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**MOVING E-GOVERNANCE BEYOND BORDERS: ANALYSIS OF CROSS-
BORDER COOPERATION BETWEEN ESTONIA AND FINLAND**

MA Thesis

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Abstract

This thesis aims to analyse contemporary cross-border cooperation in the field of public sector digitalisation and e-governance. Using Estonia and Finland as exemplary examples of state digitalisation cases, the study adds to the existing literature on e-governance. Furthermore, it considers the emerging need for cross-border interoperability in government solutions. The central research questions of collaboration, interdependence and digitalisation image are supplemented with the recent developments in politics as well as inside the European Union. Research input provided by current and former public officials has led to the concluding analysis. Despite the success stories of both countries in digitalisation, the current cross-border collaboration requires further structure and political will in becoming the exemplary cross-border model for others to follow.

Keywords: e-governance; cross-border cooperation; Estonia; Finland; innovation; digitalisation; spillover; transnationalism

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Abbreviations

CBC	Cross-Border Cooperation
CCDCOE	Cooperative Cyber Defence Centre of Excellence
CIO	Chief Information Officer CIO
COVID-19	CoronaVirus Disease
DESI	Digital Economy and Society Index
EC	European Commission
EIF	European Interoperability Framework
EKRE	Estonian Conservative People's Party
ERR	Estonian Public Broadcasting
EU	European Union
<i>Ibid.</i>	In the same source
ICT	Information and Communication Technology
ISAMAA	Pro Patria
IT	Information Technology
NATO	North Atlantic Treaty Organisation
NICT	New Information and Communication Technologies
NIF	National Interoperability Frameworks
NIIS	Nordic Institute for Interoperability Solutions
OECD	Organisation for Economic Co-operation and Development
OGP	Open Government Partnership
OOP	Once-Only Principle
UN	United Nations

Introduction

The emergence of digitalisation and increasing interconnectedness has moved the world rapidly towards a third industrial revolution, also referred to as the digital revolution. Innovation in both the private and public sector has enabled individuals and states to set ambitious goals of crossing borders by expanding into new markets and spreading their influence. Like its citizens, states are also turning to Information and Communication Technology (ICT) and a wide array of possibilities it provides while connecting to the people.

Based on the extensive scholarly work to date, there is no doubt that e-government solutions have become the new normal in-state development towards digitalisation (Elmagarmid & McIver, 2001; Kassen, 2013). According to the leading indices in e-government and public digitalisation (InterNations, 2019; United Nations, 2020), Estonia and Finland are ranked among the highest e-government development performers. So far, Estonia has successfully implemented their e-government projects abroad (Plantera, 2019), and there are a growing number of integration projects with Finland, enabling enhanced cooperation in the field. In 2013, Prime Ministers of both countries signed a memorandum (Ansip & Katainen, 2013) to strengthen bilateral cooperation in ICT development. As a result, the two countries' ministries developed a centre for X-Road, secure data exchange between organisations developed in Estonia, which indicates a solid willingness to integrate the e-governance framework between the states. Furthermore, the 2016 joint declaration of the Prime Ministers proposed an initial roadmap for cross-border data exchange and digital services, which set a standard for cross-national cooperation (Rõivas & Sipilä, 2016).

Insofar as the Presidents of the two states have called mutual digital cooperation as a model for many others, “especially the European Union” (*as quoted by* President Toomas Hendrik Ilves *in* Beltadze, 2016), the *how* and *when* of this enhanced cooperation lacks the necessary critical attention. Despite the various cooperation forms, Estonia and Finland have recently moved in relatively different directions regarding digital development. Leading indices, such

as the Digital Economy and Society Index (DESI) (European Commission, 2020a), indicate a steady decrease of former exemplary Estonia in the field. At the same time, Finland maintains its high position in digitalisation and innovation. Hence, this research will analyse e-governance and its prospects in these two states by exploring and comparing the development trends and the national and regional political environment. As a result, the analysis will further understand whether or not e-governance developments follow the agreed prospects despite the noticeable setbacks. While memorandums set a general goal for the governments to follow, e-governance requires distinct objectives that enable both to reach their side of the agreement. In order to get to these results, the following research questions are set: *“How does the agreed cooperation in e-governance set a basis for interdependence?”*, *“To what extent is international cooperation in the digital field enhancing a strong e-government image?”* and *“What are both governments doing to follow the agreed mutual e-governance prospects?”*. Albeit the recent concerns, developed e-governments in question set a basis for comparative analysis, enabling to understand their aims and prospects of e-government.

Considering the performance of Estonian and Finnish e-governments and the inevitable increasing interconnectedness due to the considerable amount of citizens commuting between the states (Jakobson et al., 2012), the central concepts of this research will be based on e-governance and cross-border cooperation (CBC). The high maturity level of e-government development (Andersen & Henriksen, 2006; Meyerhoff Nielsen, 2020) indicates the ability to engage in CBC in service offering, while “spillover” effect (Grossman & Helpman, 1991; Lakka et al., 2013), diffusion of innovation and transnationalism are used to analyse CBC. As Jean Monnet - one of the architects of the European unity - indicated, spillover would be seen where achieving integration in one sector of standard policy would eventually lead to integration in other policies (Dunn, 2012). In essence, the spillover effect has a solid correlation to policymaking, where e-governance initiatives coordination is achieved. To name just a few of these policy necessities, the example of digital recipe implementations requires both sides to harmonise their financial institutions and national identification card control.

The supporting theories of Rogers' (2002) diffusion of innovation derive strategies for the spread and implementation of technological innovations while transnationalism indicates the free movement across open borders for all economic factors (Kurth, 2011). The European Commission (EC) has also developed a *good-practice strategy* and the *framework strategy* to motivate and support member states in improving the provision of integrated e-government services and interoperability (Kubicek et al., 2011, p. 8). Both aim European Union (EU) governments to standardise their e-governments (*ibid.*).

As evident, this study will follow a single case study, more precisely, a descriptive case study method. The aim is to assess a case study in depth by comparing and analysing the CBC. There are fundamental reasons why Estonia and Finland can be compared in this area. Both countries are European and members of the EU, and geographically and linguistically proximate and post-industrialized societies (Jakobson et al., 2012, p. 197). The proximity of these states has enabled a high level of cross-border commuting, which makes cross-national cooperation inevitable and e-services available. This so-called bottom-up integration creates a vital necessity for states to adapt and foresee future development in various fields quickly. As far as the current *status quo* has somewhat been tackled in terms of the e-governance policy due to recent political instability (Kasekamp et al., 2019; Walker, 2019), this research will be constructed using a mixture of thematic analysis that is applied to the semi-structured interview and the analysis of the results. The thematic analysis enables the researcher to establish the connections between the participants' experiences, perceptions and attitudes (Herzog et al., 2019). The empirical section will be constructed using both primary and secondary research methods to measure the current and future prospects of the cooperation.

Considering the various aspects of this research, this thesis has four main chapters. The first chapter will explore the theoretical framework and the central concepts discussed above. The second chapter will provide a literature review of the existing scholarly work on the e-government cooperation between Estonia and Finland. The third chapter will introduce the methodology of this study, explaining the research design, data sources and methods. Finally,

the fourth chapter will include the analysis of the empirical research by using the thematic analysis framework, through which the proposed research questions are answered. The thesis will end with a concluding chapter.

1. Fundamentals of e-governance and cross-border cooperation

The case selection of cross-border e-government cooperation between Estonia and Finland provides two central concepts, which act as a foundation for the upcoming discussion. This chapter will first examine the central concepts of “e-governance” and “cross-border cooperation” in greater detail as two separate phenomena, which will eventually be considered complementing one another to provide focal points for the upcoming discussion in empirical analysis. The additional theoretical concepts of the diffusion of innovation, spillover effect, and transnationalism are used to analyse the increasing interconnectedness of cross-border cooperation (CBC). At the same time, the maturity level of e-government development sets a foundation for international e-governance harmonisation. In Figure 1, the relations, and the interconnectedness between the central concepts and the theoretical concepts, are demonstrated. The combination of the central concepts of e-governance and CBC thus work as the connectors of the theoretical concepts used in this study, which guides the empirical research and the analysis in answering the proposed central questions. Furthermore, these central concepts allow us to build the relationship to the theoretical concepts that work as the foundation of empirical analysis.

The four theoretical concepts of maturity levels of e-government development, diffusion of innovation, spillover effect and transnationalism all share common ground with e-governance and CBC. Before moving further in-depth with the concepts, it is crucial to understand the interconnectedness of the theories used in this study. As the concept itself proposes, maturity levels of e-government development analyse the state of the e-government, while collaboration is the primary domain for governments to improve their effectiveness (Ae et al., 2012). The same applies to the diffusion of innovation, where the prerequisites for innovation in the field are gained from the extensive societal digitalisation and collaboration across various levels. The use of the spillover effect in this study is connected to the transfer and spread of knowledge and technology through human capital in CBC, which leads to cross-border connections. Finally, although transnationalism does not

have an apparent connection to the topic of e-governance, the highly digitalised states of Estonia and Finland and their digital relationship allow a new approach to the theory through close digital coherence. The circularity and the relationship between the theoretical concepts become more evident in the upcoming discussion.



Figure 1. Central and theoretical concept relations. Source: Author

1.1. Central concepts

The first part of the theoretical chapter will focus on the central concepts of the study, which acts as the basis of this research. The concepts of e-governance and cross-border cooperation are widely used in today's globalised world; however, due to the recent emergence of the former and the necessity for the contextual use of the latter, it is essential to consider the development of these key concepts in relation to this study. In addition to contemplating the differences between the terminology, explaining the use of specific concepts is relevant throughout this research discussion.

E-governance

As a relatively recent scholarly field, the discussion around e-government and e-governance has been around for the past three decades. The lack of consensus to describe the phenomena of digital development of the state has widely been discussed in academia. Furthermore, Andersen and Henriksen (2006) have discussed the various authors' terminology, with the findings of e-government, e-governance, online government, digital government, one-stop government and electronic government. Similarly to the aforementioned, Kassen (2013) claims that without consensus on the terminology, it is difficult to define these in the international arena clearly. As different terms are used interchangeably with digital initiatives, it is necessary first to distinguish the central concepts used in this research. For this, the discussion between e-government and e-governance is the most imminent. Still, before continuing with their "e-" prefixes, the differences should be presented on the conceptual level of government and governance. Dufour (2009), as well as Peters and Pierre (1998), have previously limited the government to the administration and functioning of the state. In contrast, governance also considers the rules and regulations presented by the elected representatives. Hence, the government is often viewed as a subset of governance - a

component “within a web of interrelationship and mechanisms that comprise governance” (Bannister & Connolly, 2012, p. 9).

Citizens’ have been adopting new ICT solutions at an intensifying pace, which has led governments to follow the cause and offer their services online. Since ICT has come to dominate the world today through a digital revolution, it has become the central focal point to connect various fields, data and citizens to the state (Chun et al., 2010). Andersen and Henriksen (2006) have focused on one of the core ideas behind e-governance: Information Technology (IT) is not evolving by itself but rather about how IT is adopted at the societal, organisational and individual level. In their extensive work, Bannister and Connolly (2012) have emphasised the clarity in terminology, as changes due to ICT in government have different implications than governance. Hence, Bannister and Connolly (*ibid.*) suggest the importance of distinguishing e-governance and e-government. The former leads to genuinely other structures and processes that affect the norms and shared values.

E-government represents the use of technology to enhance the government service provision to its citizens (Shareef, Kumar, Kumar, & Hasin, 2009; Silcock, 2001). Although similar in form and often used interchangeably, e-government, as opposed to e-governance, highlights the expertise necessary for the digitalisation of governments (Calista & Melitski, 2007; Garson, 2006). Initially, the e-government focused on adopting ICT solutions for greater access to information, automation and integration (*ibid.*). Emphasising the necessity to clarify the differences, Bannister and Connolly (2012, p. 11) have studied the various definitions of e-governance by proposing a definition of their own: e-governance is the use of ICTs in government in ways that alter governance structures or processes not feasible without the use of ICT; create new governance structures or processes not possible without the use of ICT; and/or “reify heretofore theoretical ideas or issues in normative governance”. Finger and Pecoud (2003) consider e-government as one of the three elements in e-governance: e-regulation and e-democracy. In addition, e-governance is regarded as the combination of four additional aspects: policy levels, actors in the state, functions and the use of the New Information and Communication Technologies (NICTs) (*ibid.*). Hence, similarly to the

ongoing discussion on the lack of common terminology, e-governance is seen as a dynamic process, enhancing interactions between societal actors (*ibid.*). This study emphasises the use of e-governance, as it enhances the effectiveness of the state while concentrating on the participatory role offering towards its citizens.

Cross-border cooperation

Similarly to e-governance, cross-border collaboration (CBC) has also been defined by various terms. Regional peculiarities significantly affect the use of common terminology. Still, globalisation and growing integration in most regions diminish the role of the border as a barrier (Ackleson, 2005 *in* Dołzbłasz, 2015). Cross-border can relate to a variety of phenomena. In its general sense, cross-border is defined as movement or activity across borders between two countries. Often, cross-border refers to cities at a state border. Still, similar connotations, such as divided city, split town, sister town, twin towns, trans-border cities, and many others, add the development factor, as well as an additional resource for economic, cultural and political development to the mixture (Gerber et al., 2011; Reitel, 2006; Sohn, 2014 *in* Dołzbłasz, 2015). In the context of this study, CBC is the preferred term, as it involves both the local and regional aspects and consists of multiple networks of public, private and civil society actors working in close proximity (J. W. Scott, 2017). Also, compared to its similar counterpart term *transborder cooperation*, CBC comes forth as the more used term when EU internal cooperation is in question. In cross-border interaction, borders have a contextually sensitive understanding in Europe, where they act as symbolic boundaries and societal processes that help construct societies at a general level (J. W. Scott, 2015).

In a proposed framework for CBC, De Sousa (2013) characterises the concept as space where exchange of social, cultural, economic and political activities takes place progressively over time. In the context of the EU, Anderson et al. (2003) consider CBC and governance central

to the continuous integration and enlargement of the EU, emphasising the need to understand the nature of borders and appreciate the opportunities that cooperation provides. After all, European integration has become instrumental in the growing scholarly attention towards cross-border areas and cooperation (J. W. Scott, 2017). Based on similar presumptions as De Sousa, Noferini et al. (2020) interpretation of the concept aims to enhance neighbourly relations and solve common problems, while Oliveras et al. (2010 *in* Noferini et al., 2020) emphasise the institutionalised collaboration of the authorities across national borders. Practices of border-crossing have even been said to happen due to the possibility of exploiting national differences (Löfgren, 2008; Spierings & van der Velde, 2013; Spierings & Velde, 2008 *in* Varró, 2016).

In the study of “cross-border, transnational and interregional cooperation”, Scott (2017, p. 1) distinguishes three distinct but often interconnected levels: “cooperation within local and contiguous cross-border spaces; cooperation between regions beyond local border contexts; and transnational networks that can involve cities or groups of cities”. Common problems and interests lead states to find practical and rapid solutions jointly using the more formal inter-state channels (Committee of the Regions, 2007 *in* Sousa, 2013). In addition to the significant opportunities, such as economic development, promotion, infrastructure, environment and culture, that the CBC provides, there is also a vital political component (Keating, 1998). The success or failure depends on the established functional linkages as well as the political dynamics of the national and local governments (*ibid.*).

On a more societal level, notions of social capital and social networks are evenly fundamental in CBC. It makes people reflect on and contest the national stereotypes and practices, which often tend to have negative presumptions (Paasi & Prokkola, 2008). Face-to-face contacts enable the feeling of togetherness and trust, while CBC creates the cultural and social resources and the already mentioned social capital and networks (Prokkola, 2007). One of the key findings in a research based on the cross-border governance in the Dutch-German-Belgian border area by Varró (2016) was that while initially, the CBC was driven by top-down initiatives and EU-funding, new forms of governance later showed pragmatic, bottom-

up approach that improved the borderlands as space (Chilla et al., 2012; Knippenberg, 2004; van der Giessen, 2014; Varró, 2014 *in* Varró 2016).

Both concepts have been used in combination when referring to state-to-state cooperation in the field of public digitalisation. Although widespread use of the terms “interoperability” (Pardo et al., 2012) and “multinational” (Navarrete et al., 2010) are referred to when considering e-government collaboration, “cross-border cooperation” fits nicely into the case selection due to the cultural and physical proximity of Estonia and Finland as well as their continuous interconnectedness in various fields in both private and public sector spheres. Discussion of the following theoretical concepts begins with the diffusion of innovation, which derives strategies for the spread and implementation of technological innovations. This is complemented by spillover effect, maturity of e-government and transnationalism, acting as a prefix to the empirical analysis.

1.2. Theoretical concepts

The second sub-chapter of the fundamentals of e-governance and CBC connects the supporting theoretical concepts, which are at the same time interconnected to the central concepts, as well as to one another in a cause-effect relationship. As presented in Figure 1, when certain pre-conditions of the theoretical concepts are met, they may be perceived as an introduction, or a continuation, to the follow-up theory.

By following Figure 1 and the theoretical circulation, the first theoretical concept, to begin with, is the diffusion of innovation. Societal and governmental innovation benefits from a favourable environment for development (Misuraca et al., 2018). Although diffusion of innovation does not rate societal digitalisation, it does indicate the rate of distribution of innovation in society. Hence, the rapid adoption of innovation in ICT sets a strong foundation for a digital society and obligates the public sector to keep up with the pace.

On the contrary to the diffusion of innovation, the second theoretical sub-chapter of maturity levels of e-government development accurately rates the distribution of digitalisation in a society. Hence, in a digitally mature society, the penetration rate of innovation is high and reaches societal maturity much more rapidly than in countries where the distribution of innovation is lower. A mature digital society is also perceived from the outside, where a nation is considered to have a digitally strong image.

This, as a result, leads to the third theoretical chapter - the spillover effect. In a study on technology spillover, one of the widely anticipated channels is the effect of human capital flow (Cui et al., 2010). In the context of this study, the human capital level of a country improves through the flows of domestic and foreign innovation, which in return are categorized into visible and invisible flows (*ibid.*). Visible flow refers to the transfer of knowledge and technology, whilst invisible flows refer to the spread of knowledge and technology in society (*ibid.*). Hence in a mature digital society, the transfer and spread of knowledge and technology through human capital in CBC leads to a positive spillover effect

in various societal levels, further interconnecting and deepening the relations of transnational cooperation.

The final sub-chapter is strongly interrelated with the central concept of CBC. Differentiating transnationalism and using it as a supportive theory for CBC lies in the historical and cultural context of the Estonian-Finnish relations. Although CBC is considered as the more intensive collaboration form of the two, the transnational space of Estonia-Finland is characterised by the geographical and linguistic proximity, reflecting the dramatically different recent historical past of the countries in the second half of the 20th century (Jakobson et al., 2012; J. W. Scott, 2017). Hence, the notion of transnationalism allows for a deeper understanding of a range of subjectivities and spatialities in cross-border relations (Collins, 2009).

Thus, while the final theoretical sub-chapter acts as the final piece of the circle (a reference to Figure 1), it also provides the foundation for the emergence of new prerequisites, creating a dynamic circulation through the concepts defined. This, however, does not limit the use of other concepts, which would enhance and further strengthen the theoretical basis of research. The four theoretical concepts are analysed in relation to the central concepts, whereas the empirical analysis considers them more contextual and contemporary.

1.2.1. Diffusion of Innovation

The rise of ICT and constant innovation in the field has dramatically changed the relationship between citizens and their governments (Shareef, Kumar, Kumar, & Hasin, 2009). As ICT solutions have gradually matured into universally usable platforms, governments have started to take advantage of the acknowledged innovations (*ibid.*). Although the public sector tends to be more careful when adopting the latest inventions, pressure by society grows as the citizens adapt to convenient solutions. Hence, digitalisation and ICT solutions have brought new possibilities to citizens and governments that affect the relationship. In a study of

diffusion of preventive innovations, Rogers (2002) has proposed conditions, which would lead to the more rapid adoption of innovation by individuals. The preconditions of individuals perceiving innovations as having greater advantage, compatibility, trialability and observability have to be present to enable the diffusion of innovation amongst citizens (*ibid.*). Furthermore, lower complexity levels in return also contribute positively to the diffusion process (*ibid.*).

Diffusion itself is regarded as the process in which an innovation is distributed to the public through mutually agreed channels over time (Rogers, 2003). The process contains the decision of individuals to either adopt or reject implementing new ideas in the society (Rogers, 2002). This is relevant because if society adopts new emerging innovations - and in this particular case in the field of ICT - then governments are also realizing the potential of innovations and providing traditional services online (Shareef, Kumar, Kumar, & Hasin, 2009). Thus, the theory is widely used in the ICT literature “for finding epistemological and ontological paradigms of endogenous constructs” when implementing projects such as the e-government (*ibid.*)

As a result, ICT has gradually changed the way governments operate. Ever so often, the term “e-government” is used as services are provided online. However, the diffusion of innovation in e-government can happen only in the circumstances where its users have the ability and technical know-how to use the services by adequately adapting the system (Carter & Belanger, 2004; Kumar et al., 2007; Shareef et al., 2009; Warkentin et al., 2002 *in* Shareef et al., 2009). Shareef et al. 's (2009) chapter on the diffusion of innovation in the context of e-government demonstrated that not all previous implementations of digital government models have been successful. Findings showed that e-government initiatives should create level playing fields for all citizens, as insufficiency does not justify nor help to accomplish its implementation (Gigler, 2004; Harris, 2005 *in* Shareef et al., 2009).

Economic growth is fuelled by the acquisition, creation and utilisation of knowledge in society (Hansen, 2013). In a globalised world, external knowledge linkages have increasing

significance in the learning economy (*ibid.*). Hence, Martin and Moodysson (2013) suggest cross-border regions have primary importance to knowledge-based industries, such as IT. In a study of cross-border regional innovation, Trippel (2010; *as in* Hansen, 2013, p. 27) describes five dimensions for transboundary knowledge spaces: “knowledge infrastructure, business characteristics, nature of relations, socio-institutional characteristics and governance”. Hansen’s (2013) study on the CBC in the Øresund Region observes that the targeted policy efforts have expectedly increased the collaborations between public sector institutions. However, as a result, the private sector companies and the research institutes in Denmark and Sweden have similarly intensified their engagement in CBC.

1.2.2. Maturity levels of e-government development

E-government initiatives have been set as crucial strategies for modern governments to improve public services and effectiveness of governance (Dawes, 2008, 2009; Fountain, 2001; Heeks, 1999; Kraemer & King, 2003; Schnoll, 2015 *in* Pardo et al., 2012). The success of such initiatives lies predominantly in the operational information sharing and integration across organisational boundaries (Caffrey, 2000; Cresswell et al., 2002; Dawes & Pardo, 2002; Gil-Garcia et al., 2005 *in* Pardo et al., 2012). However, for governments to successfully implement e-government initiatives and for citizens to adapt to these changes, certain preconditions have to be met. One of the first frameworks considered evolutionary by Layne and Lee (2001) introduced four stages of e-government. These four stages present the state of e-government initiatives, starting from governments providing citizens access to online information and ending with horizontal integration across all government entities (Layne & Lee, 2001 *in* Ingrams et al., 2020). Since the initially proposed concept, numerous other framework extensions have been introduced by scholars (Andersen & Henriksen, 2006; Heeks, 2006; Klievink & Janssen, 2009), ranging from 25 (Fath-Allah et al., 2014) to even 42 (Meyerhoff Nielsen, 2020) different models. Principally, e-government initiatives are perceived from immature one-way communication to more mature engaging digital

democracy stages, in which technological and organisational sophistication is added (Lakka et al., 2013). The stage model of e-government, also referred to as the maturity levels of e-government development, provides the input for understanding the current state of e-government initiatives worldwide, which drastically differ throughout regions.

Maturity levels reflect the state's organisational and technological capabilities (Pardo et al., 2012). Although e-government is technical, technology itself is insufficient to determine the success (Dawes et al., 2009). In an extensive doctoral thesis on e-government maturity models, Meyerhoff Nielsen (2020) studied the numerous stage model frameworks and used case studies for cross-case comparison to explore framework correspondence to country practices. Through various country case studies, the study emphasised the necessity to consider the local contexts, so that socio-economic transition brought together with technological change could be fully considered (Janowski, 2015; Panagiotopoulos et al., 2019; Perez, 2010 in Meyerhoff Nielsen, 2020). As repeatedly emphasised previously by various other authors, it has been pointed out that technology in itself does not lead to a change – it is instead the decision on how to adopt ICT at the “societal, organisational, and individual level” (Andersen & Henriksen, 2006; Dawes et al., 2009; Pardo et al., 2012).

The EU has set cross-border mobility of e-government services as one of its top priorities (European Union, 2020). Kalvet et al. (2018) presented a preliminary take on the benefits associated with the EU's “once-only principle” (OOP), which in return has a direct implication on cross-border e-government promotion. According to the study, various factors indicate the success of such cross-border initiatives, such as the inflow of foreign citizens and businesses to the country, ending with the overall maturity of digital service infrastructure (*ibid.*). Interoperability, which is more often associated with the technical connection to other information systems, acts as the core factor for cross-border initiatives (European Commission, 2013). The capability to connect with governments across boundaries is entitled to only the advanced e-government societies (Layne & Lee, 2001; United Nations, 2008 in Pardo et al., 2012).

1.2.3. Spillover effect

It has become evident that e-government initiatives require essentially the same preconditions and adoption models beyond the technological aspects. In a comprehensive study of e-government growth factors, Lakka et al. (2013) combine various researchers who have examined the preconditions beyond technological aspects. It is therefore concluded that e-government adoption is influenced by factors such as “social (Ho, 2002; Singh et al., 2007), economic (La Porte et al., 2001; Shareef, Kumar, Kumar, & Dwivedi, 2009), organisational (Srivastava & Teo, 2010), cultural (Khalil, 2011), public administrative (Moon et al., 2005; Stamati & Karantjias, 2011) and behavioural (Shareef, Kumar, Kumar, & Dwivedi, 2009)” (in Lakka et al., 2013, p. 22). Often, the term *interoperability* is used in a broader sense to describe various factors influencing e-government (Gottschalk & Solli-Sæther, 2008).

Successful e-government initiatives have gradually become globally approved best practice cases for implementation. For example, a study of the globalization of e-governments by Kassen (2013) has analysed the combination of various open government depositories, which enables governments around the world to use open source codes from cost-efficient e-government initiatives. In addition, e-government agendas have become the focus of many vital summits and conferences to find common ground in topics of growing importance. For example, the EC (2020) has introduced the e-government benchmark 2020 report, where four main performance measures and benchmarks for the member states are set: user-centricity, transparency, key enablers and cross-border mobility. In return, these benchmarks measure and enable member states to seek an understanding of the extent of the optimal online government services to how citizens from abroad are granted access to online services (*ibid.*).

The outset of the EU is one of the so-called spillover effects, where accumulating forms of cooperation in various fields can be identified. The spillover effect has widely been used in the field of economics, where financial ties to cross-border economies have intensified over time (Grossman & Helpman, 1991). This phenomenon has since been adopted by social sciences, where the spillover effect has been closely linked to the theory of neo-functionalism

(E. B. Haas, 1961). It describes the integration of the three causal factors of regional integration: increasing interdependence between states, creation of supranational organisations and market rules, that replace national regulatory regimes (E. B. Haas, 1961; Sweet & Sandholtz, 1997). Prior to introduction, Haas (1959) considered three aspects that would drive forward the integration process: positive spillover, transfer of domestic allegiances and technocratic automaticity. Hence, the positive spillover effect was considered the notion in which increasing integration between states in a particular cooperation form would lead to cooperation in other fields to enable the initial collaboration to thrive fully. Despite Haas declaring the theory obsolete (Haas, 1976 *in* Schmitter, 2005), neo-functionalism presumptions are increasingly relevant today in a world of globalization and digitalisation. The theory could further be seen intensifying because avoiding policy spillovers in well-integrated collaboration forms - such as the EU - is nearly unavoidable.

Fertile ground for tech innovation and increased imports/exports of technologies have a positive spillover impact, thus creating conditions for implementing and using new technologies (Lakka et al., 2013). As a result of positive spillover, supranational organisations, and international cooperation and trade, expect increasing integration of international policy areas and harmonisation of affected policies (Sangiovanni, 2006). By further connecting the phenomena with e-government, Lakka et al. (2013, p. 22) identify three theoretical perspectives for growth and integration of e-effectiveness: endogenous growth theory, exogenous growth theory and institutional theory. Endogenous growth theory explains economic growth through internal processes (Romer, 1986, 1994 *in* Lakka et al., 2013), while institutional theory is creating structures, rules and norms in social behaviour (Scott, 2005 *in* Lakka et al., 2013). On the contrary, exogenous growth theory reflects on the external factors influencing a state's economic prosperity, where three main driving forces of labour, capital and technology account for the growth rate (Solow, 1956 *in* Lakka et al., 2013). As a result of new technological innovation, labour and capital would, in return, have to be harmonised to maintain growth equilibrium (Kaldor, 1961 *in* Lakka et al., 2013).

E-government in itself entails principles of open government, in which government is perceived as an open system that interacts with its environment (Janssen et al., 2012). One of the first executive actions by President Barack Obama was the introduction of the “US Open Government Initiative”, outlining openness, transparency and public participation as the cornerstone of open governance (Harrison et al., 2012). Furthermore, the United States acted as one of the initiators amongst seven other countries to sign the declaration of Open Government Partnership (OGP) in 2011, which would promote unified e-government initiatives becoming global agendas (Kassen, 2013). Technological flows and spillovers have shown a significant relationship with e-government growth, which confirms ICT trade and the free exchange of knowledge boosting e-government initiatives adoption in other countries (Lakka et al., 2013). This, in turn, would lead to the unification and harmonization of e-government platforms across state borders (Kassen, 2013).

1.2.4. Transnationalism

Digitalisation and tech innovation can be mainly considered as the result of global-scale interconnectedness. The combination of increased mobility and tech innovations that enable instant connection has made national boundaries irrelevant (Huff, 2007). However, local and regional developments are as significant when considering the ongoing progress of such processes. Globalization is a commonly used term where social, economic, cultural and demographic processes occur within nations. In return, they are shaped by global events (Bourdieu, 1994; Giddens, 2008; Griffith, 1997; Hannerz, 1989 *in* Kearney, 1995). Although transnationalism overlaps globalization to an extent, it has a more narrow scope (Kearney, 1995). While globalization as a process is decentralized and affected by national territories, transnational processes consider the relationship inside a nation or between two or more nation-states (Appadurai & Breckenridge, 1988; Bartra, 1992; Borofsky, 1994; Bourdieu, 1991; Griffith, 1997; Hannerz, 1989 *in* Kearney, 1995; Huff, 2007). The necessity to

distinguish between CBC and transnationalism has already been previously addressed by Collins (2009), allowing a deeper understanding of subjectivities and spatialities in CBC.

Global changes have a direct effect on regional and local decisions in countless parts of the world. Such interconnectedness requires the world to adapt to the constant change in the political and economic order. After the collapse of the Soviet Union, the era of the New World Order, together with neo-liberal regimes and global governance, was present (Kurth, 2011). This was until its core elements of liberal democracy, free markets and economics, open society of borders and culture, and multilateral diplomacy were no longer able to adequately deal with the world's growing challenges (*ibid.*). Kurth (*ibid.*) has thus concluded that “internationalism presupposes the continuing existence of nations; transnationalism presupposes the transformation of nations into something else”. In his study of “Transnationalism and Identity”, Vertovec (2001) juxtaposed the two notions by perceiving transnational networks as having some form of shared identity, usually based on and associated with linguistic and cultural traits. In their work, both Vertovec (*ibid.*) and Jakobson et al. (2012) notice patterns of social remittances. The exchange of resources and acquiring information tends to be at least a two-way process (*ibid.*). While Levitt (1998, 2001 *in* Jakobson et al., 2012, p. 191) defines the concept of social remittances as “conceptions, identities, practices and social capital flowing from host- to sending-country communities”, the case study on the Estonian-Finnish transnational space (*ibid.*) has concluded, that one-way flow is not always the case.

King has noted that culture has become increasingly deterritorialized (Bartra, 1992; King, 1991 *in* Kearney, 1995). Even before the expansive growth of tech innovation, technology was believed to have an essential part in transnationalism. In one of the earlier researches on network society, Castells (1998) emphasised the importance of technology not causing but facilitating or enhancing the transnational networks. The example of the previously discussed patterns of social remittances provides an additional concept to consider when talking of transnational processes. As Jakobson et al. 's (2012) case study, conveniently on the very same countries analysed in this research lays down, the transnational space between Estonia

and Finland has emerged mainly due to common historical roots and traditions of close cross-border relationships and collaboration through decades. In addition, the aforementioned study also recognises the increasing interconnectedness between the two states in case it is supported by internal institutionalization (*ibid.*).

The chapter on the fundamentals of e-governance and CBC, together with the theoretical concepts, has provided the principles of this study on which the empirical analysis and the following chapter on the contemporary digital cooperation between Estonia and Finland have been constructed. Central research questions discussed in the introduction act as a guide to the empirical research and the analysis, proposing structured foundations for more substantial interdependence between nations. Thus, by connecting the research questions to the concepts and the empirical analysis, this study analyses the e-governments of Estonia and Finland and their future cooperation prospects by exploring and comparing the development trends and the national and political environment. The opinions of current and former high-level officials who participated in the empirical research further resonate with the ways to move forward in CBC.

2. Digital cooperation between Estonia and Finland

The second chapter looks into the existing literature on e-government development as well as the general and digital cooperation between Estonia and Finland. It is divided into two separate sub-chapters. The first analyses the becoming of Estonia and Finland as the agenda setters for digitalisation and e-governance due to their internationally valued competency in the fields. By providing some historical context, the importance of studying CBC is presented. The second sub-chapter sets the ground for the emerging transnational space between the two states, providing further justification for the research in question. It will attempt to round up the existing literature in order to present the state of the current research and propose a way forward on what basis the empirical analysis will be based. To an extent, proposed areas for future research and media coverage are also elaborated to include the most recent developments in-between the dynamics of transnational interconnectedness.

2.1. Estonia and Finland as the agenda setters

Previous literature has covered various country-based case studies on e-governance and e-government initiatives across the world. Digitalisation has brought a wave of new indicators, which consider the success of countries in various fields. Various indices place Estonia and Finland among the top 10 countries of digital economies (European Commission, 2020a) and top performers in e-governments (Enterprise Estonia, 2020; United Nations, 2020). The United Nations (UN) index, which has offered a comprehensive annual picture of e-government across the globe, placed Estonia and Finland as early as 2010 on equal footing (Kitsing, 2011). Since then, Estonia and Finland have been set as example cases of progressive and innovative digital societies.

After gaining its re-independence in 1991, Estonia has thrived towards a digital society simply because it was more feasible and less expensive to implement (Kattel & Mergel, 2019). So far, Estonia has been highlighted as one of the world's most technologically advanced countries, where the societal use of ICT is well developed (Nauwelaers et al., 2013). In a country with a population of 1.3 million, e-government has been based on the data infrastructure X-road and the national digital ID, where digital penetration is close to 100 per cent and nearly half of the population votes online (Kattel & Mergel, 2019). In addition to the citizen's access to ICT and the advancement of the e-state, Estonia is also home to unique innovations, such as the e-residency and data embassy. While only a decade ago the Organisation of Economic Co-operation and Development (OECD) report (*ibid.*) on the cross-border comparison between Estonia and Finland placed Estonia in the "innovation follower" section, then the more recent reports have moved Estonia to "innovation champion" -s, overtaking its northern neighbour in the leaderboard (Consumer Technology Association, 2019). This success story has been made possible due to choices, which Estonia made in the past. Kattel & Mergel (2019) have pointed out three critical features of digital transformation: focus on the future-oriented solutions, universal public digital architecture and decentralized digital agendas. Estonia's digital transformation and its success rely on three key factors: a confluence of several contextual factors, a set of agreed-upon government principles and design principles (*ibid.*). In addition, most schools in Estonia have turned to technology-based courses and curriculum being offered as early as primary school. While Estonia's digital transformation has been characterized by "development-driven strategies rather than by strategy-driven development" (Kalvet, 2007, p. 11), scholarly work to date considers Estonia's national strategy a success (Kattel & Mergel, 2019).

Finland, on the other hand, has had a relatively different path towards societal digitalisation. Managing to distance itself from the Soviet influence throughout the second part of the 20th century, Finland has followed the example of its Scandinavian neighbours by becoming a Nordic welfare state. According to the World Bank (2002) report and a study on the analysis of the e-government program (Nawafleh et al., 2012), Finland has been considered as one of the best countries in e-government implementation as it has sufficient infrastructure and ICT

tools, technical methodology, human resources, as well as cultural and social aspects. Although Finland has had distinctive ways to market itself globally, its success story of leading the societal digitalisation was the global brand Nokia, which unfortunately did not foresee the success of smartphones (Vuori & Huy, 2016). Despite the fall of the national direction indicator in the ICT field, Finland has maintained its high level of digitalisation, spreading across the private and the public sectors. In an extensive study on e-government strategies, Joseph and Avdic (2016) analysed the Nordic nations and their leading role in the field. The success of these nations lies in the public sector reforms, which sets the focus on public sector services rather than on the economic reforms (*ibid.*). Of the different categories analysed, strategic patterns also emerged on the overall aim of the states, e-government organisation, citizen participation, economic measures and standardization, which all enhance the success of the state in e-governance implementation and development (*ibid.*).

While both countries have rapidly scaled the societal and public sector digitalisation across their borders, their interdependence on one another is as important to note. With similar cultural and linguistic heritage, the collaboration between the two nations is of mutual understanding, interdependence and respect. As it has become evident under the previous chapter of transnationalism, Estonia and Finland similarly share the characteristics and dynamics of an emerging transnational space (Jakobson et al., 2012). Since the free movement across member states' borders became possible with the inclusion of both states to the EU, Finland has attracted thousands of Estonian's in search of better living and working conditions (*ibid.*). According to the official data by Statistics Finland, Estonians are the third most significant ethnic minority after Swedes and Russians, having increased 50-fold to nearly 50,000 in the last 30 years (Tilastokeskus, 2020). Estonia, on the contrary, continues to be the most popular holiday destination for Finns (Ärileht, 2020).

The EU's Digital Single Market initiative has given new light to regional cooperation and digitalisation among member states. Ambitions, such as states sharing standard information on member states' citizens across borders through the OOP, have sparked widespread discussion in academia and policymakers (Kalvet et al., 2018 in Curry, 2019). Such initiatives

and programs have spillover effects on other policy fields. As is the case of Estonians working and living in Finland, Europe is becoming more interconnected, and thus governments seek ways to conduct and simplify CBC across fields. In addition, Estonia has long branded itself as “E-Estonia” - a choice that was consciously made already in the early 2000s (Papp-Váry, 2018). To date, Estonia has proved to others that this was not just a means of communication but has also involved tangible developments and policymaking in the field (*ibid.*). Estonia took the office of the Council Presidency in 2017, mainstreaming the theme of digitalisation in all policy areas as well as including digitalisation to the four priorities of 1) innovation in the economy, 2) safety and security issues, 3) digitalisation and a free movement of data, and 4) inclusiveness and sustainability (European Organisation of Military Associations and Trade Unions, 2017; Panke & Gurol, 2018). Considering the numerous scholarly case studies and media coverage of Estonia as an exemplary state of focused digitalisation, there is a clear justification for the need for practical CBC cases in the field.

2.2. Existing literature on the Estonian-Finnish transnational space

This paper will offer additional insight into the e-government CBC between Estonia and Finland. Despite a few studies closely related to the topic, existing literature so far is relatively limited. Most of the research is very technical and focuses on the X-Road rather than the e-government collaboration (Nordic Institute for Interoperability Solutions, 2021). On the other end, research papers mainly focus on other various cooperation forms in other fields between Estonia and Finland. The OECD has written two reports on the potential for collaboration in ICT between Estonia and Finland (Nauwelaers et al., 2013; OECD, 2015). Nauwelaers et al. 's (2013) report focused mainly on the capital regions of Tallinn and Helsinki, providing a rationale for establishing CBC to solve challenges around the flows of goods and people. Even prior to Finland implementing the Estonian X-Road in 2015, opportunities for joint development of e-society applications were considered an area with

promising potential (*ibid.*). The earliest officially recorded recommendations to increase CBC in high-tech business development and technology sectors were proposed as early as 2003 (Jõerüüt & Ollila, 2003) and 2008 (Blomberg & Okk, 2008).

The author (Lankinen, 2019) of this research has formerly conducted a thesis on the collaboration of the private ICT sector by looking at the possibilities of CBC of Estonia and Finland. However, the most comprehensive work to date to consider is a 2018 thesis by Rebecca Curry (2018), who analysed the emerging cross-border digital cooperation between Estonia and Finland in the dissertation: “Digitalisation Beyond Borders: A Case Study of Estonia and Finland’s Collaboration on Cross-Border Information and Communication Technology Development.”

Considering the work of Curry (*ibid.*) and the author (Lankinen, 2019) on the cooperation between public organisations and private sector technology companies in Estonia and Finland, this research considers the contribution to the existing literature and proposes implications for future research. As Curry (2018) concluded, Estonia and Finland appear to be using e-government to maximise their limited resources and grow their capacity. The main focus of the research (*ibid.*) was to analyse the collaboration through the joint body of the Nordic Institute for Interoperability Solutions (NIIS). In addition, Curry (*ibid.*, p. 34) has proposed three distinct areas for future research:

- 1) to examine the current state of Estonia and Finland’s collaboration as well as the barriers that are preventing them from exchanging data,
- 2) consider additional members in NIIS and its potential of changing the existing dynamics and the level of success for collaboration, and
- 3) how nations can better overcome their legislative barriers to e-government interoperability across borders.

As an additional fourth and unpredictable factor, the impact of the political aftermath of Estonian politics is analysed in light of the relationship dynamics between Estonia and

Finland. In 2019, Jüri Ratas' second cabinet was formed, despite the victory of the most popular party in the country, the Reform Party, led by Kaja Kallas. While the electorate was preparing for the country's first female prime minister, Jüri Ratas held back-door meetings with the less predicted future coalition government parties of Estonian Conservative People's Party (EKRE) and Pro Patria (ISAMAA). Recent multiple internal political scandals have had an immeasurable impact on the international image of Estonia and the relationship amongst its partners. In addition to the former Minister of Interior mocking the Finnish PM as a "salesgirl" (Associated Press, 2019), the far-right coalition partner has increasingly politicised and questioned the trustworthiness of the e-government innovations, which Estonia has strongly relied on in the past (Krimmer & Solvak, 2020). As a result, many of the pioneers previously behind Estonia's e-governance innovation have raised their concerns about Estonia's fall in its digitalisation image, which may reduce its tech-savvy image in the future (ERR, 2020; Pau, 2020a, 2020b; Postimees, 2019). Although Estonia's now-former prime minister Jüri Ratas resigned in early 2021 and the far-right EKRE has since been pushed away from the government, the political turbulence requires further elaboration. According to media coverage, it has had a significant impact on the *status quo*.

This chapter hence acts as an introductory chapter to the discussion in empirical research and analysis. The research so far, and the interrelated study by Curry (2018), set a sound basis for the upcoming analysis, which considers the contemporary dynamics between the Estonian-Finnish CBC. Furthermore, the four distinct areas proposed for future research will have additional value when answering the central research questions.

3. Research Design, Data and Methods

The methodological chapter will outline the structure of this thesis, the data used and collected to answer the proposed research questions, and provide contemporary insight into the research field. As an addition, this chapter will also outline how variables in the empirical section are operationalized.

3.1. Research design

By combining the theoretical as well as the primary and secondary empirical research, this thesis aims to answer the three fundamental research questions proposed in the introductory chapter to analyse the interconnectedness and interoperability of Estonian and Finnish e-governments: *“How does the agreed cooperation in e-governance set a basis for interdependence?”*, *“To what extent is international cooperation in the digital field enhancing a strong e-government image?”* and *“What are both governments doing to follow the agreed mutual e-governance prospects?”*. As an additional factor, this research aims to further elaborate on the existing literature areas by considering the contemporary developments in the field.

This study will follow a qualitative, descriptive single case-study method, which aims to assess the case study in depth by comparing and analysing the CBC between Estonia and Finland. Case studies are most often used in cases of holistic and in-depth investigations (Zainal, 2007). A case study is a typical research method in social sciences because it enables to resonate with the real world, contemporary situations through actors' relationships (Wellington, 2015; Zainal, 2007). Its constant and favoured use in social sciences has led the term to be regarded in various ways, characterized as a qualitative, small-N method (Yin, 2009) or as research characterized by process-tracing (George & Bennett, 2005). In a

comprehensive take on the case study, Gerring (2004) defined the method as an in-depth study of a single unit, in which the scholar aims to elucidate features of a phenomenon. Thus, a case study is most commonly considered a method, which investigates a single phenomenon, instance or a real-life example. One of the primary virtues of the case study as a method is its in-depth analysis, which proposes to “know more on the less than know less about more” (*ibid.*, p. 348).

This research finds the Estonian-Finnish cross-border relationship unique in terms of collaboration on e-government and digitalisation. Hence a descriptive case-study method was found to be the most suitable, describing the data as it occurs (Zainal, 2007). Considering the rapidly changing environment of state digitalisation on a global scale, Estonia and Finland have been performing well above the EU average. Both countries have led the rankings for the online services provided for their citizens and the use of these services by the public (European Commission, 2020a). The strong image of both countries in digitalisation sets the ground for the empirical analysis to answer the central research questions proposed in this study. The contemporary consideration of the CBC between Estonia and Finland will further enable this research to look at the current state and dynamics of the collaboration proposed in previous studies. The empirical study has thematically been divided into four sub-chapters that connect the empirical research into theoretical concepts and propose policy guidelines for future collaboration prospects.

3.2. Data

Research conducted for this paper includes both primary and secondary research methods. For the primary research, semi-structured interviews were conducted and carried out through online channels from the 4th of March 2021 to the 22nd of April 2021. The interviewees were selected based on their role and experience in the CBC between Estonia and Finland in the field of e-governance, providing a narrow and focused analysis of the topic in question.

Participants were initially contacted by a formal email, indicating the purpose of the research and the will to interview the person as an expert providing assessment for the topic of interest. Prior to the interview, participants were asked whether they wish to provide expert assessment anonymously. A total of 23 people and one administrative organisation was contacted and considered for providing expert assessment. 13 initial approvals for the interviews were received, out of which 12 were conducted¹. Participants included current and former high-level government officials, who have or have previously had decision making power or influence over the cooperation between the two countries, and who have also been directly affected by the decisions made in the field. Due to the lasting CoronaVirus Disease (COVID-19) pandemic and the worsening situation in both countries at the time, all of the interviews were conducted online, with the help of various freeware audio-visual applications, such as Microsoft Teams and Zoom. After the interviews were conducted, transcriptions were written for structural thematic analysis of the responses. Due to the length of the transcriptions (201 pages), only the questions discussed in the interviews and the nationality of the interviewees were added to this thesis. Considering the interviewees' existing political and authoritative positions and the request for some to remain anonymous throughout this research, the author decided to follow a common line and keep all the participants anonymous. Before the handover of the thesis for pre-defences, every participant received a copy of the analysis to provide confirmation or additional information on what has been said.

Semi-structured interviews are used in this research due to the specificity of the topic and the objectives. According to Bauer & Gaskell (2000 *in* Silva, 2021), a semi-structured interview has a central goal of understanding interviewees' perspectives on a fact through the interviewees' perception of reality. The suitability of the method in this research is evident in the combination between structure and flexibility. The interview guide is followed with central themes but also enables to go deeper into a particular topic of further interest (Silva, 2021). In-depth interviews are a great qualitative technique for evaluating the impact of

¹ After initial approval to participate in the empirical research, no responses were unfortunately received from one of the participants on scheduling a specific time slot for the interview.

public policies, considering the strong emphasis on the thematic of this research (Batista et al., 2017 *in* Silva, 2021).

As with every research method, certain limitations have to be considered. Mosley (2013) has proposed four main challenges applying interviews as a method of empirical research: ethics, sampling, validity and reliability. The ethical issue is related to the potential risk that might be caused to the interviewees, hence the decision by the author to keep all the participants anonymous throughout this study. The decision of what is included in the analysis is also a question of ethics because the author might be exposed to personal bias and can have presumptions on the results of this study. Finally, sampling could be seen as the most crucial of the proposed aspects, as it will directly affect the validity and reliability of the data collected via interviews (Silva, 2021).

Although secondary research is not included as a separate sub-chapter, various existing literature and official reports, as well as documents, are included in the empirical analysis, which allows setting the context for the research in hand. In addition, due to the topics' contemporary nature, media - such as online news outlets - are considered for analysing the effect of politics on the interconnectedness of the two states.

3.3. Methodology

With the research methodology, there are two different paths of analysis to consider: the use of semi-structured interviews and the analysis of the selected research method. Hence, the methodological chapter will describe the analysis of this research and propose a strategy on how the objectives are reached.

In a comprehensive study on the use of semi-structured interviews in political science and based on Bauer & Gaskell (2000) and Mosley (2013), Silva (2021) proposes six stages for

the proposed research method analysis: theory, interview guide, interview selection, ethics in research committee, conducting interviews and data compilation and analysis. These steps are necessary to evaluate how the data is gathered. The first two stages are fundamental to the semi-structured research method, as the theory and the conceptual framework outlines the guiding principles of the analysis (Silva, 2021). In contrast, the interview guide must be anchored by the central research questions and the theories attached to the study (*ibid.*). When carefully assessing the interviewee's, the goal, according to Crouch and McKenzie (2006), is not to interview individuals with the same profile, but rather “variants of a particular social setting”, as it is one of the most crucial points for validity and reliability of the data collected (Duarte, 2006 *in* Silva, 2021, p. 10).

While ethics is equally important to consider, the step of “ethics in research committee” is not applied in this research. On the other hand, the final two steps of “conducting interviews” and “data compilation and analysis” provide the basis for the thematic analysis applied to empirical research. Furthermore, the quality of the information gathered depends solely on the interviewer; thus, the interviewer’s attitude demonstrating attention and interest is crucial (Bauer & Gaskell, 2000; Patton, 2015). Finally, the script guiding the interviews enables a structured approach to data analysis, as the construction of the interview guide must be based on the research problem, and the analysis of the data collected has to equally be theoretically guided (Bauer & Gaskell, 2000; Duarte, 2006 *in* Silva, 2021).

After following the semi-structured interviews, the data itself has to be structurally and conceptually analysed. For this, as proposed previously, thematic analysis is used. Thematic analysis is one of the most widely used qualitative methods for data analysis (Braun & Clarke, 2013). In its essence, thematic analysis is the combination of “codes, themes in qualitative verbal expressions and patterns of recurrence, evaluation or associations within these themes” (Herzog et al., 2019, p. 2). Thus, the thematic analysis enables the researcher to establish the connections between the participants’ experiences, perceptions and attitudes (*ibid.*).

Similarly to Silva (2021), Herzog, Hitters and Handke (2019) have proposed a six-phase framework for planning and conducting thematic research analysis: 1) familiarization with the data, 2) generating initial codes, 3) searching for themes, 4) reviewing themes, 5) defining and naming themes and finally, 6) producing the report. In the first phase, the researcher breaks down the data set and actively engages with it to search for patterns of meaning. Phase two applies codes and labels to segments of data, which will be relevant in the research and the central questions. By organizing the data into meaningful groups, phase three addresses the critical question of what will and will not be counted as a theme. Phase four is concerned with developing provisional themes into final themes, whilst in phase five, the researcher specifies the essence of the themes proposed. As a final phase, the report is produced, which contains interview quotes best representing a particular theme that has emerged from the analysis. Herzog, Hitters and Handke (2019) have rightly emphasised Braun & Clarke's (2013, p. 249) thought, where the researcher has to provide coherence and structure to the dataset: “[e]xtracts need to be embedded within an analytic narrative that compellingly illustrates the story you are telling about your data, and your analytic narrative needs to go beyond the description of the data, and your analytic narrative needs to go beyond the description of the data and make an argument in relation to your research question.”

This study follows the six-step frameworks proposed by Silva (2021) and Herzog, Hitters and Handke (2019). However, for the validity and reliability of the results, the author also used additional tools to cover the most relevant topics and analyse proposed themes, such as participant answer comparison table and a double-check of the analysis by the participants of the empirical research. The participant answer comparison table can be connected to the work by Tesch (2013 in Boeije, 2002), who calls comparison the main intellectual activity underlining analysis in grounded theory. According to Tesch (2013), comparison and contrast is a typical method used for any intellectual analysis, such as: “forming categories, establishing the boundaries of the categories, assigning the segments to categories, summarizing the content of each category, finding negative evidence, etc.” (Boeije, 2002, p. 392). Hence, the goal is to discern conceptual similarities, refine the categories' power, and discover patterns (Tesch, 2013). Allowing participants to get acquainted with the empirical

analysis before publishing the thesis enabled a late inspection, increasing the reliability of the work and the credibility of the results proposed. Participants were provided a week for inspection before the submission of this thesis. Comments and improvement proposals were received from half of the respondents, and clarifications were taken into account in the research analysis section.

4. Empirical analysis

This chapter of the paper is structured in a way that seeks to understand the past, the present and the future of the Estonian-Finnish collaboration. The empirical analysis is constructed based on empirical research, which is structured into four thematic sub-chapters. The first sub-chapter analyses the digitalisation state of both Estonia and Finland as separate states. Hence, by considering the global indexes and participants perceptions, the current state of e-government digitalisation is evaluated. On the contrary, the second sub-chapter analyses the e-government digitalisation collaboration between Estonia and Finland, focusing on the strength and the uniqueness of the CBC. The third sub-chapter investigates the weaknesses and the barriers that the participants had pointed out as problematic, further providing recommendations and suggestions for future CBC in the field of e-government digitalisation, summarized in sub-chapter four.

The analysis is mainly structured and based on primary empirical research. It is supported by additional secondary research and theoretical concepts introduced in chapter one. Thus, the empirical chapter is complemented by the various sections of this thesis, providing deep analytical insight into the topic at hand. The visualization in Figure 2 presents the four-chapter analysis model, based on the thematic qualitative analysis framework approach. Based on a similar line of thought as shown in Figure 1, where the key concepts and the theoretical concepts are interconnected, the author seeks to find additional ways to connect the various parts of the empirical chapter to show the relevance of concepts used in the context of the CBC between Estonia and Finland. Hence, as in Figure 1, Figure 2 represents the circulation of the theories, the topics discussed and the themes analysed in the empirical research. Through the analysis, the author presents the cause-effect relationship of the themes and argues that a continuation can be perceived emerging in other areas when certain preconditions are met.

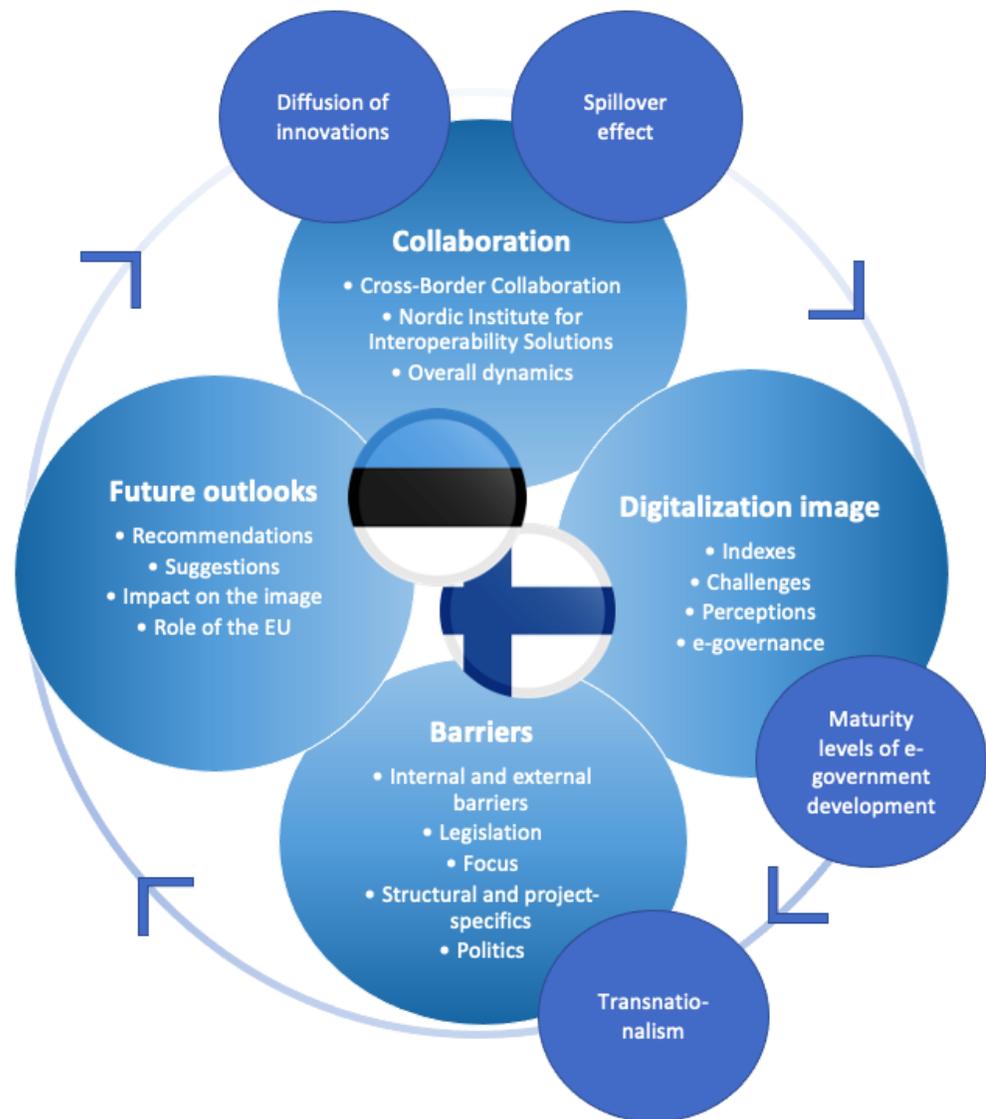


Figure 2. Visualization of themes and points discussed in the empirical analysis and their relation to the theoretical concepts. Source: Author

4.1. E-governance digitalisation image in Estonia and Finland

The first sub-chapter analyses Estonia and Finland as separate entities in their path towards a digital society and e-government digitalisation. Theoretical chapter of the maturity levels

of e-government development sets the foundation in which the effect of the overall global image is analysed through digitalisation indexes together with the interpretations of the participants' thoughts of their host states. In addition, the chosen paths towards the digital success of both countries are taken into account, after which the challenges for the future are briefly discussed before continuing with CBC.

In the chapter on maturity levels of e-government development, Meyerhoff Nielsen's (2020) extensive doctoral thesis evaluated 42 different existing eGovernment maturity models and analysed their use by answering the central research question on how to improve the public sector's approach to the successful provision and citizen's actual use of online public services. Meyerhoff Nielsen (*ibid.*) focused on comparing five countries – although it did not consider the cross-border aspect of the selected cases – characteristic of this study. As one of the five selected cases, the Estonian e-state is appropriately analysed, with a clear indication of Estonia ranking high in the digitalisation index of the society. Although Finland is not included in the extensive study, the DESI 2020 (European Commission, 2020a) places Finland as the most digitalised society amongst EU member states, positioning Estonia in the sixth place. On the other hand, Estonia is considered the top performer with an effectiveness rate in the e-government agenda, indicating transparency and openness.

As it has now become evident, Estonia and Finland are evaluated as extremely advanced digital societies. Strong indications for this are the percentage of government services provided online and how these countries rank in various digitalisation indexes (European Commission, 2020c). Although certain indexes have a decisive role in how a country is perceived and, at the same time, perceives itself in a specified field, there are limitations and a tendency for bias to consider in every case. Research, which analysed the DESI index further on this matter, concluded the method was biased due to the work of lobbyists, periods between data collection and the composition of dimensions changing regularly (Banhidi et al., 2020). Similarly, Estonia and Finland were placed below the OECD average in a 2019 Digital Government Index report, measuring states' progress towards digital government (OECD, 2020). Estonian government Chief Information Officer (CIO) Siim Sikkut has

previously emphasised the necessity to look beyond the title and understand what has been compared and on what basis have the countries been ranked (Sikkut, 2020). The conclusion made from the OECD's report was that the data shows the relative strength of the institutional set-up of the digital state, rather than the development of it (*ibid.*). While the different indexes do enable comparison of a state's performance in a field, various analyses and explanations reflect on the necessity to look further into the matter. Hence it was also pointed out in one of the interviews that limitations of such indexes are a necessity to consider in any case:

like those indexes – that's my practical conclusion – they don't reflect the actual situation (...) I mean, just one question, and you are, boom, like the least advanced country in Europe right, in digital terms. And that's why those questions are specially chosen. (Interview 7)

Before moving onto the CBC, respondents were asked to rate the current state of their host country's digitalisation process. Due to its widespread distribution, nearly every citizen in Estonia and Finland have engaged with online government services. Although, by nature, biases are evident with the respondents, the majority were overwhelmingly positive when comparing their country's digitalisation to others. In the chapter on maturity levels of e-government development, various academic authors emphasised technology in itself not leading to a change, but rather the decision on how to adapt the ICT at the societal, organisational, and individual level (Andersen & Henriksen, 2006; Dawes et al., 2009; Pardo et al., 2012). A strong emphasis was set on the mindset of both the society and the government to make the most out of digital services.

As it was evident with academia, government practitioners also share similar views on technology in itself, not developing state digitalisation. Anna-Maija Karjalainen, the Director-General of ICT in Finland, has stated that the leaders of digitalisation in a state should not consider digitalisation only as a technology but rather to renew the ways of work and processes (Keagan, 2020). Similarly to Finland, Estonia's digitalisation leaders also emphasise technology having little to do with the process itself (Numa, 2020). Marten Kaevats, Estonia's national digital advisor, considers the main lesson of digitalisation as changes in the mindset and culture (*ibid.*). On a global scale, governments have not realised

that digitalisation and transformation should not be a goal in itself, but instead used as a tool to go somewhere else (*ibid.*) As some of the interviewees pointed out, there can be various technologies introduced to society, but it is the question of how to change the mindset of the citizens to cope with these innovations (Interview 3, 8). Estonia and Finland are said to have the basic infrastructure and “digital hygiene” in place, providing fertile ground for e-governance and societal digitalisation. This is important both for internal as well as external development in, for example, the CBC, which requires specific prerequisites for a strong foundation. In return, there is a solid link to the theory of diffusion of innovation in e-government, where societal ability and technical know-how provide circumstances for successful adoption (Carter & Belanger, 2004; Kumar et al., 2007; Shareef et al., 2009; Warkentin et al., 2002 *in* Shareef et al., 2009).

(...) It's quite important that we have a very good basic schooling system, so most people can read and write because in many countries, which are quite developed digitally, you might have quite a big portion of the population, who are not able to read or write (Interview 5).

While the general knowledge of top-rated countries of digitalisation was well noticed, respondents kept “northerly humble” from promoting their host countries. Participants highlighted many important aspects that require attention and further improvement. On a global scale, these countries are interchangeably similar when it comes to the innovation and the societal maturity of the ICT solutions. However, the historical background and a deeper look into Estonia and Finland represent fundamental differences that make these e-governance success stories different. While Estonia’s agility in decision making was often pointed out, Finnish society has had a significantly longer time to build up its digital state, which led respondents to talk about the growing issues with the state’s so-called “legacy systems” (Interviews 1, 3, 5, 8, 11). In a comprehensive work on barriers to e-government integration by Lam (2005), the inflexibility of legacy systems is seen as a technological barrier. Many government agencies rely on legacy applications that have been built decades ago, lacking the necessary network integration for future interoperability. This was especially

evident with the Finnish respondents, who pointed out the growing number of public information systems that are already in use:

the number of information systems in the state of a portfolio might be for example between 2,500 to 5,000 information systems and this is setting certain requirements also for the interoperability of those systems. (Interview 1)

At the same time, although Estonian digital state solutions are merely 25 years old, similar issues can already be perceived there as well (Interviews 9, 10). Although, as derived from Lam's (2005) work, legacy systems tend to be perceived as barriers during the implementation of e-government, they can also become evident during the constant development of existing infrastructure. As pointed out previously, the main argument with the growing legacy systems was interoperability, which is necessary to consider with newly introduced public ICT systems. Hence, a structural approach to e-government development is as essential, in order not to run to the issues foreseen in Interview 9:

we are at the place where we have to make sure that all the developments, that we have done, and the entire public sector infrastructure and service architecture that we have built, is not holding us back for the future [...] but at the same time this overtime now over – like almost 30 years – creates a situation, where in reality all of the stuff that we have built is holding us back now in order to innovate in the future, we need to really take care of this (Interview 9)

A study by Weerakkody et al. (2007) indicated that in order for e-government implementation to be as widespread and successful, certain strategies and practices need to be in place when establishing digital public sector services. In fact, in a study on Nordic nations' strategies on e-government, an effective strategy was considered critical for its successful development (Joseph & Avdic, 2016). When asked about whether the host countries are following a specific structure regarding e-government development and digitalisation, high-level program committees are said to be in place on both sides. Estonia's emphasis on e-government marketing was often mentioned, which the Finnish respondents saw as something to learn from, even envying to a certain extent (Interviews 1, 4, 8, 10). Similarly, with the question of the mindset and reference to the historical aspects, both

Estonian and Finnish respondents stated that although a very similar state of digitalisation has been achieved, the approach so far has been fundamentally different. Praise was often given especially to Estonia:

Estonia has been innovative, modern, agile, trying things; Finland has been rather going on the continuous traditional track, following the best practises, being very careful in making any decisions which might have any effects in the privacy or security issues, which is right of course. (Interview 1)

At least in Estonia, I think they have benefited very much from their agile and cooperative stands as regards how the administration is arranged. (Interview 5)

Additionally to the bold and sometimes even aggressive marketing (Interview 8), Estonia's success in digitalisation is partly evident due to the flexibility and speed of implementation. It could be interpreted from both Estonian and Finnish respondents, that due to its relatively young age of self-governing, the recently re-independent Estonia has fewer legacies to take on and hence the speed of adoption of new digital services and rate of change is considered much faster than in Finland. Although Finns follow a more careful and cautious approach, which has led Finland to a fundamentally different chosen path for societal digitalisation, there are strong indications of both sides successfully implementing their policies. Both Estonia and Finland are competing for the highest ranks on a global scale in the digitalisation field. In order for the momentum not to be lost and the digital roadmap to enhance the constant innovation of the digital state, countries have been urged to find answers to three essential questions: "Where are we now?", "Where do we want to go?" and "How do we get there?" (WSIS Forum, 2020). Considering the discussions held with the participants during the empirical research, the respondents seem to share the thoughts and keep in mind the necessity to improve for the future:

There's a lot of potential which we haven't used and then we are... We need now some new thinking, new ways of thinking, how we are developing our e-government or the digital government. (Interview 4)

Thus, the upcoming sub-chapter will further focus on the strengths of the digitalisation collaboration forms between Estonia and Finland.

4.2. E-governance cross-border collaboration between Estonia and Finland

The previous chapter analysed Estonia and Finland as separate entities in their path to digital societies. This chapter will analyse the CBC of these states by digging deeper into how both sides perceive the cooperation in-between. In this chapter, the cooperation is analysed through the unique governmental joint-organisation, the Nordic Institute for Interoperability Solutions (NIIS); the proximity and hence the effect of the spillover effect discussed, and the overall dynamics of the current collaboration.

Due to various preconditions for similar cultural and societal values, the respondents did not hold back their overwhelming praise when talking about the cooperation between the two states. These countries have a long-lasting sentimental relationship, often described as “brother nations” (Lawrence, 2017, p. 21). Such a point of departure for a link between two states sets a fertile ground for high mutual trust and a strong willingness to cooperate. Often it means that there is a higher political will to cooperate also because the interconnectedness between the societal groups in the states is high. According to various official sources, there are currently over 50,000 Estonians living in Finland and around 8,000 Finns living in Estonia (United Nations, 2019, Interview 8). In addition, before the COVID-19 pandemic, the ports of Tallinn and Helsinki were one of the world's busiest passenger ports, exceeding over 10 million travels (Port of Helsinki, 2021; Port of Tallinn, 2021). Taking into account the small size of these countries, the numbers are considerable. Hence, there are very practical reasons why these countries are finding ways to cooperate. The uniqueness of this collaboration is often stated to come from the “social capital” (Interview 2) or the personal relations of high-level officials on both sides. After all, as CBC projects connect various

actors and groups with personal interests, balancing between common and vested goals is a continuous struggle (Jacobs & Kooij, 2013 *in* Jakola & Prokkola, 2018). In many cases, it is of utmost importance to have good personal relations to push on agendas of mutual interest, as the focus might otherwise shift towards other areas. Another closely related phenomenon of trust in CBC is closely associated with strong economic performance (Knack & Keefer, 1997; Malecki, 2012 *in* Jakola & Prokkola, 2018). Both are understood to “lower transaction, cooperation and innovation” (*ibid.*). In the empirical research, a high level of trust was pointed out on many occasions and mutually on both sides:

Basically, there are no other two countries like Estonia and Finland at a level of cooperation. [...] But in this case, we are equal, so we trust each other, we respect each other, and we support each other, and we share the assets with each other. So, this kind of cooperation possibilities - There are not too many of those, and there are like lots of reasons for that. (Interview 6)

Also the saying that why Estonian and Finns are cooperating - of course, our cooperation is great, if you compare cooperation with some other countries or between some other countries, of course, no question. But we are similar enough to cooperate and different enough that it's also valuable and interesting. (Interview 2)

The importance of NIIS is best described by many of the respondents stating it simply as “the most significant collaboration project in the field of digitalisation” (Interviews 1, 7, 8, 10). Curry’s (2018) recent extensive scholarly work on the significance of NIIS provided a thorough insight into the organisation’s operability; hence this research will not set a deep focus on the organisation itself and will therefore contemplate the more general aspects of the cross-border relationship. However, NIIS as an organisation is an essential cornerstone on the outlook of both Estonia and Finland’s e-government and societal digitalisation for the future. NIIS was developed as a cross-border initiative by the Estonian and Finnish governments in March 2017 due to a proposed new solution for CBC in data exchange and digital services. Its goal is to develop and strategically manage the X-Road data exchange layer and other cross-border components for e-government infrastructure (NIIS, 2021). It has been considered as a “unique” operating model due to its independence from the government.

Considering its vision and developments, the organisation is actively focusing on onboarding new members both from the Nordics and the rest of the EU, and facilitating the global X-Road community (*ibid.*).

I would say NIIS is a perfect example of how things should work, and I think one interesting factor why it works is that when it comes to NIIS as an organisation - it is a non-profit association. It is not part of the state machine - it is its extended hand, and they are working in a small organisation in a very agile manner. (Interview 1)

The vision and wishful expansion of NIIS is not the only characteristic of this organisation. It is instead a continuation of the CBC between Estonia and Finland so far. The theoretical assumption of the spillover effect has its relative influence across societal actors. Positive spillover as a phenomenon, previously noted by Haas (1959), has led to widened cooperation in the field of digitalisation not only across Estonia and Finland but also beyond. Therefore, positive spillover could be perceived as one of the characteristics where increasing integration between states in a specific cooperation form would lead to cooperation in other fields to enable the initial collaboration to thrive fully. The growing number of various digital services and data shared across the borders is one example of increasing interconnectedness between Estonia and Finland. Since X-Road has become the choice of interoperability solution for both, governments are interested in spreading its influence. Respondents unanimously supported NIIS's goal to onboard additional members to the organisation, further strengthening its position as a regional solution for future government digitalisation and data exchange. Considering the current and founding members of NIIS - Estonia and Finland - and their different paths to digital success, the symbiosis helps to create fertile ground for future expansion: "*I think it's good that there are more countries involved because it makes it more trustworthy*" (Interview 2). In many cases, Finland was perceived to add a positive balance to the organisation.

Estonia is moving and sometimes faster than we are. But we are giving more stability and trust that this is the way that you don't need to be a small and a child country, but being a little bit slow as well, you can still implement and show the way. Showing together I see we are stronger. (Interview 3)

Although the spillover effect might often be interpreted as a natural continuation from growing relations between states, respondents emphasised the need for spokespersons in the field. Especially at the time of the COVID-19 pandemic (which was at its peak at the time of the writing), interviewees emphasised the necessity to have strong personalities to constantly boost and enhance the CBC, as often, the focus shifts to internal matters at times of crisis. The 2017 Formation and Cooperation Agreement, which set the ground for the jointly established association of NIIS, was an important milestone in terms of the political will for CBC in e-governance. The necessity for spokespersons became evident with this agreement, as prior work in terms of lobbying and connections was done on both sides. As one of the respondents put it, even if one of the main agendas in the EU is the shift towards a “digital age”, countries are still hesitant and slow to change, but Estonia and Finland have already moved past the initial stage.

Even if we take a couple of years back and even today when you see different countries talk about the digital agenda strategies, talking about providing better services for their citizens, talking about connectivity and interoperability, they talk about once only, they talk about, you know, transparency. They talk about all kinds of things. Nobody talks about “let's link together our data systems with the neighbouring country” right? So, it's a huge thing in itself already that Estonia and Finland have done that, in a sense. (Interview 10)

Alternatively, a more general interpretation was also proposed, attaching the integration to the question of defence and security, and mutual ambition. On one side, Estonia’s proactiveness in branding its success story could be interpreted as “anchoring itself into its neighbours and into the rest of Europe”, which is partly considered as its defence and security policy - similarly when Estonia was accepted to North Atlantic Treaty Organisation (NATO) (Interview 1). The 2007 cyber-attacks on Estonia was an example of this, which eventually had a strong effect on NATO, creating the Cooperative Cyber Defence Centre of Excellence (CCDCOE) in Tallinn (Interview 10). On the other hand, adding Finland to this puzzle, the political will on both sides could be enhanced if two small nations with similar values and visions could work together to enhance further their position on both the global and the

European scale. After all, it was pointed out on many occasions that two small countries are stronger together than on their own.

One thing is to put us on the picture globally, in a diplomatic way, let's say, to guarantee our security in a way that... that's wider diplomacy now, but guarantee the security of Estonia as a small nation, if the logic behind it is that if others know about us, then they feel less happy if something happens here, right? That's the bottom line. Even the countries that maybe have alliances with the regimes that we don't support, they might think differently if they see that actually we help them to build their digital state and make them better as a country. You know, that's the kind of logic behind it. (Interview 10)

Finally, the aspects of social inclusion are equally necessary to consider when collaboration is in question. While high-level top-down governmental initiatives have been discussed, it is not considered the only direction where interconnectedness is created. Previously mentioned practical reasons are also evident between other societal actors, be it either the private sector or through bottom-up initiatives. Although respondents unanimously agreed that the collaboration is rather led and directed by government drive, a bottom-up approach through social inclusion and an interest to further shape and enhance the collaboration is essential. Especially in digitalisation, where public procurements are a common standard for innovation and development for state digitalisation, private sector companies are given more opportunities and a bigger stage to develop and provide these services.

We can give opportunities to our private sector companies in Estonia and Finland, or in cooperation with whichever European country, in order to make it work for you as well. And then if we can make those use cases evident, then Europe can establish them as a whole for the Member States and I think this is the biggest value there because we're both very digitalised countries and we can show the beacon where we're heading towards, not as a single country but in cooperation, because we are so similar (Interview 9)

Following up on the first central research question, this subchapter on mutual collaboration of the Estonian and Finnish e-governance digitalisation discusses various parts of “How does the agreed cooperation in e-governance set a basis for interdependence”. The joint organisation of NIIS provides a sufficient example of how the two states have joined their

forces to tackle common goals. Furthermore, the X-Road solution enables positive spillover in areas, which are both relevant for the governments and the citizens of Estonia and Finland. Hence, such joint-collaboration programs and, in some cases, mutual organisations have been built on a trust relationship and strong social capital, eventually leading to naturally growing interdependence between the two states.

4.3. The barriers of the current cross-border collaboration

The third block of questions in the empirical research focused on the obstacles of the current cooperation. In order to provide prospects and adequate analysis for future collaboration, it is vital to consider the drawbacks of the downsides in the relationship. Hence, this chapter will discuss the barriers of cooperation, both internal and external, as well as structural and project-specific failures, that have been evident in the past. Furthermore, the recent debate on the political turbulence experienced in the past years is also discussed, which has significantly impacted on the *status quo* according to media coverage. Finally, the theoretical concept of transnationalism is suitable to cover the social-economic aspects and provide the grounds for the chapter on the prospects of this cooperation.

Previous chapters have indicated the strong relationship being evident in the Estonian-Finnish relationship. The general notation of these countries having a sentimental relationship, as put by Lawrence (2017), is shared unanimously by the respondents. Trust can be considered one of the main boosters of the acquired mutual respect, making it easy to establish relations across societal entities. However, with increased interconnectedness come barriers to consider. Although constant changes are made to the legislation to enable innovation and digitalisation across the continent, the pace of the change in the legislation varies across countries. As discussed in previous chapters, Estonia has thus far been seen as agile and flexible when enabling innovation. This partly, of course, because Estonia is over four times smaller than Finland in population. Estonia also has less of a legacy to hold on to

when it comes to changes in the societal and governmental level, but also due to its different legislative base. Estonian law is based on German law, while Finnish law is derived from Scandinavian law (Interview 2, 3). According to one respondent, if it takes a year to change the law in Estonia, then in Finland, it is more or less two or three years (Interview 7). The barrier it creates is the slowness in the implementation of cross-border initiatives because often these discussions lead to legal problems that take a considerable time to settle.

The governmental agreement between both countries is still missing, because it's very complicated, these issues, and so we are very open to each other, we can discuss very openly and that's good. But when we go to the details like in this case, the change of information, then there were lawyers from other sides and try to understand the legislation. And [for] example when we be work on this NIIS, we have some surprises, that we couldn't understand each other, because our legislation is so different (Interview 4)

Another thing to consider here is the clear and firm focus on engaging in CBC, which means allocating resources and time by both governments. The priorities are fast to change, either due to internal developments or, as is evident at current times, the pandemic. Hence, the structural approach discussed in the previous chapter has to consider the aim, the resources and the time allocated to deal with cross-border projects. The lack of focus on joint projects creates a situation where there are no allocated personnel to enhance this cooperation, which leads to timewise slowness and overdue project deadlines. On the contrary to the previously mentioned, some call this the lack of social capital:

Relationship is good within concrete professional networks but limited when it comes to interdisciplinary planning for the future. So we like each other, we work together, we have networks, but we don't have social capital yet. So when I say the social capital, I mean the networks of networks - we have some professionals, but they don't know what's happening outside of this. (Interview 2)

Nevertheless, often it is considered more generally as the lack of focus when working with cross-border projects.

It's necessary to provide the resources needed to implement the new ideas and plans and then those resources cannot be used for something else, so it's a matter of clear and decisive priorities. (Interview 5)

Political will is essential for any cooperation to exist. Political will relies on both more general relations and also the very personal relations of the politicians. Estonian media has been vocal on the statements and decisions made by the previous Centre Party-led government in the past few years, which has caused polarization and negative attention abroad (Raik, 2019). Prominent politicians, government officials and private sector actors have been vocally against the direction of the state, often assumed to be dictated by the far-right EKRE (Laugen, 2020). During the brief two-year timespan in the government, EKRE changed its Foreign Trade and Information Technology Minister - responsible for developing the e-state - four times. On a geopolitical level, the Estonian former Prime Minister Jüri Ratas had to constantly assure and explain the importance of EU and NATO to Estonia and international partners, indicating a growing value crisis. The problems of domestic politics have not gone unnoticed in Finland, where the Estonian government was said to be held hostage by EKRE's populism and has threatened to weaken Estonia's international position (Helsingin Sanomat, 2020). As a protest to the government actions, the Ambassador of Estonia to Finland, Harri Tiido, resigned, stating that EKRE's activities make it difficult to develop Estonian-Finnish relations (Kerola, 2020).

However, Estonia has not been the only country to experience far-right dominance in the government. The far-right party True Finns in Finland was in the government in 2015-2017, with a high support rate from the electorate. Moreover, possibly the Finnish participants' response to the mild effect on the relations between Estonia and Finland was related to the fact that Finns could relate to similar experiences in their government. As it became evident, one of the respondents said that this is not an issue of a state but should rather be seen as a geopolitical problem (Interview 9). Structured, well-thought government policies work as the foundation for the future success of a state. This is especially evident in smaller countries like Estonia and Finland. Far-right parties have thus far stood against immigration, but the

population, on the other hand, is ageing, and the demand for employees in the ICT sector is growing. According to Eurostat's 2018 data, 66% of the Finnish and 61% of the Estonian enterprises reported having difficulties requiring relevant ICT skills (Eurostat, 2020). According to the source, there is no single country in the EU that is not experiencing similar difficulties. On the other hand, the previous government brought out the pain points of the issues that were previously ignored (Interview 12). As a result, these discussions themselves and the reasons why they exist in society are the topics to push the country as a whole forward in the future (Interview 9).

I don't really think that the image of Estonia has somehow been suffering or been impacted in a very negative way, because I do think that this is not an Estonian problem. This is a geopolitical problem as a result of the advent of a worldwide Internet as it is today and social media. And I think that everyone that has read, you know, messages about, you know, some political turbulence in Estonia or someone saying something that might have political consequences - reality is that most people that are reading those know that their own countries or their own ecosystem has the same issues, so they can relate to this. (Interview 9)

In any case, the personal relations and the perceptions of others are the most important aspects to consider in any transnational or CBC relationship. Social aspects are the fundamental reasons why there is a collaboration between actors. As it was already mentioned, these relations can have a widespread effect on the priorities of either the social agent, a department, the ministry, or even the state. Although it is often considered national politics, the impact of such actions should be clearly understood, and hence the political consequence should be considered. Expressively pointed out by one of the participants: “*I think it's commonly understood that if somebody calls you with a bad name, maybe you don't want to cooperate with that person - I think it's as simple as that*” (Interview 5).

Considering the barriers presented by the respondents and analysed in this chapter, it has become evident that although respondents were not pointing out any structural problems, the analysis of the empirical research indicates these barriers leading to such issues. While none of the participants considered structural issues to be present, various downsides presented in

the collaboration provide assimilation to the necessity to work on structural changes. The empirical research unanimously pointed to cross-border projects taking too long timewise, which points to the question of urgency on both sides. It further leads to the discussion on national priorities and whether CBC should be a priority at all. A legitimate question, therefore, is raised: “*So is something like this a priority for both countries or not. And if we believe some people think that it should be, then why is it that some others do not believe that it should be?*” (Interview 12). This could hinder the prospects of - not the cooperation itself - but how rapidly decisions are made. While the recent political turbulence according to either side did not have a far-reaching effect, the focus was shifted. Hence officials are saying that there is currently no structural approach when talking about the cross-border vision of the cooperation for the future.

To be honest, if I think today, we don't have big plans, how to deepen the cooperation between Estonia and Finland. I didn't know... if you have noticed that during these 100 years of meetings – when two governments met together in Tallinn - there was a declaration made about and there were some very high-level goals. I think that now the cooperation hasn't been so strong that we haven't [for] example go through these goals and make decisions, what it means in practise. (Interview 4)

4.4. The prospects of the e-governance cross-border collaboration

The final chapter of this empirical analysis focuses on the prospects of the e-governance CBC by also considering the more general collaboration between Estonia and Finland. Based on the setbacks and the analysed structural issues, this chapter will provide recommendations and suggestions, both based on the participants' responses and the analysis conducted. The aspects of the next steps of collaboration and its impact on the digitalisation image of Estonia and Finland are analysed. In addition, the role of the EU is essential to gain a sense of Europe's future digital trends in e-governance and interoperability.

Before discussing how the Estonian and Finnish interoperability collaboration could evolve in the future, the EU's role has a strong effect on further developments. The importance of focus and a cross-border vision is manifold. While both sides praise the success of the current CBC and implement X-Road at their own pace, there are various interoperability solutions in Europe, which are pushing towards becoming the choice of a solution across the EU. As continuously stated and emphasised, the EC has set Europe's shift to the digital age as one of its primary goals for the upcoming decade. Thus, it provides an opportunity for Finland and Estonia as advanced digital nations, which already have solid governmental joint programmes in place, to show the beacon for the whole of the EU (Interview 9). The current third version of the European Interoperability Framework (EIF) provides guidelines to member governments for supplying interoperable, efficient and effective public services to citizens and the private sector (Kalogirou et al., 2020). The framework is not a directive, but a communication, working as a reference point for the member states (*ibid.*). It also forms the basis for most National Interoperability Frameworks (NIF) and interoperability strategies (*ibid.*). Considering the Commission's objectives to guide member states to a digital era, the framework has emphasised the interoperability principles and how the models should be applied in practice, raising its recommendations from 25 to 47 (*ibid.*). After all, the EU as an organisation is evolving, and new union-wide objectives also require new directives and regulations for member states to follow to reach set goals.

Other cross-border data exchange and interoperability programmes across Europe, such as GAIA-X and eDelivery - often referred by the participants - are said to be years behind in their development compared to X-Road. Although eDelivery and X-Road serve a similar purpose of being cross-border data exchange solutions, technically these are not directly competing programmes (Kivimäki, 2019). On the contrary to eDelivery, X-Road serves as a national data exchange layer, which helps build and operate the national ecosystem (Interview 1). The fact that the EC is currently working on these matters sets an essential objective for both Estonia and Finland - to keep a close hand on what the EU Commission is thinking so that the EU would not start aiming too low, which in the end would take the union back in development (Interview 10). This puts pressure on Estonia and Finland to develop

more solutions, more statements, and more suggestions and gather all other digitally-minded countries to back up their cause (*ibid.*). Considering that the joint-solution of X-Road has already been implemented in 19 countries and is used by some of the Nordic countries - such as Iceland and the Faroe Islands - it creates a great potential to become more widely accepted also in other regions (Interview 1). However, if the lack of political will to push such joint programmes forward is not present, the momentum could be lost. Furthermore, this is not just the case with X-Road. It could be spread across a manifold of cooperation fields, where regional competitive advantage is perceived.

We have eDelivery as said - this is a good tool which is performing well. But we also have some European countries that have been looking into eDelivery as a solution for their national interoperability. They have been thinking about extending its use also nationally and also in the private sector and all kinds of use cases, what they can imagine. Yeah, it's wonderful that we have eDelivery from the Commission, but if you think about eDelivery, I would say they are behind us. Countries like Estonia and Finland are forerunners. These countries already have X-Road which is much more advanced. It has been used for a much longer time. It's based on the four-corner model similar to the eDelivery. They share so many similarities, that actually, it's really sad to see that Europe is not using X-Road. (Interview 1)

The success and the way forward for the specific case of X-Road are important to note, as it is directly dependent on the Estonian and Finnish state activities. Hence, the growing “competition” from Europe and also abroad sets certain conditions to reflect on.

I think that the influence of GAIA-X is very strong in NIIS and there I have seen that three options: 1) NIIS is going down, 2) It's neutral, and 3) NIIS is going up, and I don't believe in neutral. The role of NIIS, and all X-Road and also the family of this technology can be much bigger than it has been. (Interview 4)

The development of e-governance digitalisation comes from the very citizens who use public services and request improvements. It is too often forgotten that it is not about the high rankings and the indexes that these public services are for, but the citizens who use them. The success stories come from the people’s satisfaction, who are allowed to use public

services in a way that is not time consuming and inconvenient. The tech focus of Northern Europe in that sense is unique: “*actually it’s about citizen orientation. It’s about focusing on the quality of life for every single citizen, so that life lived is as fulfilling as possible*” (Interview 9). This is not only the case within the borders but also how well the data is exchanged across the borders. Moreover, that itself comes down to trust - towards the other state, the citizens and towards supranational organisations.

The importance and the strength of the Estonian and Finnish collaboration come from distinct unique points shared in between trust, business cases, set examples and ambition. The importance of trust is pointed out and seen at all societal levels, which, in turn, enables Estonia and Finland to maximise their collaboration. The mutual collaboration declarations made and signed by both governments provide an important signal to all societal actors (Interview 4). The structural approach is vital so that both sides could jointly work on and build a technology that would push both countries to build the same bicycle, but rather work on a common joint bicycle, which can be used in both countries and beyond (Interview 6). Hence, it creates a synergy and a so-called “positive competition”, by which both countries benefit from a faster pace by running towards the same direction (*ibid.*). A great example of such structured collaboration is in the form of NIIS, which was already mentioned and has continuously been presented as the most structured, tangible cooperation form between Estonia and Finland.

This, in return, creates another valuable aspect for both countries and the EU. Structural cooperation has led to many cross-border data exchange and interoperability cooperation projects, which is not so common in other regions. By creating and showing actual working use cases of CBC and data exchange, the benefits are perceived by both the citizens and the countries themselves, that in turn enhance their digitalisation images and act as example cases for further interconnectedness across other EU regions (Interviews 10, 11, 12). Although e-prescription is an EU-wide initiative as part of the eHealth Digital Service Infrastructure, Estonia and Finland were the first countries in Europe to start cross-border data exchange (European Commission, 2019). By paving the way, the European community is turning their

heads to Estonia and Finland to see what is done internally. This, in turn, promotes the digital image of these states even further. The effect of e-prescriptions serves as an example of digital solutions having a direct effect on the lives of the citizens:

[...] there's been like 3000-4000 Estonians have bought their digital prescription in Finland and as of 2019 January, it's like 20,000 + Finns have done it in Estonia. So, there's actual use cases, real life use cases that affect the lives of people. And the more services there are, the more it will affect people's lives and make it easier. (Interview 11)

Considering the societal innovation, trust relationship and high digitalisation, Estonia and Finland have created fertile ground for highly advanced states in providing public services efficiently online. By increasing use cases and enhancing the public sector governance in CBC, the second central research question of “*to what extent is the international cooperation in the digital field enhancing strong e-government image?*” may be adequately reflected. Cooperation as well as the increased positive knowledge and innovation spillover promotes the whole region. Interconnected societies hence further enhance the image of these countries as advanced states. As mentioned, CBC example cases between Estonia and Finland may be used as regional example cases for the EU.

In their context, they cannot imagine how it might work, so they don't always even get to the point where they dismiss an idea, because the ideas are raised. Because in their context, it would be weird. But if they can see working examples of weird ideas from elsewhere, then it's more likely for those to enter their discussions as well. So they may start looking for opportunities to make this work, but not by trying to take over the recipe but creating their own recipe in their context, but just following the same principles that we have had. So I think it will be important going forward, not just for our two countries, but also for the rest of Europe and then going in a circle coming back to us and benefiting us as well. (Interview 12)

In the central concepts chapter, the CBC involves the local and regional aspects, consisting of multiple networks of public, private and civil society actors working in close proximity (J. W. Scott, 2017). closer cooperation amongst these actors was also proposed, leading the discussion to a triple Helix innovation framework by (Etzkowitz & Leydesdorff, 1995),

where academia, private and public sectors are working together (Interview 12). According to the concept, government programs have an essential role in both the top-down and the bottom-up cooperation enhancement, in which the most fruitful results are achieved when bottom-up initiatives are reinforced by top-down policies and programs (*ibid.* p. 332). As it became evident in the private sector cooperation study between Estonia and Finland (Lankinen, 2019), including various societal actors in a more structured and organised collaboration is equally important to enhance CBC. It all comes down to the state's priorities on where the governments are headed with their objectives. However, the almost unanimous recommendation from the empirical research was to push further with a structural approach for cross-border interconnectedness between Estonia and Finland. Participants' views on enhancing this were manifold.

Including societal actors through the Helix innovation framework would mean that the public sector pushes the private sector so that incentives are created for innovation, benefitting and creating new CBC projects (Interview 12). While a structural approach and a future cooperative vision were a necessary aspect of this collaboration, respondents also shared their creative thoughts of Estonia's and Finland's emphasis on working on the Tallinn-Helsinki tunnel, which has had a fair share of media attention in recent years. It is considered as a "game-changer", having enough of a broad effect in the region to give a considerable push to these countries (Interviews 2, 7). Furthermore, while the project has faced mounting criticism and been named as "Europe's boldest projects in years", it has not left the table of neither governments (Kentish, 2019). Estonia recently signed an intent agreement to build the tunnel with Finland, to show their constant political will to move forward with the project (ERR, 2021b). Although Hansen's (2013) study on the Øresund Region CBC did not conclude investments in physical infrastructure leading to a higher level of integration and CBC in the knowledge infrastructure part of the innovation system, the removal of physical barriers can have a positive effect on the knowledge flows if targeted policy efforts are made.

So definitely, I would say - from Estonia perspective - that tunnel would be a game changer [...] if you just want to get the list of ideas, then you only get ideas. That's actually one of the problems with all

kinds of governments all around the world. So, whenever they do or list something, they all like “Times New Roman 12” size in the Word – which means they are equally important. So, the tunnel, here in this game, would change this picture like 90%, and all directions combined 10%. So, we can do it on lists, but then we are listing just things that influence this 10% scale, or 10% amount - compared with the tunnel, which would change it 90%. (Interview 7)

With ways to move forward, Estonia and Finland have now announced their third future cooperation report to assess the current situation and adapt to changing situations (ERR, 2021a). Minister of Foreign Affairs Eva-Maria Liimets noted that today, Estonia and Finland are connected by cross-border data exchange, Estlink power cables, the Balticconnector gas pipeline and regular contacts (*ibid.*). Thus, the necessity to find ways to create future connections is becoming more important (*ibid.*). With previous reports being completed in 2003 and 2008, the third report is due February 2022, emphasising the digital aspect. It was emphasised that the current CBC has to include relevant discussions on digitalisation. It should not be considered as a separate part of a collaboration, but rather it is embodied in all forms of relations (Interviews 1, 4).

Based on the final thoughts of the analysis, the third central question of this research, “*What are both governments doing to follow the agreed mutual e-governance prospects?*”, seeks to understand the current status of the cooperation between Estonia and Finland and the ways of moving forward. As it was pointed out in the previous paragraph, mutual reports of CBC are essential to show the path towards future cooperation. Mainly because the third report will have a strong emphasis on the digital aspect, the arguments and thoughts proposed in this research and the strong digitalisation background of both Estonia and Finland set a path for future interdependence and CBC in the field. Considering the structured digitalisation images and the already existing joint collaboration projects, Estonia and Finland have an excellent opportunity to lead and set a standard for European digitalisation in the future. Also, both countries are willing to discuss projects well beyond the state budget's comfort level shows their strong trust and willingness to invest in long-lasting benefits for both countries in the future.

Conclusions

This thesis aimed to analyse the cross-border cooperation in e-governance digitalisation between Estonia and Finland, which are considered global leaders when public sector digitalisation comes into question. By contemplating the various central and theoretical concepts around digitalisation, this research has focused on finding focal points to discuss the interconnectedness and the circularity of the concepts. As a result, the central concepts of digitalisation and cross-border cooperation, together with the theoretical concepts of diffusion of innovation, maturity levels of e-government development, spillover effect and transnationalism, all contribute and connect the results found through the empirical research.

Although public sector digitalisation and e-governance are increasing topics in academia, the exemplary cases of Estonia and Finland have so far lacked the necessary critical attention. The cross-border cooperation aspect of this study is equally important, considering the growing globalisation and interconnectedness of countries, especially in the light of the growing public sector digitalisation in the European Union. Gathering the data through primary and secondary empirical research enabled to take into account the contemporary developments in the collaboration between Estonia and Finland. The thematic analysis framework used in the empirical analysis enabled to focus on the four core topics emerging from the empirical research: digitalisation development, state collaboration, barriers and prospects of Estonian and Finnish e-governance. Furthermore, current and former government officials participating in the empirical research enhance the result's reliability and validity in the empirical analysis chapter.

The three central questions on the collaboration, interdependence and digitalisation image of Estonia and Finland contribute to the limited academic research on the field and propose ways to move forward for the policymakers. In this research, it was concluded that although mutual collaboration is currently highly valued and praised on both sides, more attention to the structural development of public sector digitalisation is needed to enhance the

interoperability in CBC. Digitalisation development could have significant benefits on the images of the countries and in the region, which could provide necessary competence for supranational organisations, such as the European Union. In order to use the current momentum of the expertise and the growing need for public sector digital solutions in a global context, Estonia and Finland have the opportunity to become the beacons in state digitalisation. Furthermore, by considering the proposed future research topics of past related studies, this thesis builds a foundation on the necessity to further analyse the Estonian-Finnish CBC compared to other digitally-focused areas and the interoperability data-exchange solutions introduced across regions.

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Appendices

Appendix 1

General interview structure for empirical research

1. Please tell me a bit about yourself and how has your role in the e-government digitization process changed over time.
2. How would you rate the current statehood of Estonian/Finnish e-government digitization process?
3. Is there a certain structure that the government is following when implementing their digitization and e-government agendas and developments?
4. How would you rate the current state of Estonia and Finland's collaboration in e-government digitization? What do you consider unique about this partnership?
5. Are there plans to involve more countries in e-government cross-border cooperation?
6. How much are cross-border collaborations the result of a "spillover effect"? Does the collaboration develop in symbiosis or do they require spokespersons?
7. Would you consider the cross-border relationship being driven by bottom-up or top-down initiatives/drive?
8. How is the private sector included in cross-border cooperation and if, then how?
9. How would you rate the impact of the political situation in cross-border cooperation?
10. Is the legislation changing accordingly to enable the rapid development in innovation and cross-border cooperation in the public ICT-sector? How can nations better overcome their legislative barriers to e-government interoperability across borders?
11. What are the main barriers for cross-border collaboration between Estonia and Finland?
12. Do you have any examples of major or concrete failures in cross-border projects in the field of e-governance? How much was the specific project setup responsible for this? Would you consider overall structural problems also being evident?
13. What is the role of the EU in this collaboration? Should the role of the EU be intensified or on the contrary, lowered?

Appendix 1 (continued)

14. To what extent would you consider e-government collaboration between Estonia and Finland having a wider effect on the digitization image of these countries?
15. What are the next steps of this collaboration? Is further interconnectedness expected?
16. Who do you think are the people to consider interviewing in the future?

Interview participants

Interview 1: Finland

Interview 2: Estonia

Interview 3: Finland

Interview 4: Finland

Interview 5: Finland

Interview 6: Finland

Interview 7: Estonia

Interview 8: Finland

Interview 9: Estonia

Interview 10: Estonia

Interview 11: Estonia

Interview 12: Estonia

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