The Success and Failure of Electronic Governance:
The Case of Estonia

By Leo AADEL[1]

Abstract

The OECD definition of e-government is as follows: it is "the use of information and communication technologies, and particularly the Internet, as a tool to achieve better government."[2]

Rebuilding the necessary organisation and institutions after Estonia regained its independence gave a big boost to setting up the information society and providing Estonia with a competitive advantage in Europe. The ability of the state and its organisation to react quickly and adequately to the changes in the society is of utmost importance for independent Estonia. Due to outstanding IT specialists, Estonia is today known all over the world as an innovative state with a dynamically developed information society.

The present article focuses on the development and current situation of ITC in Estonia, and on whether e-government has been successful or not, and looks at the options Estonia as a small country has in the globalising information society in terms of strategic choices.

Introduction and Theoretical Framework

Pursuant to the *Lisbon Strategy[3]* , by the year 2010 Europe must become the most competitive region in the world, which is simultaneously characterised by strong social cohesion.[4] In terms of technological-economic paradigms, we are about to reach the "golden era" of information technology estimated to last for about 23-30 years characterised by synergy and continuing radical social and economic changes due to expanding use of information technology.[5]

There are allegedly more than 70 different strategies or strategic documents on ITC area in Estonia today. An attempt has been made to address the issue of superabundance of strategies by the common

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[2] See relevant website of the OECD at http://webdomino1.oecd.org/COMNET/PUM/egovproweb.nsf

[3] See relevant website of the European Commission at http://europa.eu.int/comm/lisbon_strategy/index_en.html

[4] Rodrigues, M.J. (2004)„Strategy of the Europe at the Turn of the Century", *Knowledge-Based State and Economy,* Tallinn: The State Chancellery of the Republic of Estonia, 16-36

[5] Perez, C. (2002), *Technological Revolutions and Financial Capital: The Dynamics of Bubbles and Golden Age,* Cheltenham, UK: Edward Elgar

governance strategy *Success Estonia 2014,[6]* which is supposed to constitute a process for making strategic choices and an Estonian mechanism for achieving the goals established by the *Lisbon Strategy* (and partly also the goals set out in *Knowledge-based Estonia[7])[8]*.

The principal idea behind the *Lisbon Strategy* ICT is *knowledge and innovation for growth which* aims at the following:

- To increase and improve investment in Research and Development

- To facilitate innovation, the uptake of ICT and the sustainable use of resources

- To contribute to a strong European industrial base.

Public authorities at all levels in the Member States must work to support innovation, making a reality of our vision of a knowledge society. The search for knowledge has always been at the heart of the European adventure. It has helped to define our identity and our values, and it is the driving force behind our future competitiveness. Innovation is significantly affected by competition, as well as the speed with which new technologies are taken up, especially in the context of rapidly changing technology.

i2010 and eEurope 2005

A new initiative – *i2010: European Information Society[9]* will stimulate the take-up of ICTs, to continue the eEurope agenda which the *Lisbon Strategy* fostered. It will do this by promoting a clear, stable and competitive environment for electronic communications and digital services; increased research and innovation in ICTs and an Information Society dedicated to inclusion and quality of life.

i2010 is the first Commission initiative to be adopted under the EU´s renewed *Lisbon Strategy.* It focuses on the most promising sector of the EU economy: ICT account for 40% of Europe's productivity growth and for 25% of EU GDP growth. In its initiative the Commission outlines three policy priorities:

- To propose an updating of the regulatory framework for electronic communications; and a comprehensive approach for effective and interoperable digital rights management;

- To increase EU investment in research on information and communication technologies (ICT) by 80%. Europe lags behind in ICT research, investing only €80 per head as compared to €350 in Japan and €400 in the US.

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[6] For more details, see *Success Estonia 2014. Government's strategy document: Action Plan for implementation of Lisbon Strategy.*
[7] *Estonian Research and Development Strategy 2002-2006. Knowledge-based Estonia,* http://www.hm.ee
[8] Kattel,R. and Kalvet, T. (2006) „Knowledge-based Economy and ICT-related Education in Estonia: Overview of the Current Situation and Challenges for the Educational System , Tallinn: Praxis, 11
[9] See relevant website at http://europa.eu.int/information_society/eeurope/i2010/index_en.htm

- To promote an inclusive European information society, the Commission will propose an Action Plan on e-government for citizen-centred services.

Europe accounts for around one third of global ICT sales, which are growing at 5% per year, with double digit growth in emerging markets such as India and China. Europe is a global leader in electronic communications, accounting for 40 to 50% of the revenues of the world's largest players.[10] Europe needs higher ICT research investment to reach the Barcelona target of 3% of GDP on R&D. This supports Europe's international competitiveness in crucial areas such as standards and R&D location decisions. When Europe is successful at invention, it sometimes fails to innovate. i2010 will therefore actively seek to reduce barriers between research results and economic rewards.

ICT are becoming more widely used and are benefiting more people. Reinforcing social, economic and territorial cohesion by making ICT products and services more accessible, including in regions lagging behind, is an economic, social, ethical and political imperative. Public services are a major part of the European economy. For example, public procurement accounts for 16% of GDP. A key challenge is to make these services better, more accessible and more cost-effective. In addition, the Commission intends to propose a European Initiative on e-Inclusion in 2008, addressing issues such as equal opportunities, ICT skills and regional divides. i2010 aims at promoting ICT-enabled public services and also an Action Plan on e-government and strategic orientations on ICT-enabled public services.

The Barcelona European Council called on the Commission to draw up an eEurope action plan focussing on "*the widespread availability and use of broadband networks throughout the Union by 2005 and the development of Internet protocol IPv6…. And the security of networks and information, eGovernment, eLearning, eHealth and eBusiness"[11]* eEurope is part of the *Lisbon Strategy* to make the European Union the most competitive and dynamic knowledge-based economy with improved employment and social cohesion by 2010. It is providing opportunities for people to participate in society, bringing governments online and focusing attention on the need to ensure a safer online world. *eEurope 2005*[12] puts users at the centre. It will improve participation, open up opportunities for everyone and enhance skills. eEurope contains measures regarding e-inclusion in all action lines.

By 2005, Europe should have:
- modern online public services as

        e-government

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[10] OECD Information Technology Outlook 2004
[11] Barcelona European Council, Presidency Conclusions, paragraph 40
(http://ue.eu.int/en/Info/eurocouncil/index.htm)
[12] See relevant website at http://europa.eu.int/information_society/eeurope/2005/index_en.htm

e-learning services

e-health services

- a dynamic e-business environment

Lessons of Estonia

The *Global Information Technology Report 2005-2006[13]* represents the result of the world's most respected assessment of the impact of information and communication technology (ICT) on the development process and the competitiveness of nations. The Networked Readiness Index examines an economy's ICT condition on three dimensions: the general macroeconomic, regulatory and infrastructure environment for ICT; the readiness of the three key stakeholders – individuals, businesses and governments – to use and benefit from ICT; and their actual usage of the latest information and communication technologies. By the report Estonia leads the eastern European countries with a rank of 23 out of 115 (gaining two positions from last year), thank to its excellent political and regulatory framework for ICT.

According to the Information Society Benchmarking Report 2004, Estonia ranks fourth among the EU-25 in terms of fully interactive services. According to survey, Estonians use the Internet mostly to make use of public sector e-services and to search for financial information (to pay for public services and submit the income tax declarations). Medical information is another popular search target. In addition, the expectations of respondents in terms of developing new public e-services were examined. The results revealed that, first and foremost, people expect new services in the field of social and health care.

The decision of eBay, the leading market player of the Internet over the last decade, to pay for the Skype ten times the total annual turnover of all the Estonian information technology companies is an event likely to influence the whole technology industry in Estonia. The founders and the team of Skype also wrote the file sharing programme Kazaa which is still a world wide market leader. Undoubtedly, the common features of the above projects are involvement of the founders and managers experienced in working on the Western markets as well as the best specialist with international background, easy and widespread access to the Internet and high level of our knowledge of information technology. Like in Finland where specialists of Nokia have founded hundreds of successful technology companies, we can expect Estonia soon to have a high number of IT specialists who can set up new, innovative companies.

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[13] See relevant website of the World Economic Forum at http://www.weforum.org/site/homepublic.ncf/Content/

Surveys support the argument that Estonia is among the best providers of electronic public services. 41% of Estonian families own a computer, 55% of our labour force use the Internet, 1.14 million clients of banks in Estonia use internet bank services, i.e. practically the whole population of the country. We have reached such a level due to the tiger leap programme, the development of banks, information technology and telecommunication companies, and the Estonian people who have accepted the recent developments.

The Estonian five-year-old electronic government and electronic voting at municipal elections are examples of the recent developments that the representatives of many countries come to learn about. Electronic governance is quickly gaining ground in local authorities. Electronic drafting and legislative proceeding helps save money spent on transportation and paper, and makes legislative drafting more transparent. Thus, public administration becomes more efficient.

The SWOT analysis of Estonian public sector information systems (IS) made by HeiVäl Consulting Group in 2002 emphasised the following aspects:

Strengths:
- A relatively good level of technology and good infrastructure, incl. data communication;
- A number of extremely important IS projects have been launched aimed at improving interoperability; there are very good examples of Internet-based solutions;
- Susceptibility of the public sector and the public to innovation.

Weaknesses:
- Lack of close horizontal co-operation causes duplication and inefficient use of resources;
- IS lacks objective and strategy;
- Databases are not centrally co-ordinated and there are no mechanisms to influence IS projects;

Opportunities
- To recognise the prominent position of IS structures in the public department system;
- To realize the potential of the IS infrastructure;
- Improve co-operation with the private sector;

Threats
- A danger of falling behind other countries and becoming an outsider in Eastern Europe;
- Losing the existing competence;
- Departmental and political rivalry work to the detriment of IS optimization.

eGovernment Regulatory Environment

The first policy document in Estonia – *"Principles of the Estonian Information Policy"* – was approved by the Parliament in May 1998.

The general principles of information policy for 2004-2006 approved by the Government in 2004 state that considering scarcity of the available resources it is especially important to use effectively the resources allocated for developing the country's information systems. Therefore, any activity must be even more purposeful and better co-ordinated.

Differently from the previous IT strategy, the "revised IT policy" sets out some specific priority areas. The coalition agreement of the current government that emphasises the importance of several aspects of the information society also contributed significantly to the elaboration of the policy. The main objectives of the Estonian information policy for 2004-2006 are as follows:

- introduction of eServices in all state agencies together with respective training and awareness-raising activities for the whole society;
- keeping the level of ICT use in Estonia at no less than the average level of the EU, ensuring thus the efficient of the Estonian economy and society in general;
- increasing the export capacity of the IT sector

In 2004 – 2006, Estonia proceeds from the following objectives in developing the information society:

- Developing eServices for citizens, entrepreneurs and public sector institutions. The development of basic public online services defined in the framework of the eEurope action plan will be continued, ensuring comparability of eGovernment related data at the EU level.
- eDemocracy – IT solutions with the potential of contributing to the development of eDemocracy will be identified and analysed. An Internet-based eVoting system will be created.
- Increasing efficiency in the public sector – electronic document management in the public sector will be further developed and digital archiving will be launched. Particular attention will be paid to the development of Internet-based communication and information management between the state and local governments. The development of databases will be continued with an objective to ensure integrity, availability and interoperability of data. In order to increase the quality of leadership and management in the public sector, operational information systems will be created for compiling the activity statistics and financial information of ministries and state agencies.
- Position at the international arena – steps will be taken to maintain the high international reputation that Estonia has acquired as an eState. Attention will be paid to the need to promote and disseminate innovative concepts and standards elaborated in Estonia so as to ensure European-wide use for these.

- eInclusion – public sector web pages that have been created with the aim of informing the wider public and provide eServices for citizens and enterprises will be brought in accordance with the Web Accessibility Initiative Guidelines

The implementation of the information policy is based on information policy action plans, drafted at the beginning of each year, setting out activities that different state agencies are planning to initiate for the development of the information society. The action plans that state responsible authorities, expected outputs and evaluation of finances are submitted to the Government of the Republic for approval before the drafting of the state budget and will be considered when compiling the state budget strategy.

The Public Information Act (PIA) took effect in 2001. The Act covers state and local agencies, legal persons in public law and private entities that are conducting public duties including educational, health care, social or other public services. National and local government departments and other holders of public information have the duty to maintain websites and post an extensive list of information on the Web including statistics on crime and economics, enabling statutes and structural units of agencies; job descriptions of officials; their addresses, qualifications and salary rates, budgets, draft acts, regulations and plans including explanatory memoranda.

eGovernment Infrastructure and Services for Citizens and Businesses

The main eGovernment infrastructure components are the portal Citizen's IT Centre and the electronic ID card. Estonia's e-government portal launched in 2003 provides a single access point to online public information and services. Through authentication by the national ID card, the portal offers users the possibility to fill in and submit electronic forms, access their personal data, and perform transactions. Estonia started issuing national electronic ID cards in 2002. The card fulfils the requirements of Estonia's Digital Signature Act and is mandatory for all Estonian citizens and permanent resident foreigners over 15 years of age. It is meant to be the primary document for identifying citizens and residents and its functions are to be used in any form of business, governmental or private communications. The number of electronic ID cards issued has exceeded 900,000. There are 824,542 valid ID cards in use; thus, approximately 80% of the Estonian population between 15 and 80 years of age and approximately 61% of the total population have one. 43% of valid ID card holders are male and 57% are female; there are infants and 102-year-olds among the ID card holders. The electronic use of ID cards has been increasing. Since 2002, close to one million contracts, applications and bank transactions etc have been digitally signed. ID cards have been used approximately two million times to authenticate their holders, e.g. upon using bank services and accessing the Tax and Customs Board via the Internet. In addition to the national ID card, Estonian

residents can also use their Internet banking identification data to access online public services (more than 70% of Estonian residents use Internet banking, the highest proportion in Europe).

In Estonia, Internet-based voting was used during the municipal elections in October 2005. For the first time, the new kind of voting was applied countrywide. The number of valid e-votes was 9,287 accounting for 1.85% of all the votes cast.[14]

There are 20 basic public services (12 for citizens and 8 for businesses) adopted by the Council of the EU in 2001, and on the methodology used to assess their level of online availability and sophistication in the eEurope benchmarking exercises (see: eGovernment indicators for benchmarking eEurope[15]).

The 12 services for citizens are as follows:
- Income Tax Declaration
- Job Searches by labour Offices
- Social Security Contributions
- Personal Documents
- Car Registration
- Application for Building Permission
- Declaration to the Policy
- Public Libraries
- Certificates (birth, marriage) Request and Delivery
- Enrolment in Higher Education
- Announcement of moving (change of address)
- Health-related services (e.g. appointments for hospitals)

And the 8 services for businesses are as follows:
- Social contributions for employees
- Corporation Tax: declaration, notification
- VAT: declaration, notification
- Registration of a new company
- Submission of data to statistical offices
- Customs declaration
- Environment-related permits
- Public Procurement

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[14] See relevant website http://www.riso.ee/en/pub/yearbook_2005.pdf
[15] See relevant website http://europa.eu.int/information_society/eeurope/i2010/benchmarking/index_en.htm

The role of the State Audit Office (SAO) is to promote reforms and to support public bodies in their efforts to create best value for the taxpayers by their activities and services. To do so, the SAO assesses the performance (economy, efficiency and effectiveness) and regularity of the activities of public administrations, and provides recommendations to help the Parliament and the Government to improve the operation of the State. Unfortunately, the State Audit Office has pointed out that, in recent years, insufficient co-ordination of the information technology field has hindered development of information society in Estonia and we are in danger of permanently loosing ground to the industrial countries, if we do not take the appropriate decisions. The most significant problems are as follows: there is no co-ordinated centralised management of information technology field at the level of government departments; there is no tool to be applied in drafting the national budget to guarantee the balanced and sustainable financing of public sector information technology infrastructure, and integrated approach to developing information society. Lack of financial resources is not the principal issue; it is the question of using the resources expediently. There is no conviction that money would be used for specific purposes, sparingly and in the best possible manner.

There are several reasons to rather modest amount of training, and research and development activities. One of the reasons is insufficient financing of research and development, especially in the field of information technology.

Conclusion

Although the EU *Lisbon Strategy*, *i2010, European Information Society 2010* and *Knowledge-based Estonia* have been extremely significant strategic documents placing the topic of Estonian IT competitiveness at the centre of political attention, the vision to further the IT development leaves somewhat to be desired. No success can be achieved without a long-term vision.[16]

The development of the information society in Estonia must be sustainable and competent; it has to involve members of the society and guarantee their well-being. The ITC solutions applied in Estonia are known worldwide, and the ITC sector is successfully exporting its products and services. Due to technological innovations of the information society and their many ways of application, the state is functioning efficiently and is administratively capable; the offered electronic solutions are optimized and available in the client-oriented service environment.

The electronic state is by no means ready and there are many new services that could be made electronically available, e.g. notarial authentication and various transactions, amendments to the

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[16] Perez, C. „Technological change and opportunities for development as a moving target", *CEPAL Review 75,* December 2001, 109 – 130

statutes of companies and changes to the management boards of companies; applications, notices and confirmations of data could reach the registers' database via the Internet. The process could involve digital signature that would solve the problem of authentication of people. Gerhard Schröder, the former chancellor of Germany, once said that data, not people should run.

Our electronic governance and electronic consumption have changed unbelievably quickly within an unbelievably short period of time. We need to take our decisions in a deliberate manner making use of the knowledge we as experienced members of information society have gained to prevent our success from becoming a failure.

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