

Impact assessment of the Estonian e-government services

Executive summary



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Executive summary

The goal of Estonia in the development of public services is to provide such services fast and with the smallest possible administrative burden. The effectiveness of the agency that provides the service must also increase with the development of a public service. Previous studies of public sector e-services have focussed on the number of Internet and e-service users, and the satisfaction of private individuals and enterprises. The broader social and economic impact of e-services on various target groups has generally gone unstudied. Analyses of Internet voting (i-voting) are the only positive exception here.

The objective of this analysis is to identify and prove the social and economic impact achieved with the development of public services in Estonia and the implementation of e-services. The study set out to develop the numerical indicators that could be used to plan the further development of e-services as well as to improve the marketing of Estonian e-government solutions. The study also identifies the technological, legal and organisational prerequisites that have to be fulfilled for the successful implementation of e-services, and any obstacles to the achievement of greater impact. Another important objective of the study was to develop an impact assessment method that could also be used in the future.

Impact assessment is about comparing actual impact with planned impact: it needs to answer the question whether the intended result or impact was achieved. Impact assessment should also clarify whether resources were spent in a manner that best guaranteed the achievement of the desired impact, i.e. the achievement of long-term goals. This is why the study also included a cost-effectiveness analysis of the IT systems of e-service providers. Efficiency, i.e. whether the e-services in question could have been created at a smaller cost, was not assessed in this study.

The Institute of Baltic Studies (IBS) developed, based on the terms of reference of the project, a reusable method for assessment of the impact of e-services. 15 e-services with a different level of maturity and export potential were selected for the study. The development of these services has been co-funded from the structural funds of the European Union (Operational Programme for the Development of Economic Environment).

Thereafter, IBS analysed, in cooperation with the Praxis Centre for Policy Studies, the impact of Estonia's e-services on three target groups:

- users (citizens and enterprises);
- service providers; and
- ICT enterprises as developers of e-services (especially in relation to export).

Users find that the analysed e-services have clearly had a positive impact on them: e-services have helped them save a lot of time and made dealing with the government more accessible. Comparison of the 15 e-services indicated that users save the most time when establishing a company, or submitting VAT or income and social tax returns to the Tax and Customs Board (EMTA). The time saved by users of i-voting was also significant irrespective of the rather small proportion of users (24% of all voters). In general, users have saved the most time with e-services whose use means that they no longer have to visit various government agencies or obtain information from previously separate information systems.

The overall opinion of users is that all of the 15 services have become more accessible. The on-line submission of tax returns to the EMTA and the e-service of the Estonian Agricultural Registers and Information Board (PRIA) have had the biggest impact in this area.

Users find that e-services have also made the use of public services easier. 80% of the respondents say that 12 of the 15 e-services have made using the public service considerably easier. The respondents feel that the biggest changes have once again been brought about by the possibility to submit tax returns to the EMTA.

However, it is necessary to make the e-services even more intuitive and simple in order to encourage people less skilled in using IT solutions to use e-services and increase their impact.

Generally speaking, Estonia has managed to save remarkable amounts of time and money by developing and updating e-services, although obtaining accurate data for calculating the cost-effectiveness of e-government investments is very difficult. Employees of the organisations that provide the services find that the introduction of e-services has had a clearly positive impact on service quality. For example, 80% of the e-school users interviewed say that the e-service has considerably improved information exchange between schools and parents.

Full utilisation of information technology often requires major changes in the organisation of work of government agencies and/or communication between them. This concerns the organisation of work in the agency that provides the service as well as the interaction between various information systems (of different agencies). The X-road and ID card are extremely important as infrastructure, because they have created the basis on which the remaining services have been developed, and they have often been the unavoidable prerequisite of various e-services. However, excellent infrastructure alone is not enough. In order to plan the adoption of e-services realistically and implement them as successfully as possible, it is important to involve the top-level decision makers more actively in the development of e-services.

Most e-service providers have not analysed the amount of time and resources spent on various transactions within the scope of e-services and off-line services. As the dynamics of the number of persons who use services that are provided electronically or in offices and the details of IT investments and maintenance costs are often unavailable for specific types of transactions, the possible margin of error in the assessment of the increased efficiency (time and money saved) achieved in an organisation via the implementation of e-services is rather high. This makes any cost-benefit analysis as well as estimates of the time and money saved by all users highly inaccurate.

A more thorough analysis must be carried out before the initiation of new e-government projects and measurable goals should be established for each development project. In future e-government projects, analysis of the total cost of ownership of an e-service should become one of the main selection criteria in making financing decisions. The expected impact and specific target levels that describe the future e-service, and the way of information collection for the cost-effectiveness should be determined in the preparatory stages of major new projects. While doing so, development of e-services that enable for greater cost effectiveness should be given priority.

The Tax and Customs Board stands out for its systematic approach to the development of e-services and organisation of work. The board has analysed the volume and cost of the services it provides, and the services it has made available as e-services are those used more than others, e.g. existing data is already integrated into pre-populated tax returns.

The Estonian National Electoral Committee has also taken a systematic approach to the development of i-voting as the first important electronic ID card-based service in Estonia. The rapid increase in the proportion of electronically submitted votes among all votes cast at elections has made the organisation of work in polling divisions considerably easier, but the labour expenses and other expenses of polling divisions have yet to decrease. The option of i-voting has therefore not brought the government any direct economic savings. Even though i-voting was not implemented in order to achieve direct economic benefits, the investment has paid itself off by saving money for those who take part in i-voting.

The export potential of the information and communications technology solutions of most of the analysed services is rather limited. The legislative and institutional settings of different government (agencies) are very different, which is why there is no single global market for the majority of Estonia's e-government services. Almost all of the e-services analysed are currently strongly tied to the legal space or institutional organisation of the public sector. With the exception of i-voting, ID card functionality and the X-road, the e-services of Estonia are ICT solutions that are relatively easy to copy. Similar services already exist in other countries, or are not overly complicated to develop.

Also, most Estonian ICT companies are usually in the initial stages of the productisation of e-services and their international business management and sales capacity is relatively limited. Attempts to export the Estonian e-government solutions show that they can be internationally promoted and orders for new

software developments can be obtained, but it is usually not possible to export the existing ready-made IT solutions. Guaranteeing the international compatibility of e-solutions that have been widely implemented in Estonia (e.g. the ID card and the digital signature solution) is thus extremely important in order to promote the export of e-services.

The percentage of exports of public sector e-services is likely to remain modest in Estonia's IT exports in general, but Estonia should nevertheless remain active in promoting its e-government solutions. For example, it should take a more active role in international standardisation discussions, e.g. in order to guarantee the option to use the Estonian ID card and other public sector e-services across borders.

Recommendations for the Ministry of Economic Affairs and Communications:

- Create a monitoring system that focusses on public sector e-services to obtain an overview of the activity of service use, the speed of their provision and the time spent by a user on one operation.
- Integrate an efficiency and impact assessment (incl. analysis of the total cost of ownership) into the selection criteria and reports of the development projects of future information society programmes.
- Develop e-service procurement guidelines, which describe the role of impact assessment in planning and execution of public procurement.

Recommendations for public service providers:

- In the development of e-services, set measurable objectives to guide users to those service channels that are the most effective in light of the target group's expectations and the nature of the service.
- Start collecting and analysing the data required for management decisions considerably more systematically (Make data collection and analysis in support of management decisions considerably more systematic). This refers in particular to the data on:
 - o dynamics of the number of e-service and ordinary service users in the case of main operations; and
 - o time and money spent on the provision of a service for different channels and operations.