Where do the Nordic Nations' Strategies Take e-Government?

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Abstract: An effective strategy is critical for the successful development of e-Government. The leading nations in the e-Government rankings include Sweden, Norway, Denmark and Finland. Their leading role makes them interesting to study when looking for reasons to successful e-Government. The purpose of this research paper is to describe the e-Government development strategies of Nordic countries, which rank highly on the international stage. In particular it aims to study the foci of these strategies. The approach is a document study of the e-Government development strategies of Sweden, Denmark, Norway and Finland was carried out using a qualitative content analysis inductive method. The results show that the major focus of Nordic e-Government strategies is on public sector reforms. Other focus areas include economic reforms and, to a lesser extent, e-Democracy efforts. Sweden, Finland and Norway have set ambitious policy goals in order to achieve global leadership in e-Government development. In response to the question posed by this paper's title, we can say that Nordic e-Government strategies, except for Norway, focus more on reforming public sector services than on economic reforms. e-Democracy reforms are hardly focused on at all. Practical implications: Public sector policy makers can relate their policy foci to some of the more successful e-Government countries in the world. Research implications/originality is that this paper can apart from the findings also provide a means on how to identify the actual foci of a country's e-Government policy.

Keywords: e-Government policies document study, e-Government strategy document study, Nordic e-Government policy analysis, e-government strategy analysis, Nordic e-Government policy study, Scandinavian e-Government strategies, Nordic e-Government strategies, Nordic e-Government policies

1. Introduction

Many nations compete to become world leaders in e-Government development. "Some governments compete for leadership in offering online services. Others do not want to be left behind. Most governments have developed detailed strategies for realizing their e-government programmes" (Rabaiah & Vandijck, 2009). However, ranking e-Government development can be difficult. The United Nations [UN], World Bank [WB] and European Union [EU], for example, all use different indicators to rank e-Government development. What is clear, though, is that an effective strategy is critical for the successful development of e-Government. The leading nations in the e-Government rankings include Sweden, Norway, Denmark and Finland. These Nordic nations aim to improve the efficiency and effectiveness of their public sector services with the help of electronic information and communication technologies (Wallström, Engström, Salehi-Sangari, & Styvén, 2009). In particular, national e-Government strategies aim to modernize the public sector. "E-Government continues to be recognized as a key strategy for improving government services and the effectiveness of public policies and programs" (Pardo, Nam & Burke, 2012). Similarly, transnational e-Government policies are also important for e-Government development (European Commission [EC], 2003; Goldkuhl, 2009). In March 2010, the EC launched 'Strategy Europe 2020' to overcome economic crisis through delivering sustainable economic and social benefits. Its goal was to equip national economies to meet the challenges of the ongoing decade through a single market and by using ultra-fast digital solutions (EC, 2011). As member states, the Nordic nations have formulated e-government strategies to attain these goals. We define an e-Government strategy as a "plan for e-government systems and their supporting infrastructure which maximises the ability of management to achieve organisational objectives" (Heeks, 2006). E-Government strategies are described in government policy documents. Policy refers to those plans, positions and guidelines of government that influence their decisions. Government policy can be reflected in legislation, regulations and programmes, and are referred to as policy instruments (Office of the Auditor General, 2003). Normally, the term policy does not denote what is actually done (Food and Agricultural Organisation [FAO], 2012; Andersson, 2005).

1.1 Purpose of the study

This study compares inductive e-Government strategies adopted in Nordic countries. Homogeneity in terms of their geography, economic situation, political system and level of e-Government development made it possible to make the relevant comparisons. Furthermore, e-Government practitioners, policy makers and readers in other countries can benefit from the e-Government strategies adopted by the Nordic nations. The specific purpose of this study is to compare and collate e-Government strategies in Nordic countries. To fulfil this purpose, this study sought to answer the following research question:

Research question: What are the foci of e-Government strategies in Nordic countries?

This paper is organized as follows. Section 2 describes central concepts and the theoretical background. It also offers a brief review of existing studies. Section 3 describes the method of study. Section 4 presents the results. Finally, section 5 discusses the foci of e-Government strategies in Nordic countries, ending with a conclusion.

2. Previous studies

In this section we present literature and theories relevant for a discussion of foci in e-Government strategies. Relevant fields are related to service delivery, economic benefits, participatory aspects, national contextual features and values.

Many researchers have studied the e-Government strategies of various nations. Rabaiah and Vandijck (2009) studied the strategies of 21 countries and European Union member states in order to put forward a generic e-Government strategic framework. A number of studies (Aichholzer, 2004; Bhatnagar, 2004; Chen, Chen, Huang & Ching; 2006; Heeks, 2006; Shahkooh & Abdollahi, 2007) have shed light on how to plan e-Government strategies. Lee, Tan and Trimi (2005) conducted a cross-national comparison of the current e-Government practices of five leading e-Government nations. Porumbescu, Vrabie and Ahn (2012) analysed contextual factors of e-Government in Romania and South Korea. Many studies (Lind, Östberg & Johannisson, 2009; Grönlund, 2009; Goldkuhl, 2009; Nygren, 2009; Melin, 2009; Wallström, et al. 2009; McBride & Stahl, 2009) have analysed the e-Government strategies of single nations. However, there is dearth of knowledge on the foci of e -Government strategies at a multinational level. Economic cost, contextual divergences, conflicting values associated with ICT strategic implementation and constant changes in e-Government strategies have appeared in academic discussions on e-Government strategies. No study has so far compared the e-Government strategies of the Nordic nations.

E-Government interventions incur an economic cost; thus there are arguments for and against e-Government expenditure. E-Government initiatives can deliver reform, modernization, efficiency and cost effectiveness in service delivery. The UN (2012) referred to e-Government as a powerful tool for advancing sustainable development for all people across the world. Moreover, 'some scholars have argued that e-Government is part of the shift from the conventional, 'mass customised bureaucracy' to the 'customer-oriented bureaucracy' (Korczynski, 2002). The authors of another study "find that e-government applications possess political properties that can be applied effectively by the political leadership as instruments to improve control over the government bureaucracy as well as to enhance essential government accountability and transparency" (Ahn & Bretschneider, 2011). However, e-Government initiatives have come under criticism from both practitioners and researchers. In spite of the propagated advantages of e-Government, the potential results from such huge investments are not evident (Codagnone & Undheim, 2008; Åkesson, Skålén & Edvardsson, 2008; Wallström et at. 2009). Furthermore, citizens expect e-Services that create value without an additional tax burden (Wallström et at. 2009). A lack of governmental resources (both human and financial) for e-Government is a greater challenge for the public sector than it is for the private sector (Coursey & Norris, 2008).

When studying e-Government strategies, one must also take into account the contextual features of the implementing countries. A country's political, economic and social context is very relevant in e-Government development (Lee, Tan, & Trimi, 2005). Participatory e-Government projects necessitate long-term planning, with consideration given to socio-economic and political peculiarities (Porumbescu, Vrabie, & Ahn, 2012). The history of e-Government development began with the dissemination of information by governments. In developed countries, it has progressed to needs-based citizen services (Weerakkody, El-Haddadeh, Sabol,

Ghoneim & Dzupka, 2012). However, the potential for e-Government to provide needs-based services and customized services is still underutilized (Van Veenstra, Klievink & Janssen; 2011; Weerakkody, Janssen & Dwivedi, 2011; Weerakkody et al., 2012). E-Government initiatives must have the ability to integrate information through dynamic, multidimensional capabilities in both government and non-governmental organizations (Pardo, Nam & Burke, 2012). However, similar policies and similar strategies may not deliver the same outcome in different country contexts. "Similar e-government initiatives, implemented by different nations but aimed at achieving similar policy goals, produce different outcomes" (Eom, 2012). Moreover, a country's political, economic, social and strategic peculiarities are very important in the formulation and implementation of e-Government strategies. Institutional arrangements, interactions of policy formulators and characteristics of policy processes are all factors in the outcome of e-government policy (Scharpf, 2000; Hall & Taylor, 1996; Timmermans, 2001; Saint-Martin, 2004; Skocpol & Rueschemeyer, 1996; Weaver & Rockman, 1993; Clemens & Cook, 1999; Hay, 2006; Peters, Pierre & King, 2005; Eom, 2012). "Lessons drawn from developed countries indicate that political, fiscal, social, strategic and organisational issues need to be addressed when formulating plans for deploying e-government" (Weerakkody et al., 2012).

Information technology is associated with a certain set of values; thus, it is difficult to introduce information technology in a setting where opposing values exist (Ebbers, 2002). For example, it would not make sense to use information technology to improve economic value (customer oriented) in an administrative system that is dominated by legal values. The rationalization of public administration and the improvement of e-Government quality are paradoxical aims**. "**The double objectives of quantity and quality are fundamentally contradictory. On the one hand, the government seeks to reduce the costs per citizen/customer transaction by increasing the speed with which cases are processed, and on the other hand they praise the qualities of customer service and encourage their employees to be quality-orientated" (Nygren, 2009). Moreover, efficiency and quality are not interchangeable characteristics (ibid). Democratic governments are obliged to provide equal services to citizens without a profit motive and irrespective of citizens' ability to pay. In theory, then, efficiency, cost savings and quality improvement are not desirable aims of the public sector. The public and private sectors represent and operate on divergent value systems. The public sector is accountable to its citizens, while the private sector is driven by the desire to make a profit (Lash & Urry, 1994; Hogget, 1996; Nygren, 2009).

Tried-and-tested solutions can be changed to deliver novel solutions and services (Rabaiah & Vandijck, 2009). Instead of sticking to a single strategy to accomplish goals, governments need to be open to such new solutions. Following this brief review of the theoretical discussion related to e-Government strategies, the next section describes the method used for this study.

3. Method

Depending on the nature of the questions posed in a research study, methods can be classified as qualitative or quantitative as well as inductive or deductive. Our research question is qualitative by nature, since we are focusing a limited number of strategies and not aiming at generalizing more than that. As for the epistemological aspect we have chosen an inductive approach, since the field of e-Government strategies as we study it, is not yet thoroughly researched and thereby suitable for a more explorative approach. In case we would have chosen a deductive study our findings would have been dependent of the categories of the chosen (deductive) model and we might have missed new categories and dimensions.

This paper used a document study; using a qualitative content analysis method. The conceptual framework of a qualitative content analysis process is shown in figure 1.

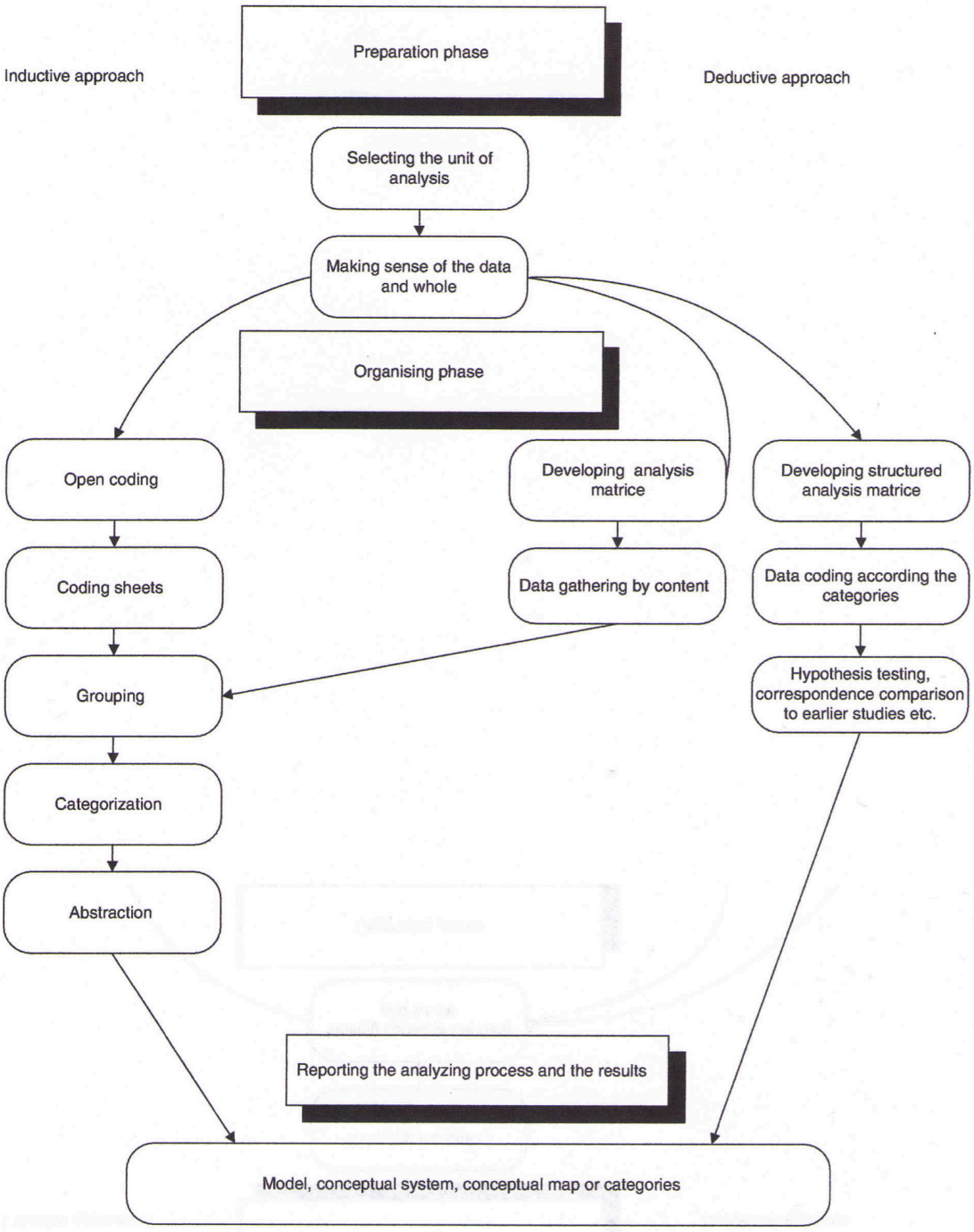

Figure 1: Conceptual framework of content analysis process (Elo & Kyngäs, 2008)

A qualitative content analysis framework above has two possible approaches: inductive content analysis and deductive content analysis. Because of reasons described above this study used an inductive approach in which qualitative data were abstracted by being coded and grouped into categories. "When formulating categories by inductive content analysis, the researcher comes to a decision, through interpretation, as to which things to put in the same category" (Elo & Kyngäs, 2008). E-Government strategy documents contain qualitative data. A document study is a qualitative evaluation method; other similar methods include case studies and alternative (authentic) assessments (National Science Foundation [NSF], 1997).

3.1 Document Study

Existing records provide insights into a setting that cannot be observed in any other way. Information can be found in document form. Documents can be defined as any written or recorded material not prepared for the purposes of the evaluation or at the request of the enquirer (Lincoln & Guba, 1985). Documents can be divided

into two major categories: public records and personal documents (Guba & Lincoln, 1981). "Public records can be collected from outside (external) or within (internal) the setting in which the evaluation is taking place" (NSF, 1997). Policy manuals, descriptions of programme development and evaluation are internal documents. The usefulness of documents in a study depends on accessibility and accuracy. Existing documents are useful for comparing institutional policies both before and after the implementation of e-Government strategies (ibid). The advantages and disadvantages of document studies are shown in table 1.

Table 1: Advantages and disadvantages of document studies (NSF, 1997)

Advantages	Disadvantages
1. Available locally; 2. Inexpensive; 3. Grounded in setting and the language in which they occur; 4. Useful for determining value, interest, positions, political climate, public attitudes, historical trends or sequences; 5. Provide an opportunity to study trends over time; 6. Unobtrusive	1. May be incomplete; 2. May be inaccurate; questionable authenticity; 3. Locating suitable documents may pose challenges; 4. Analysis may be time consuming; 5. Access may be difficult

3.2 Data analysis

The content analysis of the Nordic nations' e-Government strategies followed five steps.

First, the e-Government strategy documents (fact sheets) of the Swedish, Danish, Finnish and Norwegian governments were downloaded from the European Commission's official portal '*ePractice.eu*'.

Second, all documents were thoroughly read. The close reading of e-Government fact sheets led to the initial identification of measures and themes. In turn, these allowed us to identify sub-categories of e-Government strategies.

Third, the sub-categories were finalized, coded and grouped into generic and main categories using conventional content analysis methods (Kondracki & Wellman, 2002; Patton, 2002; Hsieh & Shannon, 2005; Elo & Kyngäs, 2008) (see example in figure 2). This coding process (described below) was a crucial part of the analysis. Sub-categories were grouped into generic categories. This was carried out by associating any measures in the sub-categories with potential generic categories. If the aim of a sub-category is to explicitly show association (the aim or key word of the sub-category can indicate such association) with a generic category, this is the basis for classification. Generic categories are further classified into three main categories of Nordic e-Government strategies: public sector reforms, economic reforms and e-Democratic reforms, as presented in Appendix A. This classification follows the same pattern used to place sub-categories into generic categories. In this way, we generated a reform-based model of e-Government policies, which shows the differences between the Nordic countries in terms of reform types. Moreover, information on e-Government history, the latest e-Government strategy, the legal framework, the main e-Government actors at national, regional and local levels, and the e-Government infrastructure of Nordic countries was also gathered from the fact sheets using the conventional content analysis method (Hsieh & Shannon, 2005). This information was further used to compare the Nordic countries in terms of, for example, policy decision level.

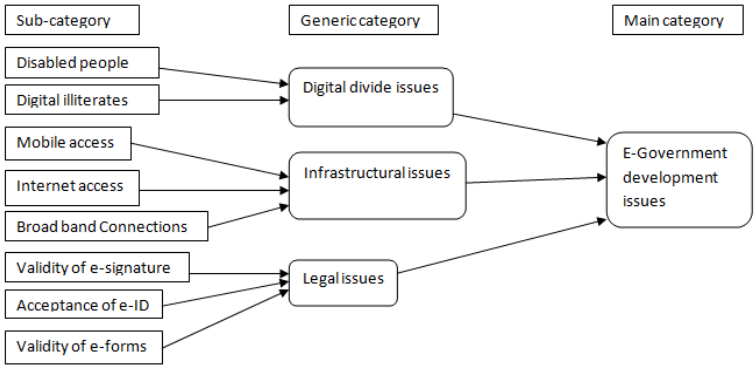

Figure 2: Abstraction process (Example adapted from Elo and Kyngäs, 2008)

Fourth, the frequencies of generic and main categories were identified to find the foci of e-Government strategies. Frequencies are meant to give a rough indication of the reforms prioritized by the four countries.

We are aware that this only allows a rough comparison to be made, because we do not take into consideration the significance of the various measures. However, we are able to claim, for example, that when a country has no measures at all in a certain generic category, this indicates low priority.

Fifth, the level of policy priority was drawn from the relative proportion of generic and main categories represented in e-Government strategy documents.

3.3 Criticism and suitability of the content analysis

The suitability of the content analysis method has been criticized by experts from the quantitative field, such as Hsieh and Shannon (2005), because of its qualitative nature. The main criticism is that content analysis is a "simplistic technique that did not lend itself to detailed statistical analysis, while others considered that content analysis was not sufficiently qualitative in nature" (Morgan, 1993). Other criticisms are based on its simplistic and non-analytical nature (Weber, 1990) and the researcher-dependent rigour of this method (Neundorf, 2002). However, the qualitative content analysis method is widely used in academic studies and has many benefits. For example, "Content analysis is a research method for making replicable and valid inferences from data to their context, with the purpose of providing knowledge, new insights, a representation of facts and a practical guide to action" (Elo & Kyngäs, 2008). Other benefits of this method include its content-sensitiveness (Krippendorff, 1980); its flexibility in terms of research design (Harwood & Garry, 2003); the simplistic description of data; and its helpfulness in understanding the meaning of communication (Cavanagh, 1997) and identifying critical processes (Lederman, 1991). E-Government strategies in Nordic countries can be classified as qualitative data; thus, they cannot be processed quantitatively alone for a meaningful analysis.

4. Results

This comparative study shows that public sector reform is a strong focus (60% of measures) of e-Government strategies in Nordic countries. These Nordic nations have adopted similar measures for public sector reforms such as legal measures for e-Identification, service sector reforms and public sector integration efforts. The main and generic categories of e-Government strategic measures, along with the frequencies and percentage share of measures for the Nordic nations, are given in table 2 below.

Table 2: Main and generic categories of Nordic e-Government strategic measures

Categories		Nordic countries				Total (%)
Main	Generic	Sweden	Norway	Denmark	Finland	
Public sector reforms	Legal measures	3	2	1	2	8 (9%)
	Public service reforms	3	7	4	7	21(24%)
	Public sector integration	6	2	4	5	17(20%)
	Digitised welfare	0	0	3	3	6 (7%)
	Total public sector measures	12	11	12	17	52 (60%)
Economic reforms	Information society infrastructure	0	2	2	4	8 (9%)
	Public private participation	2	2	0	3	7(8%)
	Business sector reforms	0	4	1	3	8(9%)
	Growth and competence	2	2	0	0	4(5%)
	Financial measures	2	0	0	0	2(2%)
	Total economic measures	6	10	3	10	29 (34%)
e-Democracy	e-Participation	3	0	0	2	5 (6%)
Total measures		21	21	15	29	86

Public sector service reform (24%) has become the major focus of Nordic e-Government strategies. Public sector integration constitutes 20% of strategic measures. The Danish and Finnish e-Government strategies include digitized welfare. Digitized welfare refers to the delivery of welfare services using digital means. One

third of Nordic e-Government strategies are focused on economic reforms. However, economic measures varied between the individual nations. Information society infrastructural development, private public participation and business sector reforms are addressed by all four Nordic nations. Danish e-Government strategy addresses business sector reforms and information society infrastructure for economic reforms. E-Democracy measures are the least focused on (6%) among the main categories of Nordic e-Government strategy. Only Sweden and Finland address e-Participation using specific measures. Table 3 offers a brief comparison of the strategic e-Government development of the Nordic nations.

Table 3: Comparison of strategic of e-Government development of the Nordic nations

Attributes	Sweden	Denmark	Norway	Finland
Brief e-Gov history	1997 Government eLink project. In 2012 Digital agenda for Sweden "ICT for everyone" planned.	1968 unique Citizen ID number. Finance Ministry takes up digitization and modernization tasks in 2011.	1982 national policy for decentralization and efficiency in e-Administration. 2011 - service to report faults and issues to local authorities.	1994 strategy for information management in government. From 2011, Finance Ministry holds power to oversee e-Government developments.
Latest e-Gov strategy	Digital agenda for Sweden with 143 measures in 4 strategic areas, with the goal of leading the world in e-Government. Aims for public Agency Efficiency improvement and innovation by 2014.	By 2015, digital self-service solutions as the normal procedure for citizens' interaction with the public sector. Sixty individual initiatives under three main tracks.	Citizen services and back office infrastructure, simple and efficient public sector, innovation and value creation in the business sector, and aims for sustainable and inclusive development.	National Knowledge Society Strategy 2007-2015 formed by 400 specialists. It focuses on four priority-specific strategic goals and aims with 72 related measures.
Legal framework	E-Government activities regulated by general legislation passed on 2nd July 2010.	There is currently no specific e-Government legislation in Denmark.	The law establishes an official equivalence between paper and electronic processes.	Act on Information Management Governance in Public Administration (2011) and Act on Electronic Services and Communication in the Public Sector (2010).
Main actors: National level	Ministry of Enterprise, Energy and Communication; and e-Government delegation.	Ministries of Finance; Business and Growth; Economic Affairs and Interior. Agency for digitization.	Ministry of Government Administration, Reform and Church Affairs; Dept. of ICT Policy and Public Reform.	Ministry of Finance/Public Sector ICT, Ministry of Transport and Communication
Main actors: Regional and local levels	County councils and municipalities.	Strategic Committee for joint government cooperation; Local authorities.	Regional and local authorities.	Regional councils and Advisory Committee on Information Management in Public Administration (JUHTA).
Infrastructure	Government information portals for citizens and single point portal for businesses. Secure information exchange network between government agencies and EU bodies through an IP- based network.	Single Internet entry point for citizens with self -service and mobile platforms. E-service channel for businesses. Also, online trading portal and educational materials website with special design for digital illiterates.	One-stop service portal to citizens with secured interaction point, Point of single contact for businesses, standardization portal, and portal for geo-spatial infrastructure.	Citizen service portal with single access point for e-Services, enterprise services portal, geo-data portal.

Among the Nordic nations, Denmark is a pioneer of e-Government development (EU, 2012 b). Sweden, on the other hand, was the last to embark on its own e-Government strategy (EU, 2012 a). Their strategy revolves around integrated e-services, e-Identification, e-Participation and e-Inclusion, modernization, standardization,

and monitoring and legal frameworks. Denmark has three main tracks, which consist of clear policy goals. These goals include the complete abolition of paper-based administrative processes by 2015, the introduction of a digital welfare system in the education and healthcare sectors, and a joint public sector effort to achieve a digital strategy. The Norwegian e-Government strategy comprises a secure information society, ICT education of its citizens, innovation and value creation for businesses, growth and development, and the provision of public self-service facilities. Norway also has an ambitious goal: to create the world's best public sector development through close cooperation between its public sector agencies. Current e-Government strategy of the Nordic nations aims to achieve considerable development in the following areas: human-centric and competitive society, the materialization of ideas for production and innovation, creation of innovative know-how and lifelong learning practices, and an interoperable information society (EU, 2011; EU, 2012 a; EU, 2012 b; EU, 2012 c). Finland aims to be among the top five e-Service provider nations in the world by 2015.

4.1 Limitation of this study

E-Government strategic documents were selected from the EU portal for e-Government strategies.. Norway's e-Government strategy was updated in 2011, whilst the other Nordic nations revised their strategies in 2012. Small Nordic nations such as Iceland, Greenland and Åland have not been included in this study. Since the publication of 'Strategy Europe 2020', most of the Nordic nations have formulated new e-Government/digital agenda strategies. However, in order to make a valid comparison that uses digital agenda documentation from all the Nordic nations, these most recent policies have been excluded from this study. Instead, the latest policy updates published on the EU portal have been used. Most of the facts and claims contained in official documents have been used as such in this study. The classification of generic categories and main categories was researcher dependent.

5. Discussion

Nordic e-Government policies were categorized into three main groups: public sector reforms, economic reforms and e-Democracy reforms. The result of this study shows that the main focus of Nordic e-Government strategies is public sector reforms. Of these three categories, the least focus is given to e-Democracy reforms. Within these categories, different strategy patterns emerge regarding overall aim, e-Government organization, citizen participation, economic measures, and standardization.

As for **overall aim**, the Danish e-Government strategy can be seen to be comparatively more objective and pragmatic in nature, while the other three Nordic countries have ambitious aims to become world leaders in e-Government. Swedish and Finnish e-Government strategies have as their goal the desire to become world leaders, although no particular benefits are specified. "For what reason (added value) it is important for the Swedish public administration to have a leading position in the eGovernment field is left untold" (Nygren, 2009).

Regarding **organization**, the UN (2012) has advocated a holistic approach to e-Government strategy planning for sustainable development. However the decentralized administrative system of the Nordic nations may hinder such a holistic approach. Denmark reduced the number of regions and municipalities and reorganized its administrative system in 2007 through a decentralization and re-centralization process. According to Lee, Tan and Trimi (2005), political, economic and social contexts are very relevant in e-Government development. The finance ministries of both Denmark and in Finland finance the administration of e-Government development. Three ministries are involved in Danish e-Government development. In Finland, two ministries are directly responsible for e-Government development and the formation of strategy. In the case of Norway, the Ministry of Government Administration, Reform and Church Affairs and the Department of ICT Policy and Public Reform play a major role in national e-Government development and strategy formation. Swedish e-Government is controlled by Ministry of Enterprise, Energy and Communication.

Citizen participation is part of the studied strategies in different ways. Norway has launched an open source-based e-Service to report faults and issues in all its municipalities to enable citizen participation in local administration. Through this service, emails can automatically be sent to the local authority so that faults and issues can be redressed. In Norway, there are relatively few central government projects to improve citizen online consultation and participation in policy making (EU**,** 2011). Finland follows a course of participatory e-Government strategy planning. "Around 400 specialists from the Government, local authorities, higher education institutions, businesses and organisations participated in the draft process" (EU**,** 2012 c). Contextual

differences are addressed in Nordic e-Government strategies, as suggested by Weerakkody et al. (2012). However, such contextual differences need to be studied further if we are to find out whether similar e-Government strategies and policy measures in Nordic nations would result in different outcomes, an idea put forward by Eom (2012).

One third of Nordic e-Government strategies focus on **economic measures**. This shows that governments' efforts to offset their lack of resources for e-Government are a greater challenge for the public sector than it is for the private sector (Coursey & Norris, 2008). All Nordic countries, with the exception of Denmark, engage in public private partnership endeavours. Since the mid-1980s, Denmark has aimed to improve efficiency and effectiveness in the public and private sectors using ICT. "The recent financial recession and the measures taken in response have not had a real impact on e-Government development in Denmark. The Danish e-Government strategy is currently adopting a hesitant approach dictated largely by the Ministry of Finance which controls the purse strings" (Overgaard, 2011). Our findings point in the same direction: among the Nordic nations, Denmark has the least number of economic measures in its e-Government strategy. However, the paradoxical value of economics (customer orientation) associated with information technology and the legal value domination that exists in public administration (Ebbers, 2002) should be further investigated with the initiation of public private partnership efforts.

With the exception of Denmark, all of the Nordic nations have **more than one e-Government strategy** at work. These e-Government strategies are built on previous strategies. It can see from the above examples that Nordic e-Government strategies have sought to address the ever-changing nature of e-Government (Rabaiah & Vandijck, 2009). Denmark took 20 years to finalize the digital signature (Hoff & Hoff, 2010). All of the Nordic countries emphasize the importance of the **standardization** of software, systems and other e-Government artefacts for interoperability. However, standardization should not lead to supplier monopolies, as in the case of the Republic of Korea, where a lack of a proper e-Signature policy led to the creation of such a supplier monopoly. "Its consequences include unbelievable Microsoft monopoly with almost 99 percent market shares of Microsoft products, chronic addiction to Microsoft standards, bad computing practices, and fatal Web accessibility problems" (Park, 2012). For this reason, promotional policy towards open standards and software of Nordic e-government strategies gain importance.

All together our analysis has revealed a number of aspects of e-Government strategies that have been treated differently by the Nordic countries respectively. In what way these aspects are related to each other and how they affect the outcome for government and citizens is for future research to find out. A literature study by Muller & Skau (2015) indicates that the maturity of e-Government as described by Layne and Lee (2001) is not developing quickly, thus indicating that strategies could be improved. Further on the focus of the realization of e-Government tend to stress the supply side rather than the user side (Rana et al, 2013; Gidlund, 2015). These aspects might be useful to relate to the e-Government strategy content and its success in e-Government practice. Another researchable aspect of the development of e-Government during the last year also indicates that social media will play a role in strategy development (Sivaraja et al, 2015; Bonsón et al, 2015). Open data in e-Government strategies (Nugroho et al, 2015) is yet another relevant topic for future research.

5.1 Conclusion

In response to the research question "What are the foci of e-Government strategies in Nordic countries?" we conclude the following:

- Nordic e-government strategies focus on extensive public sector reforms that aim to overcome economic crisis through digital solutions.
- Economic reforms play a comparatively lesser role in Nordic e-Government strategic measures.
- E-Democracy reforms are only included in Swedish and Finish e-Government strategies to a minor extent.
- E-Government development strategies and the policies of Nordic countries stem from past strategies. Finnish, Norwegian and Swedish e-Government strategies aim at world leadership of e-Government without mentioning specific benefits.
- Participatory approach would facilitate needs-based e-Government strategy formation.
- Danish restructuring of public administration for better governance would lead to a holistic approach to e-Governance to attain sustainable development as suggested by the UN.

- Powerful ministries handle e-Government portfolios at national levels.
- Simultaneous e-Government strategies would be useful for the constant renewal of strategic goals to meet the recurring challenges.

To summarize conclusions, we can say that Nordic e-Government strategies, except for Norway, focus more on public service reforms than on economic reforms. E-Democracy reforms are hardly focused on at all. One reason for this is the inherent conflict in e-service efficiency for government in contrast to participative and effective e-services for citizens (Gidlund, 2015).

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6. Appendix A: Abstracted e-Government strategies of Nordic Countries

The following table shows the e-government strategies of Nordic countries abstracted in sub-category, generic category and main category levels. These categories are abstracted from strategic documents published at *ePractice.eu.*

Table 4: Abstracted e-Government strategies of Nordic Countries

Sweden		
Sub-category	**Generic category**	**Main category**
Swedish Public Agencies would be mandated to quickly and effectively develop specific e-Government services with the private stakeholders to jointly develop common e-Services.	Private public participation = 2	Economic reforms = 6
Specific funding should be earmarked for those strategic projects which could prove beneficial to third parties.		
Strengthen the overall development capacity and innovative power of society.	Competence enhancement = 2	
Innovation potential of society through e-Government.		
Financing of inter-agency projects.	Financial measures = 2	
Clearer management and funding mechanisms for e-Government projects.		
Make it as easy as possible for as many people as possible to exercise their rights, fulfil their obligations and access public administration services.	E-Participation efforts = 3	E-Democracy reforms = 3
Flexible e-Government based on users' needs.		
Launch of an Internet forum where citizens and businesses would be given the opportunity to take part in the shaping of future e-Government.		
Implementing updated system for e-Identification.	Legal measures = 3	Public sector reforms = 12
E-Identification: the creation of a single and unified e-ID solution to access government services.		
Better technical/legal rules and regulations to promote the use of e-Identification and e-Services.		
Service orientation of public agencies and organizations.	Public sector integration = 6	
New governance structure for e-Government.		
E-delegation to lead and coordinate the development of e-Government.		
E-delegation will coordinate the strategic e-Government projects.		
Swedish Public Agencies should select open standards and open source software.		
Swedish Public Agencies to monitor the development and the testing of IT for informed technological choices across the public administration.		
Better integrated e-Services.	Public service	

Increasing the efficiency of the Swedish Public Agencies.	reforms = 3	
Effective support service and shared service centres with help of the Tax Board and the National Police.		

Denmark		
Sub-category	**Generic category**	**Main category**
For businesses, all relevant communication will be fully digital by the end of 2012.	Business sector reforms = 1	Economic reforms = 3
Promotion of a common digital infrastructure that is secure and robust enough to cover future needs.	Information society infrastructure = 2	
Effective sharing of reliable baseline data between administrations.		
Investments up to DKK 1.5 billion to bring schools into the 'digital future'.	Digitized welfare = 3	Public sector reforms = 12
Use of welfare technology to advance the treatment of chronic illnesses outside of hospital, bringing it into private homes and thus engaging patients in their own treatment.		
Setting clear targets for the use of health IT, in order to facilitate everyday matters in hospitals.		
Adoption of a law for the digital society.	Legal measures = 1	
Introduction of common digital solutions by the government, regions and municipalities in order to allow them to develop together.	Public sector integration = 4	
Public authorities and institutions should not develop their own systems; rather, they should adopt systems in areas in which good common solutions are already available.		
Public digitization effort is coordinated effectively - across the government, regional and municipal authorities, and institutions.		
A stronger coordination of public digitisation efforts.		
Digital self-service solutions as the normal procedural way for citizens to interact with the public sector.	Public service reforms = 4	
New joint digital strategy for rapid use of digital means by the government, municipalities and counties for a renewed and efficient public sector.		
Paper forms to be phased out and all citizens serve themselves online. All citizens must have a digital post box by 2014.		
For individual citizens, easier and flexible transactions with the public authorities carried out digitally at a citizen's convenience, even outside of office hours.		

Norway		
Sub-category	**Generic category**	**Main category**
Efficient use of ICT for economic growth and a high employment rate.	Growth enhancement = 2	Economic reforms = 10
Stimulating growth and development in the ICT industry by creating good framework conditions for electronic business and trade, service development and innovation.		
Promote development through private cooperation: credible partner for government agencies in renewing the public sector.	Private public participation = 2	
Developing business standards to enable electronic interaction between public enterprises		
Promotion of a pan-European e-Commerce solution; and the support of environmentally-friendly public procurement.	Business sector reforms = 4	
Electronic business processes and electronic procurement in the public sector.		
Contributing to innovation and value creation in the business sector by arranging for development and use of services based on a digital content.		
ICT development for innovation and value creation in the business sector.		
Promotion of a common digital infrastructure, secure and robust enough to cover future needs.	Information society	

Effective sharing of reliable baseline data between administrations.	infrastructure = 2	
E-Government focuses on providing services to citizens and developing the required back-office infrastructure.	Public service reforms = 7	Public sector reforms = 11
ICT development for simplification and efficiency improvement in the public sector and to secure a sustainable and inclusive development of society.		
Digital self-service solutions to improve quality, accessibility and flexibility. ICT for public sector overhaul and efficiency.		
Making public data accessible for further use and distribution, and promoting smart, climate-friendly ICT solutions.		
Good public self-service solutions and striving for efficient public administration by coordinating public ICT projects.		
Launching of a new citizen portal on the Internet.		
Create the world's best public sector with emphasis on quality, efficiency, user-centrism, openness, participation, good organization and sound management.		
Renewing the public sector for providing direction and priorities in developing the public sector, through eInitiatives across the government.	Public sector integration = 2	
Development of effective transverse management models.		
Electronic ID enabling the exchange of sensitive information and the development of advanced services for citizens and businesses.	Legal measures = 2	
Secure e-ID solutions.		

Finland		
Sub-category	**Generic category**	**Main category**
Finland's strategy document was drawn up in cooperation with 400 specialists from government, local authorities, higher education institutions, businesses and organizations.	E-participation efforts = 2	E-Democracy efforts = 2
Use online services to transform Finland into a working online democracy with increased transparency, where citizens can initiate an issue and follow up its progress electronically.		
Create public services as processes across organizational lines within public administration in cooperation with other parties.	Public private participation = 3	Economic reforms = 10
Networked administration for the various stages in a business life cycle.		
Develop rules and pricing models that increase joint activity, innovativeness and competitiveness in order to benefit from the information produced by the public sector.		
Provide a first-rate foundation for proactive service production and research by national databases, registers and statistics materials.	Information society infrastructure = 4	
Offer an information and communications infrastructure that functions on a 24/7 basis by 2015.		
Reliable, high speed connections with comprehensive regional coverage.		
Availability and compatibility of data infrastructure with greater consistency between services, equipment, networks and systems		
Use public administration embedded systems in logistics, micropayment, remote and access monitoring, automation of functions. Also, provide customers with proactive services.	Business sector reforms = 3	
Develop new and innovative businesses, introduce teleworking and produce digital services that are close to the customer.		
Uniform customer interfaces are to be created for citizens and businesses in order to allow access to public services.		
Noticeably increase the importance of practices and services related to information security.	Legal measures = 2	Public sector reforms = 17
Develop solutions for electronic identification between different information networks and the flexible use of various electronic services with a single sign on.		

DesignICT equipment, software and electronic barrier-free services so that they are easily accessible.	Public service reforms = 7	
Produce public sector information that is user-friendly within the public sector itself.		
Base data transfer between IT systems on open standards and interfaces and develop national level solutions for the electronic service interface.		
E-Government to ensure e-Services for citizens and businesses in all main services by 2013.		
Information society development and the spread of electronic public services.		
Develop electronic services to forecast the needs of citizens and organizations and use existing information.		
Multi-channel, proactive and interactive e-Services above and beyond those that citizens and businesses are currently using.		
Gather digital content produced by public authorities into a digital library to serve citizens, enterprises and research organizations free-of-charge.	Digitised welfare = 3	
Access a national electronic archive service for archiving patient information in the public sector and for distributing information.		
Provide diverse educational opportunities with regard to computer literacy through adult and employee education.		
Government launched projects, primarily to re-arrange public information systems.	Public sector integration = 5	
Networked administration of services that are accessible and easy to locate through multiple channels, providing support for citizens' everyday life situations.		
Establish a comprehensive network of joint service points, high-quality e-Services and phone service centres to allow citizens to view services as seamless concepts.		
Create public services as processes across organizational lines within public administration.		
Develop the interoperability of all public administration information systems.		