Success Without Strategy: E-Government Development in Estonia

Meelis Kitsing, University of Massachusetts - Amherst
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Abstract

This paper gives an overview of e-government development in Estonia. The analysis incorporates both public sector initiatives and private sector developments which have contributed to the evolution of e-government. Private sector agents are seen as endogenous, not exogenous, in explaining e-government performance. Ultimately, the development of Internet banking by the private sector was fundamental in enabling the government to launch interactive online services. The findings reveal that the implementation of Estonian e-government is considerably more heterogeneous than previous studies have indicated. Basic service delivery and platforms for participation vary significantly across functional areas. Some ministries have provided innovative online services for the last ten years while others still struggle in making basic information available online. The availability of innovative platforms for online political participation has delivered remarkable outcomes in the last elections, while they have consistently failed to engage the public in the legislative process.

KEYWORDS: electronic government, Estonia, electronic voting, online engagement, online services, internet banking
Introduction

Many recent studies have given Estonia high scores for successfully implementing its e-government (United Nations 2004; 2005; 2008; 2010; Ernsdorff and Berbec 2007; Economist Intelligence Unit 2004; 2005). While it is a former socialist country, Estonia is usually clustered together with the wealthiest countries in Europe and the world. Indeed, the UN e-government surveys have constantly placed Estonia among the top 20 most developed e-governments (United Nations 2004; 2005; 2008; 2010), and the 2008 UN survey compared Estonia with the Nordic countries, not with the ex-socialist countries. This outcome is even more remarkable when Estonia is placed into the context of Central and Eastern European (CEE) countries with similar levels of wealth and socialist heritage.

This paper explores the developments of e-government in Estonia by going beyond the index approach to e-government evaluation. It focuses not only on successful e-government projects, but also highlights the failures. It focuses on diverse outcomes in online service delivery and participation by describing different efforts in e-government implementation. In addition, it explains the reasons for diverse outcomes in e-government implementation.

The paper starts by discussing the concept of e-government, and Estonia’s relative performance on the basis of three e-government indexes. It then reviews some existing explanations about Estonian e-government and proceeds by offering an overview of specific institutional changes, placing the key agents and their actions in the institutional context. The paper finishes with a discussion of Internet banking, online service delivery, and online engagement.

Estonian e-Government in a Comparative Perspective

This part of the paper will place Estonian e-government in a comparative perspective by using e-government rankings from indexes that are closest to the holistic definition of e-government. Before starting to discuss empirical findings, it is important to point out what is meant by the holistic definition. The emergence of e-government literature and ad hoc conceptualizations led to an initial understanding of e-government in quite narrow, business-oriented, and instrumentalist terms (Haertsch, Schubert, and Selz 2002, 17). e-Government meant essentially online delivery of government services reflecting the “services first, democracy later” attitude typically found in e-government initiatives (Clift 2003). Hence, the distinction between e-government and e-governance was made by some researchers, where the latter reflects the more democratic, representative, and participatory aspects of political life in cyberspace (Clift 2003). Nevertheless,
some scholars continued to use the terms e-government and e-governance interchangeably, while referencing the same phenomena (Drüke 2004, 11).

A number of scholars have, however, incorporated both service and participatory aspects in their conceptualization of e-government, and do not explicitly distinguish between e-government and e-governance. Gil-Carcia offers a holistic definition capturing all of these aspects:

Electronic government is the use of information and communication technologies in government to provide public services, to improve managerial effectiveness and to promote democratic values and mechanisms; as well as a regulatory framework that facilitates information intensive initiatives and fosters the knowledge society. (Gil-Carcia 2005, 27)

Similarly, Nixon and Koutrakou (2007) emphasize that e-government is not just about service delivery (even though they borrow a somewhat functionalist definition from the World Bank): “E-government is about people and how their democratic governments act their name” (Nixon and Koutrakou 2007, xix). Such a conceptualization of e-government is similar to the definition of e-governance offered by Antiroikko et al.:

(…) democratic e-governance is a technologically mediated interaction in transparent policy-making, development, and service processes in which political institutions can exercise effective democratic control within a representative system of government and, more importantly, in which citizens have a chance to participate and effectively influence relevant issues through various institutionally organized and legitimate modes of participation. (Antiroikko, Malkia, and Savolainen 2004, 40–41)

Most importantly, these conceptualizations depart from a narrow service-centered approach by introducing some strong normative connotations: non-democratic countries cannot promote democratic values and mechanisms. The term “e-government” as defined by Gil-Carcia will be used throughout this paper because it comprises both services and participatory aspects, and overlaps with the concept of e-governance as defined by Antiroikko, Malkia, and Savolainen (2004).

**Estonia in e-Government Indexes**

Since Estonia is a middle-income transition economy, it should be compared to a group of similar countries. The most appropriate comparison would be with other
CEE countries. The closest fit with the definition, and most straightforward operationalization of the concept, is found in the 2004 study by The Economist Intelligence Unit (EIU), which ranked Estonia as first of 10 on the list of new European Union (EU) member states and Turkey (Economist Intelligence Unit 2004, 2). Estonia scored 5.87 points out of 10, followed by the Czech Republic’s score of 5.67 and Slovenia’s 5.33. The EU benchmark study of online public e-services ranked Estonia eighth in the EU for online sophistication of its public sector services, and fourth for online service availability (European Commission 2005, 26). In both categories, Estonia is a long way ahead of other Central and Eastern European countries, and it clusters with the richest EU members. The Economist Intelligence Unit and IBM Institute for Business Value E-readiness Index ranked Estonia 26th in the world, and first in Central and Eastern Europe in 2005 (Economist Intelligence Unit 2005).

The United Nations (UN) index offers a comprehensive picture of e-governments on a global level (United Nations 2004; 2005; 2008; 2010). In 2004 Estonia was ranked 20th in the world, in 2005 it was 19th, in 2008 it was 13th, and in 2010 it was 20th. This clearly indicates constant progress in the implementation of e-government. Estonia received the highest scores among CEE countries in 2004, 2005, 2008, and 2010 (the UN did not carry out studies in 2006, 2007, and 2009). In 2008, Estonia not only scored better than countries with a communist past and similar levels of per capita GDP, but it was ahead of its economically advanced neighbors such as Finland. In 2010, Estonia was ranked 20th with a score of 0.6965, while Finland was ranked 19th with a score of 0.6967; given the arbitrariness of such indexes, this is a marginal difference, and essentially places both countries on an equal footing.

**Shortcomings of the Index Approach**

These indexes provide an imperfect picture of the state of e-government. First, the indexes use different conceptualizations of e-government. As has been highlighted above, some of these indexes are more holistic, more inclusive of different aspects of governance, and broader in many other ways than others. For some conceptualizations, democratic elements of governance are fundamental elements, while others take a more service-oriented approach. For instance, the UN studies fall short in the democratic and participatory aspects of e-government that are an important focus of this paper. Second, even if there is a common (or similar) conceptualization of e-government, the operationalization and measurement of the concept will differ. Broad categories such as infrastructure and human capital may be given different relative weights. Variables can also be treated differently. What is the relative weight of the availability of online tax submission vis-à-vis online voting? Should these variables receive the same
weight in the index? The answer will always be arbitrary. Most importantly, the operationalization of concept will affect outcomes.

Third, there are problems with data. Of course, there are always problems with data, but it seems that the compiling of an index on e-government entails the use of particularly unreliable data: the data used is primarily “soft data” and data collection depends heavily on the judgment of evaluators, who can make mistakes in their assessment and who are usually not paid sufficiently to deliver high quality work. However, it must be said that what we perceive as “hard data” is often not reliable either. In a recent paper on measuring Internet diffusion, we point out some anomalies in the data set of the International Telecommunication Union (Kitsing and Howard 2009). For example, Belarus is reported to have more Internet users per 100 inhabitants in 2007 than any other country in Central and Eastern Europe. Russia is reported to have more internet subscribers than users in 2007. The bottom line is that these studies come with many biases, as they use different conceptualizations, the measurement of concepts varies, and data collection relies heavily on the judgment of evaluators (Salem 2007).

Furthermore, the indexes tend to overemphasize the service aspects of e-governments, and focus on supply of e-government rather than actual demand. Indeed, the demand side has been an understudied issue in the e-government literature (Dimitrova and Chen 2006). Nevertheless, the gap between demand and supply may well indicate low quality and other problems affiliated with such services, particularly when compared with the popular use of services provided by the private sector, such as Internet banking. In the end, citizens have to declare their taxes only once per year, while they may perform online banking transactions on a daily or weekly basis.

Causes and Effects

The above-mentioned methodological problems create serious challenges for explaining outcomes in e-government implementation. If a particular outcome is considered to be good, then it is usually assumed that it is an intentional achievement of policymakers. However, there is research on e-government initiatives that has pointed out their limits, and shown that the majority of such initiatives fail completely or partially in both the developed and the developing worlds (Gil-Carcia 2005, 2–3). These suboptimal outcomes suggest that decisions and actions by smart, well-intentioned, and well-educated policymakers do not often lead to their intended consequences. We cannot explain e-government success or failure (however imperfectly they are defined) by only insisting that forward-looking rational agents acted purposefully to achieve the particular outcome. In other words, a success cannot be explained purely on the basis of rational agency, just as a failure cannot be explained purely on the basis of
structural and/or other factors that are beyond the control of agents. A more consistent approach assumes that rational agents acting on the basis of their self-interest sometimes intentionally, and sometimes unintentionally, contribute to a particular outcome.

Hence, policymakers and their decisions have to be analyzed within institutions, which are defined as the rules of the game (North 1990; Denzau and North 1994). Such an institutionalist approach not only places individual rationality in a particular context, but it runs counter to the technological determinism found in many e-government studies and action plans. Technological determinism, with its emphasis on objective technology that is believed to impact society independently of institutional frameworks, ignores the fact that the Internet is a network good (not an independent good). Institutions, ideas, and networks—and their interactions—impact how this technology is used by government and citizens.

That is why the next section will explore institutional changes, the spread of ideas, and networks of agents (rather than individual agents) as they have affected e-government performance by relying on original and secondary sources, and policy documents of the Estonian government as well as international organizations. It starts with a general discussion of the evolution of e-government in Estonia, and then discusses e-government practice in different areas on the basis of concrete cases.

The Evolution of e-Government in Estonia

Several explanations emphasize certain decisions made by key officials that have shaped the evolution of e-government in Estonia (for example, see Ott and Siil 2003; Siil 2001). Agency is considered particularly important in these accounts in bringing about specific changes in the rules concerning information technology (IT) use within government. Usually, the role of the local IT community—a loose network of government officials, IT specialists, and scientists—is singled out, as it became crucial in shaping government policies on IT spending, procurement, and use in the early 1990s. The existence of such a community stemmed from Estonia’s fairly advanced human capital in IT. Estonia began investing in its Institute of Cybernetics as early as the 1960s (Dyker 1996; Landler 2005), and while similar institutes in other Soviet republics focused on math and engineering, the Estonian institute concentrated on computer programming (Roth 2004).

In 1993, a strategy paper by the IT community was prepared, with the sole aim of establishing principles for the management of modern, well-functioning state information systems (Ott and Siil 2003). A special IT department of the central government was formed, and the central government budget included a
single category entitled “Number 37” for all IT expenditures of the various government agencies (Ott and Siil 2003). Government IT procurement was subsequently unified. These efforts culminated in the launch of the government-wide backbone network EEBone (“Peatee,” meaning thruway in Estonian) in 1998. The network connected all government departments with secure access to the Internet and Intranet (IADBC 2005a, 5). In 2001, the X-Road system was implemented, enabling the various government databases to communicate with one another, and allowing government officials as well as individuals to access information in these databases (IADBC 2005a, 5).

In addition to public sector officials, the role of politicians and their interactions with officials must be considered. The IT community’s early initiatives were supported by some political leaders because these initiatives were consistent with their goals of creating a minimal and efficient state in the 1990s. The promotion of e-government found its way into the political rhetoric of politicians, who were also the most radical in implementing economic reforms. It allowed certain politicians on the center-right, such as former Prime Minister Mart Laar, to show themselves as a force of progress, while political forces on the left showed reluctance and skepticism towards e-government. As Estonian governments changed rapidly in the 1990s, it is hard to argue that the distribution of enthusiasm for e-government and support for the IT community’s initiatives was spread evenly among all these different cabinets.

The contained nature of the officials’ influence on IT matters is demonstrated well by the fact that the Estonia of the 1990s did not have an industrial policy, nor did it engage in policies that would target the information and communication technologies (ICT) sector or companies directly (Kilvits 1999, 263–265). Indeed, the late president Lennart Meri started a national discussion on the necessity of creating an “Estonian Nokia,” but it did not translate into any concrete policy action. General government spending on research and development in the 1990s was below 0.5 percent of GDP, and there were no crucial technology or innovation policies to speak of (Kilvits 1999, 268–277). Even spending on ICT remained modest from 1995 to 2003, in comparison with other countries. The Estonian government budget has allocated about 1 percent for ICT expenditure throughout this period, while many other countries spend 2.5–4 percent (Krull 2003, 52–53). The only exception to this hands-off policy is the fact that in 1997 Estonia’s public sector supported the launch of the Tiigrihüppe (Tiger’s Leap) program, which provided IT to many schools (Tiigrihüppe Sihtasutus 1999). However, even this support was very modest. The support of primary and secondary schools can be seen as a provision of basic public goods, and is not strikingly innovative even in the context of the CEE.

The harmonization of ICT policies within different government ministries and departments offers the most straightforward case for illustrating the
constrained nature of agency and diversity of outcomes in the practice of e-government. The electronic exchange of official government documents is still limited in 2007, because different departments purchased different software solutions that are not compatible with each other (Riismaa 2007). Even if they purchased the same software packages, the same software was often configured differently, which led to incompatibilities within government for handling data. These incompatibilities imply that data may have to be re-entered manually. Since Estonian government departments tend to rely on proprietary solutions, vendor lock-in is widespread—this lock-in may mean dependence not only on a company, but also on a particular person (Raun 2009).

In sum, previous accounts on discussing e-government evolution in Estonia have overemphasized agency and deliberate policy design. In reality, the impact of government officials has been much more limited and the evolution of e-government has been quite heterogeneous. In order to gain better understanding of the e-government evolution, the institutional context must be taken into account.

The Institutional Context

As has been discussed in the previous section, the constrained influence and impact of IT-savvy officials within the public sector does not mean that the assumption of rationality and the importance of agency should be abandoned, but rather that it should be placed in the institutional context. Many empirical studies circulating in policy circles offer a descriptive laundry list of factors to explain Estonia’s e-government success (see Ernsdorff and Berbec (2007) for a comprehensive overview of these studies). These lists usually incorporate both agency-focused and structural explanations. Indeed, one recent study listed the following seven factors for explaining e-government success in Estonia:

- the EU membership (...) strategic thinking within government to implement e-democracy, good attention to detail and positive attitude towards ICT policy, innovative thinking and the development of a legal framework, and the economic growth and the macroeconomic stability of the country. (Ernsdorff and Berbec 2007, 171)

However, the descriptive studies that encompass contextual factors are overburdened with complexity, just as the homegrown rational agency story is characterized by its simplicity. In the end, they offer a descriptive and static snapshot of a moment in time, while the chances of drowning in the sea of data are high. Often these accounts do not clarify their variables, which presents a serious methodological flaw, as the distinction between independent and
dependent variables is blurred. Technology and infrastructure are sometimes part of what seems like the dependent variable: yet the same variables may also be independent variables, creating a circular explanation that yields not a causal story but, perhaps, a self-fulfilling prophecy, instead. The next section of the paper will highlight key institutional changes, while keeping the dangers outlined above in mind.

**e-Government Legislation**

Table 1 compares some key Estonian e-government-specific legislative acts with those of three other CEE countries. It demonstrates that e-government-specific legislation was not passed significantly earlier in Estonia than in other CEE countries. The only clear exception is the data protection act of 1996, which was passed in other countries 4–5 years later. Certainly, the mere time of adoption does not indicate the true impact of legislation. Indeed, the quality of Estonian legislation may be better than is the case for the other CEE countries. Nonetheless, the comprehensive assessment of such claims is beside the point made here: the laws were adopted in response to an increased demand; the demand was probably more sophisticated in Estonia, thereby leading to more sophisticated legislation.

Table 1. Time of Adoption of e-Government-Specific Legislation in Estonia, Latvia, Slovakia, and Slovenia

<table>
<thead>
<tr>
<th>Act/Document</th>
<th>Estonia</th>
<th>Latvia</th>
<th>Slovakia</th>
<th>Slovenia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategy for information society</td>
<td>1998</td>
<td>1999</td>
<td>2001</td>
<td>2003</td>
</tr>
<tr>
<td>Data protection</td>
<td>1996</td>
<td>2000</td>
<td>2002</td>
<td>1999</td>
</tr>
</tbody>
</table>

Source: Composed by the author with data from IDABC (2005a; 2005b; 2005c; 2005d).

Estonia does not have an e-government strategy, nor did it create a special office or ministry for the information society, as was the case in Slovenia, for instance. The 1998 Principles of Information Policy was a very general strategy document, and all the following acts have been quite specific (Krull 2003, 49). Formal law-making in IT, as in many other areas of the public sector, has been quite minimal in Estonia. The Estonian approach has seen implementation as the key, rather than a need for writing excessive documents and creating additional
layers of bureaucracy (Krull 2003). Indeed, the standard critique of the local e-experts is that the Estonian government does not have a clear vision and work plan, and there is a lack of cooperation among different government agencies and between the private and public sector (Krull 2003, 49). Nevertheless, Estonian e-government implementation has been fairly successful in the CEE context even without such documents and formalized cooperation, while many other countries (which at least formally have adopted such documents and cooperation) do not score that well on the e-government rankings.

**Internet Banking and Electronic Services**

The previous discussion of agency has demonstrated that the high degree of IT use in the government sector was achieved because the goals of two sets of rational agents (the IT community and political reformers) converged, albeit for different reasons. The IT community was interested in putting its knowledge into practice, while political leaders viewed IT as a means to achieve an efficient and minimal government. The strongest element of Estonia’s e-government is its provision of electronic services to the public. The causal explanation for understanding the evolution of these services needs to incorporate a third set of agents: the private sector. Indeed, the contribution of public sector agents in ICT issues is not comparable with the developments that ensued in the private sector, which unintentionally contributed to the provision of e-government services.

This refers to more than just the birth of numerous IT companies, of which some well-known examples are Kazaa, Skype, and Playtech (Lumiste, Pefferly, and Purju 2007). The liberal economic regime and sound financial policies benefited the birth of the banking sector, which became an influential IT innovator by introducing Internet banking in 1996 (Lustsik 2003, 24). The quality, security, and simplicity of its service attracted the majority of Internet users as its customers (Lustsik 2003, 27), and by 2002, 57 percent of Estonian Internet users used Internet banking (Lustsik 2003, 24). This service was classed as the third most important reason for Internet use, after communicating via email (76 percent) and using search engines (62 percent) (Lustsik 2003, 24). Many state agencies started to use the identification verification system used in Internet banking, thereby enabling government services to work online. Since 2000, Estonians have been able to file their taxes online, using the identification system offered by electronic banking services. A 2002 study on the use of government online services already indicated that 48 percent of Estonian Internet users paid for e-government services through Internet banking (Krull 2003, 58). Other ways of using e-government services were less used by the public. Hence, the case of Internet banking demonstrates that changes in the formal rules provided incentives for self-interested agents to find innovative solutions that encouraged
Internet use. The contribution of political leaders and the IT community in the public sector has been primarily in the form of rule-making and provision of services based on private sector developments. In other words, rule-making specific to electronic government has been answering demands in the marketplace and/or seeking to provide services in areas where transaction costs were lowest.

Most importantly, it was rational for the banks to cooperate with the government because it allowed a reaping of benefits from the Internet as a network good. Essentially, banks such as Hansapank (renamed Swedbank in 2008) became hubs in the network. Clients are able to access government agency services as well as other private sector services, with a few mouse clicks, while being logged into the online banking environment. Citizens accessing government agencies were directed to bank websites if it was necessary to identify their identity. It was rational for government agencies to rely on this solution and cooperation because it was efficient, secure, and simple and kept costs minimal.

In 2002, the government introduced electronic identification cards that could be used as an identification method for online transactions. The ID card is a more secure and sophisticated substitute for the cards with numerical codes used in Internet banking. However, ID cards did not gain an immediate following (E-User 2005), and the previous simple method of Internet banking remained the primary form of online identification. In recent years, banks have actively supported the use of ID cards in Internet banking by lowering the number of daily transactions that can be made by the old Internet bank identification method and by price discrimination in transaction fees. In addition to the private sector, ID cards have become widely used by municipalities as a method for buying bus tickets. At the website www.pilet.ee, people can purchase bus passes using their ID cards. The purchase of a ticket is controlled on the bus by swiping the card through the card reader. However, these are more recent developments that build on the initial success of Internet banking. From the perspective of long-term evolution, Internet banking has been more fundamental as an explanation of the emergence of interactive e-government services than government strategizing—and its more recent initiatives such as the ID card. As the next section explains, opportunities provided by Internet banking for online identification were exploited inconsistently by different public sector agencies.

**Inconsistency in Electronic Services**

In spite of a comparatively successful overall implementation, Estonia’s e-government services have remained inconsistent. While the Estonian government has made international headlines with its paperless “e-government” sessions, and most citizens file their taxes online, many basic services have also remained available only offline. Online delivery of services by government departments can
be classified into islands of excellence (such as the tax authority), laggards, and confusing services (that is, where services are formally available, but where they are too confusing to use, and/or different parties involved in the service delivery are not familiar with requirements).

I have highlighted some islands of excellence above; some examples of laggards are discussed below. Even though a methodologically rigorous overview of all services has not been conducted for this study, some basic services show a difference with the islands of excellence. For instance, the simple task of replacing a driver’s license has evolved into semi-electronic services, which are significantly slower and on a different path. In 2002, the replacement of a driver’s licence still required printing out application forms, filling them out manually, and making several physical visits to the Registry of Motor Vehicles. Even in 2007, the Registry of Motor Vehicles asked for the documents to be emailed to its different local subsidiaries once they had been signed with a digital signature (Autoregistrikeskus 2007). Submission of such forms on the website was not available. In October 2009, the Registry offered paperless services; however, this was limited to individuals who had had transactions with the registry after October 2004 and who had submitted their signatures (kept on electronic file) in 2006 and later. As Estonian drivers’ licenses usually last 10 years, it may be a useful service for those who have lost their license; however, the potential to replace drivers’ licenses for most users will be limited until 2016.

One of the weakest deliveries of an online service was demonstrated recently by the Estonian press. The example involves the Department of Labor Market, an agency under the Ministry of Social Affairs. In March 2009, with Estonia entering its worst recession since regaining independence in 1991 and unemployment skyrocketing, the department announced that it would publish its lists of available jobs online (Kallas 2009). The department collects data on available jobs in order to provide this information to unemployed people. However, the department had not previously published these lists online, because of a lack of resources. It goes without saying that some basic services, such as submitting unemployment benefits applications, are not available online. This is explained by institutional constraints, as the law on labor market services and benefits requires the unemployed to register in person at the department (Kallas 2009). Nevertheless, this failure to use some of the basic functionality offered by the Internet occurred in a country where one of the most successful start-up companies at the end of the 1990s was CV Online. This jobs portal has attracted not only local venture capital but also investments from Silicon Valley from well-known investors such as Esther Dyson. CV Online expanded successfully to many other CEE countries such as Hungary and the Czech Republic.

By browsing different government websites, it is clear that other areas lagging behind include building and construction approvals as well as many other
municipal services. It seems that a municipality as large and advanced as Tallinn is delivering online services that are primarily based on nation-wide services, while most municipal services remain offline, as the portal www.tallinn.es reveals. As far as confusing services are concerned, the government portal www.eesti.ee is too complex. Transactions involving registered companies (such as increasing and decreasing share capital) and applications for child support are examples of confusing and complex services that may lead to offline interactions—even if supposedly they could be handled online.

**Online Engagement**

The weakest part of Estonian e-government is in the provision of services that could encourage electronic participation and democracy. This is the clearest indication that Estonian e-government initiatives have been reacting to the demands of the private sector and the general public, and that they have been implemented in areas where transaction costs are lowest.

The most well-promoted early innovation was a portal called TOM (an abbreviation of the Estonian name “Täna Otsustan Mina”—“Today I Decide”), which was launched in 2001 and allowed members of the public to submit proposed laws and/or proposed amendments to the laws electronically. In the beginning, the whole concept was so haphazardly thought out that the most active contributors of new laws and changes to the laws were Mickey Mouse and other cartoon characters: Government ministers often had to start their responses to the proposals by addressing “Dear Mickey Mouse.” Later on, the process required each submitter to reveal their real identity, but the portal’s impact on encouraging participation is marginal at best. The portal had 6,742 registered users at the beginning of 2007 (Täna Otsustan Mina 2007). The Estonian population is about 1.4 million.

In 2007, the government opened a new portal called Osalusveeb (“participation web”). Initially, the portal at www.osale.ee offered the opportunity to express opinions on the new laws and other pieces of legislation prepared by the ministries. More recently, the functions of TOM and osale.ee have been integrated, and osale.ee now offers registered users the opportunity to vote on different ideas concerning public policy. This voting on proposals has just started at the time of writing, and the analysis of osale.ee therefore focuses on one of its functions as a platform for engaging the public in the legislative process.

There were 65 new laws and other government documents posted for consultations at the portal www.osale.ee between June 28, 2007 and May 15, 2009 (Osalusveeb 2009). The number of posted comments gives an indication of public engagement. As it turns out, by counting the number of posted comments, the portal fails to engage the public in the legislative process: about one third of
all posted laws and acts received no comments. Nineteen received one comment, seven received two comments, four received three comments, and three received four comments. Nevertheless, it must be pointed out that a small minority of proposals received more comments.

Since the success of such a portal depends on both demand by citizens and supply of new material by ministries, data on the number of new legislative materials submitted by different ministries offers an indication of supply. www.osale.ee reveals that some ministries are significantly more eager to promote public engagement than others. The Ministry of Interior Affairs posted 14 new laws and legislative acts for consultation in this time period, and the Ministry for Economy and Communications posted 10. These two ministries were followed by relatively meager postings by others: the Ministry of Social Affairs posted six acts while the Ministry for Environment and Ministry of Education and Science each posted five. All other ministries posted fewer than five—two ministries (Culture and Defense) posted only one act for public consultation.

This data demonstrates clearly that the practice of e-government can be radically different than would be suggested by some nominal variables. In a large N-study, which would among other variables try to analyze online engagement, Estonia would get a certain score simply for having such a portal. However, actual practice reveals that it is not sufficient to just provide technology and some ground rules for engagement. Agency matters as well. Even if the broad structural context is the same, some ministries are more eager than others to promote engagement. Citizens are motivated to comment on a small minority of legislative acts, while showing no interest in the vast majority of acts posted for consultation. Since this research is based on some basic indicators found on the www.osale.ee website, future study should engage in textual analysis to assess the quality of comments that a small number of these legislative acts have received. This would reveal further the nature of this limited online engagement.

Remote Electronic Voting

The second initiative to engage the public in the democratic process is the possibility to vote electronically, which has received considerable scholarly attention (Alvarez, Hall, and Trechsel 2009; Bochsler 2010; Vassil 2007). Table 2 indicates that about 2 percent of all voters used this opportunity in the municipal elections of 2005. Online voting was used in the general elections in March 2007 as well, with about 5 percent of cast votes submitted online. In the June 2009 European parliamentary elections, about 15 percent of votes were submitted online. In the last municipal elections in October 2009, almost 16 percent of the votes were cast online. The core idea behind the Estonian remote electronic voting system is that the provision of these online channels for voting removes another
barrier: such institutional design makes voting easier, which, in turn, leads to an increase in turnout.

Table 2. Internet Voting in the Estonian Elections (2005–2009)

<table>
<thead>
<tr>
<th>Type of Election</th>
<th>Date</th>
<th>e-Votes (% of All Votes)</th>
<th>Turnout (%)</th>
<th>e-Voting Turnout (% of All Eligible Voters)</th>
<th>First-Time Online ID Card Users (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipal election</td>
<td>October 2005</td>
<td>1.8</td>
<td>47.4</td>
<td>0.9</td>
<td>61</td>
</tr>
<tr>
<td>Parliamentary election</td>
<td>April 2007</td>
<td>5.4</td>
<td>62</td>
<td>3.4</td>
<td>39</td>
</tr>
<tr>
<td>European parliamentary election</td>
<td>June 2009</td>
<td>14.7</td>
<td>43.9</td>
<td>6.5</td>
<td>19</td>
</tr>
<tr>
<td>Municipal election</td>
<td>October 2009</td>
<td>15.7</td>
<td>60.6</td>
<td>9.5</td>
<td>18.5</td>
</tr>
</tbody>
</table>

Source: Compiled by the author on the basis of data from Vabariigi Valimiskomisjon (2010).

Of course, the benefits of electronic voting such as reduced transaction costs are only one side of the coin. On the other side, electronic voting also has costs—for example, reduced civic engagement, and privacy and security concerns. Indeed, these costs are not just technical, or emerge from a particular civic republican and/or communitarian theoretical perspective. The rational choice literature, for example, has demonstrated that citizens may cast a vote simply because of a personal need that is not material, a sense of civic duty that makes them feel good, because they have imperfect information which implies that they might be misled (for example, into believing that their vote matters even if it doesn’t), or because of reputational gains (others see them in the voting booth) (Merill and Grofman 1999; Moon 1990; 1992). In other words, it may be rational to vote in a particular institutional context. Even from the rational choice perspective, the benefit of reduced transaction costs in casting a vote by electronic means may be offset by the cost of not being able to demonstrate the act of voting to others—for example, in the fulfillment of civic duty. Thus, electronic voting might be a good substitute for offline alternatives for some people, but certainly not for everybody.

Even if the Estonian experiment reduces some transaction costs for voting, it increases some others. From a purely practical point of view, voters do not simply need access to a computer, they need to use an ID card as well; this
requires an ID card reader (which can be purchased for less than 10 US dollars). One of the main reasons for low online voting participation in 2005 was simply the fact that online use of the ID card was not as widespread as it is now. In 2006, about 25,000 ID card owners used them online for a variety of services such as banking (the card can be used as a regular identification document—for instance, it can be used for traveling within the EU). In 2009, the number of online users had increased to about 250,000 (Rudi 2009). So this is a typical adoption process, where early adopters have proved the ID card as a reliable way to vote online—in the last elections, 104,413 people submitted their vote online (Vabariigi Valimiskomisjon 2010).

The practice in Estonia has shown that ID card readers may be sometimes quite unreliable (particularly, the cheaper ones) and not work properly with some browsers (such as Firefox and Google Chrome). Apple users tend to have more problems with the card readers. All of this may create additional barriers for voting, particularly for segments of society with a lower income, with insufficient computer skills, and without incentives to vote. Disagreement about e-voting among Estonian parties is based on the notion of such a distributional divide: parties that represent the less fortunate segments of population are against e-voting, while the center-right parties aggressively push for it (Drechsler 2006).

The preliminary conclusion drawn from the early experiment in 2005 is that it did not increase participation in the election, but was used as an alternative method to cast a vote (Drechsler 2006). Similarly, electronic voting in the 2007 parliamentary elections did not increase turnout (Bochsler 2010). Nevertheless, the last municipal elections showed increased participation—16 percent voted online, and over 60 percent of the electorate participated. The last figure is unusually high for municipal elections, which seems to suggest that e-voting might have contributed to increased participation. Of course, a correlation does not equal causation, and a more careful causal analysis is needed in order to explain this increased participation.

Policy Perspectives

Various Estonian e-government projects have received considerable attention in policymaking circles. Usually the most successful projects are highlighted in these accounts while shortcomings are ignored. These biased accounts often give the impression that Estonian e-government is the result of a grand strategy and deliberate action by rational policymakers. On the basis of this pretense of knowledge, lessons are often offered for other countries.

This article argues, however, that the reality on the ground is significantly more diverse than is indicated by such stylized studies of e-government. By
evaluating both online service delivery and participatory elements of Estonia e-government, the article finds online service delivery to be generally more effective, and to have a greater impact, than online participation. But once the e-government service delivery is disaggregated, this analysis finds that the availability of online services varies widely among different government departments. This allows us to picture the e-government implementation as a process characterized by tinkering with existing ideas and solutions rather than by large-scale social engineering.

Most importantly, Estonian e-government performance does not result from a grand strategy for implementing e-government that can be transferred to other countries. Incremental change has been enabled by private sector developments, and driven by narrow government initiatives with different levels of success. As this study shows, e-government practice varies considerably depending on the ministry and function to be fulfilled. Furthermore, the e-government-specific legislation in Estonia emerged around the same time as in many other CEE countries. The general institutional framework, which encouraged competition in the private sector, particularly in banking and among ICT service providers as well as among different government departments, was more fundamental in leading to e-government performance than specific e-government initiatives.

Certainly, some targeted initiatives took on a more important role, such as the harmonization of IT use within the government. But there, too, positive outcomes were achieved because these were consistent with the broader goals of political leaders to exploit IT in order to implement a more minimalist and efficient state bureaucracy. Hence, this article highlights specific circumstances as an important variable in explaining e-government implementation, which makes it more complicated to offer “best practices”-based lessons to other countries.

**Research Perspectives**

The article also makes an important addition to the literature, which so far has tended to overlook the specific interactions between private and public sector agents by focusing on interaction within the government, and/or the one-way relationship with the private sector (for example, in outsourcing e-government services provision to companies). Hence, this study of Estonia’s e-government practice is not just a case study on an individual country, but offers a broader contribution to the existing literature on e-government. The study shows that developments in the private sector should not be exogenous, but endogenous to explanations of outcomes in e-government practice. The early development of a secure and reliable Internet banking system in Estonia offered a springboard for
the launch of online public sector services, the most advanced aspect of Estonia’s e-government. Hence, the existence of such private sector agents and the innovation they bring with them are necessary for understanding e-government success in Estonia. They played a crucial role in cutting transaction costs for the supply and creating demand for public sector online services. Future research can build on these preliminary findings by applying both a multi-method approach and using more insights from the existing literature.

**Conclusion**

Estonia’s high rankings in e-government implementation among Central and Eastern European countries revealed by various e-government indexes does not necessarily provide sufficient insight into the actual practice of e-government. A gap between formal indicators of e-government performance, as given by various indexes, and the actual practice of e-government has been made evident by analyzing and offering some concrete examples of online services as well as harmonization of IT within government. The above discussion highlights the difference between online opportunities and the actual exploitation of these opportunities. Such an outcome does not indicate a failure of e-government, but rather brings attention to the fact that the actual practice of e-government is significantly more heterogeneous than would be suggested by some aggregated indicators.

This study has emphasized the role of diverse actors within the specific institutional context of Estonia. Estonian e-government outcomes are diverse and cannot be explained by the deliberate rational actions of strategically focused policymakers. It has pointed out that positive externalities of private sector innovation and government rule-making has not led to uniform outcomes in delivering e-government services and engaging public online. In Estonia, practice shows that provision of services that offer venues for participation and democratic involvement have evolved recently in a rather inconsistent manner. They have evolved because public and private sector developments have reduced the transaction costs for implementing such projects (for example, the use of computers is widespread and infrastructure is well developed). Despite such general institutional changes and general advancements in technology, it is clear that the actual use and value of technologies in government depends on micro-level solutions: that is where citizens experience a great divergence between actual use of services and what is supposed to be formally available. Quite clearly, some Estonian public sector bodies have been more eager to offer services and engage citizens online than others: even though Estonians have been able to file taxes online for almost ten years, the Estonian Department of Labor Market has
not managed to publish simple information about available jobs online. Estonian
government officials have proudly demonstrated their interactive online tools such
as TOM and osale.ee for engaging citizens online, but in reality these tools are
used by insignificant numbers of citizens and some of their functions, such as
providing platforms for online consultation, in the legislative process have clearly
failed.

Hence, the effectiveness of online service delivery and online engagement
has depended primarily on specific initiatives within particular ministries rather
than centralized efforts within government. This is particularly so as the
environment for providing online services has been in place since the mid-1990s.
Some government departments and their leaders have been more eager than others
in exploiting the opportunities provided by the private sector, such as Internet
banking, which have offered a safe and simple method for identification in the
process of transacting online since 1996. This cooperation between the private
and public sectors has contributed significantly to the effective delivery of online
services, and by doing so has had the greatest impact on citizens.

All of this is not to undermine the achievements of Estonia in
implementing e-government, but rather to point out that any analysis of e-
government has to consider the heterogeneous nature of e-government
performance. This may slow down the progress of e-government research, but
without this consideration there will be no progress at all.

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