preparedness was not as up to date as it was expected to be, so to avoid any problems for the municipality the anonymization served also this purpose. The anonymisation also serves the goal of creating a generalized view of the effects that the Covid-19 pandemic had on Finnish municipalities.

5   Characteristics of the Wicked Problem of Covid-19

The interviews were conducted in Finnish and the translation to English took place during the analysis process. There were some decisions that had to be made in the translation process to ensure understandable text, but this focused merely on the anonymization process. Due to this anonymisation, the presentation of results does not include the information on statements of each individual. Instead, the results are presented collectively as an overview of the responses. The interviewees pointed out some of the basic structures of a Finnish municipality which are presented next.

The Executive Board of the municipality is the highest administrative unit of the municipality comprising only of municipal officials. Among others the municipal manager is part of the Executive Board. The Municipal Council and Government are the political top decision-making units in the municipality. An official is an employee in the municipal administration who has certain duties related to the post.

In this study, the municipal officials are divided into three groups of hierarchy which are management, supervisors and employees. The term *management* is used in this study for the top officials of the municipality working in the Executive Board. The supervisors work as the leaders of units in which the employees work in. The term *employee* is used in general for a person working in the municipal organisation, yet the term *official* is used on the employees who have assigned duties and responsibilities in the municipal administration. *Administrative department* is used in this study to describe a field of administration within the municipality such as education or health and in turn an administrative unit means a smaller entity in the department.

The interview and analysis produced six features that describe the wicked problem of Covid-19 in the municipal level, which are emerging practices, actions taken by the municipal management, the elements of leadership, wicked problem, pandemic preparedness and collaboration and networks during the pandemic. The results are depicted in Table 1 which is presented next as are the results.

Table 1 The assembled features of the wicked problem

Emerging Practices	Work Scheduling During the Pandemic
	The Rapid Increase of Remote Work and New Digital Practices
	The Importance of Cleanliness and Hygiene
	Emerging Flexibility within the Municipality
Actions Taken by The Municipal Management	The Decision-Making
	The Actions of the Executive Board
	The Implementation of The Guidelines
Elements of Leadership	Conflicting Guidance from the National Level
	Political Steering from the National Level
	Communication
	The Well-Being of the Staff
	Legislation
Wicked Problem	The Conflicting Statements
	The Difficulty of Defining Preparedness
	The Problematic Resources
	The Great Scale of the Disaster
Pandemic Preparedness	Preparedness Planning
	Changing the Way of Thinking
	Awareness of The Risk
Collaboration and Networks During the Pandemic	Collaboration Inside the Municipal Administration
	Collaboration with External Organisations
	The Municipal networks

5.1 Emerging Practices

The Covid-19 pandemic has created some new practices within the municipality. These practices are work scheduling during the pandemic, the rapid increase of remote work and new digital practices, the importance of cleanliness and hygiene and emerging flexibility within the municipality. These four classes describe the new emerging practices from the municipal administration: work scheduling during the pandemic, the rapid increase of remote work and new digital practices, the importance of cleanliness and hygiene and emerging flexibility within the municipality.

5.1.1 Work Scheduling During the Pandemic

The work scheduling is a new practice for there was no need to organise the work in this way. In order to keep the close contact to a bare minimum, there has been redistribution within the working schedules of maintenance crew in schools. For example, the maintenance work of school rooms has been timed to the morning before the beginning of the lessons or to the end of the school day.

At the home service, there has been a new procedure to divide the staff to four location in order to safeguard the functioning of the home service should there be a great number of nursing staff be falling ill or be confined in a quarantine. This procedure has not risen from the unit for it has been implemented by the top management of the municipality. Further, it has not been welcomed by the staff as this division has been seen as disrupting the good atmosphere of the workplace and creating sections within the unit. There has been more dissatisfaction to the work.

Another new practice or rather a point of view is that there has been a reduction of hierarchy within the municipal health care. The reduction of hierarchy means that there is communication between the management and the nursing staff, and the work has been done as a team during the pandemic. It has been reported in the interviews that

the results and feedback have been positive. Further, an interviewee at the management level states that there are some good propositions coming from the employee level.

5.1.2 The Rapid Increase of Remote Work and New Digital Practices

Remote work is a new practice in the municipal administration developed during the pandemic. Several interviewees declared this as a new practice indicating that it has been a major development in the municipal administration. It appears that the municipality did not have the practices or structures for remote work before the Covid-19 pandemic. During the pandemic, however, the communication happens remotely by digital tools and these practices had to be developed. One of the interviewees stated that the municipal administration has learned this new way of working during the pandemic since the physical presence is no longer absolutely necessary.

The interviewees stated that one of the positive aspects of the remote work is the increased efficiency. The costs and use of time have been reduced during the period of remote work. An example of this are the staff training days that have previously required attendance in another town but are now conducted remotely thus reducing the costs of travel and accommodation. As a result, these advantages of remote work have brought forward the hybrid model for working in the future. The idea is that remote work could be implemented depending on the situation and the wishes of the employee thus possibly increasing the well-being of the staff.

Besides the remote work, there are also the new practice of the remote meetings in municipal administration. Previously the practice was to assemble physically in a meeting place. As there were no remote meetings before the pandemic and now, they are all conducted by electronic devices, this is a major change in the meeting practice. The interviewees presume that this is more likely going to be a permanent change. It was stated that, although not all of the meetings can be held remotely, but majority of them can be.

Digital services were developed all over the municipality, for example in schools the distance education was implemented as the school buildings were shut to limit the spreading of the disease. Also, the youth workers successfully developed internet-based meeting places for the youth in order to keep the contact with them. In the future however, an interviewee brought up the need of virtual cafés or other activity at schools to uphold social contacts for both teachers and students.

In municipal health care the remote services have increased significantly. There have been some applications of remote medicine before the pandemic, but not as extensively as during the pandemic. It was stated in one of the interviews, the current information technology has made it possible to use electronic applications in health care during the pandemic, which would not have been the case ten years ago.

One of these applications is the remote appointments of the municipal nurses, which was used to handle the routine controls of patients suffering from heart diseases or diabetes. As these are critical groups, it is vital to organise them. The remote appointments are also important for the reason, should some health care workers fall in a risk group or in a quarantine, it enables them to work during the pandemic. However, it was stated in the interviews that it has been challenging at times to develop the remote appointment system since the patient record system and data protection set limitations to this.

5.1.3   The Importance of Cleanliness and Hygiene

The importance of cleanliness and hygiene emerges from the interviews as a prominent element for new practices. There has been increase of cleaning practices indicating the increased appreciation of the action. The emergence of appreciation of cleanliness and hygiene is quite normal as an infectious disease spreads in a community, yet in the administration point of view it meant that more time and energy are needed to put into ordinary actions such as the acquisition of protective gear.

It was reported during the interviews that, since the beginning of the pandemic, there was a major growth in the need of protective gear and hygiene material such as masks, hand gel and soap leading to the assumption that hand hygiene has increased during the pandemic. This need of materials has raised the issue of securing the protective gear and hygiene supplies. It was stated at the interviews that in the beginning of the pandemic the maintenance unit was ordering the supplies for the whole municipality. Now each unit placed individual orders for these materials and maintenance unit merely provides the protective material for the public spaces.

Contrary to this, one interviewee brought forward that the procurement of masks has slowly shifted to the responsibility of one official. Also, that in the beginning the aim was to have each administrative unit to order their own supply of masks but now this has shifted to the management of one unit who then dispenses the material where it is needed. This indicates the different conceptions that officials have on the situation. The need of protective masks is a new situation, and it has led to new circumstances within the municipality. The interviewees described that in the beginning of the pandemic there was a great shortage of protective gear and particularly of masks in the municipality that forced the officials to come up with new procedures such as creating a group of people to sew fabric masks for the home service staff.

For the technical department, there was an increase of cleaning provided by the cleaners which meant in practice that the cleaning supervisor needed to give new and more pre-cise instructions on how and when the cleaning should be performed. Besides the clean-ing crew, there was an increase of cleaning among the home service staff who volun-teered to disinfect their workspace daily in addition to the regular cleaning provided by the cleaners.

5.1.4 Emerging Flexibility within the Municipality

During the interviews it was brought out that municipality is not believed to be a very flexible organisation. However, the Covid-19 pandemic has increased widespread flexibility within the municipality according to the interviews. The emerging flexibility within the municipality stood out as an important part of the municipal administration since it included the whole municipality from employees to supervisors but also some of the residents. One interviewee stated that flexibility depicts new practices, better manoeuvrability and innovative approach in an abnormal situation. This is visible in the next example:

> *"New ways to operate, a more agile way to operate, maybe with a bit of innovation. But not to stay too strictly in the normal ways since the practices in the normal or abnormal situations are not functional if played by the rules of the normal situation. It has to be flexible towards the need"*

This example indicates the need of flexibility in the organisation during the pandemic. The circumstances are different during normal times and at the disaster situation hence the practices must be different. In disaster situation the needs and vital functions ought to be the focus point. However, this flexibility is not limited only to the worker but also the supervisors and the managers of the municipality as flexibility is important especially in the units that have practical functions. The next example is a depiction from a practical work environment:

> *"There has been flexibility, but that has always come naturally to us as having… as I have tried to be flexible towards them for them to be flexible towards me. There is a feeling that should the situation arrive that suddenly several persons are off from work, then the solutions will come from us. Like several people offering to work shifts, change them or work double shifts"*

This example shows the importance of flexibility in a shift work for the absences of employees can cause problems even in normal circumstances. Some of the interviewees stated that there has been a lot of flexibility inside the administrative unit already before the pandemic, but the need for it has grown significantly during the pandemic. There is

a constant problem in the municipality that year by year the duties increase but not the number of staff leading to the fact that staff must be flexible to be able to work. With the ongoing pandemic situation, the flexibility is visible in the fact that there is less negative feedback coming from the service users. The interviewee stated that during the pandemic people understand better the delays of the service.

The flexibility of the employees of the municipality appears important also in the relocation of the work. As the nation-wide lock-down started, several units were shut down such as school kitchens, libraries and day-care centres. The municipal administration begun a project to map out the skills and abilities of these employees by a questionnaire to find other work for them temporarily. These employees were then assigned to different duties such as lobby workers to the health care centre, as helpers to the technical development and as sewers of the fabric masks for the home service.

There was an idea arising from the interviews that majority of the employees willing to find alternative work did eventually find it within the municipality. There was a consensus that the relocated employees were motivated, and some did find an inspiration to change their job from the old one to the new one from the relocation. This type of job rotation was seen as a positive consequence from the Covid-19 pandemic. The general idea in this type of flexibility is that the employees have to think they are selling their skills for the municipality, and when they are no longer able to do the normal work, they need to find other useful skills in regard of the situation at hand.

During the interviews, the major theme considering flexibility related to the management and the employees of the administrative units. However, one interview introduced the significance of the flexibility of the residents of the municipality. The municipal administration organized a registration form to their website to map out the needs of the residents and the people willing to do voluntary work. There were some residents offering their help for others such as taking a dog out or helping student with homework. This

desire to help has been surprising to the municipal officials. Although the amount of these volunteers was not great, the desire to help in an individual level was unexpected.

5.2 Actions Taken by The Municipal Management

The actions taken by the municipal management includes the actions associated directly to the top management of the municipality which were the decision-making, the actions of the Executive Board and the implementation of the guidelines. The normal decision-making process was not seen as functional during the pandemic as it is a time-consuming process, thus the Executive Board received more extensive jurisdiction during the pandemic. The actions of the Executive Board were seen as active towards the rest of the municipal administration as they allocated their duties fluently but also supported individual officials during the pandemic. The implementation of the guidelines in a new and sudden situation had its issues but the Executive Board was seen to manage the situation well by the interviewees.

5.2.1 The Decision-Making

It was reported at the interviews that the normal decision-making process has been suffering during the pandemic. The decision-making process requires several meetings to map out the necessary background and basis for the decision. However, as these meetings are not absolutely vital for the functioning of the municipal administration, some changes had to be made to these meetings such as postponing them or organizing them in a larger space. Despite that these meetings are important for decision-making; these meetings had to be cancelled due to the Covid recommendations to avoid contact.

As it was reported in the interviews, the impacts of cancelling the some of the meetings related to decision-making were slower decision-making process and more repeated voting rounds. The normal decision-making is a time-consuming process but without the

related meetings it takes even longer. Also, there is a possibility that the decisions return to the table more often, should there be too little background information. These difficulties focused mainly on the political decision-making despite that in theory the directives and guidelines of the pandemic did not involve political decision-making. In practical level, the restrictions such as limitation on number of participants on a meeting restricted the political decision-making process.

In normal circumstances, the top municipal decision-making is managed by the municipal council and government. However, during the time of Covid-19 pandemic the situation was described as changing quickly, and the normal decision-making process was not seen to be able to keep up with it. This meant that the discussions and implementation of decision-making had to be made by the Executive Board of the municipality. There were directives and instructions from the top national authorities via press conferences, but the decisions were reported to be done mainly by the Executive Board.

As the pandemic started, an extensive jurisdiction on decision-making was given to the municipal manager by changing the administrative regulation of municipality. It was reported in the interviews that this type of change does make the decision-making faster during a crisis situation, and that it is hopeful that this phrase stays in the regulation for possible future threats. It was stated in an interview that this type of issue with a jurisdiction is a problem for the public sector but a little concern to the private sector indicating a rigid manoeuvrability in decision-making in the public sector.

5.2.2 The Actions of the Executive Board

The actions of the Executive Board were highlighted at the interviews as they met every morning to go through the guidelines of the moment and to adjust municipal procedures accordingly. It took a considerable amount of time since the instructions were numerous given by various national administrative offices. According to the interviewees there was a direct contact with the departments of municipal administration as occasionally a staff

member of an administrative department attended an Executive Board meeting. This was seen as a good practice to receive direct information from the municipality.

Within the Executive Board there were allocation of duties which proceeded fluently as stated by the interviewees. There were several new duties that came along with the pandemic and they had to be assigned among the Executive Board. In the interviews, it was stated that for this the allocation did not proceed by departments but merely by the qualification of the individual Board members. The new duties were received mostly voluntarily by the members of the Executive Board.

> *"What I had hoped to have more was to get more support from the current supervisor for the task at hand. But the support I received from the Executive Board from the different departments… the department chiefs that was great. That support was uplifting… it was touching as I participated in a few meetings with them"*

This example depicts experiences of one municipal official during the pandemic. It was reported in the interviews that the Executive Board was supporting different parts of the municipal administration. Even if an official in the municipal administration felt that there was not enough support from the supervisors the support came from the Executive Board. This support was for example permission to execute procedures quickly rather than wait to see what other municipalities decided. In this support, the most important was not feeling left alone with difficult decisions. The Executive Board received much appreciation from their actions by the interviewees.

5.2.3 The Implementation of the Guidelines

The implementation of the guidelines coming from the national level was seen as an important role for the municipal administration during the pandemic. The start of the lock-down was reported to be confusing time for all of the administration, since the situation was sudden and new. The interviewees pointed out that there was a major decision to follow the guidelines and instructions of the national administrative offices with

the municipal actions during the pandemic. This was seen as an easy justification for the selected procedures in the changing conditions.

The organisational skills are highlighted by the interviewees since the capability to plan ahead allows the distribution of duties to the Executive Board and other units. The distribution of jurisdictions is also seen as important for it is time consuming to think who shall take on each task and formulate different guidelines. This has specially been the issue with the division of social and health services between two municipalities as the services have been functioning unevenly and went on different directions. The interviewees were divided whether it was a good thing or a bad thing to have separated services on social and health issues.

Some of the municipal services can be organized by special arrangements such as the sports activities for under 20-year-olds. However, the sport activities for over 20-year-olds were cancelled by the orders of the district officials ordered. Further, the interviewees endorsed the procedure of implementing the restrictions only on specific units that have Covid-19 cases. For example, it is not necessary to set the whole municipal education on quarantine for a long period when it is possible to move some units or classes to remote teaching. In other words, it is important to see the restrictions in proportion.

There are some difficulties in the implementation of the guidelines. Firstly, as one of the interviewees stated that guidelines are also motivation. That is, the guidelines of the municipality are not compelling but rather instructive in nature. For instance, it is not compulsory to wear a mask at the local schools, but it is highly recommendable. The interviewee emphasizes the role of the example given by the adults in this situation. Secondly, some of the Covid-19 patients are without symptoms making it difficult to track them. It is highlighted by the interviewee that one traditional solution for this dilemma is keeping a distance within the group thus reducing the possibility to get infected.

5.3 Elements of Leadership

The elements of leadership relate to components of the municipal decision-making during the Covid-19 pandemic. These elements are conflicting guidance from the national level, political steering from the national level, communication, well-being of the staff and legislation. During the pandemic the officials of the administration state that there had been communication from the top leadership to the rest of the administration and the residents of the municipality. There has also been communication between the national and the local level of administration but for the most part the national administration has informed and given guidelines to the local level. Further, this received information has been conflicting and abundant causing confusion in the municipal level. The interviews also brought out that guidance from the national level had a political aim.

5.3.1 Conflicting Guidance from The National Level

The instructions and guidelines from the national level of administration was seen as conflicting and confusing. The problem was that there was a great number of instructions coming from different national administration offices and they were not coherent with one another. For example, the Regional State Administrative Agency gave instructions that the Finnish Institute for Health and Welfare had already refuted and vice versa. The interviewees asserted that there was a necessity to discuss on what did the instructions mean in practice and how should they be implemented.

The instructions of different national administration offices seemed to change daily which caused confusion within the administrative departments of the municipality. The interviewees also pointed out that within the municipal administration they were compelled to discuss on which guidelines to follow due to these contradictory instructions. Further, some of the administrative departments seemed to have different and more detailed guidelines to follow than others. For example, the Ministry of Education and

Culture has given instructions quite strongly to the department of education, that is they received more instructions from the central government than other departments did.

The interviewees also pointed out that there were problems with the chain of command with the guidelines for the normal chain of guidelines is that the national level gives them to the district level where the instructions are modified fitting to the area and then given to the municipalities. However, during the Covid-19 pandemic there were guidelines coming from several national administration offices giving either their own instructions or interpreting others. One interviewee stated that there seemed to be some sort of a power struggle at the national level of administration.

The interviewees asserted their hope that there is one administration level that gathers the guidance from different sources and then delivers it to the municipalities. This task belongs in the normal circumstances to the district officials but during the pandemic there was a disruption within the normal decision-making and guidance processes. There is an opinion in the municipal administration that the regional decision-making process does not necessarily acknowledge the municipal situation when forming guidelines for the management of the pandemic. It is stated in the interviews that the municipal administration could do more for the matter.

5.3.2 Political Steering from The National Level

Another major theme present in the interviews was the political aspect with the national guidance related to Covid-19 pandemic. Several interviewees pointed out that the guidance seemed to be politically loaded especially with the instructions given by the Ministry of Social Affairs and Health and the Finnish institute for health and welfare. This political aspect stands out in the guidelines when they do not comply with the opinions of the experts. An interviewee pointed the matter out as follows:

"If we look at the instructions of the Finnish Institute for Health and Welfare and the Ministry of Social Affairs and Health, you get the taste of political steering and in particular with the guidance of the Finnish Institute for Health and Welfare. These instructions are not necessary in line with the professional competence that we have here. And then the produced solutions do not necessarily serve that common goal. A good example of this is the sacred regulation of the opening times of restaurants"

As seen in this example, the political steering is seen as risky to the general health. The interviewee is certainly disagreeing with the national guidelines that allow the restaurants to stay open during the Covid-19 pandemic. The word "sacred" relates to the fact that the government had difficulties in closing restaurants and bars during the pandemic for there were several legal arguments against it. By using this type of expression, the interviewee puts forward the opinion and highlights the importance of the matter. Further, the same interviewee states that the Finnish government does not have the pandemic situation in control and their main goal seems to be avoiding angering the voters. The argument is proved by the observation that the most effective methods, such as closing the restaurants, are not implemented.

This type of statement implies frustration of the municipal administration with the national guidelines indicating that the decisions and guidelines of the national administration do not necessarily advance the basic functions of municipal administration. For example, at the national borders the focus ought to be on blocking the entrance of the virus rather than taking a voluntary test on the arrivals for the passengers may spread the virus through the country as they travel to home. This practice was seen as disappointing among the interviewees. There is also the issue with the vaccinations that had just started when these interviews were conducted, as the next example shows:

Also, then there is the vaccination policy where insufficient delivery of vaccination is being enhanced artificially. There is a requirement that all the vaccines are to be given at the very instant when they arrive without the permission of the manufacturer. This is quite a grey area when we deviate from rationing or vaccination intervals. In these moments, it is hard to see any other purpose than political suitability behind it all

This example acknowledges that there are governmental instructions on how to implement the vaccination program and these instructions are not necessary in line with the instructions of the vaccine developer. There are risks in deviating from these instructions for example that the vaccination does not give the required immunity against the disease. Further, the political involvement in this manner may indicate the need to speed up the vaccination process in order to gain political success which brings about the issue of giving health related guidance outside the health care setting.

The interviewees conceded that the directives and guidelines ought to come from the health care professionals for they have the knowledge but also the right phrases and expressions to communicate the matters properly. The political steering brings forward the troubles of different agendas of different national offices. It was concluded that the communication did not work properly since the information has come from different offices and from different channels. The communication viewpoint is introduced in the next paragraph more specifically.

5.3.3 Communication

Communication has been linked as an element of leadership since it has had a great role in the actions taken by the top municipal management as both receiving information from higher authorities, but also communicating matters related to the pandemic to the rest of the municipality. Communication had a considerable role in the interviews since the officials brought it up as a major part of the actions of the municipality during the pandemic. In the analysis of the results, communication was not seen merely as a practice to deliver information from the administration to the community but as a part of the daily work. In this study communication is recognised as part of administrational activity and it is strongly related to leadership and management for the interviewees recognised communication as a part of the functionality of the administration.

As stated in the previous chapter, there was a massive amount of information coming from the national administration during the early stages of the pandemic and the lockdown. The interviewees pointed out that even the e-mails were tight and condensed with information which was problematic since the officials had to go through it and pick out the parts related to their department.

One of the important aspects was the communication within the municipal administration. For example, messaging applications were used in the municipality to ensure fast and instant information channels. Messaging apps such as WhatsApp and Facebook Messenger made it possible to have centralized discussion groups for specific individuals. This is shown in the next example:

> *For example, the Executive Group got this own WhatsApp group for messaging in unexpected situations and others… This would be important even without the pandemic since there are always something unexpected and surprising events*

In this example the interviewee presents a messaging app as a way to ensure a fast information channel for the top managers in the municipality during a quickly changing situation such as the beginning of the pandemic. The example (6) also points out that there is a need for shared information to be received quickly, even in normal circumstances outside the crisis situation. Further, it is also clear from the example that this type of fast and direct communication was not common in the top municipal administration indicating and that there was a need for development in the matter.

Besides the communication within the Executive Board, there was an increase of communication with other parts of the administration. The interviewees pointed out that, as a small municipality there has been issues with communicating day-to-day information from department to another. Consequently, departments do not necessarily share information about actions or decisions that involve other departments. For example, the department of education make changes in classroom schedules without consulting maintenance department or cleaners causing trouble in their timetables.

However, the situation of poor communication between departments has changed for the better during the Covid-19 pandemic. The pandemic has forced the departments to work together which has in turn increased communication in the administration. The shared information has included for example details of the work and workload of other departments. Several interviewees expressed their hope for the continuation of this improved communication.

Communication from the municipal administration to the community included internet-based channels such as the municipal internet pages and social media. The elderly residents were reached by the local newspaper. The staff in turn was reached by intranet and e-mails. Despite all these communication channels, the municipal administration adopted a new phone line specifically for calls related to Covid-19. This phone line was seen as necessary by the officials since they received calls and text messages from the residents of the municipality and their relatives all over the country. Further, it was a practical way to map out the need of help in the municipality.

5.3.4   The Well-Being of the Staff

There were several issues that made an impact to the well-being of the staff of municipality during the pandemic. In general, the actions against the spreading of the virus have had an effect to the municipality for the inconveniences such as extra load of work and taking away some recreational possibilities. Also, the staff had to tolerate uncertainties such as the arrangement of summer holidays during the pandemic which proved to be an issue for the supervisors and the rest of the department.

During the pandemic, there was an increase of sick-leaves and absences which was caused by the worry of getting an infection but also the worry to infect others. Cautiousness with the infectious diseases has increased in this way. The absence of an employee in turn cause worry in a unit for there might not be enough workers for all the assignments of the day. Covering the absentees may also cause fatigue with the rest of the

workers. Also, there is an issue with specialized work since there may not be a suitable replacement for a prolonged absence.

There is a considerable increase of work in some departments during the pandemic as reported by the interviewees. For this reason, it might be hard to get replacements for the normal absences such as during vacations. It is also difficult to arrange work assignments and schedules as it is demonstrated with the next example:

> *It is balancing with the coping of the staff when pulling tighter some procedures all of the time. It is taking from the backs of the teachers and other staff. For example, it is important to organize moments of rest which requires balancing for being with the group of students all the time consumes a lot of energy*

As this example points out, in making the schedules tight, the staff may not be able to cope with the amount of work. On the other hand, the supervisors are under pressure to meet the goals of daily activities despite the shortages of staff. For example, schools have their curriculums to meet, maintenance department need to take care of the daily cleaning and maintenance work and health care has to schedule the treatments correctly.

5.3.5   Legislation

Legislation was seen in the interviews as a troublesome element for leadership since it was seen to be inconsistent with the crisis situation. The legislation remained unchanged, yet the situation would have required some alterations such as implementation of the emergency law. Some of the interviewees posed criticism to the government for not implementing these laws. The next example shows the issue with the requirements of legislation:

> *The legislation is still standing firmly as it is… as it… well, we have this legislation, and we have this exceptional situation, and we have these instructions, so it is necessary to think if everything is done correctly in the municipal level… But I don't know. This is how we go on keeping the common sense with us*

As this example points out, the legislation posed requirements that were not seen as necessary at the moment. According to the interviewee, it was important to ponder about the required procedures and to consider the needs of the residents of the municipality. From the last sentence of the example, it is indicated that there are several unreasonable municipal procedures stated in the legislation, yet the interviewee did not state whether some procedures were changed or left undone because of the lack of need.

In the interviews, it was stated that the Finnish law describes the municipal duties as improving the health and welfare of the residents. However, the pandemic situation demands a different approach such as new ways of communicating and distributing the resources differently. The interviewees indicate that evaluation of the situation is needed along with collaboration within the administration. Unfortunately, remote work poses a problem with insuffient collaboration possibilities.

Despite these difficulties, the interviewees stated that the municipal administration made some alterations to the administrative regulation of municipality following the instructions of the national legislators. The interviewees call these alterations updates indicating the prior need to develop this regulation. As an example of these updates, the national legislators implemented an exceptive law to allow digital conferences to all of the municipalities for this was not allowed in all of the municipalities.

According to the interviews, the municipal government did also make another change in the administrative regulation of municipality which was to give the municipal manager extended authority during the Covid-19 pandemic. This act gave the municipal manager the possibility to make quick decisions in acute situations as there is no time to proceed with the normal political decision-making process. For example, this change to the administrative regulation of municipality allowed the municipal manager to order the schools of the municipality to remote teaching for several weeks.

5.4 Wicked Problem

This feature demonstrates the wicked side of the pandemic in a municipal administration combining the problems arising from the interviews but also the contradictory views presented by the interviewees. As these issues do not necessarily have a straight-forward answer due to the complexity of the pandemic they are all categorized as the part of the bigger wicked problem. The Covid-19 virus itself poses problems as stated in the interviews since some of the patients do not show any visible symptoms and it is difficult to detect them. Further, the virus was rather unknown last spring and despite the developing knowledge it still has unfamiliar aspects. This poses problems for the administration as explained next.

The characteristics of the wicked problem was divided into conflicting statements, the difficulty of defining preparedness, problematic resources and the great scale of the disaster. One of the most important findings in this study were the conflicting statements of the interviewees on the pandemic actions and the expressions in defining preparedness. It indicates that if it is difficult for the interviewees to name the problem, then it is difficult to comprehend it as well. Further, if the matter is difficult to comprehend, then the preparedness and planning is also difficult. There were no ways to describe the issue, but the gathering of the resources and the great scale caused the problem to be complex.

5.4.1 The Conflicting Statements

During the interviews, there were some conflicting statements that are introduced here. These statements include a variety of impressions of the crisis situation. The reason these are categorized as part of the wickedness is that they point out the difficulty to form a view of the situation by the municipal officials. For example, one official stated that the Covid-19 has not been an issue in the municipality and therefore there were no need of actions against the spreading of Covid-19, interestingly different official on the other had stated that those actions were implemented, and they were effective. This

controversy could be explained by different ideas of the said actions, but this still indicates the different views on the matter.

Another contradictory finding from the interview data was the performance of social and health care services. When asked about the functionality of social and health services of the municipality during the pandemic some responses were favourable, and some were slightly negative. Further, the responses were as inconclusive to the follow-up question on how well did the social and health services function before the outbreak of the pandemic.

Some of the interviewees described the performance of social and health services during the pandemic as excellent, and some stated that it was doing good for they managed as well as possible in a difficult situation. For example, the occupational health service was accessible during the pandemic, so it received a good feedback. Yet, there was controversy among the interviewees on whether the social and health care services were doing better before the pandemic. One interviewee stated that the performance was better before the pandemic since people do not necessarily dare to seek out the services they need in fear of the virus.

However, some interviewees presented opposing opinion as they pointed out that the social and health care services were not doing that good before the outbreak of the pandemic. In their opinion the collaboration and flow of information has been problematic before the pandemic and has since improved greatly. For example, the problematic information flow has been visible as elderly patient returns from hospital treatment without the home service receiving information about it. In the interviews, the opinion was also supported by the notion that normal circumstances are easier than the pandemic circumstances, and that Covid-19 has been handled well considering the limited resources available.

5.4.2   The Difficulty of Defining Preparedness

One of the biggest issues during the interviews regarding to preparedness was the different view of the conception of preparedness. Academically preparedness is regarded as preparation for a possible threat such as stocking up material or training staff in case of an emergency. In other words, the academic research is focused on the actions taken before the disaster. However, during the interviews the lines between preparedness and incident management were blurred. Consequently, there are differences with the concept of preparedness as the next example shows:

> *"We weren't really prepared for this type… that the preparedness happened then along the way as the situation started to move on"*

As the example indicates the reply was constructed with the idea that the actions related to preparedness were developed as the situation progressed. In other words, the interviewee understands preparedness as actions during the progressing disaster. This idea, however, is closer to incident management rather than to preparedness. This is problematic for there are several stages in disaster management with different needs and required actions. By focusing on a wrong stage, there is a risk of failing on a needed action or procedure. For example, in preparation stage one should think of various risks ahead and in the moment of disaster one should focus on the disaster mitigation actions. The issue with the used expression is present in the next example:

> *"In some other places they follow even stricter and more ambitious procedures, than what has been done in this municipality when this kind of pre-preparedness actions is in question. That it is keeping the balance with the coping of the staff as certain procedures are drawn tighter and tighter"*

The example demonstrates the use of the word "pre-preparedness" which has no academic equivalence as preparedness means the actions taken before a disaster. The usage of this term indicates the need to separate the actions taken before and during the disaster. However, if the terms are used incoherently there is a possibility that there shall

be problems with communicating the taken procedures and actions within the community. Using the precise expressions increases coordinated functioning of the municipality.

As the definition of preparedness is proven difficult by the interviews, the same difficulty is also shown in the actions taken during the pandemic. As stated earlier, some of the interviewees stated that there has not been the need for actions against Covid-19 pandemic but at the same time other interviewees stated that the actions to avoid the spreading of Covid-19 within the municipality have taken an enormous amount of time from the top and middle managers of the municipality. This indicates the need of focusing on preparedness as the process involves evaluation and planning ahead for reducing the time spent on these actions during the crisis. Consequently, studying and defining the concepts of disaster management help to manage the possible crisis.

5.4.3   The Problematic Resources

The interviewees described the issue of acquiring supplies during the Covid-19 pandemic. They pointed out that the normal supply chain was disrupted since the acquisition of basic protective gear such as masks and hand sanitizers was difficult due to the high demand. An interviewee also stated that suppliers exploited the situation by asking extremely high prices for basic products such as facial masks. This is demonstrated in the next example:

> *"As there was a huge shortage of everything, one had to order supplies wherever one could, and I feel it was outrageous that the suppliers used so horribly… I just felt that they used that situation and people in distress in such a horrible way. Those prices on what was ordered were absolutely horrible. Probably now there wouldn't be such a panic reaction any more"*

This example illustrates that there was a great need for protective gear in the municipality but the price for these supplies was several times higher than normal. The example also introduces the panic reaction created by the situation. This panic indicates the first response to the crisis situation and the action taken, that is the acquisition of protective

gear and other supplies and their distribution to the municipal workers. The interviewees stated that they would try to avoid this type of panic but rather plan ahead the procurement of supplies and distributing them.

Besides the acquisition of resources there was the problem with the utilisation of the procured protective gear. This problem was especially present with the educational department since it was difficult to ensure that the whole school is using the masks. This recommendation was placed for students over the age of 12, and therefore these students are referred here as youngsters. Despite that masks were generally used in the schools, there were some youngsters who did not want to wear the mask.

In the general discussion, there were demands that the children and youngsters ought to be compelled to use the masks. On the other hand, the municipal administration can only give recommendation about the matter according to law. For example, if the school staff used expressions such as obligation or rule in relation to using masks in the schools, the school received some angry calls from parents, who had already been in contact with regional authorities about the matter, protesting the policy. The interviewees observed that parents are more informed about the legislation nowadays.

5.4.4 The Great Scale of The Disaster

The scale of the disaster is this study describes the characteristic of wicked problem on a larger scale that present in the interviews. In other words, the interviewees described elements related to the Covid-19 pandemic that were bigger than the municipal level and rather on the society level. Yet, despite that these issues are not in the same level, they influence to the municipality greatly as well as the whole nation. The Covid-19 pandemic has affected to the welfare and economic circumstances of the municipality, which are introduced next.

One interviewee stated that due to the restrictions related to the pandemic, it has created some kind of dept in welfare for some of the health care appointments have been postponed which increases the risk for the health situation to worsen in time. This deficit in welfare is explained more detailed in the next example:

> *"In our belief the lower income groups, the lower social groups, the deficit in the welfare services is visible and it is thus seen in poorer health conditions more strongly than in the upper social and income groups. And then to break this development of social inequality and turning it around, it is probably going to be one of the greatest challenges in our society"*

The example describes the problem in the society level which will have an effect on the municipality in local level. The welfare services are used here as a synonym to the social and health care services. It is here, the repercussions of the pandemic are seen to affect mostly on the people with lower income. An example of this problem with the postponed health care is also seen in the school health care since the staff were relocated to other duties. This procedure was being criticised in the interviews for it was seen that the children and youngsters were sidelined in the municipal decision-making.

The economic effects of the Covid-19 pandemic were discussed in several interviews, but it was examined widely in one of them. The interviewee asserted that the lock-down that occurred in the beginning of the Covid-19 pandemic has had large effect on the economy in the local and national level. The economic forecasts were described as dark, and the interviewee compared the mood with the great depression of the 90's and national bankruptcy. Alongside with the problems of the welfare, the economic effects are long-term issues in the wicked problem viewpoint.

5.5 Pandemic Preparedness

This feature introduces the level of preparedness of the municipality before the Covid-19 pandemic. The content of the interviews clearly indicated that preparedness for a

pandemic had a small role in the municipal functioning. This points out that there had not been preparedness for a global pandemic in the municipality. As stated in the previous section, the level of preparedness for a pandemic was limited in the municipality. However, as the situation which the pandemic created locally, there has been a great amount of learning from the disaster among the officials.

Pandemic preparedness is defined in this study as preparedness planning, changing the way of thinking and awareness of the risk. The content of the interviews indicated that preparedness for a pandemic had a small role in the municipal administration before the Covid-19 pandemic. Thus, the level of preparedness at the municipality for this type of disaster was low. One of the aims of this study was to discover the actions of preparedness related to preparedness. Yet, the interviews did not indicate preparedness for an infectious disease outbreak before the pandemic, although the duty of preparedness by law was indicated. The officials stated that this type of disaster was so new and unknown that no-one could have predicted it.

5.5.1 Preparedness Planning

It was stated at the interviews that preparedness plans did include matters related to electrical cuts, water supplies and excessive immigrations, yet they did not contain actions for a pandemic. This was seen as a great problem within the municipal administration for the emerging issues related the pandemic such as the sufficiency of facial masks. This lack of preparedness planning for a pandemic has led to actions taken during the pandemic. For example, during the Covid-19 outbreak, the municipal administrators needed to think ahead and form a view on matters that the pandemic might affect. Before the pandemic, it would have been necessary to organise exercises and training sessions covering the matter according to the interviewees.

The importance of planning has stood out during the pandemic. The interviewees asserted the need of plans or the raw version of them as they give the feeling of control at

the early stages of a disaster. Especially at the health care services, the pandemic has pointed out the importance of collaboration and planning. An interviewee stated that it is important to modify the practices as functional as possible in health care setting. Therefore, plans have been made for possible outbreak of Covid-19 in the health care centre. For example, some of the school nurses have been trained to manage the booking system of the health care centre. As an interviewee asserted, there are three major focuses in the planning that are working phone lines, functional home service and operational doctor's surgery.

The preparedness plans have been updated during the Covid-19 pandemic. In this effort, the municipal administration looked to the neighbouring municipality and used their preparedness plan as a base since the neighbour had it ready as the pandemic started. The interviewees stated that their own municipality had some sort of a plan that dated 10 years ago, when Swine flu was prevalent, but this is not relevant to the current pandemic. Thus, it was more practical to use the existing plan of the neighbouring municipality. It was stated in the interviews that the goal of pandemic planning is to have the capability to act in any possible threat. Thus, it is important to create a generic model for all types of disasters for defining responsibilities, duties and resources for each official.

5.5.2   Changing the Way of Thinking

As discussed previously, before the pandemic struck the focus of preparedness was on natural disasters rather than on contagious diseases. However, one of the interviewees stated that the municipal administration had difficulties in focusing on the matters of preparedness in the first place since there were more current and acute situations that needed the attention. Thus, this might explain the lack of municipal preparedness, that is the lack of a contagious disease management plan. However, the emergence Covid-19 was described in all of the interviews as sudden and unexpected indicating that there was no possible way to prepare for this type of disaster.

During the interviews, there were several times when the interviewee compared the thinking and mindset of the time before the pandemic with the time after it started. This led to the result of several small notes on learning new ways of working or thinking during the analysis. For example, the interviewees described the appreciation of everyday life and normal routines. The pandemic and the related restrictions have affected the whole municipality and the residents miss the normal daily life. For example, children and youngsters need to be able to socialize with their peers. There was a feeling of fatigue towards the situation and the restrictions that the pandemic has brought with it.

Despite of this fatigue, there is an understanding related to the restrictions. One interviewee noted that there is some accommodation to the restrictions. This new type of awareness of the justification of restrictions is illustrated in the next example:

> *We have learned also that we can't necessarily do as we want, but I don't know whether it is a bad thing to learn either, for I do feel sometimes that the rights of an individual overtake the rights of a community. So, it may be a good lesson to learn that sometimes the rights of a community must be heavier than the rights of an individual*

The example brings out the debate between individual and communal rights. It also highlights the communal viewpoint for the restrictions are enforced in order to reduce the number of infected people. It was discovered from the interviews that the pandemic has increased the sense of community and the role of individuals related to communal safety. However, it was pointed by an interviewee that in the future decision-making it is important to view the matters also from the individual level as it is useful to examine the actions of municipal administration from different levels to ensure the functionality during disasters and other emergency situations.

5.5.3 Awareness of the Risk

Another matter related to the changing mindset was the attitudes towards risks and their realization. This theme was present in quite many of the interviews and it was seen

as an important part of the learning process. For example, an interviewee pointed out that there are risks related to protective gear. Despite that the nurses and other staff are wearing protective gear; it is important to remember that they do not give absolute protection against infection. For example, a mistake in handling them or in their manufacturing may expose the wearer to the virus. Keeping this in mind may prevent some infections among staff. It also reminds people that there are no certainties with the protective gear and that the risks are always present. The importance in preparedness is illustrated also by the next example:

> *"What we have learned in practical level is that these kind of risks are possible and that they can be realized. And then (they) on the other hand emphasize the need of preparedness in various forms. One must be prepared for everything for there aren't always answers to everything"*

The example endorses the idea that due to the pandemic the officials are now aware of the possible risks. The interviews pointed out that this awareness is visible in the forming of possible scenarios in different disaster situations. An interviewee also observed that the awareness of risks is related to communication. In this view, the awareness is created by informing the community about the risks. The interviewee demonstrates this by stating that there are still people who deny the disaster situation despite the death rates and the issues raised by the Covid-19 pandemic.

In relation to risk awareness, the major practical issue standing out from the interviews was the reserve stocking. As the significance of planning has emerged from the interviews so has the importance of back-up supply storages has been evident. At the early stages of the pandemic outbreak, there was a shortage of protective gear and hand sanitizers since the storage of supplies has been reduced over the years due to the easy availability. During the Covid-19 pandemic, the material preparedness related mainly to the procurement of protective gear for it has fallen on a few municipal officers to gather as much stock as possible.

All in all, due to the several points made by the interviewees, there seems to be a change in the attitudes towards preparedness. The fact that preparedness plans are being updated to incorporate a situation such as a pandemic proves the importance of preparedness to the municipal administration. As one interviewee stated, the awareness related to preparedness has increased as the municipal administration has learned that a static situation may change quickly, and officials need to be able to adapt to different situations. It was also stated in the interview that society is most likely going to change due to the Covid-19 pandemic, but the consequences are going to be visible later, perhaps after 10 years or so.

5.6 Collaboration and Networks During the Pandemic

Collaboration in general has increased in the municipality according to the interviews during the Covid-19 pandemic. Several interviewees stated that the pandemic forced the departments to work more closely with each other, but also the municipal administration needed to contact other organisations working in the area such as the local church. It was also reported at the interviews that networking in the larger scale has developed during the pandemic for the municipal officials had to discuss matters more and as consequentially collaboration was necessary. The interviewees asserted that collaboration is vital for the functionality of the municipality at the time of a disaster.

It was stated at the interviews that in general the common threat has enhanced the communication and collaboration during the pandemic. One of the interviewees observed that there has been better and deeper collaboration with whom the cooperation has been good already in normal conditions. Also, the collaboration has been slightly better with more difficult partners as the disagreements and different views have been reconciled more easily. In other words, collaboration has been more or less better during the pandemic than before it.

When asked about type of collaboration, the interviewees described it to be horizontal than vertical, and that hierarchy has been low in this collaboration. In other words, there was more collaboration with the organization on the same level than with the ones on the upper levels. The basis of the collaboration was reported to be problem orientation rather than merely handing out assignments to different officials. The low hierarchy is defined by interviewees as easiness in cooperation with different levels of administration. For example, the interviewees state that one can bring problems to the top level of municipal administration and thus get support from them.

5.6.1 Collaboration Inside the Municipal Administration

Departmental collaboration has been brought up in the interviews as a good consequence of the Covid-19 pandemic. Interviewees stated that it has been understood in the municipal administration that collaboration is useful in both normal and disaster situations for it increases efficiency. Further, collaboration has for example helped the employees to see how the action of management affects their work since it is not necessarily visible in normal conditions.

The collaboration has been helpful in sharing duties and ideas. The sharing of the problems has proved helpful for officials as others might have similar issues with their work. For example, an interviewee stated that a manager in the department of education was able to ask for advice and help from other departments. Also, the interviewees working with the municipal health care conceded that the health care system is still quite bureaucratic but the collaboration with other departments has taught the importance of sharing the work and cooperation during the pandemic. The common worry about the situation was seen as the driving force for this collaboration.

An example of the practical level of collaboration was the help received from the other departments was the reallocation of staff. As home service needed staff in securing the

functionality of the service against a possible outbreak of the Covid-19 virus, they received staff from the municipal day care centres. This was seen as a positive effect as the staff was able develop their own skills and knowledge. Further, this allocation had positive effects on the motivation and well-being of the employees, and it has increased the enthusiasm to job rotation within the municipality.

During the interviews, there was one matter emerging as difficult element within the municipal collaboration. The health services have been for the most part outsourced and consequently they are organized by a neighbouring municipality that has larger health services in place. It might be said that due to the outsourcing, the health services are not part of the municipality and that they ought not to be viewed as part of the departmental collaboration of the municipality. However, the health services are part of the municipal duties, hence this study counts them as part of the municipal organisation.

The interviewees do not view the collaboration with the outsourced health care services as active during the pandemic due to deficiencies in communication. The municipal administration in general wishes more collaboration with the health services, but more importantly the interviewees state that the health care department has not given sufficient information out to the municipality. One interviewee pointed out that the health care department could participate to the meetings of the municipal management as they do in other bigger cities in Finland. However, there is understanding towards the health care services by the interviewees due to the urgent and confusing pandemic situation.

5.6.2 Collaboration with External Organisations

Collaboration with external organisations is defined in this study as the cooperation of the municipality with another public organisation, that may be part of the national administration, or some recreational communities. The main levels of this collaboration are local, regional and national indicating the operating area of the partners. Yet, as stated

before, the national level has not been referred as collaborative partner at the interviews so it shall not have a great role in this section.

According to the interviewees, at the local level the collaboration focused mostly on the cooperation with the local church. It was stated that the church took part in contacting the elderly residents in the municipality, and in this activity, the church was seen as a natural partner for their existing links to the elderly residents in the area. This is present in the next example:

> *"The best operator has been the church as they have resources. They have that personnel, they have good local knowledge. That's kind of very useful"*

As this example demonstrates, the local church was considered a valued partner during the pandemic. It was stated that there were church officials attending the meetings of the municipal management in order to share information as both organisations work in the same area. According to the interviewees, both organisations have their own procedures and guidelines and these meetings helped to coordinate the action.

Interviewees stated that the regional collaboration intensified during the pandemic. According to the interviewees the regional level included such operators as the pandemic coordination group, the Regional State Administrative Agency, the neighbouring municipality and the regional hospital. At the beginning of the pandemic, these operators focused more on giving information to the municipality but later they interacted more closely. In practice, the collaboration includes functions such as tracking chains of infection.

In addition to the organisations mentioned above, the municipality collaborated with the local branch of the Finnish Red Cross, the local fire and rescue department, the police station, but also local grocery stores and pharmacies. Despite that these operators have not been in as large role as the church, they have still been important partners during the pandemic. For example, in order to map out the needs of the elderly people living in

the remote villages, the municipal officials contacted local hunting party and other recreational groups for they were seen to have better local knowledge on the villages. Further, the local fire and rescue department are brought forward as a key operator since it is vital to protect their staff against the infection in order for the department to stay functional.

5.6.3   The Municipal Networks

In this study, networks are seen as larger cooperation with different organization than the previously depicted collaboration. As collaboration takes place between two organisations, a network includes several organisations interacting with one another. During the interviews, some of the municipal departments were participating in networks, but it does not seem to be a large practice in the municipal administration. When asked about the networking actions the interviewees acknowledged the importance of networking but had quite few practical examples on what types of networks the municipal administration had. Instead, the interviews produced list of the partners and collaborators rather than larger networks.

The interviews brought out that networks were important to the department of education. It was stated that the municipal officials could share their experiences and information with the network thus helping others and receiving it. Other municipalities had developed some practices further during the pandemic and by sharing the information, other municipalities saved time and effort as they adopted these practices. This is demonstrated in the next example:

> *"To me the collaboration has been mostly for instance at the school network, that is asking for advice from one another at our email list. For when headmasters have thought about something and others are asking for advice for how to proceed, then that has been for me the most useful body of collaboration"*

As presented by the example, receiving support and advice has been the most important function of the networks. The pandemic has proved the need to find new practices as well as new ways to work. The information shared at the networks has had a great effect on how quickly these practices are implemented as demonstrated in the example. The interviewee also stated that the role of this network was important, but currently during the pandemic it has increased greatly as one of the most important support channels.

In general, the interviewees presented networking as an important part of the future of municipal administration. An interviewee noted that it is a current problem with the municipalities that they tend to work alone inside their own bubble, which is a negative development for the low communication and interaction with other organisations. In the future, networks ought to part of the departmental and individual work. For example, it was discovered during the pandemic that networks are an important part in coordination the vaccination and in tracking of the chains of infection. One employee or unit cannot survive this task alone; networks provide information faster in these circumstances.

6 Discussion

The aim of this study was to map out the experiences of municipal officials on the Covid-19 pandemic. The theoretical background was formed with the complexity studies focusing on the wicked problems but also with the research on preparedness. The research questions were "which characteristics of a wicked problem can be found from the covid-19 pandemic" and "what are the experiences of municipal administrators on preparedness in case of the covid-19 pandemic" and they were answered by the interviews.

According to Johnson (2015, p. 151) a concept of the complex adaptive system (CAS) has parts that are in an active and complicated interrelation between themselves and this causes phenomena to emerge from within the system which in turn is interacting with its environment and moulded by it. Due to the pandemic, there was the need to develop new practices in work scheduling but also in the way of doing work that is the remote work and digital tools with it. Also, there were emerging appreciations towards hygiene and flexibility. The emerging new practices discovered in this study relates to the theory of CAS as there is emergence in the municipality due to the interaction of the parts, that is the departments and units but also individual workers.

The political steering was an unexpected result in this study as a pandemic causes the need to consult medical experts or the municipality for the implementation of required actions. Yet from the interviews, it appears that the government has the urge to show to the media and the public that the situation is under their control. The governmental guidance and focus over the vaccinations are clearly in opposition with the arguments of Kamradt-Scott (2013, p. 110) as argues against the vaccination focused disease policies for their reduced role of the knowledge of medical experts.

According to the interviews the municipal preparedness plan did not contain a pandemic situation thus there was a need for actions taken during the pandemic. However, the importance of planning has stood out during the pandemic as did the importance of updating the preparedness plan to create a generic model for all types of disasters. As

Angeli and Montefusco (2020, p.1) introduce a pandemic as unpredictable and for this reason non-linear thinking and constant learning are needed in administration. Learning is present also in the results of this study as the importance of changing the way of thinking related to preparedness and disasters was important as was raising the awareness of the risk of a disaster.

This study concedes with the argument of Schomaker and Bauer (2020, p. 846) that the Covid-19 pandemic poses a wicked problem and causes difficulties in organisations. The interviewees had difficulties to name the problem causing the conflict with the responses and definitions. As Schomaker and Bauer (2020) state the importance to learn from past crises in order to prepare for future issues, the same conclusion was found in this study. Despite that the preparedness was insufficient when considering the scale of problems related to the pandemic, the learning process was present as there were improvements in the municipality such as changing the old way of thinking and the increase in awareness related to the possible risks.

Therrien et. al. (2016, p. 100–102) describe the same type of uncertainty in the H1N1 pandemic as depicted in the results of this study. There were similar findings related to the Covid-19 pandemic on the municipal setting indicating the same problems regardless of the type of disease. This proves that the emerging infectious diseases can be studied on the basis of the complexity theory for it gives the study a wide viewpoint on a pandemic. Therrien et. al. (2016, p. 101) also give tools to evaluate the procedures before the pandemic, since the normal circumstance create a different environment with the decisions and procedures that cause difficulties in a pandemic. Biswas et. al. (2020) also found deficiencies in pandemic readiness in Bangladesh that caused problems during the crisis. As these studies indicate, the practices of the normal conditions can cause problems during a disaster without a plan. However, as one of the interviewees stated it is more important to acknowledge the risk than to merely rely on a plan in paper for anything can happen.

The collaboration and networks during the pandemic were an important part of the administrational work during the Covid-19 and it involves the collaboration inside the municipal administration, collaboration with external organisations and municipal networks. Vartiainen et. al. (2013, p. 43–47) endorses the expansion of coworking and cooperation to the organisational level in resolving wicked issues in order to increase the knowledge and innovation. When considering the argument of Vartiainen et. al. (2013, p. 43–47), it is notably similar to the findings of this study. Collaboration and networks produced new practices but also support for the officials during the crisis.

The Finnish public sector was quite resilient towards the pandemic if comparing the results of this study for example to the research of Mascio et al. (2020) for the Italian administration had greatly many other structural difficulties. This study discovered that there were also positive aspects with the pandemic such as the development of digital services and administrational collaboration which strengthened the municipal administration during the crisis. Yet, there were many issues that added to the wicked problem such as the viewpoint on the problem and the lack of preparedness for the pandemic. However, there were many lessons learned from this disaster and now there is more knowledge to use for the future planning.

In the report of the Finnish Prime minister's office (Valtioneuvosto 2021, p. 6–7) the main findings related to the leadership, the collaboration, the communication and the preparedness of the top Finnish national administration during the pandemic. Interestingly, when comparing the report and this study, there are great differences with the experiences of the top national officials and the municipal officials about the Covid-19 pandemic. The similarities in the results included the importance of communication and rapid decision-making process reflecting on the learning from the new situation. Also, the deficiencies in preparedness were present in both the report and this study pointing to the wicked problem of preparedness since it is difficult to prepare for some unprecedented and unexpected situation.

Yet, there were differences with the communication as the employees of Prime minister's office found that the information distribution to the public was working well during the pandemic but in the municipal level this was a major problem. The municipal officials experienced the information from the upper levels of administration as confusing and excessive. Further, the report of the Prime minister's office (Valtioneuvosto 2021, p. 6–7) stated that the leadership and decision-making derived from the medical knowledge of experts. This was clearly denied by the municipal administration stating that the guidance from the upper level did have a political aspect rather than a medical starting point. This implies the wicked problem in the functionality of the public administration as the national administration is a large organization as such yet there are also the district and municipal level with their own characteristics.

All in all, the Covid-19 can be described as a wicked problem for the municipal administration as there were several complex difficulties present at the municipal practices and actions during the pandemic. The wickedness poses challenges to these practices and actions, causing the planning processes to be nearly impossible. Yet, it is possible to cope with the matter if the complexity, the organisational environment and learning from past disasters are taken into consideration with the municipal planning.

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Appendices

Appendix 1. The interview questions

1. How did the actions against the Covid-19 work out in your experience at the municipality?

2. What preparedness actions for a pandemic has been made in the municipality?

3. How has the preparedness affected the municipal practices during the Covid-19 pandemic?

4. If we were at the same situation now as we were last spring, what would you do differently?

5. What type of collaboration have you had with other organisations?

   - What kind of collaboration has been best?

   - Has networking been present during the pandemic?

6. How do you feel about the directions and support from the upper levels (of administration)?

7. What was the situation with the services related to welfare?

   - How would you grade the social and health services (from 1 to 10)? Why?

   - How did the actions against the pandemic integrate with other practices?

   - (A question for the health care:) Was it necessary to move the unscheduled care? Has it caused problems?

8. What kind of actions was necessary to develop (during the pandemic)? Did new practices emerge from within the municipality?

9. What were the experiences on the collaboration with other departments?

10. What has been learned regarding to the Covid-19 pandemic? What kind of plans for the future has been or shall be made?

11. What kind of practices (that were developed during the pandemic) would you like to keep?