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FRAMES OF DIGITAL DIVIDE IN DIGITALIZATION POLICIES IN FINLAND, DENMARK AND SWEDEN AND THE LEGITIMACY OF THE IMPLEMENTING AGENCY

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ABSTRACT

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The process whereby digital technologies are integrated to everyday functions of the lives of citizens is commonly referred to as digitalization. While the benefits of utilization of technology are undeniable and manifold, digitalization also causes inequality in society. Digital divide is the academic concept that originally referred to the gap between those who have access to technology and those who do not, but nowadays it is understood as a wider phenomenon that encompasses various inequalities brought about by digitalization. Nordic countries are at the forefront in taking advantage of new technological opportunities, but also for these welfare states digital divide is a concern and governments have recently assumed responsibility for mitigating it. Given that the problem is not new and there is an established group of actors in each country that already have been helping citizens with digitalization related issues, a question worth asking is whether governmental actors that have been assigned with the task of coordinating these efforts have gained legitimacy in their role. This thesis seeks to answer this question for Finland, Denmark and Sweden and compare outcomes in these three countries.

Theoretically the research revolves around the concepts of organizational legitimacy and policy framing. Legitimacy is understood through the concepts of pragmatic legitimacy and the process of democratic legitimation, which is seen to consist of input, output and throughput legitimacy. Policy framing is understood as a relationship between a policymaker and the grassroot level operators, whereby the official policy documentation represents the frames in communication and the perceptions of the grassroot level informants' frames in thought. The thesis discusses legitimacy of central agencies in coordinating the digital divide mitigation efforts according to comparative public administration (CPA) tradition. The research is qualitative in nature and utilizes both primary and secondary data. Digitalization strategies of the three countries are analyzed with theory-driven content analysis to determine how the issue of digital divide is framed in the policies. Moreover, experts from the grassroot level of digital divide mitigation were interviewed to determine whether their perception of the issue matches the policymaker's interpretation. Additionally, the experts evaluated the central agencies in terms of the determinants of democratic legitimation and pragmatic legitimacy.

The findings from this study show that framing of digital divide varies from country to another, but not significantly. There were also slight differences between frames in communication and frames in thought within each country, but the mismatch was not regarded drastic enough to have an effect on the legitimacy. It was found that the digital divide mitigation systems are quite similar in the three countries in terms of actor composition on the grassroot level, but more divergence was observed on higher levels of hierarchy. In all three countries the grassroot level activities are arranged in form of a network: in Finland and Denmark, the coordination role has been assigned to the central digital agencies, while in Sweden the responsibility is dispersed and the network operates on democratic principles. The two agencies that have the coordinating role had some divergence in their legitimacies. The Finnish agency was seen to have higher level of pragmatic legitimacy and it was concluded that an elaborate network structure, involving stakeholders in policy process and efficient communication have favorable effect on legitimacy. Moreover, it was found that on the Swedish grassroot level there is a high demand for governmental coordination and the national digital agency is perceived as an adept authority for the role. It can thus be concluded that the central digital agency is suitable organization to coordinate digital divide mitigation efforts.

Keywords: Digital divide, Digitalization, Legitimacy, Policy framing

The originality of this thesis has been checked using the Turnitin OriginalityCheck service.

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1 Introduction

The development of information and communications technology (ICT, sometimes simply just IT, information technology) is rapid and it changes societies around the world in many ways. Benefits of new technology are manifold and undeniable; digital technologies enable new kinds of commerce and business, make transfer of information easier, help companies and governments to save costs and improve life quality of individuals, among other things. Thus, digital technologies are promoted in national policies and governments are supporting digitalization in the private sector, public sector and 3rd sector alike. Recently, however, decisionmakers have become aware that there may be problems pertaining to digital transformation: parts of society are excluded from the development, and the determinants of this exclusion range from socio-cultural factors to economic resources – citizens are not equal in the face of digitalization. (Helsper, 2012) In their 2016 paper Cruz-Jesus et al. note, that "the existence of the digital inequalities both between and within countries, poses a major threat to the fulfilment of ICT potential." (Cruz-Jesus et al., 2016, p. 72)

During the past decade, new governmental agencies have been established in the Nordic countries to manage a multitude of tasks pertaining to digitalization. Moreover, the 2010's also marked the time for the emergence of different kinds of measures to help citizens cope in an ever-digitalizing world. Digital skills have also made it into the national political agendas. In Finland, much is credited to the Juha Sipilä governmental program that had digitalization as one of its overarching themes. (Toivonen & Saari, 2019) In Sweden, the current digitalization strategy stresses the importance of digital competence and the humble aim is to be the most digitalized society in the world. (Swedish Government, 2018) The Danish digitalization strategy declares that "digisation is for everyone" and outlines the measures for getting everyone onboard. (Danish Government et al., 2016)

Thus, governments have started to establish new authorities and assume new responsibilities in the post-NPM era. Some of these organizations are now in charge of ensuring support for citizens struggling with digitalization. This development is not only intriguing from the PA reform point-of-view but also for its conflict potential. An important question is how these (new) agencies have been able to establish their authority in a task that is new for government but has been a part of the services of libraries and NGO's for decades. The big question is: do the grassroot level operators view the central agencies as legitimate in their role of leading these policies that have not been led top-down before? Comparative Public Administration (CPA) is interested in possible differences between the

countries that are considered to be in most aspects similar systems. In the present study, the countries are Finland, Denmark and Sweden and the study observes the differences in their policy responses to problems the citizens experience with digitalization. The three countries were chosen employing the most-similar systems design: as Finland, Denmark and Sweden all are Nordic welfare countries it is customary to regard them as similar political-administrative systems. Moreover, the countries score similarly in ITU statistics of people with basic IT skills, with 25–50 percent of the population possessing them (ITU, 2019). While Denmark and Sweden have greater proportions of the population performing at standard and advanced levels, basic skills can be determined the most relevant for the present study, thus emphasizing the similarity of the units. Yet, each country has a unique approach towards digital divide which can be observed, for example, in the frames given to digital divide in the respective policy documents.

Inspired by the work by Epstein et al. (2011), the phenomenon is studied with the help of policy frame analysis. Thus, the thesis operates under an assumption that different legitimacies of central agencies in three countries could be explained by different meanings the problem of digital divide is given on one hand in the national digitalization policies an on the other hand by the experts working with the issue on the grassroot level. Understanding legitimacy to be a multi-faceted phenomenon, the activities of the central organizations are additionally observed from the point of view of pragmatic legitimacy and the concepts of input, output and throughput legitimation.

Academically this research anchors itself to a phenomenon called *digital divide*, a concept that is relatively widely researched but is said to be lacking theory and unified concept (Van Dijk, 2005). Originally referring to the gap between those who have access to computers and internet and those who do not, digital divide nowadays is a conceptual umbrella for various identified inequalities caused by the development of ICT. (Van Deursen & Van Dijk, 2019) In this thesis, these existing conceptualizations are utilized in building up a framework based on which the relevant policy documents and the data from expert interviews is analyzed. Despite its popularity in the social sciences in general, the concept of digital divide does not appear in the mainstream of public administration research. The aim of this research is to bridge this gap by introducing this new area of research inquiry to the research tradition. Moreover, to the author's knowledge, digital divide has rarely been discussed from the perspective of public sector driven mitigation systems. Thus, the present thesis contributes to the body of digital divide research by exploring the concept from new perspective.

Methodologically the approach in this thesis is qualitative and theory-driven. The body of empirical data consists of public policy documents and data from expert interviews conducted by the author. Data is analyzed with conceptual frameworks derived from the previous research.

1.1. Aims of the study and research questions

The aim of this master's thesis is threefold: firstly, it is to produce comparative knowledge of public sector driven systems of mitigating digital divide in Finland, Sweden and Denmark. Secondly, bearing in mind the differences between the subject countries and their respective approaches to the issue, the thesis seeks to identify the prominent actors related to digital divide and examine the legitimacy of the central coordinators of the policy implementation from the perspective of grassroot level operators. Thirdly, an overarching goal of the paper is to contribute to the body of literature on digital divide, adopting the perspectives of public administration and examining the phenomenon from the Nordic perspective.

As the theoretical backbone of the thesis is formed by the concepts of legitimacy and frame analysis, the thesis also elaborates on the "who is responsible" rhetoric of Epstein et al (2011), by asking "who should be responsible" for mitigation efforts. However, instead of the general public the present study relies on the judgment of the established grassroot level stakeholders. Thus, the premise of the study is to understand the legitimacy of the responsible authority or authorities in the quest of mitigating digital divide as a policy outcome. The underlying assumption is that despite the apparent similarities of the three Nordic countries, the central agencies have succeeded in legitimation differently and that this observation can partly be explained by the fact that there might be a mismatch of understanding the problem between the agency and its constituents.

In order to enhance the understanding of the relationship between policy and legitimacy in digital divide issues, the thesis seeks to answer the following research questions:

- RQ1: How is the problem of digital divide framed in the communication of digital strategies in Finland, Denmark and Sweden?
- RQ2: How do the policies to mitigate digital divide differ in the respective countries in terms of a) composition of actors involved in the policy implementation and b) the role of a centralized digital agency?

- RQ3: Is there divergence in legitimacy of the central digital agency's role in the digital divide mitigation in the three countries and if so, why?

By answering the first research question, the knowledge on how the policymakers in the subject countries understand the issue is generated. The second question provides us with the contextual information about each national system and allows us to identify the organizations relevant to the study. Finally, in the third question both knowledge on policy frames and national actor networks are utilized, when perceptions of grassroot level actors are compared to the policies.

This research was inspired by the author's collaboration with the digital support project in the Population Register Center (Presently the Finnish Digital Agency) in Finland. Given the recent realization of the need to support citizens in the digitalized world within the Finnish public sector, also a need for knowledge regarding how the issue is understood and tackled in other Nordic countries has emerged. Furthermore, due to the quest for knowledge-based decision-making, the scientific research on the phenomenon has also sparked interest. Through comparison of the policies and practices in Finland, Denmark and Sweden, the present thesis contributes to the body of research on both digital divide and public administration by bridging the gap between the two. To author's knowledge, the three countries have not been studied from this perspective and with a similar design before, thus making the research relevant in understanding digital divide mitigation policies in these countries. While this research takes the research on digital divide forward, the findings can also be valuable to the officials in the organizations studied in this thesis, as they can reflect on their own activities and learn from the best practices of their peers in other countries.

1.2. Structure of the thesis

The thesis is structured as follows: The contextual background for the research is outlined in chapter 2. Chapter 3 outlines the most important conceptual and theoretical underpinnings of the study accompanied by the literature review of prior research that discusses similar themes as the present study. Chapter 4 introduces the methodological choices made in the course of the research work as well as evaluates the effect of these choices on the reliability of the results.

Findings from empirical research are presented in chapter 5. The chapter is constructed in a way that each sub-section corresponds to one of the research questions and is further divided into three sub-

sections that correspond to each subject country. This allows the reader to locate information pertaining to each country easily. The findings are concluded in the analysis in chapter 6, whereby each of the findings pertaining to each subject country is drawn together and analytically compared in three sub-sections that correspond to one research question each.

The thesis is summed up by a conclusion in chapter 7. In addition to summarizing the findings, the section also acknowledges the limitations of the present study as well as makes suggestions for practical utilization of the findings and future research.

2 Contextual background

This chapter is to highlight the relevance of the present study by pointing out the policy attention digital divide has thus far received. Especially skills pertaining to digitalization are considered widely an important area of development. European Commission has stated that being digitally competent is "…a task for the 21st century citizen" (EU Science Hub, 2019). Since 2010 the Joint Research Centre on behalf of the Directorate General for Education and Culture has been developing a framework for digital competence. The outcomes have been published in 2013, 2016 and 2017 respectively.

In Finland, digital divide became a policy issue during the government program of Prime Minister Sipilä's government 2015-2019. One of the flagship projects in the program was called *Digitalisoidaan julkiset palvelut* (Let us digitalize public services), with one of its goals being to "help those citizens who are not used to and who are not able to use digital services" (Finnish Government, 2015, p.26) Proceedings pertaining to digital divide were: 1) AUTA-project with the purpose of creating a new model of digital support in Finland, 2)Digi Arkeen advisory board and 3)legislation on support functions to e-services. (Ministry of Finance, 2019) in AUTA project the situation of digital divide in Finland was analyzed and the mitigation thereof was developed and eventually described as *digital support*.

Sweden has a digitalization strategy from 2018. It is divided into five milestones, one of which being digital competence. In the description of the milestone it is stated that "everyone should be able to develop and use their digital competence." The milestone is further divided into following actionable goals: 1)Ability and possibility to contribute to and participate in the digital society, 2)Modernization of the education system, 3)Matching the competence and 4)Digital competence in public agencies and state-owned companies. Each goal consists of several assignments to be carried out by distinct authorities. (Swedish Government, 2018)

Danish digital strategy runs 2016-2020. The strategy is divided into three thematic entities. Under the theme of *Security and confidence must be in focus at all times* it is stated that "Digitisation is for everyone". Moreover, this goal is explained as follows: " Individuals and businesses who find it difficult to use digital solutions and to communicate digitally with the authorities must be given the necessary help and support." To achieve this, initiatives aimed for specific target groups (e.g. young people, elderly people, people from non-western countries) were to be launched to ensure these groups can benefit from the digital services. (Danish Government et al., 2016)

Thus, each country has acknowledged the existence of digital divide and thus the need for mitigating policies. However, as can be observed, there is variation in how the phenomenon is discussed in the policy papers. Even the terms are different: where the Finnish government has been talking about digital support, in the Danish and the Swedish use the terms digital inclusion and digital competence, respectively. The present thesis draws the information from the digitalization strategies together for comparison and seeks to find out to what extent the effect of wordings can be seen in the systems set up to mitigate digital divide in the three countries.

3 Key concepts and theoretical underpinnings

In this section the concepts central to the themes of the thesis are introduced, followed by the central theoretical considerations. First the concept of digitalization is discussed as it is the most important overarching theme in this paper. As much of the pre-existing literature on digitalization in administrative sciences revolves around the development of administrative reform, key findings from the said literature is reviewed. This is followed by an in-depth discussion on the concept of digital divide, which lays the groundwork for the conceptual framework utilized in this study. This is followed by two sub-sections introducing the two central analytical approaches utilized in the study, namely policy framing and research on organizational legitimacy. The section is concluded by a review of relevant literature that has either made a prior attempt to synthesize the aforementioned concepts or otherwise brought research on digital divide and public administration closer together and, finally, by the development of the analytical framework that is used in the empirical part of this research.

3.1. Digitalization

The fundamental societal phenomenon this thesis observes is digitalization. Although the effects and processes of digitalization are widely studied and well documented in several academic disciplines, the term itself is rarely defined properly in the papers. Lack of definition is here interpreted to suggest that digitalization per se is not a subject of scholarly interest but it is rather taken for granted. As an inevitable phenomenon, however, digitalization has various interesting consequences that are considered worth investigating by the research community. Nevertheless, given its centrality to this thesis, it is seen imperative to provide some sort of definition of the phenomenon.

Research articles on digital divide rarely explicitly refer to digitalization. Instead of providing clear definitions the articles usually describe a myriad of changes in society that pertain to digital services and devices "like rise of the World Wide Web" or "Advent of the Internet" (Riordan, 2018). Where *digitalization* is used as a term and defined, it is usually done in a rather business-oriented manner. For example, Henriette et al. define it as a "business model that is driven by the changes associated with the application of digital technology in all aspects of human society." (Henriette et al., 2015, p. 1) Similarly, in Gartner Glossary digitalization is defined as " the use of digital technologies to

change a business model and provide new revenue and value-producing opportunities," (Gartner, 2020, 1 para) The two aforementioned definitions observe digitalization as a phenomenon that takes place at an organizational level.

Alasoini's definition, on the other hand, is wider and observes digitalization at a societal level. According to Alasoini, digitalization is integration of digital technologies to everyday functions of life utilizing possibilities of digitization. (Alasoini, 2015, p 26) Alasaoini among others emphasize the importance of distinguishing between the terms digitalization and digitization, since the latter refers to merely transforming analogical information into digital forms. (Alasoini, 2015; Henriette et al., 2015)

Henriette et al. note that digitalization literature concentrates significantly on technological innovations, although digitalization affects all aspects of organization (Henriette et al., 2015) They call for a more overall understanding of the phenomenon that unveils the transformative effects of digitalization. In fact, they treat digitalization and digital transformation as synonymous (Henriette, et al. 2015). This notion is well in line with Alasoini's arguments, stating that digitalization should be understood as a societal process where digital opportunities are exploited (Alasoini, 2015).

In this thesis, digitalization is understood as the changes in society brought about by the digitization of services, processes and appliances taking place in the private sector, public sector and the private lives of citizens. Provided that this research is conducted within the domain of administrative sciences, particular focus is on the developments in the public sector. Hence, digitalization on government administration is discussed in a greater depth in the following section.

3.2. Digitalization in government administration

While digitalization can be understood as a cross-cutting phenomenon revolutionizing all aspects of society, one should note that governments' motivations pertaining to digitalization are often understood to be tightly connected to the core administrative processes and digitization thereof. Hence, the digitalization in government administration is discussed here as a separate theme from digitalization in general. Furthermore, it is argued that in order to understand the recent developments in public administration a short review of development to date is needed.

When examining policies in a modern society, one cannot escape New Public Management (NPM). In their recent article Klenk and Reiter state that NPM has been treated synonymously with public sector reform for the past 30 years (Klenk & Reiter, 2019). NPM itself is commonly understood as the "transfer of market principles and business-management techniques from the private into the public sector." (Siltala, 2013, p.2) Based on their systematic literature review Klenk and Reiter note that "a substantial number of authors posit that we have entered a period of post-NPM." (Klenk & Reiter, 2019, p. 22), however admitting that there is no consensus on of what post-NPM consists. In their review they recognized two dominant approaches: on one hand, a return of the "strong state" and ideas of representative and inclusive bureaucracy, deliberation, and stakeholder participation" on the other. (Klenk & Reiter, 2019, p. 22)

Janet and Robert Denhart formulated the concept of New Public Service to counterbalance the influence of NPM (Denhart & Denhart, 2015). New Public Service – or NPS – they define as follows: "explicit consideration of democratic values and citizenship by public administrators will have benefits in terms of building communities, engaging citizens, and making government work more effectively." (Denhart & Denhart, 2015, p. 664) Denhart and Denhart make it clear that their aim is not to declare winners in the race NPM vs. NPS, but rather observe how different values are balanced to others in these schools of thought. In fact, they conclude that neither has reached a position of a paradigm, which contradicts findings of Klenk and Reiter, who clearly view NPM as such. (Denhart & Denhart, 2015; Klenk & Reiter, 2019)

While more generic conceptualizations of administration reform may neglect the significance of digitalization in the development, there is also research that brings technology and administration together. In their provocative article *New Public Management is Dead – Long live Digital-Era Governance* Dunleavy et al. propose that post-NPM could as well be called Digital-Era Governance (DEG) (Dunleavy et al., 2006). Furthermore, they argue that the main themes of NPM, namely disaggregation, competition and incentivization are replaced in DEG by reintegration, need-based holism and digitalization changes or processes. (Dunleavy et al., 2006) They note that while the first theme is partly a reaction to NPM's problems, the other two "[…] are essentially at a tangent to NPM practices—not convergent with them but quite different in orientation." (Dunleavy et al., 2006, p. 480). Greve expands on the work of Dunleavy et al., stating that the scholars are already debating on DEG 2.0. with social media, transparency and shared service centers as its central characteristics (Greve, 2013, p. 52).

Earlier discussion also exists on the transformative power of technology to public service: In his 2004 article West lists the four stages of E-government transformation, ” (1) the billboard stage; (2) the partial-service-delivery stage; (3) the portal stage, with fully executable and integrated service delivery; and (4) interactive democracy with public outreach and accountability enhancing features.” (West, 2004, p. 17). One should note that while West sees as a transformation of government agencies, he limits his view to web-sites, stating that the model ”[…]allows researchers to determine an agency’s progress based on how far along they are at incorporating various Web site features.” (West, 2004, p. 17) This view, of course, is restrictive compared to the present scholarly understanding of digitalization and government. Moreover, presently the distinction between e-governance and e-government is made. Saxena (2005) argues that e-governance ought to be treated as an umbrella term, under which concepts of e-government and e-democracy belong, thus defining e-governance as

> an information-age model of governance that seeks to realise processes and structures for harnessing the potentialities of information and communication technologies (ICTs) at various levels of government and the public sector and beyond, for the purpose of enhancing good governance (Saxena, 2005, p. 500).

One should note that, as Klenk and Reiter (2019) also point out, the issues covered by the research – and thus the elements that form the core of the paradigms – depend on the questions researchers seek to answer in their studies. In other words, if the researcher is not interested in the digital divide, it is not likely be featured in the research setting. Research within public administration discipline seems to take for granted that all achievements of e-governance are welcomed by all citizens and benefit them. For instance, Denhart and Denhart emphasize the importance of citizen participation, but do not discuss the significance of digitalization in achieving citizen participation or as a hindrance (Denhart & Denhart, 2015). Dunleavy et al. do discuss citizen competencies but mainly as part of NPM-critique (Dunleavy et al. 2006). A review by Twizeyimana and Andersson (2019) recognizes positive effects on social value and wellbeing assuming that everyone can benefit from the results. Thus, although helping citizens to cope in the digitalized world can be supported by the evidence from the e-governance research, no effort to anchor such activities as a part of any tradition has been made in research context. This thesis, in turn, seeks to combine PA research with the concept of digital divide, which is discussed in-depth next.

3.3. Digital divide

Even though digitalization and e-governance are seen as having a generally positive impact on citizens' lives, the development has also been observed to be a potential cause for problems. *Digital divide* is a popular concept in many disciplines within social sciences. According to van Dijk, the term originally referred to "[…]the gap between those who have and do not have access to computers and the Internet"(Van Dijk, 2005, p. 222). In his early work van Dijk elaborated on the concept of access by developing a cumulative model of successive types of access, where motivational access is followed by material access, skills access and usage access, respectively. In other words, van Dijk argues that whenever a new (digital) innovation emerges, a user needs first to gain motivation, then devices followed by skills in order to become a user, and even within users disparities exist. Moreover, the same steps are to be taken again with each new innovation (Van Dijk, 2005).

Much of the research that has since been based on van Dijk's summative work and understanding of disparities brought about by digitalization is more nuanced. Recent studies have shown that the original point of interest, namely the material/physical access to computers, has paled in significance in comparison to other gaps and in fact already in 2005, when van Dijk's paper was published, the problem of physical access had nearly vanished in the western countries (Van Dijk, 2005, p.223). However, the conclusion is not that the digital divide is bridged but rather that the divide has shifted from access to other areas (Van Deursen & Van Dijk, 2014; Friemel, 2016).

In a more recent article, van Dijk and van Deursen note that "[…]while gaps in physical access are being addressed, other gaps seem to widen." (Van Deursen & Van Dijk, 2010, p. 894). Similarly, Livingstone and Helsper argue that "[t]he research task has thus shifted to that of capturing the range and quality of use, transcending simple binaries of access/no-access or use/non-use and tracking shifting 'degrees of marginality' in digital inclusion and exclusion" (Livingstone & Helsper, 2007, p. 22) Current research on digital divide classifies the phenomenon in three types or levels (Van Deursen & Van Dijk, 2019) Wei et al. refer to these levels as access divide, capability divide and outcome divide (Wei et al., 2011). This framework is illustrated in figure 1. While the first level or access divide refers to the original digital divide i.e. the differences in access to computers and internet augmented with the e.g. notion of importance of peripheral devices, maintenance costs and quality of connections, the second level or capability divide is concerned with user's skills in the widest sense as well as the differences in usage. Third level or outcome divide is only emerging as an area of research inquiry but is gaining traction as other divides seem to narrow. Scholars studying outcome

divide are interested in different tangible benefits an individual gains from using digital devices and services (Wei et al., 2011)

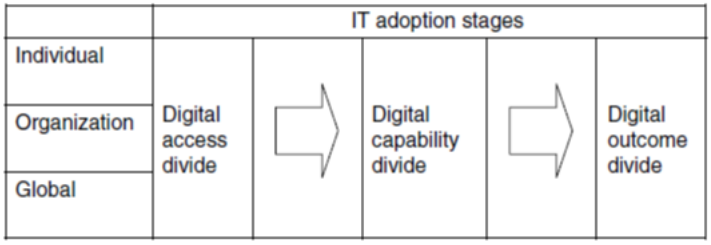

Figure 1: Three-level digital divide framework after Wei et al. (2011)

As noted above, digital divide is a relatively widely researched phenomenon throughout social sciences. Although Van Dijk has expressed concerns about the shortcomings of the concept – including lack of theorization and conceptual elaboration and definition (Van Dijk, 2005, p. 232), digital divide is frequently discussed for example in geriatrics (e.g. Olphert & Damodaran, 2013), media studies (e.g. Livingstone & Helsper, 2007) and rural studies (e.g. Roberts et al., 2017). Moreover, the topic is touched upon in research of other fields without referring to it as digital divide, for example Nordlund et al. found out that while digitalization is intertwined in the daily-lives of children and families, they also face problems mastering it (Nordlund et al., 2019).

Considering this, we can argue that as a phenomenon digital divide remains a subject of scholarly interest but at the same time the attention is scattered between the disciplines. Consequently, van Dijk's concern about the lack of theorization and conceptualization is evident (Van Dijk, 2005). Lack of coherence leads to a situation where an integrative approach that views digital divide as across-cutting phenomenon worthy of public policy attention is under-developed. This may, in turn explain why the concept is absent, to the author's knowledge, from the studies on public administration reform research paradigms.

One should note that digital divide is a scholarly term that does not frequent in everyday language or policy documents. One commonly used euphemism is to discuss either digital inclusion or exclusion depending on the width of digital divide. Terms like *digital inclusion / digital exclusion*, *digital inequality, digital competence,* and *digital support* can be found in the public discourse on digitalization and some of them also appear in research papers (see Helsper & Livingstone, 2007; DiMaggio & Hagrittai, 2001) However, these terms are mainly used to emphasize certain aspects of digital divide, or, as explained in the next section, used as tools of policy framing.

3.4. Policy framing

Policy framing analysis is a method whereby a scholar seeks to understand how a policymaker defines a particular problem thus making the decision what is considered worthy of policy attention and setting the policy agenda. The framing is conducted with the tools of selecting, naming, categorizing and story-telling. (Van Hulst & Yanow, 2014) At a more fundamental level frames can be understood as "schemata for interpretation" or "interpretative packages" through which an individual can understand a particular situation or issue. (Epstein et al, 2014; Goffman 1974) Frames and framing are analyzed throughout social sciences and definitions vary accordingly (Druckman, 2001). Moreover, different concepts are utilized depending on whether the scholar is more interested in the process of framing or the effects thereof. In the present study more important than the processes are the frames themselves.

When frames are constructed not by the individual but by a policymaker, one talks about policy framing. Epstein et al. point out that "Frames are constructed, modified, and diffused across a variety of competing social, political, and economic actors such as politicians, advocacy organizations, social movements, media organizations, corporations, and the like." (Epstein et al., 2014, p. 93) These actors participate in various processes pertaining to frames and framing, such as frame-building and frame-setting (Scheufele, 1999) and frame contest (Benford & Snow, 2000) These models are to explain which frames are prevalent in public discussion and how they shape both public opinion and individual thinking on the issue. They suggest the use of frames to be a deliberative activity. One should, however, note that frames are also created unintentionally and they occur in all our communication. In fact, Van Hulst and Yanow distinguish between frames and framing stating that " frame" signifies a more definitional, static, and potentially taxonomizing approach to the subject; "framing" offers a more dynamic and, in our view, potentially politically aware engagement." (Van Hulst & Yanow, 2014, p.93)

One way to go about frame analysis is to distinguish between frames in communication and frames in thought (Druckman, 2001; Epstein et al., 2014). Druckman argues that the two are in a way similar for they "[…]both are concerned with variations in emphasis or salience…" (Druckman, 2001, p. 228) but while the former focuses on the way elites articulate the issue in discourse, the latter is concerned with the understanding of an individual, often citizen (Druckman, 2001) Applied to the present study, the frames in communication are those understandings that are articulated by the policy-makers in the strategy documents and frames in thought represent the reading of the issue by an individual expert on the field. Epstein et al. maintain that the frames in communication are

“strategically constructed” and “communicated”, whereas frames in thought are “interpretative” results of the former (Epstein et al., 2014). When frames in communication succeed in shaping an individual’s thinking or public opinion, one talks about framing effects (Druckman, 2001).

According to Van Hulst and Yanow, frame analysis is useful method for ” issues in the mismatch between administrators’ implementation of legislated policies and policy intent” (Van Hulst & Yanow, 2014, p. 92) In their work, Epstein et al. see frame analysis ” aptly suited for our goals of unpacking competing interpretations of the digital divide and linking policy discourse with citizen perceptions.” (Epstein et al., 2011, p. 2) In the present study the framing approach is thus utilized in order to analyze whether the interpretations of digital divide compete between different levels of the mitigation system and how the possible mismatch affects the legitimacy of the coordinating agency. The basic definition and additional determinants of legitimacy are discussed in the next section.

3.5. Legitimacy

Legitimacy can be said to be a characteristic, quality or property of a public institution, be it a ruler, government, agency or other organization. Suchman describes legitimacy as ”normative and congnitive forces that constrain, construct and empower organizational actors” (Suchman, 1995, p. 571). Moreover, Suchman provides us with a broad definition of legitimacy: “Legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, belief, and definitions.” (Suchman, 1995, p. 574) Suchman’s broad definition is also inclusive, since it discusses the legitimacy of an *entity*, while often papers are concerned about the legitimacy of a ruler or democratic system, for example. However, the same concepts are applied for studies of other types of entities, too.

Legitimation is an activity through which the said institution seeks to gain legitimacy. According to Gronau and Schmidtke ” Legitimacy is and can only be the result of an interactive political process between rulers and subjects.” (Gronau & Schmidkte, 2016, p.539) When an organization knowingly engages in this sort of process, they employ legitimation strategies, several of which are recognized by the research. One should note, however, that legitimacy can be produced also by the ”normal” activity of the organization. Suchman describes legitimacy management where gaining legitimacy is followed by maintaining and repairing legitimacy and presents a myriad of different mechanisms, both strategic and unintentional, through which legitimacy is managed. (Suchman, 1995) It is likely that the organizations whose legitimacies are under focus here have not taken conscious steps to

legitimize their position in the similar sense as understood in this thesis, but their daily activities nevertheless contribute to the process.

Modern research on legitimacy distinguishes between normative legitimacy and empirical legitimacy. While the former focuses on set criteria against which the legitimacy is evaluated, the latter hands the determination power to the subjects thus making legitimation a socially constructed process. In other words, an organization could be legitimate in a normative sense when it fulfils a certain criteria but lacks empirical legitimacy if the subjects decide so. Furthermore, legitimacy can be categorized into the following three types: pragmatic, moral and cognitive. Shortly put, pragmatic legitimacy is determined by the evaluation of an entity's immediate stakeholders, moralistic by the evaluation whether the entity's activities are "right" or "good" and cognitive whether the entity has reached a level of "taken-for-grantedness" (Suchman, 1995). One should note that the types of legitimacies co-exist in real life and it could be argued that organizations are constantly in a quest for gaining as much legitimation as possible. Moreover, Suchman notes that as organizations move towards cognitive legitimacy it gets more difficult to maintain (Sucman, 1995, p.585)

Since the present study observes the legitimacy as the acceptability the central digital agencies in Finland, Denmark and Sweden receive from the grassroot level operators, i.e. immediate stakeholders, it is the pragmatic type of legitimacy that deserves more attention here. Suchmann (1995) distinguishes between three mechanisms through which an entity can achieve pragmatic legitimacy: at simplest, an entity can reach exchange legitimacy, in which the constituents of the policy perceive policy outcome valuable. For interest legitimacy, on the other hand, the constituents do not require favorable outcomes as long as they feel the entity is nonetheless being responsive to their interests. More recently scholars have also discovered dispositional legitimacy, where it is enough that the entity is personified as well-meaning, wise and fair actors with similar values with the constituents. All three types of pragmatic legitimacy share the assumption that the entity's immediate audiences (read: stakeholders) are like constituents that scrutinize the entity's actions and expect to gain something. This *something* then varies from actual tangible benefits to the experience of kind-heartedness. (Suchman, 1995)

Another way to understand legitimacy is to observe it as a process consisting of input, output and throughput legitimacies. Input-legitimacy refers to the input the subjects contribute to the process, i.e. their dissent or consent to the issue; output-legitimacy refers to the problem-solving capacity of the organization; and throughput-legitimacy in turn pertains to the transparency of the process. (Haus et al., 2005) Haus et al. call this process *democratic legitimation*, which, in summary, is a process whereby an organization seeks input-legitimation through participation, output-legitimation through

effectiveness and throughput-legitimation through transparency (Haus et al., 2005) Another way to understand the concept is that it observes legitimacy to consist of three aspects: 'output' for the people, 'input' by (and of) the people and 'throughput' with the people or politics, policies and processes, respectively (Schimdt, 2013, p. 2) In this thesis legitimacy is understood above all as a product of democratic legitimation process and through the concept of pragmatic legitimacy. Thus, in the empirical part of the study the focus is on activities through which the agencies can achieve these particular types of legitimacy. Moreover, it is assumed that the way policymaker understands and frames the problem of digital divide affects the legitimacy. Several possible ways of framing digital divide can be found in the literature, which is under review in the next section.

3.6. Digital divide policy in literature

Research on digital divide as a wider policy phenomenon does not form a considerable body of literature or research tradition. As noted earlier, digital divide research lacks general conceptualization and recent developments in theory have taken place mostly outside of public policy research (van Deursen & van Dijk, 2019). Consequently, there are not so many studies that would combine the research on digital divide with the concept of legitimacy or frame analysis.

However, some research on digital divide mitigation policy exists. Epstein et al. (2011) touch upon the policy-side of digital divide. *In their article Who's Responsible for the Digital Divide? Public Perceptions and Policy Implications* they seek to answer whether mitigating digital divide is a public sector task at all. They argue that policy-focus being in the question of physical access and public-private partnerships related to infrastructure, the significance of other dimensions of digital divide are undermined. (Epstein et al., 2011 p. 10) Moreover, they maintain that assigning the responsibility to the individuals and educational institutions may hinder the efforts to bridge the gap, arguing that they lack the resources governmental agencies would have to solve the problem (Epstein et al., 2011, p.10). In a similar vein to this thesis, Stewart et al. compare the frames digital divide is given in EU and US policy papers. They conclude that their computer-assisted methodology seems to yield good results in frame analysis and that the findings support a notion that policy processes should be concerned about transparency and effective communication pertaining to frames (Steward et al., 2006). Another example of digital divide policy research is Maram & Ruggeri's somewhat dated research paper that superficially analyzes some possible policy responses to the digital divide, basing the discussion loosely on agenda setting capability and policy framing (Maram & Ruggeri, 2013) One should note

that Maram and Ruggeri, like Epstein et al., also observe the phenomenon from an American perspective. A number of scholars have discussed digital divide policies also in an European context. Walterova and Tveit (2012) argue that digital divide is often caused by local phenomena and thus should be addressed on the local level instead of one-size-fits-all type of initiatives like Digital Agenda for Europe (DAE). (Walterova & Tveit, 2012) A paper by Schleife (2010) analyses different determinants of digital divide among German citizens, arguing that the correct policy response to the problem would be investment in infrastructure to mitigate the gap between rural and urban areas. (Schleife, 2010). Her approach to the policy, however, is not very analytical as the main focus of the paper is an econometric analysis on the determinants of the problem.

While Epstein et al. have gone furthest in their efforts to pinpoint the responsibility for digital divide and in so doing touch upon legitimacy questions related to it, their approach and methods differ from the present thesis: as per the tradition of frame analysis they mainly seek to investigate the effect of framing the concept in the attitudes the citizens and, and in doing so their research set up is experimental (Epstein et al., 2011) Although these findings are interesting, they are highly specific to the American context and ignore the administrative perspective. Moreover, when it comes to Finland, Sweden and Denmark it can be established that governments assume responsibility of digital divide, so closer observation of understanding of the concept within public administration is required. What seems to be common for American research paper on policy responses for digital divide is the discussion whether the issue is a governmental concern in the first place (Epstein et al., 2011; Maram & Ruggeri, 2013) The present study, however, goes beyond this debate since in the subject countries digital divide is accepted as a public administration task.

The observations of the effect of framing resonates with the scholarly arguments stating that the definition of, and approach to, digital divide varies depending on who is discussing it (Epstein 2011; Van Dijk, 2005; Van Deursen & Van Dijk 2011; Livingstone & Helsper, 2007) Thus, the digital divide discussion is bound to have different implications also depending on the scientific discipline or socio-political system in which it takes place. This being said, there is a need for discussion of digital divide and tools to mitigate it in public administration research and in the Nordic context.

As it is, there is a limited body of literature about the digital divide in the subject countries. Naturally, as Nordic EU countries Finland, Denmark and Sweden are often included in comparative studies observing the phenomenon across the continent (see Cruz-Jesus et al., 2016; Mascheroni & Òlafsson, 2015; Brandtzæg et al., 2015; Linblom & Räsänen, 2017) Many of these studies focus on the determinants of digital divide, i.e. the characteristics of excluded individuals. Brandtzæg et al. form an interesting typology of internet user types and observe them in five EU countries, Sweden among

them. Although their results from 2011 may be dated, the typology may still be useful to understand the spectrum of internet usage and the variation between countries thereof.

Out of the three subject countries it is the Danish demographic that has sparked scholarly interest the most. Peronard and Just (2011), for example, have studied the significance of user motivation in adoption of broadband as the internet connection for home in rural areas of Denmark (Peronard & Just, 2011). They argue that technology adoption should not be merely observed as a rational decision-making stressing the tangible benefits but also emotional and symbolic values ought to be taken into account. The article *Use, cost, and digital divide in online public health care: lessons from Denmark* by Andersen et al. is mostly concerned about the use and cost, limiting the analysis on digital divide on the observation of demographic groups using and not using eHealth services (Andersen et al., 2019). Common to these studies is the focus on limited the aspect of the phenomenon and that their contribution to the research is to add on the understanding of the determinants of digital divide, not the mitigation efforts and policy responses. This thesis, in turn, observes the mitigation systems, which can be seen as one aspect of the policy response to the digital divide.

To date, the research on digital divide has thus developed from the stage van Dijk observed in 2005: there are various conceptualizations of the phenomenon and papers have been written on different aspects of the problem. The determinants of digital divide are understood quite well and observations indicating that the divide changes its nature over time have been made. Some quantitative cross-country comparisons shed a light on the background variables of gaps, but there is still a lack of research that analyzes policy responses to digital divide in depth. In the present study the aim is to generate in-depth knowledge of three Nordic countries as opposed to more superficial review of a larger sample. Moreover, this thesis seeks to fill the gap in research by describing the digital divide mitigation systems and analyzing them with qualitative methods. For this purpose, an analytical framework drawing from previous conceptualizations is developed. The framework is discussed next.

3.7. Conceptual framework of digital divide

In order to conduct content analysis, a researcher needs either to develop an analytical framework or to adopt (and possibly adapt) one from the theoretical literature. In the analysis, data is coded according to the categories of the framework. This is a method through which a researcher can make sense of a large amount of data. The framework for understanding digital divide is presented in figure 2. The framework was developed by the author by combining previous categorizations from previous

research. It follows the reasoning of van Dijk and van Deursen who state that the present research recognizes three levels of digital divide (Van Deursen & Van Dijk, 2019). Wei et al. refer to these levels as access divide, capability divide and outcome divide (Wei et al., 2011). To add detail to the framework also van Dijk's early conceptualization of successive types of access (motivational, material, skills, usage) is embedded (Van Dijk, 2005). One should note that van Dijk's conceptualization is partly outside of the present framework: however, although motivation is not considered in later conceptualizations of the three levels of digital divide, it should be included in this analysis for being frequently referred to in some of the strategies studied in the present research.

Since Epstein et al. studied framing with dichotomous setting where digital divide was understood either as an access problem or skills problem, these aspects are also included in the figure to point out that more nuanced understanding of digital divide is required for the analysis of the digitalization strategies. (Epstein et al., 2011)

As an academic concept digital divide is rarely explicitly used in the policy documents. Thus, looking for terms like "usage access" or "outcome divide" in the strategies is not likely to yield any results. Thus, each level of digital divide is explained below:

First level digital divide or Access divide is said to consist of disparities in physical access and material access. Physical access is understood as availability of devices (computers, smart phones, tablets) internet connection. Material access refers to more nuanced divergence in device availability and can be divided to device opportunities (possibility to replace current devices with new technology), diversity of devices and peripherals and maintenance costs (Van Dijk, 2015) or "the means required to maintain the use of the Internet over time, such as computer devices (e.g. desktops, tablets, Smart TVs), software (subscriptions), and peripheral equipment (e.g. printers, additional hard drives)." (Van Deursen & Van Dijk, 2019, p. 355)

Second level digital divide or Capability divide consists of skills and usage. Van Dijk suggests that the skills part should be broken down into the following categories:

- Strategic skills: "capacities to use computer and network sources as the means for particular goals and for the general goal of improving one's position in society" (Van Dijk, 2005, p. 228)
- Informational skills: "skills to search, select, and process information in computer and network sources" (Van Dijk, 2005, p. 228)
- Instrumental skills: "the capacities to work with hardware and software" (Van Dijk, 2005, p. 228)

Usage has been traditionally measured in terms of usage time; usage applications and diversity; and activity or creativity of use among other things (Van Dijk, 2005, p. 229). While this approach is very quantitative, for the purposes of qualitative research more interesting categories would be labeling use to dichotomy of utilization (career, work, education, society) versus entertainment and consumptive behavior (games, online shopping, social media) (Van Dijk, 2005; Van Deursen & Van Dijk, 2014). Van Deursen and van Dijk note that that classification of usage should be "derived from the most important contemporary Internet activities." (Van Deursen & Van Dijk, 2014, p. 510) Kalmus et al. 2011 suggest the dichotomy of work & information vs. social media & entertainment.

Third level digital divide or outcome divide is the emerging stream of research and partly overlapping with van Dijk's (2005) notion of divide in strategic skills. The outcome divide refers to outcomes or tangible benefits received from the current use of digital technologies. Outcomes can be, for example, learning outcomes like wider vocabulary as a result of frequent internet usage (Wei et al., 2011) or being able to use digital services (Van Deursen & Helsper, 2015).

Van Dijk (2005) also discusses motivational access, but it remains out of the scope of digital divide when observed in relation to levels (Wei et al, 2011; Van Deursen & Van Dijk, 2019). According to van Dijk, motivation is prerequisite for any technology appropriation and the category of "want-nots" has been somewhat neglected phenomenon in research. (van Dijk, 2005, p. 226) It can be assumed that motivational divide has shifted more increasingly to skills divide and further to outcome divide in most of the demographic groups, while lack of motivation still persists among senior citizens (Van Deursen & Helsper, 2015)

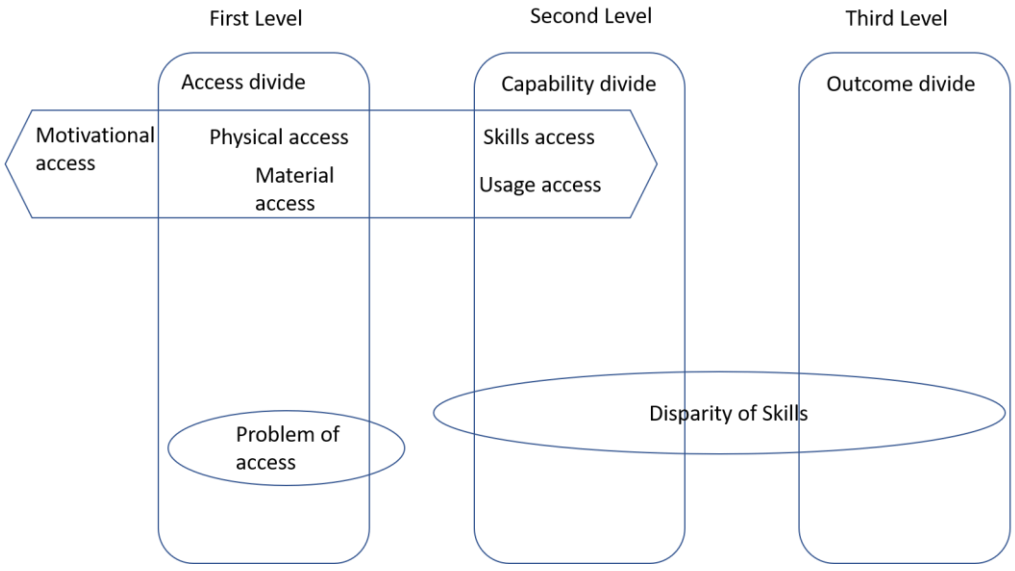

Figure 2: Conceptual framework of digital divide

4 Methodology

Essentially, the present study is conducted according to the tradition of comparative public administration. Generally this refers to a set of research approaches seeking to compare "inputs, outputs, and outcomes across institutional settings" (Gupta, 2012, p. 11) While the approach imposes some boundaries for the study, it is up to the researcher to choose the research methodology that best serves the purpose of finding answers to the research questions. In this thesis the phenomenon of digital divide mitigation is studied with qualitative methods: secondary data is collected from pre-existing sources and primary data generated through expert interviews. Further, the said data is analyzed through theory-driven content analysis. According to Gupta (2012), in the case of similar systems and divergent policy outcomes one should " […]look to the small number of differences in order to establish the reason for the divergence." (Gupta, 2012, p. 12). Findings generated through content analysis from Finland, Denmark and Sweden are thus compared to establish these differences. This, comparing policy outcomes across systems, is part of the traditional approach of comparative public policy and often seeks to answer two main research questions: how the policies differ and why is it so. (Gupta, 2012)

A prerequisite for being able to determine why the outcomes, inputs or outputs differ across systems is to establish the divergence in the first place. Thus, the present research combines both conceptual and descriptive approaches. The table 1. illustrates the breakdown on the level of research questions. Descriptive questions are necessary when the characteristics of the studied phenomena need to be clarified in order for them to be further theorized (Ivey, 2016)

Research question	**Type**
RQ1	Coneptual/Descriptive
RQ2	Descriptive
RQ3	Conceptual

Table 1: Research questions by research approach.

As it was argued in the introduction, digital divide is a common topic of study in the social sciences but the research from an administrative perspective is rare. Thus, it is seen an inescapable to generate the contextual information by answering research questions that are of explanatory nature in order to be able to move onto conceptual questions, that is the questions that ask "why".

The time sequence of the research work was as follows: first, the actor networks in the subject countries were studied in order to recognize the a) the central agencies b) relevant grassroot level actors and c) central policy documents; second, the policy documents were analyzed with a framework based on digital divide literature; third, expert interviews were conducted to investigate central agencies' legitimacies and to generate further contextual knowledge on the digital divide systems in the countries. Cresswell (2007) suggests that the interrelated activities of research process could be presented as a circle that illustrates the multiple phases of research:

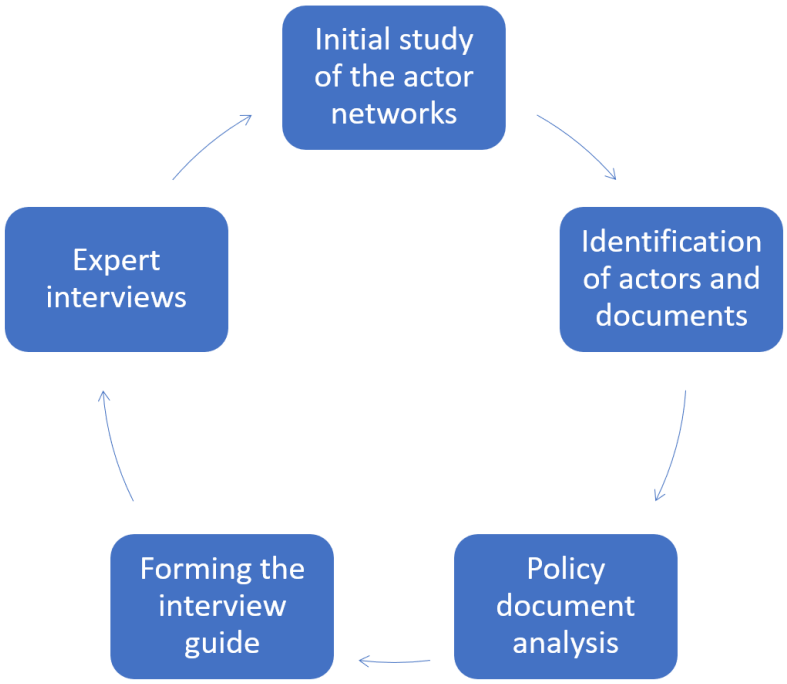

Figure 3: Adaption of Cresswell's (2007) data collection cycle

4.1. Data collection

Tuomi and Sarajärvi argue that common data collection methods in qualitative research are interviews, surveys, observation and document collection (Tuomi & Sarajärvi, 2019, p. 113). Based on the research questions and the resources available a single study can employ one or a combination of several methods. Should the research setting require and time permit, multiple methods of data collection are justified. In the present thesis the research questions necessitate data from different sources, hence both document collection and interviews are used. The table below summarizes the relationships between the research questions and data.

Research question/Type of Data	RQ1	RQ2	RQ3
Documentation	X	X	
Interview		X	X

Table 2: Relationship between research questions and types of data.

Eskola and Suonranta encourage a researcher to consider, whether pre-existing data would suffice saving time and energy for the analytical part of the research (Eskola & Suonranta p.86, 1995). They maintain that the benefit of pre-existing data like policy documentation is that there is a vast amount of it, but sometimes it may also cause a problem and requires more careful selecting from the researcher (Eskola & Suonranta, 1995). In the present work, analyzing pre-existing documents was chosen as one of the two data collection methods for a reason stemming from the theory: in the RQ1 the focus of study is on the frames in communication i.e. the understanding and wording of the problem as communicated by the policymaker, thus making it necessary to study public documentation (Druckman, 2001; Epstein et al., 2011). Moreover, also the interviews were used for the type of data they generate: as the aim of the RQ3 is to determine, whether there has been a framing effect as a result of policymakers' frames in communication, also data of subjects' frames in thought is required – this is only possible by generating primary data through interviews.

As noted, in this thesis both pre-existing data and data generated by the author was used. The body of pre-existing data consists of digitalization strategy documents from the three countries. Two of the strategies are general digitalization strategies, one more specific document produced within a project. When the aim is to study frames in communication, strategy papers are a convenient source since they are a public record of policy communication where policymakers summarize their perceptions of the issues. The documents were studied in original languages. In specification of articles a more inclusive definition of strategy documents was adopted, whereby also communication material supporting the projects themselves could also be studied. However, for the frame analysis the policy documents were sufficient but the communication material (e.g. organizations' websites, press releases, reports and adjacent strategies) was used as a source of contextual information. The table 3 below summarizes the documents:

Title	Author	Issue date	Page number
Digituen toimintamalliehdotus	Ministry of Finance of Finland	19.12.2017	74
För ett hållbart digitaliserat Sverige - en digitaliseringsstrategi	Swedish Government	17.05.2018	38
Et stærkere og mere trygtdigitalt samfund: Den fællesoffentlige digitaliseringsstrategi 2016-2020	The government, Local government of Denmark, Danish municipalities	05/2016	59

Table 3: List of analyzed documents.

Primary data was generated through thematic expert interviews. Thematic method is often used in expert interviews, which is a type of interview rather than its own methodology. However, specific methodology of expert interviews should be chosen according to research questions and settings (Hyvärinen et al., 2017)

According to Tuomi and Sarajärvi, methodologically thematic interviews emphasize the interviewees interpretations of the issues and how these interpretations are constructed in communication (Tuomi & Sarajärvi, 2018) In this method the interview is often semi-structured, which means that the questions are not predetermined and set in stone, but are formed during the course of the interview depending on the interviewee. However, questions are based on predetermined themes that can be derived from the study's theoretical framework, for instance.

When conducting interviews, researcher can choose the informants that are likely to have enough knowledge of the issue (Tuomi & Sarajärvi, 2018). Hyvärinen et al. (2017) note that there is not a consensus on what constitutes an expert in the society. Thus, it is a central task of a scholar to define the criteria that an experts needs to fulfil. Careful consideration helps the scholar to plan the interviews, to interpret the data as well as contextualize it. Expert status can be based on scientific, professional or institutional grounds. An expert can thus provide a researcher with know-how or know-why type of information that an average person cannot. The focus in an expert interview is the

expertise and interpretations of the informant, not the informant his or herself. (Hyvärinen et al., 2017)

The experts interviewed in this study were sought after through networks recognized during the course of the research. As it was found out that in each country there are networks of grassroot level operators that interact both with citizens and the governmental agencies, the focus of interviewee search was directed there. Since interview data was mainly needed to investigate legitimacy and the approach chosen was that of pragmatic legitimacy and input, output, throughput process, it was determined that informants should represent the immediate stakeholders of central agencies, i.e. the network members.

The network coordinators were contacted with a list of criteria for an ideal interviewee:

- A senior member in the organization, preferably in a managerial position
- Proficient in English
- A person, who has been involved in a policy formation process, if applicable
- A person, who is actively collaborating with the central agency or equivalent in the policy development activities (e.g. contributing to upcoming strategy formation)

A total of six (6) informants were interviewed, two from each country. The interviews were conducted via Skype between 1st May and 16th April. More specific schedule of the interview can be found in the appendix 1. Tuomi and Sarajärvi (2018) point out that the aim of an interview is to generate as much information of the issue as possible, thus the questions should be given to the interviewee in advance so that the interviewees have time to familiarize themselves with the themes. (Tuomi & Sarajärvi, 2018) The interviewees were sent an information sheet including an interview guide (see appendix 2) prior to the interview, allowing them to prepare for the interview and familiarize with the themes.

4.2. Data analysis

The empirical data was analyzed with a method of qualitative content analysis. The aim of the content analysis is to produce a clear, verbalized description of the phenomenon that the data depicts. In other words, by content analysis a researcher seeks to organize data into a clear form without compromising the information data contains (Tuomi & Sarajärvi, 2019, p. 171).

In general, collected data can be analyzed either deductively or inductively. In the former the data is organized and studied according to a framework that is drawn from the previous literature, conceptualization or theories; in the latter, a researcher seeks to draw the theory from the data (Tuomi & Sarajärvi, 2019, p. 150) Since there had been prior research on both digital divide and legitimacy enough for a formation of analytical framework, deductive approach was chosen (Elo & Kyngäs, 2007). Moreover, given the variance in presentation of the strategies in the documents studied, drawing categories from the literature was deemed more appropriate than inductive approach.

In theory-driven content analysis, data is categorized according to the pre-existing theoretical or conceptual framework. A researcher screens the data for certain expressions that correspond the categorizations and forms classifications based on the categories. When researching digital divide, recent research findings and development of the three-level understanding of the phenomenon allows the researcher to draw framework from the existing literature. Similarly, rich conceptualization of legitimacy provides plenty of categories that can be used to form a framework for analysis. These concepts were introduced in chapter 3.

Thus, theory driven approach was utilized in the analysis of both policy documents and interview data. While in the document analysis the framework derived from the theory was more systematically used, the interviews were more loosely based on the concepts of input-, output and throughput legitimacy (Haus et al., 2005; Schmidt, 2013) and partly on the findings from the document analysis that was conducted prior to the interviews. In analyzing the digitalization strategies, each document was examined and all the expressions referring to digitalization induced inequality were identified. These expressions were categorized into first, second and third level digital divide. Tuomi and Sarajärvi also point out that utilizing theory-driven content analysis often results in creation of an additional category of "others", for findings that did not fit in the original framework but seem nonetheless relevant for the study. (Tuomi & Sarajärvi, 2017) Thus, expressions that did not fit the existing categorizations but did reflect some sort of digitalization related gaps between citizens were also grouped in order to determine whether they form an additional category. In the interviews the interview guide was based on the theoretical considerations of input, output and throughput legitimacies but naturally the discussions generated plenty of data that was not unequivocally part of one of the aforementioned categories. Thus, also indicators pointing towards other legitimacy theories were taken into account in the analysis.

Comparative research design combined with content analysis raises a question whether the data should also be quantified and the frequency of expressions compared. However, due to the lack of

uniformity of data (including types of the documents and language), quantification of data does not promise to yield reliable results.

4.3. Ethical considerations

The research was carried out according to good conduct and following the responsible conduct of research guidelines by Finnish National Board of Research Integrity (TENK). Considering research ethics, it is important to disclose any connections the researcher has to the subjects studied and report any known biases. (TENK, 2012) As it was stated in the introduction, the study itself was initially inspired by the collaboration between the author and one of the agencies. The employment has continued during the writing of the thesis. While this might lead into a situation where the knowledge of one of the subjects is richer than of the other two, there is no bias to be reported.

All data was collected in an ethically sustainable manner. The interviewees were informed about the purpose of the interviews and that the interviews were recorded. (TENK, 2012) The recordings and transcripts were stored in a manner that they could not be accessed by third parties and it was stated that the recordings are to be destroyed after they are no longer needed for the research. As personal data of the interviewees is not relevant to the study, the transcripts were anonymized. Moreover, no information based on which an interviewee could be identified was included in the report. (TENK, 2019)

One significant issue pertaining to the validity or reliability arises from multilingual nature of this comparative study. As noted earlier, the policy documents were studied in their original languages but the same principal could not be applied to the interviews.

To mitigate this issue a proficiency of English was expected from the interviewees and the interviews with the Danish and Swedish informants were conducted in English. Resch and Enzenhofer refer to this as “using relay language” in their list of strategies for cross-language data collection (Resch & Enzenhofer, 2018 p. 8). Moreover, the Finnish interviewees were provided with an opportunity to speak in their mother-tongue, since it is also the native language of the author. Resch and Enzenhofer note that relay language strategy is often used in the expert interviews and is seen time-saving when the language of material produced and the language of the reporting is the same, in this case English. On the other hand, they warn that the nuances of the language might get lost in case the interviewee has difficulties in expressing his/herself (Resch & Enzenhofer, 2018 p. 8). Bearing these

shortcomings in mind, the interviewees were given an adequate time to familiarize themselves with the vocabulary and during the interview it was verified that the both parties (interviewees and the interviewer) understood the issue the same way. By these measures it was ensured that all informants can express themselves well enough so that the hazard of miscommunication was minimized. One should also note that since the interview data was subject to content analysis instead of research methods where the language is more emphasized (like discourse analysis), it was concluded that relay language strategy was appropriate.

In order to demonstrate the reliability of the findings, original quotes from both data sets are included in the presentation of the findings (Elo & Kyngäs, 2017)

5 Findings

The data collected according to the methodology described above is presented in this chapter. The chapter is divided into three sub-sections that each correspond to a particular research question. Moreover, each sub-section is further divided into three sub-sections each corresponding to a particular subject country. The findings from the data is further analyzed and compared in chapter 6.

5.1. Frames of digital divide in digitalization strategies

This section outlines the findings from the document analysis conducted to the documents that present national digitalization strategies in Finland, Denmark and Sweden. Methodology and the documents were described in the chapter 4. Moreover, a conceptual framework that the content analysis is based on can be found in the section 3.7. The framework outlines the different categories of digital divide identified in the literature and relevant sub-categories to deepen the understanding. It should be noted that the academic terminology is rarely used in the strategies, so the expressions corresponding to these terms are listed in the section 3.7. By using these expressions policymakers have defined what aspects of digitalization requires attention, i.e. framed the issue (Druckman, 2001) In addition to analyzing communication expression by expression, frame analysis could be done also on the level of headlines or stories that these expressions construct (van Hulst & Yanow, 2016). However, in this analysis the focus is on the expressions based on the framework.

In the following sections the digital strategies are analyzed country by country, focusing on expressions that indicate governments' concern of citizens' digital access, digital capabilities and outcomes of digital usage. The expressions are categorized to first, second and third level digital divide. Moreover, where applicable attention is also paid to named target groups of the policy, as according to van Dijk digital divide research tends to consider inequality determinants that are commonly researched in social sciences (van Dijk, 2005). Thus, emphasizing a target group is seen as another way to frame the issue. Through these analyses a picture of frames in communication digital divide in each country are given is formed. This knowledge is later compared to frames in thought expressed by the grassroot level representatives to determine whether there is framing effect taking place that could explain legitimacy of the central agency.

5.1.1. Finland

The digitalization policy in Finland is steered by the Ministry of Finance. During the government period 2015–2019 the ministry adopted an approach whereby digitalization policy is not written in a form of strategy. Instead, the goals were briefly articulated in the government program and operationalized in the documentation produced in each particular project launched within the government program. (Finnish Government, 2015; Ministry of Finance, 2019) Thus, when analyzing the framing of digital divide in the Finnish policy one should study these documents.

In the report *Digituen toimintamalliehdotus* (Proposal for the operational model of digital support) the Finnish officials state that difficulties at using digital services are mainly caused by lacking device resources and skills resources. Thus, the strategy explicitly addresses both first and second level digital divides. However, a closer analysis reveals that also third level divides are a concern. (Ministry of Finance, 2017)

Instead of digital divides or inclusion/exclusion, the Finnish point of view is that of digital service providers. This means that the driver for digital support development is the goal to increase usage of digital services rather than mitigate inequality. On the other hand, this approach addresses the usage gap as understood as the difference between utilization and other uses of digitalization (Van Deursen & Van Dijk, 2014). One should bear in mind that despite the strong emphasis on the digital service provider perspective, the usage gap is considered also to be a problem of inequality (Ministry of Finance, 2017, p. 28)

The Finnish strategy wraps around one particular measure through which digital divide is mitigated, that is digital support. Consequently, this also guides the framing of the problem at strategic level. Using services digitally is seen to have an intrinsic value, thus the strategy does not accentuate different benefits of the usage.

The first level divide discussion is mostly concerned with the questions of material access, as can be seen in the following excerpt from the report:

> *"Some of the (senior) citizens could run their errands digitally if only they had the necessary devices (e.g. pad computers) and guidance for its use"* (Ministry of Finance, 2017, p. 13)

in the following passage it is noted that that the problems pertaining to access divide ought to be addressed before the digital support can be used to mitigate skills divide:

> *"The citizens who have access to digital devices and need either help to use the device or help to use the eservice benefit the most from the digital support"* (Ministry of Finance, 2017, p. 8)

Thus, the elements of van Dijk's original sequential model are present (Van Dijk, 2005).

While the report recognizes several areas of digitalization whereby a citizen would need new skills, the focus is strongly on the use of (public) digital services. The report discusses people who know how to, want to and dare to use digital services. Not being used to digital services is seen as a cause for non-use and digital support is proposed as a tool to mitigate this gap. On the other hand, this can be seen as an indicator for the lack of *motivational access* (Van Dijk, 2005). Van Deursen and Helsper, who have studied the internet usage among the Dutch elderly note that that non-users are rarely a homogeneous group and analysis should distinguish between the reason for such behavior. While the Finnish strategy does acknowledge that non-use does not necessarily occur by choice, the understanding is not as nuanced as in the literature (Van Deursen & Helsper, 2019)

Although skills are included in the report, they do not have intrinsic value. Citizens are desired to have the sufficient skills to turn them from non-users to users. By providing digital support the government seeks to enable "independent and secure use of digital services" when a person cannot use the device or service or does not own a device. The aim of increasing citizens' skills is thus subsidiary to the aim of increasing the usage of (public) digital services. The following quote illustrates how report emphasizes the importance of transition from non-user to user:

> *"Most of those who need support can be lifted to the independent user group through practicing digital skills and increasing accessibility and usability"* (Ministry of Finance, 2017, p. 8)

The expectation of outcomes is tied to the political aim of *productivity leap*. Digitalization is seen as a prerequisite for the leap and digitalizing the public services as a way to achieve it. The sub-aim of the government program is to make the digital channel as a primary way to use the service. However, this aim is not unconditional. As a benefit for an individual the report mentions that digitalization makes daily life easier. Moreover, it is argued that those who use digital services have better access to the public services and that:

> *"services lessen inequality faced by the service users that is caused by geography or different life situations"* (Ministry of Finance, 2017, p. 6)

Although in the report it is speculated that the development of digitalization threatens to widen gaps in the future, the policymaker has faith in the citizens in the present day, as can be seen in the following quote: *"Most people still want to learn how to use digital services"* (Ministry of Finance, 2017, p. 6)

In summary, the Finnish strategy emphasizes the importance of digital public services and is concerned the level of usage thereof. The report specifies several different reasons citizens do not use digital services ranging from first level aspects of not owning the devices to skills and motivation, thus addressing digital divide spectrum quite extensively. However, as increasing use of digital services is seen important for both individual and the society, the strategy frames digital divide first and foremost as a problem of usage gap.

5.1.2. Denmark

The Danish digitalization strategy is titled as *Et stærkere og mere trygtdigitalt samfund* (A Stronger and More Secure Digital Denmark). One should note that the authors refer to digitization, which can be understood as a slightly different phenomenon but in the strategy is used synonymously to digitalization. The strategy runs 2016–2020 and is written by the Danish government, Local Government and the Danish regions. It is the fifth consecutive strategy since the first strategy paper in 2001. (Danish Ministry of Finance et al., 2016)

Like commonly in the western world, the first level gap of access is considered to be practically non-existent (Van Dijk, 2005). Goals pertaining to infrastructure are thus not about bridging the gap but rather improving the existing coverage to be adept for future growth. The strategy is anticipating strong development in technologies in future, which is recognized as a hazard for the increase in material access divide. The following passage illustrates the predictions:

> *"However, the rate and evolutionary power of technological developments will accelerate in the years to come. Digital development will be so fast, profound and unpredictable that it will challenge and change society in ways we cannot even begin to imagine."* (Danish Ministry of Finance et al., 2016, p. 4)

While it is not made explicit in the strategy, the development of technology is the biggest concern from the perspective of material access (Van Deursen & Van Dijk, 2019). However, the quote above can be seen to reflect the divide in broader sense including skills and outcomes. Thus, the premise in the strategy is that the Danish people can adapt to the development by learning new technologies, but not the problems that may arise in terms of acquiring equipment. The strategy names several emerging technologies, all of which require new kind of devices to be operated. This is to suggest that instead of capability gap, the Danish digital divide is first and foremost an extension of economic inequality in the society. In this way, the strategy emphasizes the socio-economic determinants of divide. The following excerpt from the strategy indicates that skills divide is seen to have mostly vanished:

> *"People and businesses have good digital competences and have generally embraced digital technologies"* (Danish Ministry of Finance et al., 2016, p. 6)

Nevertheless, it is acknowledged that not all citizens can use digital technologies, but these are considered an exceptional minority. They are referred to as "those who stumble on the way" and those "have taken some time to adjust to new ways of dealing with things." (Danish Ministry of Finance et al., 2016, p. 6) According to the strategy these people should be given support and the digital competences of citizens should be enhanced. The strategy discusses these people in the following manner:

> *"Therefore, it is still necessary to help individuals who find it difficult to use the new technology and communicate digitally with the authorities, or who have special needs for help."* (Danish Ministry of Finance et al., 2016, p. 56)

On the other hand, it is stated that there is a part of the population who cannot use digital services and in public sphere they should be provided with alternative ways to handle their business.

The digital skills are seen as a sequential prerequisite for tangible benefits of digitalization. Thus, the Danish strategy echoes van Dijk's model of technology access appropriation (Van Dijk, 2005; Wei et al., 2011). The strategy singles out "qualified decisions" and "safe and secure navigation" as outcomes of skillful and informed digital use. Thus, the emphasis is on informational skills. The strategy does not address the gap in usage access. (Van Dijk, 2005)

Considerable proportion of the strategy deals with third level issues, that is the outcomes of digitalization. While the outcomes are mostly discussed at a national level, framing the citizens' digital skills a prerequisite for national success, it is noted that a digital competence also helps the citizen to cope in the digital society. Moreover, at the same time digitalization is seen to add value to

everyday life and to create growth. On the other hand, it is argued that digitalization provides opportunities to an individual. The authorities see their role as a facilitator, stating:

> *"Digital safety and security of individuals and businesses are essential to being able to exploit the opportunities"* (Danish Ministry of Finance et al., 2016, p. 7)

In other words, the government considers its work on digital safety and security as an input to the mitigation of outcome divide. Moreover, facilitating adaptiveness and flexibility are seen similarly. However, the strategy predicts potential increase in outcome divide arguing that it is not always possible to predict the "opportunities, users' needs and societal benefits" that digitalization brings.

Danish strategy has a strong emphasis on children, young people being the only target group singled out in the strategy paper with a designated set of measures. When it comes to children, second level digital divide indicators become the most important concern. The authorities discuss "digital competences and culture" that can be seen to address both skills and usage divides. In addition, target groups for the general measures include the elderly people and immigrants from non-western countries.

In summary, the Danish digital strategy frames digital divide primarily as a problem of divergent outcomes and the lack of use that hinders growth at a national level. The strategy takes elements of first and second level digital divides into account but sees them both problems of lesser severity and issues that affect the main problem of digitalization outcomes.

5.1.3. Sweden

The Swedish strategy for digitalization is titled *För ett hållbart digitaliserat Sverige* (For a sustainable digitalized Sweden). (Swedish Government, 2017) Sustainability is understood as a wide concept including social sustainability, thus making the Swedish paper the strategy that emphasizes equality the most of the three countries. The following quote illustrates the approach: *"In Sweden everyone shall be able to use and develop their digital competence".* (Swedish Government, 2017, p. 12)

In the strategy first level digital divide receives little attention. It is stated that hard and soft infrastructures are improved, but this not to mitigate inequalities in access but rather for the sake of data transportation. On the other hand, it is argued that all Swedes should have access to fast broadband connection and stable mobile services, but it is not indicated whether there is a divide in the access. When it comes to the first level divide, the strategy emphasizes digital divide in its most

traditional sense: originally digital divide was in fact understood more in terms of internet access, while today focus on first level analysis is increasingly in material access like the quality of devices (Van Deursen & Van Dijk, 2019). Nonetheless, well-built infrastructure is listed as one of Sweden's strengths alongside with "technology savvy and technology friendly" citizens. Thus, in addition to narrow access gap also the importance of skills access and motivational access are acknowledged. (Van Dijk, 2005)

Digital competence is one of the five milestones of the Swedish digital strategy. Education and development of competence is considered a prerequisite for coping in the changing society, thus making skills an important emphasis area. Moreover, the strategy defines digital competence as follows:

> *"Digital competence means that everyone should be familiar with digital tools and services and have an ability to follow and take part in the digital development according to their abilities"* (Swedish Government, 2017, p. 6)

Furthermore, digital competence is said to consist partly of technical aptitude to use digital tools, partly information and media literacy. Hence, the Swedish understanding of digital competence covers van Dijk's categories of strategic, informational and instrumental skills (Van Dijk, 2005). Moreover, by defining competence in this manner strategy addresses both skills and usage aspect of the second level digital divide. In fact, the Swedish strategy is concerned about the usage gap, but this is expressed in a very different way from the Finnish strategy. While the Finnish strategy discusses the usage of services, the Swedish strategy wants to ensure citizens' participation in the society. This notion echoes both ideas of utilization usage (Van Deursen & Van Dijk, 2014) and strategic skills (Van Dijk, 2005). The strategy draws a picture of Sweden, where every citizen is included in the society, also digitally. In the strategy digital inclusion is referred to and described as follows: *"In addition to for example competence also security and accessibility are important for digital inclusion"* (Swedish Government, 2017, p. 16)

The core message of the strategy's milestone of digital competence is that everyone should be granted an opportunity to develop their competence. Opportunities should be flexible and universal and a person's background should not have effect. The same applies to the services and society: access to them should be equal. According to the strategy, being part of the digital development has a potential for improving life quality. The authorities see that secure and competent citizens can drive innovation and that digitalization contributes to a positive development in society in general. It is also stated that

digitalization makes everyday life easier. “Social aspects are important, since digitalization can improve quality of life” (Swedish Government, 2017, p. 8)

Some of the outcome goals are operationalized: for example, it is stated that the government’s goal is that Sweden has the lowest unemployment in Europe in the year 2020. Thus, employment is seen as a favorable outcome of digital usage and – as observed at a societal level – a favorable outcome of digitalization. Other operationalized goals include improved learning results in schools and reduced emissions. Again, these are not necessarily direct benefits an individual gains from digitalization, but goals that, when fulfilled, should have positive outcomes to whole society. Thus, digitalization is seen to produce tangible benefits for the citizen that in turn contributes to the societal development (Wei et al., 2011). One could argue, observing digital divide in this way through its 3rd level justifies the possible policy measures for mitigating digital divide.

Competence is seen important for the working life. Thus, it is stressed that the content in the higher education should correspond to the needs of the labor market. Digitalization should also contribute to the mobility in labor market. The quote below summarizes the ideas expressed in the strategy:

> *“Digital competence also includes the ability to keep up with digital development in a way that provides the opportunity to get and keep a job, to be able to start and run a business or to strengthen the innovation capacity and competitiveness of organizations or companies.”* (Swedish Government, 2017, p.12)

In summary, Swedish strategy has a premise that being digitally competent yields great benefits to both individual and society. While the framing does not indicate that Sweden would have a competence problem per se, ensuring competence development is nonetheless a priority. Better competences are seen as integral for positive development of society and realizing goals such as low unemployment that also give benefits for individuals.

5.2. Descriptions of systems of digital divide mitigation

In this section the systems set up to mitigate digital divide in Finland, Denmark and Sweden are observed. One should note that, as pointed out in the previous section, such systems are not necessarily deliberately established or explicitly named, but rather one should seek to recognize the relevant organizations and structures within the administrative systems. Some of the strategies studied in section 5.1. do name organizations and describe the systems, which makes answering this research

question easier. Others, however, are more ambiguous in this sense and in order to study these systems one has to refer to other sources, too. Moreover, contextual knowledge generated through the expert interviews is used in this section, but also original sources are referenced as much as possible.

When examining the systems, attention is paid to the following characteristics:

- Existence of central digital agency
- Tasks of central digital agency pertaining to digital divide
- Existence of networks of grassroot level operators
- Membership of networks and structure
- Role of the central agency related to the network

By finding out these aspects it is possible to determine the actors that are relevant to this study: who is seeking legitimacy and from whom. Moreover, a coherent view of how the systems in Finland, Denmark and Sweden are composed is formed.

5.2.1. Finland

In the Finnish administrative system, the digitalization policy is managed by the Ministry of Finance. Different tasks pertaining to the digitalization are assigned to different agencies under the ministry's mandate, but recently functions have been increasingly centralized, first to the Population Register Center and later its successor, Finnish Digital Agency (*Digi- ja väestötietovirasto*, henceforth DVV) (Kotilainen, 2018; Finnish Digital Agency, 2020). Agency's digitalization-related responsibilities include Suomi.fi online service, developing the information architecture, portfolio management and coordination of the Government Information Security Management Board, among others.

Presently, most clear task pertaining to digital divide is digital support, which was originally assigned to the Population Register Center and was inherited by DVV. The administration of the digital support in Finland has its roots in the government program of Prime Minister Sipilä's government 2015-2019. One of the flagship projects in the program was called *Digitalisoidaan julkiset palvelut* (Let us digitalize public services). One of the goals of this project was to "help those citizens who are not used to and who are not able to use digital services" (Finnish Government, 2015) Proceedings pertaining to digital competence/support were: 1) AUTA-project with the purpose of creating a new model of digital support in Finland, 2)Digi Arkeen advisory board and 3)legislation on support functions to e-services. (Ministry of Finance, 2019) The organization for digital support was created

in 2018 as per proposal initiated in the AUTA-project. The organization was tested during the period 2018-2019 and has been made permanent 2020 onwards. (Finnish Government, 2019)

Thus, DVV leads the efforts to mitigate digital divide in Finland. The agency coordinates the network that comprises of 14 projects that are located in the Regional Councils. Each project is responsible for developing a network of grassroot level actors as well as promote conspicuousness and findability of digital support in their region. Moreover, the projects develop the methods of support in cooperation with DVV (Ministry of Finance, 2019) While the Finnish model may seem the most structured in comparison to its Nordic counterparts, one should note that the regional level is not permanent and is pending a legislative reform. However, given its geography, an extra layer of coordination may be necessary to ensure country-wide support.

The Finnish digital support is provided by a variety of organizations. In addition to the guidance given by the governmental agencies on their own services and general guidance provided by a *kansalaisneuvonta* (Public service info), the Finnish strategy of digital support recognizes also municipalities (including libraries), adult educational institutions, non-governmental organizations and private companies as a providers of digital support. However, it is stated that the model is kept flexible, thus the abovementioned list is not exhaustive.

5.2.2. Denmark

In Denmark, the efforts to mitigate digital divide are centralized under the Agency for Digitalization (*Digitaliserningsstyrelsen*), which operates under the Ministry of Finance. Within the agency a department for digital inclusion undertakes the implementation of the digital divide related tasks of the digitalization strategy. Established in 2011, Danish Agency for Digitalization is the oldest central agency for digitalization within the comparison countries. The agency was established as a merger of *IT- og Telestyrelsen* and parts of *Økonomistyrelse* (Digitaliseringsstyrelsen, 2020)

The office for digital inclusion has been assigned with the responsibility of implementing the parts of the digitalization strategy that are connected to the digital inclusion. According to the agency its mission is to improve it-skills of the Danish people, which it sees as “one of Demarks societal challenges” (Digitaliseringsstyrelsen, 2020)

The office for digital inclusion, among other things, distributes information and educational material and is responsible for communications campaigns whereby information about digital inclusion is

spread. Moreover, the agency is responsible for the network for digital inclusion (*Netværk for digital inclusion*). The network is open for any organization or authority that deals with "IT challenged citizens." (Digitaliseringsstyrelsen, 2020). The majority of the membership consists of various types of non-governmental organizations (NGO), libraries and other municipal services. Members also include governmental agencies and councils, national advocacy groups and even labor unions. The purpose of the network to support the efforts of competence development within the "IT challenged" target groups that are indicated in the digital strategy. Perhaps due to its history, the Danish network is the most diverse of the three. Digitaliseringssrtyrelsen has been around the longest, so the network as well as agency's position has had a longer time find its shape.

In summary, in the Danish system the responsibility for coordinating the mitigation of digital divide are quite clearly centralized in one governmental agency. Moreover, there is a department within the agency with its goals tied to the ongoing digital strategy. Grassroot level operators are brought together by a network that is run by the agency and has a purpose of aiding the implementation articulated in the strategy.

5.2.3. Sweden

Swedish digital agency, Agency for Digital Government (*Myndigheten för Digital Förvaltning,* henceforth, DIGG) was founded as a part of the implementation of the digitalization strategy in 2018. The agency operates under the Ministry of Finance (*Finansdepartement*). However, DIGG does not have a task pertaining to digital divide. The three responsibility areas of the agency are (digital) services and infrastructure; digital development; and governance and support (DIGG, 2020). Thus, the role of DIGG differs drastically from its Danish and Finnish counterparts being more limited and public sector oriented.

In decisions adjacent to the digitalization strategy different tasks (*uppdrag*) pertaining to digital competence were assigned to different organizations that range from governmental agencies like Post and Telecom Authority (PTS) to private foundations like The Swedish Internet Foundation (IIS). Moreover, funding was granted to a number of on-going operations. In spite of the number of national agencies acknowledged in the decisions specific task of coordinating the digital divide mitigation efforts has not been given in a similar manner as in Denmark or Finland.

As a part of the implementation of the present digitalization strategy the Swedish Digitalization Council (*Digitaliseringsrådet)* was founded. While council's operations are directly connected to the digitalization strategy, it does not have a role to coordinate grassroot level efforts per se but rather analyze the situation, promote the strategy and make suggestions. The council "consists of leading experts from universities, private and public sector and one office under the leadership of Minister for Digital Development." (The Swedish Digitalization Council, 2020)

A structure similar to the Danish and Finnish networks is *Digidelnätverket* which is partly coordinated by Sambruk, an association for municipal development in Sweden. (Sambruk, 2019) Covering one third of Swedish municipalities, Digidelnätverket is, however, a "non-hierarchical, unbounding and democratic" network. Thus, despite its coordinating role in the network Sambruk does not have authority per se. Activities initiated by Digidelnetvärket include nationwide digitalization theme weeks and peer support for members in form of annual conferences and ad hoc meetings. (Sambruk, 2019) An apparent problem of the network is low coverage, which means that all the citizens do not have equal access to support.

Alongside Digidelnätverket a network of *Digidelcenters* exist. These are spaces where citizens are able to seek help for problems pertaining to digitalization and develop their competence. The task of establishing new centers, however, is given to IIS in the digitalization strategy.

Digidelnätverket is said to consist of "local, regional and national organizations like libraries, adult education institutions, (governmental) authorities, associations and companies" (Sambruk, 2019)

It can thus be concluded that the Swedish system of digital divide mitigation lacks a clear central authority. Bulk of responsibility is assigned to non-governmental actors that are however funded by the government, but the funding lacks continuity and does not support permanent structures. Myriad of organizations is represented in the membership of the network, but shared activities are scarce.

5.3. Legitimacy of the central agency in coordination role

This section presents the findings from the expert interviews, the details of which were described in the section 4.1. The interviews were conducted with representatives of grassroot level operators in each country and focused on framing of digital divide and evaluation of central agency's performance, including their perceptions on the legitimacy related issues. Moreover, it incorporates the findings on frames in communication presented in the section 5.1. in order to establish the analysis of possible

framing effect. Given that the interviews were thematic in nature, also the data produced through them is less structured as the questions presented to the interviewees depended on the course of the interview. However, the data is arranged in this section to correspond the themes of the interviews so that the discussion of the frames is followed by the informants' evaluation of the coordinator's activities and further their experiences with the policy formation process. As in some instances these latter two themes were intertwined it is also evident in this presentation.

In this thesis, legitimacy is observed from the perspective of framing effect and democratic legitimation. The premise is that in addition to regular legitimizing processes, likeness of frames in communication and frames in thought has an effect on the legitimacy of the central agency. In literature this relationship is referred to as framing effect. (Druckman, 2001) In the following chapters the findings of framing on both levels are brought together to enable the comparison. Moreover, informants' evaluation on central agencies' effectiveness, transparency and similar indicators are reflected against the knowledge of democratic legitimation and pragmatic legitimacy (Haus et al., 2005; Schmidt, 2013; Suchman, 1995)

5.3.1. Finland

The Finnish strategy for digital divide mitigation was outlined in the document *Digituen toimintamalliehdotus*. In the section 5.1 it was analyzed that interpreting from the said document the framing of digital divide is strongly concerned with the usage of digital services, thus being anchored in the 2nd level of digital divide. The Finnish informants, however emphasized the significance of skills, both prioritizing it as the biggest problem with digitalization in Finland.

> Informant B: *"I think it in a way is the lack of skills, but understood in a wider sense, so it can also be the lack of technical skills […] I don't know if it is the lack of skills or media literacy, but also that the services are easy to understand"*

Thus, national strategy and the informants on the grassroot level frame the issue according to the second level of digital divide, albeit approaching it from different angles. However, as noted earlier despite its strong emphasis on usage of public services it is indicated in the Finnish strategy that the lack of usage can be caused for example by poor device resources (1st level digital divide) and can result in different benefits for the user (3rd level digital divide). Also the informants stated that many of their customers use their services because they do not have the needed devices, thus arguing that elements of 1st level digital divide can be observed.

The Finnish contemplation on the target groups is quite detailed in the report studied and it corresponds with the grassroot level views expressed in the interviews.

When presented with the statements derived from the three national strategies analyzed in the section 5.1, the Finnish informants considered both the Finnish and Swedish interpretations of digital divide feasible, emphasizing usage access and competence respectively.

> Informant A: *"I would say that people are not competent […] this is an everyday observation, I mean of the people and customers who come around"*

While the question of competence initially seemed the most appealing to both of the informants, they saw competence and usage interconnected:

> Informant B: "*In a way it goes together with that other one, in a way if you don't have the skills, you cannot use the service as much as you could"*

Thus, in general the informants on the grassroot level frame digital divide quite in the same manner as the policymakers in the strategy.

Both informants were quite content with the guidance given by DVV. They noted that the agency has only started, and its role is only seeking its form, but on the other hand neither could name any alternatives for the responsible agency. Informant A saw the fact that the responsibility is indeed assigned to an agency the most important thing, maintaining that at times the agency seems like a distant authority. Similar thoughts were repeated by the Informant B. Moreover, according to the informant B the understanding of the responsibility areas of DVV is still developing and its operations are still being reflected against the roles of the Population Register Center and local registries.

Although the informants think DVV is adept for the role, both are concerned about the conflicting branches of administration. According to the Informant B, libraries in Finland have a longer history of cooperation and receiving guidance from other authorities, such as the Ministry of Education and Culture and Regional State Administrative agencies. While they guide and steer libraries in different tasks, DVV is yet to establish a similar relationship:

> Informant B: *"Then there are many other agencies and partners that are linked to our activities in other ways. So I think there is the challenge to find the natural link"*

Informant A does not perceive strong conflict between authorities, but thinks the complexity of the field makes the system difficult to interpret, thus weakening the legitimacy of the central agency:

> Informant A: *"There are actors on so many levels, or it seems so here on the field, it's confusing. If I think about our city's strategy or vision or whatever you call it, it doesn't have any contradiction per se, but then what is the chain of command in these issues?"*

As both informants work in organizations that took part in the AUTA project, they have first-hand experience from participating in the policy formation process. Both informants perceive that the observations and suggestions they made during the project were taken into account in the formation of the strategy. Thus, input-legitimation through participation has been successful (Haus et al., 2005)

According to the informants, they feel that there is also communication during the strategy implementation phase and that they both are informed of the developments in the agency and can voice their concerns. However, neither felt that DVV would be in contact with them directly very effectively. Instead, they owe good communication to their respective regional projects that form an interface between their organization and the central agency:

> Informant A*: "We do have good cooperation with the regional project and through them we get all kinds of information, so the cooperation goes well and we try to share the information in our region. But not all actors have this kind of situation necessarily. I suspect that there is a grey zone, between the Finnish Digital Agency and the grassroot level actors"*

Informant A speculated further that the reason they feel their organization is well informed is their position as a developer library of the region. They voiced concern that smaller actors in their region do not probably have similar experience.

5.3.2. Denmark

In the section 5.1 it was concluded that the Danish digital strategy strongly leans towards 3rd level digital divide, treating 1st and 2nd level divides mostly vanished phenomena in their society. The two informants interviewed for the research saw the issue differently, both stating that the skills access divide is obvious. Both elaborated with the concept of skills, arguing that in addition to technical skills also "knowledge of the society" and command of language can affect an individual's digital skills. Informant B states that "[S]ome of [the problem] lies with the competence, but It's also about that the expectations are too high" referring to the language used in the services, echoing Deursen

and Helsper's (2019) observation of the significance of traditional literacy. On the other hand, some fault was seen in the service providers:

> Informant B: *"So if you want to save money and save costs in the municipalities and in the agencies , because they want people to want to help themselves, then it is not good that they make it so difficult that they then send people back to the offices to get help"*

Moreover, one of the informants started their list with the problem of physical access, when asked for the biggest problem pertaining to the digitalization. The other recognized the lack of devices as a problem of the "less fortunate children." Thus, unlike the frames in communication that can be observed in the national strategy, the frames in thought of the grassroot level operators emphasize the significance of the capability divide and, to a certain extent, also the (physical) access divide.

The Danish digital strategy is strongly built around the identification of particular target groups that have problems with digitalization. Consequently, the measures in the strategy are also aimed at the target groups. The Danish informants shared the understanding of the target groups with the national strategy, both listing the elderly, young people and immigrants as the main groups that they help in the daily work of their organizations.

When presented with different statements that were derived from the three strategies studied for this research, the Danish informants did find statements pertaining to the Finnish and Swedish strategies more familiar than the one from the Danish strategy. One of the informants, however, saw that there is a hindrance to growth that is caused by the problems of digitalization in the business world.

In Denmark, the libraries play an important role in the digital inclusion and also their core product is seen as integral for bridging the digital divide: the informants believe that reading e-books can work as a gateway to other digital usage for those who are yet to enter the digital world. When discussing digital skills, the informants noted that it depends on the target group which skills are lacking. They maintained that while the elderly often struggle with technical skills, the other target groups are likely to have problems with instrumental skills. Thus, informants gave a much more nuanced account of the state of the Danish digital skills than the strategy.

It can be concluded that in Denmark the policymaker is somewhat more optimistic in their framing of digital divide than the informants interviewed for the research. While the government views that the first level and second level digital divides are mostly in the rear-view-mirror, the grassroot level operators are still concerned about the digital skills and usage of digital services, even aspects pertaining to physical access like fiber connections.

Data about stakeholder participation in the strategy formation process was contradictory. While informant A did not think that their organization had a say in the strategy formation, informant B had an experience of strong engagement. Furthermore, according to informant B Digitaliseringsstyrelsen's performance in guiding the digital divide mitigation has been good and that information flows upward and downward throughout the network. Informant A, on the other hand had the opposite experience:

> Informat A: *"I don't see any newsletters or any communications from them. In their defense they shouldn't come to my office and shove it down my throat, I have to find it myself of course, this has never struck me as something to do."*

When asked whether Informant A described the efficiency of guidance and emphasized their own position in the networks. In addition to the *Netværk for digital inclusion* the informant is also a part of a network of central libraries, through which the agency dispenses its guidance:

> Informant B: *"I coordinate with my colleagues from other central libraries, we coordinate when to pass on information and how and we are in dialogue with both agencies to coordinate the efforts. One good thing in Denmark is that everything is very, very structured and organized. So it's very easy for the government. to make information flow down in the system, to every corner of the country. "*

Also the membership in the central library network allowed the informant B to participate in the formation of the digital strategy.

Although informant B works closely with both Digitaliseringsstyrselsen and the Agency for Culture and Castles, they did not think that the guidance from the two would conflict or compete. The problem of competing levels and branches of administration was more evident in the interview with informant A. Coming from a bigger municipality, it seems that the administration system is more complex, thus making it more difficult for Digitaliserningsstyrelsen to establish its position as an authority. To illustrate this, when asked whether the informant thinks there is a contradiction between the wishes of the different overseeing agencies, he stated that he does not know what Digitaliseringstyrelsen factually wants. Both informants mentioned the agency for culture and castles, which is an authority to oversee libraries in other duties, but only one of them recognized the problem of contradictory guidance. Moreover, the digitalization work in libraries is partly guided also by the agency for business, but it was not seen as a major distraction.

Interestingly, instead of being overly critical of the agency's effectiveness, Danish informants pointed out that also politics and elections also have their effect on daily work. Politics was seen as a nuisance that periodically changes the composition of the administrative system and causes standstills for everyday work:

> Infromat B: *"I think that Digitaliseringstyrelsen does anything they can and they do a lot to communicate and they do a lot to make the system better all the time for the citizens, but the main hindrance actually is the politicians, because if you don't have a politician who understands the necessity of the digitalization or what it costs to get a high level of digitalization and higher the competence level in the society, then it is a problem"*

Although the informants had divergent views on Digitaliseringsstyrelsen, they agreed that the agency is the most suitable organization to assume the responsibility of guiding the organizations mitigating digital divide.

5.3.3. Sweden

As noted earlier, the Swedish strategy prioritizes the competence above other aspects of digital divide but does not indicate that competence would be an actual problem in the society presently. In the strategy competence is seen as a prerequisite for getting by in the society and for the functioning of society in general. It was also noted that the understanding of digital competence addresses all three dimensions (technical, instrumental and strategic) of digital skills as presented by van Dijk (2005).

Also the Swedish informants that participated in the study acknowledge the significance of skills. In the interview informant B discussed skills, presenting it as a nuanced phenomenon:

> Informant B: *"You need to know how to use your tech first[…]. Then you also need to know how to use the internet, how to get there, to start with, how to use a web browser, how to write good questions to actually get information back. How to value that information, how you use that information and translate it into knowledge."*

In contradiction to the national strategy, informant B argues explicitly that there is a proportion of the population that lacks the aforementioned skills. Also informant A agreed in part, stating that people are generally able to learn to use digital services and devices if they want to, but often lack faith in the technology that hinders the learning.

Similarly, Swedish informants reacted to the statements derived from the strategies quite well according to their national framing. Both viewed the statement about competence to be the most appealing and saw it have connection to other statements, informant A with the usage-centered view and informant B with the outcome-oriented perspective. However, it is evident that while the grassroot level and national strategy agree on the significance of skills, their views on the magnitude of the problem differ.

Moreover, informants point out that in Sweden, too, many citizens visit libraries in order to use computers or peripheral devices, since all the tasks cannot be completed merely with a smartphone. Thus, the informants acknowledge the existence of 1st level digital divide that the national strategy did not discuss. One should also note that for its strong equality emphasis, the Swedish strategy did not single out target groups for policies in a similar manner as its Finnish and Danish counterparts.

In the section 5.2 it was noted that the Swedish central agency for digitalization, DIGG has not been assigned with the task of digital divide mitigation. It was noted that that the responsibility in Sweden is dispersed between organizations and sectors. Two prominent organizations, Digitaliseringsrådet and Sambruk were discussed as possible coordinators for the efforts in Sweden.

Based on the interviews it is evident that the lack of authority is a problem for the grassroot level organizations mitigating digital divide. Since the responsibility is not clearly assigned to a single agency, the informants experience that there is a lack of direction in the development. Moreover, when they are in need of advice, they have to turn to different organizations depending on the theme. Informant A perceived the guidance they get from Sambruk satisfactory and considered the organization an important link between the government and municipal level but maintains that the organization does not have enough funding to provide extensive help. Informant B did not perceive Sambruk's role as great, since it is considered only one of many organizations from which guidance can be sought. Digitaliseringsrådet was not considered a significant authority for the grassroot level organizations, as its function is mainly advisory and towards the Government and DIGG. It was noted that, among other things, Digitialiseringsrådet has recommended stronger national coordination in digital competence development.

Due to the lack of centralized authority, peer support is an important part of the Swedish system. As noted in the section 5.2., Digidelnätverket operates with democratic principles but cooperation takes place also outside of the network: professionals in municipalities contact their colleagues in neighboring towns and in elsewhere.

Like in Finland, Swedish informants also noted that DIGG is a young organization, only established two years ago. There was an agreement that the responsibility should be centralized in a governmental agency and DIGG could be a good option. Informant A noted that the established organizations, like IIS and Sambruk have the know-how but lack authority.

Conflicting levels of governance is a concern but appears differently in Sweden. Informant A did not perceive conflicting levels of governance a problem for their work but noted that the municipal self-governance might affect the formation of nation-wide initiatives in a wider scope. Also, informant B maintained that presently all 290 municipalities in Sweden are driving their own strategies, as there is not a strong coordination at a national level.

In summary, both experts were in favor of a proposal expressed in Digitaliserinsrådet's report recommending stronger national coordination. The situation is summarized by the following excerpts from inteviews:

> Infromant A: *"Digitalization project of Sweden at large has some major issues, which are grounded in how our governance system is structured"*

> Infromant B: *"Digitalization or inclusion, they have all these initiatives but there's no coordination. They get funding from here and there and they do this. But to actually have an impact, you have to do this 365 days a year on a basic level, throughout Sweden and in the municipalities."*

Neither of the informants had been involved in the formation of the national digitalization strategy, nor they had knowledge of stakeholder participation from their organization or peer organizations. Informant A evaluated the digitalization strategy as document without concreteness and simply as collection of Government ambitions:

> Informant A: *"I would personally guess that this is more of a think-tank project from the government itself. They probably had input from some organizations but I don't know which."*

Similar sentiments were heard in the interview with the informant B. For them, the law on public libraries worked as a more important strategy paper than the national digitalization strategy:

> Informant B: "*Well, our library has nothing to do with the national strategy. It is a top-down decision. It is something totally not connected to libraries in that aspect.*"

Moreover, when asked about the current communication with the governmental agencies, informant A said that they are sometimes contacted by the authorities and through these discussions they try to voice their concerns, but they could not name the organizations nor verify if these conversations have yielded any results. On the other hand, the government does do some attempts to reach out for the grassroot level in their decision-making, as described the Informant A:

> Informant A: *Well in general it works like this that most things are slow burn, the government agencies they send out questionnaires because they want to build a proposal and when they think they have enough feedback they starting to produce a proposal and proposal eventually moves on to become a decision.¨*

These attempts, however, are not regarded as sufficient participation by the experts, which indicates that the Swedish government is failing with input-legitimation. According to informant A it depends on the official that sends the questionnaires whether the proposals are likely to be taken into consideration in the decision-making. Informant B, on the other hand, noted that in some aspects libraries are heard in the decision making, while in others they are not acknowledged.

6 Discussion

The aim of comparative public administration research is to answer why policy outcomes may differ in politico-administrative systems that are in principle similar. (Gupta, 2012) In the present thesis the systems being compared are Finland, Denmark and Sweden and more precisely the administrative systems set up to mitigate digital divide in the respective countries. Assuming these systems have a central agency appointed to coordinate the efforts, the premise of the study is to observe divergence in the legitimacy of central agencies in this role and find reasons why.

First task of the analysis, thus, is to determine if the outcomes differ and if so, to what extent. Thus, in this chapter framing of digital divide is first compared both between and within the three countries (RQ1). The comparison of frames is followed by the comparison of the characteristics of the national digital divide mitigation systems in terms of the organizations involved in the implementation of measures and their relationships (RQ2). Then, understanding whose legitimacy (and by whom) is to be evaluated and under what kind of policy framing these organizations operate, the focus is moved onto the analysis of how legitimacies differ between Finland, Denmark and Sweden and answer the question why (RQ3).

6.1. Comparing frames

When the frames are compared in this study, attention is paid to three things: first, how frames given to digital divide differ from one country to another; second, how frames communicated in the national strategies differ from the frames in thought on the grassroot level.; thirdly, differences on how frames on different level match (framing effects) can be compared.

In the theory-driven content analysis conducted in the section 5.1. the strategy papers were studied with the help of a framework that was derived from the established categorization of digital divide in the literature. In this categorization the phenomenon is divided into three levels. (Wei et al., 2011; Van Deursen & Van Dijk, 2019) It was noted, that van Dijk's (2005) earlier model fits within the three-level categorization when *motivational access* is left outside. The three levels of digital divide, namely access divide, capability divide and outcome divide, thus represent the main categories of the problem and van Dijk's model and other literature form the more nuanced sub-categories. As noted

in the earlier research, the original binary understanding of digital divide that compares the differences between "haves" and "have-nots" is not sufficient in the modern digital society (e.g. van Deursen & van Dijk, 2014). Thus, also the dichotomous setting that Epstein et al. used in their experiment was considered too coarse (Epstein et al., 2011)

The frames in communication were studied from the documents that were seen to reflect the national digitalization policy in the subject countries. In Denmark and Sweden actual strategy papers were available, while in Finland a document that was studied was a report produced in a project that was linked to the governmental program. Although these papers are seen to summarize the current policies pertaining to digital divide in the three countries, restricting analysis on one document per country of course gives only a limited picture of the reality. However, based on this documentation it could be determined that each country can be placed on a certain category in the framework: As Finnish strategy revolves around the increase in the usage of digital services thus being concerned with the usage gap (Van Dijk, 2005; Kalmus et al., 2011), the strategy clearly frames digital divide as a problem of capability divide. In Sweden, where competence is emphasized throughout the strategy paper also digital divide appears as a potential problem pertaining to digital skills, thus placing the country also in the capability divide category (Van Dijk, 2005). The difference between Finland and Sweden is their different framing within the van Dijk model (van Dijk, 2005). Denmark, despite the elements of access divide and capability divide discussed in the strategy, mainly focuses on the outcomes of digital usage, thus framing digital divide according to 3rd level of divide. (Wei et al., 2011) The figure 4 below summarizes the national framing of digital divide in relation to the conceptual framework.

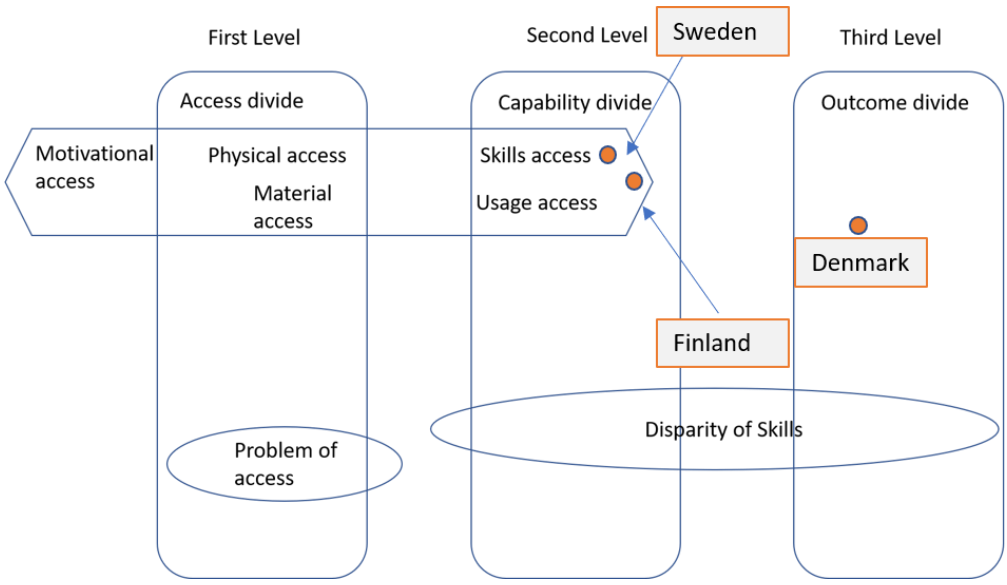

Figure 4: Subject countries placed in the conceptual framework according to the framing in the national strategies.

One should note that since the evaluation above is based on a qualitative content analysis, the placing of countries in the framework should not be treated as quantitatively verifiable measurements. However, the figure above illustrates well that the problem framing corresponds the trends identified in the literature: digital divide shifts from access related problems towards skills, usage and eventually outcome related concerns, also policy emphasis changes accordingly (Van Deursen van Dijk, 2019) The results here also reflect the similarity of the Nordic countries, as the digital development is essentially similar, also policy understanding does not dramatically differ. However, small variation can be, for example, explained by the length of strategy writing tradition or emphasis areas elsewhere in the policy programs.

In the interviews the experts were given different opportunities to discuss their perception on the digital divide and thus shed light on their frames in thought. (Druckman, 2001) Like the national strategies, also the informants saw digital divide a manifold phenomenon and none of them identified only one problem with digitalization. Rather, all interviewees brought up the similar issues that were also acknowledged in the strategies but gave them varying emphasis in their analysis. Many informants also presented digital divide as a series of problems, echoing the original sequential thinking of van Dijk (van Dijk, 2005). One should note, that even though the strategies attempt to approach the phenomenon from many perspectives, they are nonetheless communication where framing takes place, thus there is a tendency of simplifying reality. In other words, policymakers presentation is bound to be less nuanced in comparison to an expert interview, since some aspects are to be emphasized (Yanow & Hulst, 2016; Druckman, 2001) Based on this it can be speculated, whether national strategies and public discourse in the three countries have resulted in framing effect, whereby the experts' frames in thought have been affected by the frames in communication by their governments (Druckman, 2001). On the other hand, the experts base their analysis on their everyday work, thus their frames in thought may be more influenced by their encounters with the customers and what they perceive as important in this context. Druckman (2001) notes that scholars have previously been concerned of citizen competence in interpreting the frames and understanding the framing effect on their own thinking. Traditional reading is that constituents are subject to elite manipulation. While Epstein et al. found evidence for framing effect in their experiment, the present findings are in contradiction with that. (Epstein et al., 2011) However, one should note that the research on framing effects is often interested in the relationship between policy-makers and citizens, and one may ask whether we can evaluate professionals in the stakeholder organizations in a similar manner as the general public (Druckman, 2001). One could argue, in fact, that the relationship

between an organization and its stakeholders is more delicate and not all findings of traditional frame analysis research are applicable.

6.2. Comparing systems

In the section 5.2 the systems of digital divide mitigation were described, thus identifying the agencies or other organizations with the role of coordinating the efforts as well as the types of organizations that implement the measures on the grassroot level.

All three countries have young digital agencies that have been established as a part of or during recent digitalization strategies. The newest, DVV, was only established in the beginning of 2020 (one should note that since the Finnish policy is not to publish digitalization strategies per se, also the founding of the agency cannot be directly derived from the strategy), but its operations pertaining to digital divide bear similarities with its nine years older Danish counterpart: both DVV and *Digitaliseringstyrelsen* are in charge of coordinating digital divide mitigation efforts in their countries. In Finland, this authority is located in the digital support function, while the Danish agency has an office for digital inclusion. One of the biggest findings in this section is that Swedish system differs from its counterparts dramatically: DIGG, established in 2018, does not have any digital divide related tasks in its repertoire.

On the grassroot level the digital divide systems are surprisingly similar. In each country the body of operation is mainly formed by libraries, municipalities and various non-governmental organizations. Moreover, the organizations helping citizens with digitalization related problems usually belong to a national network, that is coordinated by some central organization. In Finland and Denmark it is naturally the digital agency, as their task to mitigate digital divide is defined by the strategy. In Sweden, where the responsibility of digital divide mitigation is dispersed instead of centralizing it in a governmental agency, the network operates with more democratic principles and is only loosely coordinated by the association of municipal development. Perhaps due to this, the Swedish informants interviewed for the study emphasized the importance of peer support that also takes place in more informal settings outside of the national network, *Digidelnätverket.*

The significance of networks became evident in the research. In literature, this kind of structures are referred to as *policy community* and are understood as groupings around particular policy issue that allow wide participation (Haus et al., 2005, p.219). In Sweden, where networks are looser and less

formal, the grassroot level operators seem to be struggling more with receiving guidance for their work and helping their customers and having their concerns heard. On the other hand, those experts interviewed that were either in some sort of hub or link position in the network or had close cooperation with one, had better experiences of guidance. For example, the Finnish informants emphasized the importance of regional projects as their most important contact points and links to the decision-makers. According to Suchman (1995) a key to pragmatic legitimacy is to be responsive to the constituents' interests. More generally, he posits that support and goodwill ought to be stockpiled in order to maintain legitimacy since legitimacy is rather a relationship than a possession. In this light one could argue that an elaborate network structure like those in Finland and Denmark are helpful in establishing the experience of responsiveness as well as goodwill and support and thus in nurturing legitimacy.

6.3. Comparing legitimacies

The final research question in this thesis discusses legitimacy: it asks whether there is divergence in the legitimacies of the digital central agencies in their coordination role of digital divide mitigation. Furthermore, should there be divergence, it wants to know why. (Gupta, 2012). As noted in the previous section, only in two of the countries a coordination role is given to a central digital agency. In the case of Sweden, where the responsibility is dispersed across sectors and amongst a myriad of organizations, it is nonetheless interesting to investigate if grassroot level recognizes any organization as their guiding authority and what is considered to be the most suitable organization to assume the role.

This thesis operates under an assumption that the legitimacy given to the organization that coordinates a network that mitigates digital divide in a country is affected by the framing of the problem in the national digitalization strategy and by the operators on the grassroot level as well as the mismatch thereof. As noted by Epstein et al. (2011), there may be a considerable difference in the frames in thought depending whether public discourse frames digital divide as a problem of access (1st level digital divide) or problem of skills (2nd and 3rd level digital divide), which in turn affects the perception of responsibility. (Epstein et al., 2011) Based on this reasoning, it is assumed here that the problem definition also determines the "right" authority to be assigned with the responsibility for solving the problem; should the grassroot level operators understand and thus frame the problem differently, they are bound to have different idea of the right assignee, too. Moreover, the legitimacy

is seen to be built through a process where the organization employs (either purposefully or as a part of its daily routines) input, output and throughput legitimation (Haus et al., 2005; Schmidt, 2013)

Findings on the framing of digital divide were inconclusive. While it is evident that the government in the subject countries frame the problem in a different fashion and each country can be placed in a different category in the framework, most of the indicators of digital divide could be identified in all the strategies. This finding resonates with van Dijk's original model of successive kinds of access, in a way that it emphasizes the coexistence of different divides instead of societal shifts from one level to another as well as the notion that all innovations start another cycle of adoption and thus succession of accesses (van Dijk, 2005). Since strategies acknowledge the emergence of new technologies, the framing indicates that also divides pertaining to this development are considered. Moreover, the framing on the grassroot level was not univocal, either: the informants discussed digital divide as a cross-cutting phenomenon and did not see that the problem can be summarized in one or two characterizations. Again, this echoes van Dijk's thinking. Furthermore, none of the experts strongly disagreed nor agreed with the frames in communication, thus there is very little evidence of successful elite manipulation (framing effect (Druckman, 2001) or of serious policy gap (van Hulst & Yanow, 2016). Thus, despite the differences in framing both within and between the countries, it cannot be concluded that different frames would explain the lack of legitimacy enjoyed by the central agency.

Since Sweden does not have one particular organization that has been assigned with the responsibility to coordinate digital divide mitigation efforts but the responsibility is dispersed, analyzing the legitimacy of a coordinator is difficult. While no organization has a similar role defined in the policy as DVV in Finland or Digitaliseringsstyrelsen in Denmark, comparison in that sense is not sensible. It can be, of course, concluded that DIGG does not have legitimacy. However surprisingly the experts interviewed reacted favorably to a notion of DIGG assuming responsibility for the coordination. This may indicate that DIGG has received some sort of output-legitimacy, if we assume that this is granted through the process of appointment by a democratically chosen government. Moreover, even though the experts cannot evaluate DIGG's problem-solving abilities from a professional role, they seem to regard the agency as effective from their citizen-perspective. In other words, even though DIGG has not been assigned with the task of mitigating digital divide, it is regarded to be legitimate in its current role in leading other aspects of digitalization development. It can be argued that DIGG's perceived success in its current role would help it to legitimize its role as a coordinator of digital divide mitigation, too, should this task be assigned to it.

Given the fact that both Danish and Finnish experts perceived their digital agencies to be suitable organizations for the coordination task, it can be concluded that there is a consensus in the Nordic

countries that agencies that lead digitalization generally in the country ought also to be in charge of the digital divide mitigation. This is significant considering that the measures are often implemented in the organizations like libraries that have been and still remain under direction of other governmental agencies like culture departments. This stance indicates that digitalization is understood as an all-encompassing, cross-cutting phenomenon and that it is considered important that there is an authority that is involved in all of its aspects (Alasoini, 2015) One should also note that in each country the experts have high expectations for relatively young agencies, indicating Nordic trust in the administrative system. This trust, in a way reflects the idea of dispositional legitimacy, whereby the organization receives support and acceptance simply by having a "good character". According to Suchman, dispositional legitimacy also "may dampen the delegitimating effects of isolated failures, miscues and revearsals" (Suchman, 1995, p. 579). This notion can explain the fact that the experts seemed to quite forgiving when it comes to shortcomings in the agencies' effectiveness.

Out of the three, the Finnish experts were the most content with the strategy formation process and had the experience of participation. They felt that the observations and suggestion they made during the AUTA project were taken into consideration when the project report was written. From the other interviewees only the informant B from Denmark had similar experiences, others described their national strategies as "think-tank strategies" or strategies on "too high level of an abstraction". This suggests that the Finnish way of generating knowledge for the strategy formation by co-creation with important stakeholders seems effective also from the perspective of legitimation. Moreover, those informants that had been involved with the strategy formation in one way or another also expressed more favorable views on the current communication of their respective agencies. This might be explained by the administrative culture in a wider sense; where stakeholders are considered an important part of the decision-making structures the daily communication is also more effective.

Although DVV seems to enjoy higher legitimation in regards to stakeholder participation, it was noted that the agency rarely communicates directly to the stakeholders. Communication, although considered effective, is conducted through the regional projects as contact points. Similarly, informant B from Denmark who had a role of a contact point within a national network, viewed the communication favorably due to the position in the network. However, given the fact that these network structures have given the stakeholders an experience of participation in decision-making, it can be seen it as an evidence of influence legitimacy. According to Suchmann (1995), "Most often, influence legitimacy arises when the organization incorporates constituents into its policy-making structures" (Suchmann, 1995, p. 578) In Sweden, where it is not clear from which governmental

agency the operators should expect guidance and communication and where the network operates on democratic principles, the question of the effectiveness of communication is irrelevant.

An interesting issue brought up in the interviews was the problem of competing levels and branches of government. Grassroot level operators implementing digital divide mitigation may have a long history of helping citizens with digitalization, as often this has been part of the libraries' services long before digital agencies have been established or digital skills have been part of the policy agendas. They have been thus possibly guided by other authorities in digital agency's absence. Moreover, as the operators that help citizens are often located at the municipal levels of governance, there might be additional layers of authority between the central agency and library, for instance. Based on the interviews with the Danish informants it seems that the guidance by *Digitaliseringsstyrelsen* has to compete with the authority of the agency for culture and castles, as it is a more established partner of the libraries. Moreover, the informant that works in a bigger municipality regarded the guidance from the local decision-makers more important than the strategies drafted by the digital agency. In Sweden the municipal self-governance is strong, which has led to a situation where municipal decision-making supersedes any governmental efforts in digitalization matters. Finnish informants reported that they can distinguish between guidance from different authorities and boundaries are clear.

It, thus, seems an agency can compete with the authority of other branches of levels of government by setting up a tight network and involving grassroot level actors through it – in other words strengthening the pragmatic legitimacy (Suchman, 1995). The data from Finland and partly Denmark support this notion: the Finnish informants and the informant from Denmark that was actively involved in the network did not consider the competing branches of administration a problem and the network structure provided clarity for interpreting the decision-making for them. Suchman (1995), in fact, notes: "…legitimacy management rests heavily on communication – in this case, communication between organization and its various audiences (Suchman, 1995, p. 585). In summary, Finland seems to have achieved greater pragmatic legitimacy than Denmark.

According to Suchman, different types of legitimacy coexist in reality and it is only sensible an organization seeks to legitimize its role in all possible understandings. In this thesis the focus is on pragmatic legitimacy but one should note that proactively aiming to legitimize also morally and cognitively is likely to contribute to the legitimation in pragmatic sense, which in this paper is understood as ensuring the acceptance of the important grassroot level stakeholders and implementing the strategy. In other words, should the agency also enjoy legitimacy from the citizens it is likely to do so with the stakeholders. In this sense, one could argue, every organization ought to aspire for

cognitive legitimacy. Suchman, however, argues that when an organization moves towards cognitive legitimacy, the position gets harder to sustain (Suchman, 1995, p. 585). In fact, he maintains, that managers in the organization should never consider legitimation as a completed task but rather an ongoing process (Suchman, 1995, p. 594)

7 Conclusion

The aim of this thesis was to investigate similarities and differences of digital divide mitigation efforts in three Nordic countries: Finland, Denmark and Sweden. The research was conducted according to tradition of comparative public administration (CPA), utilizing qualitative research methods of (policy) document analysis, expert interviews and content analysis. Through this the research has produced both descriptive knowledge of the mitigation systems and conceptual understanding of why there are differences in the policies of the studied countries. The descriptive part of the study focuses on comparing the structural differences in the respective systems; the more conceptual questions seek to observe the phenomenon from the point of view of legitimacy and frames.

It was found that while the composition of actors (and the mitigation efforts for that matter) is very similar on the grassroot level in the three countries, the differences appear as we move our focus upwards in the hierarchy. Whereas a citizen can receive help for digitalization related problems from libraries, municipal offices and local NGO's in all countries, in Sweden they form a democratic network of peer-support that receive little guidance from governmental agencies or policymakers. In Denmark and Finland, on the other hand, similar networks are coordinated by a central digital agency, a de facto implementor of digitalization strategy connected to the digital divide. Despite the fact that some organizations have a more central role in the Danish network than others, the grassroot level operators are more directly under the influence of the central agency than in Finland, where the regional projects currently form an additional level of coordination. The findings indicate that structures like that have a positive impact on the legitimacy of a central agency, as the information flows downward and upward in the network more efficiently in such networks. Legitimacy management relies on communication and efficient communication results in a greater trust in the central agency's operations (Suchman, 1995)

Apart from Sweden, where the responsibility of digital divide mitigation has not been centralized in the country's digital agency DIGG but dispersed across sectors, the central agencies have generally succeeded in establishing their authority in the eyes of their constituents, that is the grassroot level operators of digital divide mitigation. As the youngest of the digital agencies examined, the Finnish Digital Agency is still finding its place to some extent, but the experts consider the organization's short history an extenuating circumstance, which can be viewed as an indicator of dispositional legitimacy (Suchman, 1995). In Denmark, where the results were the most mixed,

Digitaliseringstyrelsen was nonetheless regarded as the most suitable authority to coordinate digital divide mitigation, although in some instances it might have to compete with other levels or branches of government for space. The problem of competing levels and branches of government occurs in other countries, too and could be argued to be extremely significant in Sweden, where there is a strong municipal self-governance combined to lack national coordination.

While the premise of the study was that the mismatch of framing could explain a possible lack of legitimacy, based on the findings it seems that the determinants lie elsewhere. Although some disagreement with the frames communicated in the national strategies could be observed in the expert interviews, the national variation was not considerable and from none of the cases can it be concluded that the framing would be a reason for variation in legitimacy. It was, however, evident that the perception of the problem tends to be more optimistic in the official strategies when compared to reality perceived at the grassroot level. It was speculated whether this observation can be explained by the fact that as a more concise form of communication strategy paper cannot be as nuanced as a conversational interview. Nevertheless, it was concluded that experts in the stakeholder organizations are not subject to an elite manipulation like the general public, which explains the absence of observable framing effect (Druckman, 2001)

Instead, the importance of communication and the decision-making structures was highlighted in the findings, which can theory-wise be traced back to the concepts of pragmatic legitimacy as well as input-legitimation through participation and throughput-legitimation through transparency (Suchman, 1995; Haus et al., 2005). It seems that open lines of communication counterbalance shortcomings in other aspects, like problem-solving capacity (output-legitimacy). In other words, the central digital agencies studied have reached a certain level of pragmatic legitimacy, i.e. the stakeholders perceive the activities of the agency to be beneficial, but more important reason for this than the activities per se is the fact that that the organizations have managed to create good structures in their networks. Through these structures the stakeholders feel that they can impact the decision-making and that the agency communicates with transparency.

It can be concluded that although the research does not indicate that framing effect could explain the legitimacy issues between the central agency and the stakeholders, studying frames can provide important insights to the research on digital divide mitigation policies, too. While the pragmatic legitimacy approach was more fruitful in understanding the situation with the Nordic digital agencies, it only provides us with a limited snapshot of legitimacy-related issues pertaining to digital divide. Thus, there are plenty opportunities for future research.

7.1. Limitations

As noted in the conclusion, utilizing the present research design can only produce a limited picture of the digital divide mitigation systems in the subject countries and legitimacy issues pertaining to them. Modern research on legitimacy is full of theoretical approaches through which different aspects of the phenomenon can be studied. For a more comprehensive understanding of legitimacy future research could employ triangulation and combine different theoretical approaches. For example, legitimacy could be studied on the level of deliberate legitimation strategies (Suchman 1995; Haus et al., 2005)

Moreover, in this paper the choice was made to study legitimacy as a relationship between a central agency and the stakeholders on the grassroot level. Similarly, the framing effect was studied only between the two, in contrast to more classical approaches where focus is on elite manipulation on the public. Adopting a more classical approach and studying these phenomena also in relation to the citizens would be useful for understanding the issue more comprehensively.

In this thesis the data sources were quite strictly defined. Due to the time constraints the interviews were only possible to be conducted within one level of administration and instead of utilizing multiple sources of pre-existing document data only certain pieces of strategy papers. While the data selection is justified by the research questions, it can be argued that considering more varied composition of documentation and interviewees could have contributed to the understanding of the phenomena. For example, in some of the subject countries there could have been historical information of digital divide mitigation to be found in the previous strategies and on the other hand, there might have been some documentation or communication material published after the strategy that could elaborate on what can be found in the strategy papers. When it comes to interviews, it is likely that the experts have different perceptions of the legitimacy depending on the level of governance on which they work. However, for the present study the data sources were sufficient as they were chosen according to the research questions that aimed to observe only the certain aspects of the phenomena.

7.2. Practical implications and future research

The present thesis does not offer a straightforward guidebook to an organization that seeks to legitimize its role as a coordinator of digital divide mitigation within a country, but it offers valuable information on the issue. The empirical data sheds light on how satisfied grassroot level operators in

Finland, Denmark and Sweden are in the coordination of the efforts at national level. The findings pinpoint some aspects that seem significant in the legitimation process and the organizations can address them, should there be problems with legitimacy. Based on the findings the organizations should communicate efficiently with the stakeholders and encourage participation in both strategy formation and implementation stages of the operation. Moreover, comparative approach allows us to identify so-called best practices that seem to be effective in this type of administrative work. Since the findings are not tied to digital divide, it could be argued that they could be of use also in networks that are implementing different policies in similar settings. Thus, organizations assuming similar coordination roles related to other domains can model their networks according to the knowledge indicated in this thesis and build their legitimacy according to the democratic legitimation process and the principles of pragmatic legitimacy.

As noted in the section 7.1., more comprehensive understanding of the phenomenon could be produced by utilizing different theoretical approaches as well as considering additional sources of data. Digital divide has not yet been studied extensively from the administrative perspective nor is it part of the prevailing theories of administrative reform. This study takes the first step towards incorporating the idea of excluding mechanisms of digitalization in the research of public administration and sheds light on various interesting opportunities for future research. Furthermore, to author's knowledge no previous research on digital divide mitigation systems in a similar depth exists. Thus, the research enhances understanding of organizations involved in the policy implementation and the networks formed by them. Adopting a comparative perspective and focusing on Nordic countries the study makes a contribution to the research of digitalization policies, as the strategies of the subject countries have not been studied from the perspective of digital divide before. The thesis examines digital divide from administrative perspective and with qualitative methods, while the scholarly interest has hitherto mainly been in quantitative analysis of the determinants. Moreover, for the analysis of empirical data an analytical framework of digital divide was developed and it can be used in a similar manner in future research.

When it comes to the findings of this thesis, the significance of networks was highlighted. Future studies can thus study the digital divide mitigation systems from the point of view of network leadership, for example, in order to better understand the activities in these systems.

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Appendices

Appendix 1: Interview schedule

Date	Country	Interviewee
18th March 2020	Finland	Service manager, municipal library
19th March 2020	Denmark	Senior consultant, central library
20th March 2020	Sweden	Project manager, municipality
20th March 2020	Sweden	Librarian, municipal library
6th April 2020	Finland	Pedagogic information specialist, municipal library
16th April 2020	Denmark	Special consultant, municipal library

Appendix 2: Interview guide

Dear participant!

Once again, I would like to thank you for taking part in my research. In this information sheet you find more information about the concepts and themes we are going to cover in our discussion. This is to allow you to prepare for the interview.

You have been chosen to participate as an expert and representative of your organizations and like organizations in your country. The type of the discussion is an expert interview, so there is not a set list of questions. Rather, you can find an introduction to each of the three themes below.

The aim of this research is to study digital inclusion/digital competence/digital support as a governmental task. Libraries, non-governmental organizations and other actors have worked with these questions for a long time but only recently these issues have risen to the political agenda. Thus, it is worth asking whether governmental agencies have gained legitimacy as an actor to mitigate digital divide.

Digital divide and your organization's role

Digital divide is commonly understood as different disparities among citizens pertaining to digitalization. These disparities may be caused by different access to internet, availability of devices, lack of (technical) skills, poor digital literacy, lack of usage or quality of usage, for example.

Some of the abovementioned indicators may be given higher priority than others when the policies are made. This can be seen in the framing of the policies. For example, the problem of digital divide can be understood in the following ways:

- The problem is that people benefit from digitalization differently and this divergence hinders growth
- The problem is that citizens do not use enough public digital services
- The problem would be that citizens are not competent enough

Questions to consider:

- What do you think it is the biggest problem pertaining to digitalization?
- What is your organizations task pertaining to these problems? Who are the target groups?

Guidance

The task of coordinating the mitigation of digital divide is assigned to a certain authority in a digitalization policy. However, the authority can only be considered legitimate if those organizations that operate under its coordination view authority's activities effective. Effectiveness can be understood as authority's problem-solving capacity.

Questions to consider:

- What kind of guidance your organization receives from [Central digital agency]?

- Do you think [Central digital agency] is the right authority to coordinate this task?
- How would you evaluate performance of [Central digital agency] as a leader of digitalization in [your country]? Is action effective?

Strategy formation and communication

Administration can seek legitimacy for its action by providing stakeholders with an opportunity to participate in the decision-making and making decision with transparency. Participation can occur in the strategy formation by involving stakeholders in planning but also in while the strategy is implemented.

Questions to consider:

- How has your organization been involved in the digitalization strategy formation?
- How is your organization involved in the decision-making and/or planning pertaining to digitalization?
- How does [Central digital agency] communicate about decisions pertaining to digital inclusion?
- How are citizens involved in the decision-making?