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Georgian ID card and its relation to the e-Governance and citizen awareness

Master's Thesis

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Tallinn2016

Author's declaration of originality

I confirm that I have constructed this Master's thesis individually and that the current paper has not been presented by anyone before. All resources, viewpoints, citations, and other materials from other authors that have been used in this thesis have been referred to.

Tamar Maglakelidze

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(date) (signature)

Abstract

The thesis given below aims to investigate the theoretical and practical issues and problems related to the electronic ID card implementation and usage within the countries of the world and especially in Georgia. Within the frames of the thesis, the history of the ID card usage in various countries of the world is discussed; specifications of the electronic ID card usage are outlined for both developed and developing countries; the importance of ID card usage for a realization of the good governance is analyzed. The thesis also aims to identify the basic problems and issues related to the electronic ID card usage in Georgia and to investigate the citizen awareness towards the e-governance and ID cards among the Georgian citizens by means of an empirical research. Within the last part of the thesis, the possible future perspectives of the ID card usage in Georgia are analyzed and the ways of increasing the awareness of Georgian citizens with the consideration of the European experience are outlined.

Key words: e-Government, ID card, e-Services, Citizens' awareness, Georgia, Estonia

This thesis is written in English and is 69 pages long, including 6 chapters and 11 figures.

Annotatsioon

Gruusia ID-kaart ja selle seos e-valitsemise ja kodanikuteadlikkus

Käesoleva magistritöö eesmärgiks on uurida elektroonilise ID-kaardi rakendamise ning kasutamisega seotud probleeme eelkõige Gruusia näitel. Magistritöö raames antakse ülevaade elektroonilise ID-kaardi kasutamise ajaloost; tuuakse välja ID-kaardi kasutamise spetsiifika arenenud ning arenevates riikide kontkestis; analüüsitakse ID-kaardi kasutamist kui hea valitsemise olulist osa. Magistritöö pöörab ühtlasi rõhku ID-kaardi kasutamisega seotud peamistele probleemidele Gruusias ning uurib empiirilise analüüsi kaudu Gruusia kodanike teadlikkust e-valitsemisest ning ID-kaartide kasutamise võimalustest. Magistritöö viimases osas käsitletakse ID-kaardi kasutamise tulevikuperspektiive Gruusias, pöörates erilist tähelepanu kodanike teadlikkuse kasvatamisele Euroopa riikide kogemuste pinnal.

Märksõnad: e-valitsus, ID-kaart, e-teenused, kodanike teadlikkust, Gruusia, Eesti

Lõputöö on kirjutatud Inglise keeles ning sisaldab teksti 69 leheküljel, 6 peatükki, 11 joonist.

Acknowledgement

I dedicate this thesis to my family and friends. I would never forget all the chats and beautiful moments I shared with my friends and classmates. They all were supporting me during these difficult and stressful moments. Also, I would like to mention here my close friend Teona Lazashvili who always helping me with translations and transcriptions. She encourages me to do my best in every situation. Also I would like to thank to my supervisors Enn Õunapuu and Ingrid Pappel, who helped me during the work on my Master's Thesis research and without their efforts and support I would not be able to get such kind of results.

Special thanks go to my parents and my brother, for their love and support throughout my life and my studies. They made me live the most magic and unique childhood that has made me who I am now.

Tamar Maglakelidze

2016

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List of abbreviations and definitions

ID	Identification Document
ICT	Information and Communication Technologies
G2C	Government to Customer
G2B	Government to Business
G2G	Government to Government
G2E	Government to Employees
C2G	Citizen to Government
C2C	Customer to Customer
B2B	Business to Business
B2C	Business to Customer
B2G	Business to Government
NRMS	The Natural Resource Management System
IDFI	The Institute for Development of Freedom of Information www.idfi.ge
TIG	The Transparency International Georgia www.transparency.ge
NGO	Non-Governmental Organization
USSR	Union of Soviet Socialist Republics
SSDA	The State Services Development Agency
AAL	Ambient Assistive Living
PKI	Public Key Infrastructure

- **e-ID** – e-ID is a means for people to prove electronically that they are who they say they are and thus gain access to electronic services. The identity allows an entity to be distinguished from any other.

- **e-Governance** – e-governance is the application of information and communication technology (ICT) for delivering government services, exchange of information communication transactions, integration of various stand-alone systems and services between government-to-customer (G2C), government-to-business (G2B), government-to-government (G2G) as well as back office processes and interactions within the entire government framework (Saugata, B. , and Masud, R. R. 2007). In this work term e-governance is used because of its chromaticity where government services are available in a beneficial, friendly, transparent and effective manner.

- **e-Government** – e-government (same as e-gov, internet government, digital government, online government) is the use of information and communication technologies (ICTs) to improve the organizational activities of the public sector. It contains digital interactions between government and citizens (G2C), government and employees (G2E), government to business (G2B), government to government (G2G) and also citizens' interaction with government (C2G).

- **e-Service** – e-service (short for Electronic Service) is the use of electronic technology to provide services to customers. Its main channel is the internet and uses Information and Communication Technologies (ICT).

- **e-Procurement** – e-procurement is the business-to-business (B2B), business-to-consumer (B2C) or business-to-government (B2G) purchase and sale of supplies, work, and services through the Internet as well as other information and networking systems, such as electronic data interchange and enterprise resource planning (Baily, P. J. H. 2008).

- **e-Auction** – e-auction is takes place between bidders and auctioneer through means of a computer network. It represents an e-commerce which happens between business to business (B2B), business to consumer (B2C), or consumer-to-consumer (C2C).

- **Digital Signature** - Digital signature is a digital code, which is generated and authenticated by PKI (Public Key Infrastructure) of encryption technology. It is

a way to authentic the electronic document and make sure that a message is coming from a given sander. It has the same power like a signature on the paper document.

- **PKI** – Public Key Infrastructure is a combination of roles, policies, software and procedures, which are needed for digital certificates to use, manage, create, distribute and store efficiently.

- **E**-Cabinet - e-Cabinet same as electronic cabinet is an innovative electronic service, which allows controlling and getting required information and documents online. It captures all of important paper and electronic documents, whether it is email, fax, scan, print out or photo copy.

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1 Introduction

In the introduction chapter is discussed an abstract, general overview of the thesis, ID card specification and its usage in both developed and developing countries. Also, what was my motivation for the research, why this topic is important and interesting for me? In the end are discussed research problems, research question with three sub questions.

1.1 General overview of the research

The modern world, characterized by the rapidly increasing tendencies of globalization and the digitalization of many aspects of everyday lives of ordinary citizens, includes the electronization of governance services, with the digitalization of ID cards being one of the most prevalent and important issues.

The digitalization of ID cards represents the process which took a start at the very beginning of 21st century. It has been argued that the electronic ID cards enhance the access towards all those services which previously have been strictly bureaucratic and thus relatively difficult and time-consuming to access, together with simplifying the everyday lives of citizens in terms of limiting the time and efforts previously required for using the various governmental services. Regarding the implementation of the electronic ID cards in many countries of the world, the citizen awareness of the ID card usage – represents an important issue, as far as for the successful implementation and operation of the e-ID card programs, considering the e-ID card awareness is required, which is needed for creating more convenience and comfort both for citizens and the governments.

Georgia, which represents a developing country with a relatively recent history of independence and democracy, has made serious efforts of implementing the electronic ID cards within the system of its governance. Herewith, the awareness attached to the ID card implementation and usage in Georgia has always been somewhat controversial, considering the socio-cultural and religious aspects of the country. Thus, studying the ID card awareness in citizens of Georgia represents an interesting and important issue both in theoretical and practical aspects. Within the thesis given below, I will try to

analyze all aspects related to the e-ID card implementation and usage in Georgia, with the special emphasize on the ID card awareness in Georgian citizens. Given the fact that citizen awareness is the aspect which accumulates within the processes of governance and politics in general, studying the citizen awareness related with ID card usage represents an important components of the e-ID card implementation within a given country and studying it for Georgia's case will be beneficial for increasing the effectiveness of the e-ID card programs and their implementation within the country.

1.2 Motivation for the research

Studying the citizen awareness towards the electronic ID card awareness in Georgia is important for both practical and theoretical reasons. First, investing the citizen ID awareness in interesting because of its specific components, such as socio-cultural and religious components, which might be culture-specific for a given country, which is Georgia in my case. Second, analyzing the citizen awareness related with the e-ID card usage represents the subject of significant interest because of its novelty in Georgia, as far as it's not a secret that the implementation of new technologies or electronic components of governance is always related to much debate and often represent the subject of resistance from ordinary citizens, as well as some political and religious groups. Third, the research on ID card citizen awareness can allow both government and ordinary citizens to better utilize the corresponding techniques needed for increasing the success and effectiveness of the electronic ID cards in Georgia.

I hope that the identification and the analysis of all aspects related with the electronic ID card programs within the country might serve as the motivator and stimulus for further research within the given field, which is of a great significance both for practical and theoretical reasons.

1.3 Research problems and questions

The main problems of the research are as follows:

1. Identifying the main aspects of the electronic ID card identification in Georgia
2. Identification of the specifications of the social, political, cultural and religious aspects of the e-ID card implementation

3. Outlining the main aspects of the ID card awareness in Georgian citizens

Here with, finding out the main issues which support and / or hamper the successful implementation of the electronic ID card program in Georgia and its effective utilization for the citizen welfare represents the final task of the research, as far as studying those aspects is necessary for successful evaluation of the existing situation within the country in relation to the e-ID card usage and the awareness attached to it. Consequently, the overall research questions are:

- Main Research Question: 'How to raise citizens' awareness?'

The main goal of my research is to analyze all aspects related to the electronic ID card implementation and usage in Georgia, also to identify and underline every aspect of ID card awareness in Georgian citizens. Studying the citizen awareness related to the ID card usage, represents an important component of the e-ID card implementation within a given country and studying it for Georgia's case will be beneficial for increasing the effectiveness of the e-ID card programs and their implementation within the country.

- Sub Question 1: 'how ID cards have been implemented in developed and developing countries of the world?'

The purpose is to analyze a general introduction of electronic ID cards in developed and developing countries of the world, such as Estonia, Sweden, Belgium, India and Georgia are. Also the importance of ID cards in good governance, e-ID card system functionality, implementation and utilization. What kind of electronic ID card programs are implemented in developing parts of the world.

- Sub Question 2: 'How does people's awareness influences ID card usage (in Georgia)?'

The running case for this research is to discuss the Georgian citizen awareness towards particular issues of governance, socio-cultural, religious, political and economic aspects of the ID card. Also to review the electronic ID card implementation and its usage in Georgia and certain problems in availability of the e-governance services in some parts of the country, in municipalities such as Mtskheta, the city of Gori, Tchkhorotsku,

Zugdidi, Akhmeta, Kvareli, Khashuri, Kareli and Khobi. And the most important is to conduct interviews with Georgian citizens of all ages and from all parts of the country.

- Sub Question 2: 'How to attract people?'

The importance of this thesis lies on this research sub question, because the most important are to identify how to attract people, what should be possible future perspectives of the ID card usage in Georgia, also future possibilities for the digital ID and the electronic government development, the vision of e-Georgia strategy, Digital Georgia strategy and action plan 2014-2018. Besides this, the most important are to determine what is needed to find adequate ways for effectively increase the citizen awareness related to the e-ID card programs and the implementation of the e-governance technologies and programs.
At the same time, it will be very interesting to analyze case study about Estonian electronic ID card and citizens awareness because Georgia step by step follows Estonian reforms.

2 Research design and methods

Chapter 2 indicates information about the research approaches of a thesis, also a specific instrument for my research and various aspects of the citizen ID card awareness in Georgia, such as cultural, social, economic and religious aspects. Also, below are discussed research methodologies of my thesis, such as action research, case study, quantitative research and questionnaire (survey).

2.1 Consideration for research approaches and methodology

Studying the subject of the ID card awareness in Georgian citizens requires an empiric approach, which will guarantee the collection of comprehensive data about the subject of my interest. Within the frames of my research, the quantitative research will be used, as far as it ensures the collection of information about a large number of respondents in a relatively short period of time. Herewith, the quantitative research represents the

approach which is usually used for social and political sciences most often. The reason for this is that the being relatively simple to utilize within the process of research, together with being quite complex with its structure and contents. With quantitative research I decided to use case study as well, it is about Estonian experience, how they increased citizens' awareness from the beginning and what kind of reforms they made.

The specific instrument for my research is presented in form of a questionnaire (survey), which will contain the specific questions for investigating various aspects of the citizen ID card awareness in Georgia, including the cultural, social, economic and religious aspects.

The action research of my study is presented in my study in the form of the efforts of putting the state within the external environment which virtually doesn't represent the part of the e-ID card implementation program. Being the main subject of my study, the citizen ID card awareness represents a somehow an abstract concept for many political and public agencies in Georgia, so bringing the subject to the action research will incorporate the e-ID programs and the related research into one wholeness.

As Craig G. Heatwole and his colleagues' state (Craig G. Heatwole et al. Dec. 1976 pp 597 – 609), "the study of public policy is a multifaceted enterprise and has been approached in various ways". Hence, studying the current situation of the electronic ID card programs and the e-governance services in Georgia is obviously going to be multifaceted. Because of this, considering the action research within the process of my study is rather logical, as far as it's not possible to study the process mentioned above only by means of one-faceted academic approach. I hope that the action research will bring forth many interesting issues in relation to the subject of my study, and particularly – in relation to the issue of citizen awareness in relation to the e-ID cards and the services related to them.

3 Overview of ID card in countries of the world

Chapter 3 fully answers the first research sub question "how ID cards have been implemented in developed and developing countries of the world?" below is reviewed general introduction of electronic ID cards in developed and developing countries of the world. The importance of ID cards in good governance, electronic ID card system

usage, implementation and utilization. Also are discussed basic characteristics of the ID card programs implementation within the developed and developing countries of the world, such as Estonia, Sweden, Belgium, India and Georgia.

3.1 The basic issues of the introduction of ID card programs

The introduction of electronic ID cards in developed and developing countries of the world has been conditioned by the global tendencies of implementing the e-governance, which represents one of the main novelties in state governance of the 21st century.

Each country has its own history and dates of implementation of e-ID cards, which mainly reflect the aspiration of these countries towards the modern and more simplified realization of the citizen governance.

It is important to notice that the success of the implementation of ID card programs within different countries is influenced by the citizen awareness of a given country, together with many other factors such as the policy linked with the implementation process, the basic techniques of implementation, socio-cultural factors (which form the basis for the citizen awareness) etc.

Below I will discuss some of the basic aspects, issues and benefits of implementing the ID-card system within a country and its relation with the good governance.

The World Bank's definition of governance is as follows: "Good governance is epitomized by predictable, open and enlightened policy-making, a bureaucracy imbued with professional ethos acting in furtherance of the public good, the rule of law, transparent processes, and a strong civil society participating in public affairs" (Andrew Lipchak August 2002).

The good political governance implies that the state is entrusted with providing a suitable environment for a market economy, and building effective administrative structures which reflect the interests of the population. In other words, good governance is inherent in the State, which seeks greater democracy, but at the same time, citizens are provided with more effective and easier ways to high quality services.

The site of the Secretariat of the Asia - Pacific region, the United Nations (ESCAPE) contains the following eight basic characteristics of "good political governance" parameter (Aus AID 2000), which are as follows: public participation, supremacy of the law, transparency, responsiveness, focusing on consensus, inclusion, effectiveness and efficiency and accountability. These parameters clearly indicate that the concept "good

governance" has a normative character, as far as apart from being related to social and moral norms, they are based on the regulations and rules which are reflected within the constitutions of the majority of the states of the world.

3.2 The importance of ID cards in good governance

The increasing popularity of the ID-cards programs within various countries of the world definitely have to do with the efforts of increasing the efficiency of the governance.

The implementation and utilization of electronic ID system have various benefits both for governments and individuals, as well as the business sector. According to Daniel Castro, the e-ID systems "can help reduce identity theft and enable individuals to use online applications more securely in a variety of industries such as health care and banking" (Daniel Castro September 2011).

The usage of electronic ID cards by the citizens - simplifies their access to all kinds of governmental structures and information and services within them. Another important thing related to the usage of the e-ID card system is that "government can use e-IDs to streamline e-government services, allow individuals to sign and submit forms online, and offer innovative services" (Daniel Castro September 2011).

Currently, many countries of the world use the national ID systems, including the European and Asian countries, as well as the Middle East countries. Despite the lack of universal usage of the e-ID cards, there are some countries where the e-ID system is more popular than in others. One of the several countries where the level of ID card usage is quite high is **Estonia**, "which has issued approximately 1.2 million e-ID smart cards to an eligible population of 1.3 million citizens (i.e. individuals age fifteen and older)" (Daniel Castro September 2011).

It is notable that in Estonia, the citizens are allowed to vote online, thanks to the ID system which is prevalent within the country.

There are various options for countries for constructing the ID system, enabling them to create the ID-system which will fit the requirements and needs of a given country. Such specifications can include the cultural, demographic and historical factors of a given country, which in turn condition the attitudes towards the implementation of the ID cards usage within a state.

As mentioned above, the e-ID system has various benefits, such as increasing the availability of electronic services, communications, commerce etc. As Daniel Castro states, "These systems enable individuals to authenticate to online services, securely communicate online, and create legally-binding electronic signatures, such as to sign a contract or enrol in a service" (Daniel Castro September 2011). It is important to mention that the efficiency of e-commerce transactions also increases the utilization of the electronic ID systems.

The implementation and usage of the electronic IDs are closely related to the realization of e-governance and its services. As D. Castro states, "Government can streamline many services, such as providing government benefits, which depend on knowing an individual's identity". The e-ID cards and the e-governance offer the simplified and innovative services – including the online voting, signing various forms online (related to the governance issues), which help both the government and citizens avoid the unnecessary costs related to the travel and expenses related to the participation within the activities mentioned above. "Government receives many of the benefits from increased efficiency, for example by eliminating duplicate data entry, and reducing the costs associated with unnecessary paperwork including printing costs, storage, transportation, and disposal". (Handy - Signatur and Burgerkarte)

As it becomes clear, the proper and effective implementations of the electronic ID systems have a direct influence on the field of governance and vice versa. As mentioned in the beginning, the concept of "good governance" reflects an effective way of managing the society by means of the state institutions and the public services agencies; hence, the effectiveness of implementation of the e-ID systems can be taken as one of the important indicators displaying the quality of the governance.

Nowadays there are some countries which have relatively rapidly adapted to the electronic format of the governance and citizen identification, while for other countries it still remains a mystery or a burden surrounded by various types of socio-cultural beliefs, preventing such programs to enter a given country. This is not without a reason, however, but I will discuss the reasons hampering the implementation of the ID card programs within the following chapters. As for now, it's important to outline the basic characteristics of the ID card program implementation within the developed and developing countries of the world.

To assess the current situation, it can be stated that the leading role within the popularization of electronic ID programs has definitely been played by the countries of the European Union, such as Estonia, Belgium, Sweden etc.

3.3 The history of ID card usage in countries of the world

Based on the data of the Evolution in cross-border interoperability of electronic Signatures and eID, which was held by iDABC and beyond European eGovernment Services Conference, 2008, below on **figure 1** is given the map, where you can see European Union countries which have already implemented electronic ID card system. Also some countries are leading, some of them have plans and others do not have even a plan.

Figure 1 The map of European Union countries, which have already implemented ID card system and which do not (iDABC and beyond, 2008)

Within the frames of discussions about the implementation of the innovative technologies in State governance, the country of **Estonia** is often called "e-Estonia", where the "e" indicates the aspiration towards the digitalization, which is so prevalent in Estonia.

Estonia has achieved the significant success in implementing the electronic governance. The efficiency of electronic services within the country conditions the enthusiasm both in political actors and in ordinary citizens.

The origins of this revolution took place from 1991, when Estonia regained its independence and the politicians were given a unique chance to rebuild the state, which previously was corrupted with bureaucracy. The faith within the increasing abilities of the internet and the innovation allowed the country to realize the rapid shift and create one of the most advanced "electronic" societies of the world (Estonia is a digital society January 2016).

Nowadays there is a wide range of electronic services for the citizens of Estonia, which they use in their everyday lives. Currently, the Estonian Government offers its citizens more than six hundred e-services. Using the ID card, which acts as an online passport, a major part of the country's citizens are able to regularly realize operations such as: remotely signing contracts; use ID card for payment in transport; pay for parking via mobile phone; vote via internet; perform banking transactions over the Internet; receive digital prescriptions from doctors remotely; students can check their assessments; to monitor the process of learning and access the educational materials on the Internet; to create a new company in 18 minutes, without leaving the PC.

Creation of the society of e-Estonia became possible thanks largely to the character of the infrastructure, which was being created as a decentralized system connected with the series of networks. This made the difference from one centralized system which would contain all the programs necessary for the realization of governance.

The flexibility of the system, ensuring its openness, allows the development of new possibilities, without the necessity of making the costly restructuring of the existing functions. The ID card has the key role in the utilization of almost all the innovative e-services in Estonia. It allows the identification of a person and to assure the document digital signature. The e-ID system uses the powerful coding, which implies the maintenance of the minimum personal data on the ID card.

By January 2012, approximately 90 % of the Estonian population had received the ID cards. The Estonian ID-card is used both as an identity document and a travel document within the borders of the EU.

Another significant use of the ID-card, as mentioned above is its function which enables the citizens to vote online. Since 2005, the citizens of Estonia have been given the opportunity of voting by means of the internet.

Being the country which has the long traditions of officially registering the population (since the 17th century), **Sweden** has been one of the most progressive states in terms of implementing the e-ID card system necessary for the facilitation of e-governance within the country.

According to Springer, "when the development towards electronic services to citizens and the related issue of electronic IDs (e-ID) began in the mid-1990s, there was both a well-established back-office administrative organization and general acceptance in society for registration" (Ake Gronlund March 2010)

The electronic IDs have been issued by the Swedish Government since 2001. Herewith, as the Springer mentions, the electronic IDs "are based on the Swedish administrative tradition and hence include the personal identity number, taken from the national population register, as identifier and key to compare data across the databases".

In Belgium, the e-ID card program has been activated since 2004, but the idea of the government to digitalize the ID cards and governance - existed at least three years earlier. According to the report (Gemalto, The identity card program in Belgium), "in July 2001, the Belgian Council of Ministers decided to launch an electronic ID card for all its citizens. This card was to be the cornerstone of a wider e-Government project, aiming to simplify administrative procedures, and modernize public services".

Belgium has been one of the first countries which implemented the e-ID card program on the national level. The aim of the program was "to provide Belgian citizens with a secure identity document, but also with a brand new digital signature and identification tool to access public and private services online". For 2009, the Belgian e-ID card project had issued almost 9 million ID cards, becoming the leading country in Europe, together with Estonia, which has met the goals of the e-ID project implementation. Herewith, "The Belgian card is the digital key for more than 600 electronic applications on the internet (Fedict October 2009)".

The remarkable part of the Belgian e-Government program has been the increase of transparency of the government institutions possessing the information about the

citizens' actions, by means of the application of "My File", which is given to every citizen of Belgium after he has received the e-ID card. The paper mentions that "with this application, Belgian citizens can consult all transactions performed over the last 6 months by government officials who have accessed files using their civil register data, from the National Population Register, with the exception of exchanges relating to State security (Justice and Homeland Security)" (Gemalto, The identity card program in Belgium).

3.4 ID card programs in developing parts of the world

Considering the effects of globalization, there's a tendency in developing countries of the world to adopt the e-governance strategies and policies, which without any doubt include the implementation of e-ID cards which are now used as the means of participation within the electronic governance and the actions involved in it. According to the article by Alan Gelb and Julia Clark "Robust national identification systems are necessary for social, political, and economic development, and they can strengthen aid delivery" (Alan Gelb and Julia Clark October 2012).

A good example for illustrating the efforts of implementing the e-ID card program is **India**. Being the country with a huge population (1.2 billion citizens), India has had unique foundations for testing the success of the electronic ID technology. According to the same article, the actions taken by the Indian Government in relation to the implementation of the e-ID cards offer several important lessons, including: "Using multiple biometrics to maximize accuracy, inclusion, and security; Supporting public - and private-sector applications to create incentives for use; Competitive, standards-based procurement for lowering the costs" etc (Alan Gelb and Julia Clark October 2012)..

Despite the early stage of the ID card program in India, "it is already the largest biometric identification program in the world with more than 200 million people enrolled and a target of 1.2 billion" (Alan Gelb and Julia Clark October 2012).

By means of providing a unique number (which is called "Aadhaar") to each resident of India, the country is trying to enhance its own involvement by means of distributing the government services to those groups which have been marginalized by the society,

together with reducing the level of corruption within the country and ensuring the transparent elections.

The World Bank has outlined the major important issues related to the necessity of implementing the digital ID cards in developing countries of the world. Considering the fact that "government's ability to deliver important services to its people depends on its ability to uniquely identify people" (Mariana Dahan et al. June 2015), and as the official identification of the individuals is of the central importance in every field of socio-economic life, implementing the digital IDs programs are necessary for effectively managing and governing the society. And the e-governance, which currently represents a really efficient way to govern the society and deliver services, represents the source for the increasing efforts of implementing the digital ID cards – so called "e-ID cards".

According to the World Bank website, "In many developing countries, official identification remains an elusive goal: for example, in Sub - Saharan Africa, as many as 55 percent of people have no official identification record. This lack of identification severely hampers access to services" (Mariana Dahan et al. June 2015).

The research which was conducted by the World Banks in 2014, revealed that "625 million children were not registered at birth", "More than two billion people lack formal identification" and that "500 million people were outside the regulated financial system for lack of recognized ID documentation" (Mariana Dahan et al. June 2015).

Besides ensuring the benefits for the ordinary citizens of the developing countries of the world, "digital ID gives government and business the ability to deliver services electronically, boosting efficiency and driving innovation". For the developing countries, this has a special importance, as far as the population in such countries isn't properly reached by the socio-economic services, bringing them in the isolation from these services.

Georgia represents one of the several countries of the former USSR which have gone through the major transitions and changes following the period of regaining their independence. In this regard, Georgia can be placed together with Estonia in terms of a relatively new democracy. As in Estonia, implementation of the ID cards program in Georgia has been quite successful, but there's still a long way to reach the same level of

digitalization of the government services which Estonia has. Below I will discuss the major issues related to the ID card program implementation in Georgia and its interrelation with the possibilities of realization of good governance.

3.5 ID cards in Georgia – overview

The new ID cards in Georgia have been issued by the Ministry of Justice of Georgia since August 1, 2011. According to the Manual of the e-governance in Georgia, "the owners of the new ID cards are protected by the full spectrum of the security mechanisms based on the modern technology" (The Manual of the e-governance in Georgia, pp 12).

The possibilities of the automatic reading of the ID card and its integration within the computer systems allows its owners to benefit from the immediate services, both in State and private companies.

The new ID card enables Georgian citizens to make an electronic signature without leaving home, and such signatures are considered as valid by everyone.

There is the same approach towards the general usage of the ID card in banks and other private sector companies and agencies.

The new ID card also enables the users to receive some exclusive discounts in various shops or service vendors.

It has to be mentioned that the electronic signature represents an important component of the e-governance. In order to make a full-fledged communication between a state and its citizens, as well as between the state and the business sector, the validation of the expression of a person's will is required, which can be achieved through the electronic signature. The electronic signature in Georgia is also used for the registration of a new business.

The implementation of the e-ID card program in Georgia has resulted in the simplification of the relations between the State and the citizens. This implies the simplification of the citizen services and procedures.

It is important to notice that, the implementation of an ID-card program is never isolated from the issues of governance; hence, it always has to be discussed within the context of the efforts of achieving good governance.

According to "e-Georgia strategy and action plan 2014-2018", the Georgia is ranked 72nd (of 193 countries evaluated with an e-Government score of 0.5563 and as an online

availability of 0.6013). Although Georgia's online service score have increased since 2008, there is a large gap between the availability of e-Service and the actual use of the services. According to the same paper, the projects of G2C (electronic services for citizens) have focused on the development and implementation of digital services for the issuing of passport, ID and residency, life event series related to marriage, divorce, birth adoption, change of name etc. This includes the introduction of identity cards and the development of the my.gov.ge portal, on which e-services are integrated.

The current state of e-Government for citizens focuses on the availability of online services via the my.gov.ge portal. But it is also important that priority is going to be given to the increased availability of e-Services across the country through self-service kiosks at Public Service Halls, Village Houses/community centres and libraries, as well as commercial channels such as Payment Kiosks.

Similar to G2C services, the development and implementation of e-Services for businesses and NGOs has to prioritize high-impact services via the my.gov.ge portal, or via other dedicated portals, and multiple channels such as a "my Business" portal mybusiness.gov.ge, self service kiosks at Public Service Halls, Village Houses / community centres and libraries, as well as commercial channels.

Although Georgia is ranked 9th (of 185 countries) in the World Bank's ease of doing business, there is potential and opportunity to reduce costs of doing business in the country through smarter government-to-business interaction. This potential is also stressed by the 2012 UN e-Government Survey and the country's online service availability score (i.e. supply) and the relatively low level of G2B e-Services use (i.e. demand and take-up).

Georgia has implemented some e-Services for businesses, such as the mandatory use of the Revenue Services' digital declarations through www.rs.ge – providing a number of e-Services on revenue reporting with direct integration among company ICT and government systems, or the e-NRMS – the Natural Resource Management System for government property.

Digital B2G service offers include e-Auctions (eAuctions.ge) offered by the Ministry of Finance and e-Procurement system provided by the State Procurement Agency. Of particular relevance to businesses is a key enabler for sophisticated online service provision: the e-Stamps as described in section 3.7.3 as an infrastructure service for businesses and governments.

The issue of transparency of e-services has also been an important part of the e-government implementation in Georgia, as far transparency is an important matter for an adequate functioning of these services. This includes some efforts to reduce corruption and improve overall accountability and good governance.

With the Institute for Development of Freedom of Information (IDFI - http://www.idfi.ge) and Transparency International Georgia (TIG - http://www.transparency.ge) very active NGOs exists that carry out research projects on Freedom of information, public information (e. g. http://www.opendata.ge), e-Participation and preventing corruption in Georgia. There is already the right of citizens/businesses to see own data and the right to see which government entities have requested/used their data. But a study of IDFI showed that "In conclusion, analysis of the Georgian legislation and its implementation in compliance with the standards of the Human Rights Committee shows that Georgia should improve legislative framework as well as administrative and court practices to provide transparency of public authorities and to be evaluated positively by the Human Rights Committee in the process of exercising obligations under the International Covenant on Civil and Political Rights" (General Comment of the UNHRC March 2013).

3.6 Summary

In the chapter given above, I have briefly discussed the specifications of the ID-cards system implementation in developed and developing countries of the world, outlining the special importance of the digital ID systems within the realization of good governance.

Considering some of the basic aspects of digital ID systems and their relation to the good governance and vice versa, it can be safely stated that the implementation of the electronic ID-cards system directly affects the country's ability to adapt to the new international standards of the electronic governance, which in turn has to represent an efficient form of the "good governance" concept.

The developed parts of the world are quite quick in adopting the technological novelties in each field of social, political and economic life, and in this regard, adopting the digital ID systems hasn't been an exception. Estonia, along with Belgium, has been the leading country in transforming all kinds of public services into the electronic format, which has given it the name of "e-Estonia". But not all countries have been eager to

implement the digital ID system. Although there are some efforts in developing countries to adopt the digital ID systems, not all of them have been successful because of various reasons – including the political, social, economic, cultural and other reasons. Georgia has been one of the several developing countries to adopt the digital ID system, which in turn has resulted both in socio-political debates and the success of implementing the systems necessary for effective implementation of the e-governance within the country. Despite the certain success, Georgia still has a long way towards becoming the country of effective e-governance, the services of which will be easily accessible for all of its citizens, together with increasing the levels of democracy, transparency of elections etc.

For the effective continuation of the electronic ID cards system implementation policy, studying the socio-cultural environment can play a crucial role, as far as it is the citizen awareness which allows or hampers the implementation of a novelty in administrative and public services. Within the following chapter, I will try to evaluate the citizen awareness in Georgia towards the electronic ID cards, as well as the influence of their awareness on the process of digitalizing the public services which previously were considered as strictly bureaucratic.

4 Citizen awareness towards the e-Governance

The chapter 4 contains the answer to the second research sub question "How does people's awareness influences ID card usage (in Georgia)?" Bellow has discussed the Georgian citizen awareness towards particular issues of governance, socio-cultural, religious, political and economic aspects of the ID card. Also are reviewed electronic ID card implementation and its usage in Georgia and certain problems in availability of the e-governance services in some parts of the country, in municipalities such as Mtskheta, the city of Gori, Tchkhorotsku, Zugdidi, Akhmeta, Kvareli, Khashuri, Kareli and Khobi. And the most importantly, the results of the survey are given in detail.

4.1 Citizen awareness towards the e-Governance in Georgia

As mentioned above, Georgia represents the country which has gone through major political, social and economic changes during the past two decades, which has been the transitional period from being a member of the former USSR towards becoming a democratic and independent country. This, in turn, has influenced the course of the globalization effects within the country, as far as the speed, course and the specific tendencies of globalization vary from country to country.

Georgia has always been the country which was rapid in adapting to international changes, as far as Georgian culture, in general, appreciates the foreign countries, their citizens, as well as the leading trends in the international communities. This, in turn, has influenced the relatively rapid adoption of the internationally recognized standards and the new technological trends in governance. This can be backed by the fact that Georgia represents one of the countries which has already been open to the implementation of the electronic ID cards in order to realize the effective electronic governance and bring the e-services closer to the population of the country, increasing their availability to all citizens of the country.

Despite the fact that there still are certain problems in availability of the e-governance services in some parts of the country, in particular – among those regions, which are either located in high mountainous regions of the country or are poorly developed technologically. But, it has to be mentioned that the implementation of the electronic ID cards program by the Georgian government since August 1, 2011, has been projected to overcome all technological obstacles related to the availability of e-governance services, gradually increasing their availability. It is important to mention that, with time (probably in nearest 5 or 10 years), the technological and economic difficulties related to increasing the availability of e-services – are going to decrease in case of the proper policies and economic support, with the major role in this case playing the ID card policy within the country.

The citizen awareness towards particular issues of governance within a given country is often related to the political, social and cultural characteristics of a country. Thus, it is useful to identify those socio-cultural and political, as well as the economic properties which influence the course of the ID card awareness in Georgia.

4.2 Religious, cultural and socio-economic aspects of the ID card awareness in Georgian citizens

The usage of ID cards in Georgia, as well as the awareness related to it – are closely linked with the religious aspects of the country. The Orthodox Christianity, which represents the major religion of the country, has influenced the awareness of citizens towards the globalization and technological changes, including the implementation of the ID cards in Georgia.

Since the beginning of the implementation of the e-ID cards project in Georgia (as well as months before its start) in 2011, there has been much diversity in opinions towards the moral, ethical and religious relevance of obliging the citizens to receive the electronic ID cards. Particular religious leaders of the country have discouraged the utilization of the e-IDs by the citizens, stating that they could limit their freedom of choice and will, while other religious leaders state that there's nothing wrong with receiving the e-ID cards, as far as they cannot interfere with the free choices of the individuals. This, in turn, has influenced the split of the public opinion towards the issue whether to receive the e-ID cards or not, resulting in quite sharp debates between the political parties or individuals.

Being located at the borders of Europe and Asia, Georgian culture represents the mixture of Asian and European elements, which in turn has influenced the Georgian awareness towards the number of issues, including the social and political issues. The field of social and political sciences, which is closely related to the field of governance and interrelated issues, has outlined some major characteristics of cultures across the world. One of such characteristics is displayed in terms of individualism and collectivism, emphasizing the basic cultural orientations of a given society. Being a country with Asian mentality and traditions, Georgia has adopted certain European elements within its culture, but it still is under the influence of the collectivist culture, which is group-oriented and involved a strong sense of conformism. Because of this, Georgian culture has been quite hesitative in adapting to the e-ID cards programs, as well as the e-services attached to them. On the other hand, the individualist tendencies which already are a quite apparent in Georgian culture influence the non-conformist thought in relation to the technological-political novelties, resulting in quite wide range of opinions towards the relevance of implementation of the e-ID cards in Georgia. The individualistic cultural tendencies sometimes cause a strong protest towards the e-ID

cards in Georgia, but more often they contribute to forming the tendency of supporting the adoption of new technologies to simplify the personal identification and improve the governance.

As for the social and economic aspects of the e-ID card awareness in Georgia, I can outline several basic factors of Georgian social environment: the characteristics of social capital within the country, the relatively low level of economic development and the low availability of new technologies in particular regions of Georgia. The characteristics of social capital in Georgia, which include both clan-based social structures and cohesive groups, have influenced the speed and success of the implementation of the e-ID cards program in Georgia in several ways. On one hand, as mentioned above, the ideology that the e-ID cards are being used for manipulative reasons, has been extremely common in citizens of Georgia, which is especially true for the rural areas, but the central cities of the country have also been involved in such ideologies. On the other hand, the closely covered political groups have influenced the population to volunteer in receiving the e-ID cards, emphasizing on their benefits, rather than threats.

After discussing the basic religious, cultural and socio-economic aspects of the e-ID card awareness in Georgian citizens, it is necessary to briefly review the current conditions of the implementation of e-ID card program in Georgia, including its positive and negative aspects.

4.3 Current conditions and issues of ID card awareness in Georgian citizens

According to Georgian experts of law, Irakli Kobakhidze, adopting and implementing the electronic ID-cards program has both positive and negative aspects. With the assistance of the biometric data, the threat of falsification of the IDs and the personal data – is decreased (Keti Chelidze, August 2011).

By means of using the ID cards, it is becoming easier for the public institutions and private organizations to identify an individual, which is of a great importance for the total public security, including the crime prevention.

It also has to be mentioned that the ID cards are already significantly simplifying the access to the various public and private services. For instance, the citizens are able to open a bank account by means of the internet network, sign the documents

electronically and change the place of registration. In addition, the ID card will replace the cards for travel, banks, insurance, as well as the student cards and the workplace cards etc.

But, despite the positive aspects of the ID-card program implementation listed above, there are certain threats related to it. In particular, the electronic IDs can become the instrument of total control under the subjects who govern the biometric systems. The ID card collects a huge amount of information about an individual and his activities (including the financial transactions, the property status, the route, the official relations etc.). The unlimited access to all of this information could enable the public institutions to manipulate the society to a great extent.

Unfortunately, the Georgian legislation doesn't establish enough guarantees in terms of ensuring the proportionality and transparency of the usage of information attached to the ID card. These conditions the fact that the citizens are not protected from their unlimited "catalogueization", which has to be perceived as the event containing some serious threats.

The issue whether the implementation of the electronic cards violates the human rights – has been the subject of an active discussion and debate during the recent years. The jurisprudence still hasn't agreed on the unanimous position whether the implementation of e-ID cards violates the basic human rights. But, the lawyers often mention those threats which the implementation of electronic ID cards program contains in terms of violation of the basic human rights. Herewith, the majority of lawyers agree that the rights of dignity and the personal freedom could be violated in case the control by means of the e-IDs is utilized overly extensively and intensively.

The important fact is that despite an ongoing debate about the benefits and threats of the implementation of e-ID cards program within the country, the Georgian government has managed to successfully lead the e-governance implementation in local self - governments of various regions of Georgia.

On September 9, 2015, the State Services Development Agency (SSDA), within the frames of the project "e-governance implementation in local governments" signed the collaboration memorandum with several agencies in Georgia, in order to realize the implementation of e-governance in four regions of Georgia (Dato Gogua, August 2015). According to the memorandum, the e-governance project will be implemented in four new municipalities of Georgia: Mtskheta, the city of Gori, Tchkhorotsku and Zugdidi. The computer infrastructure of the municipalities are going to be updated, the staff will

be trained in the basic IT skills, as well as in electronic systems and the municipality governance systems. The legislative basis, linked with the transition to the e-governance of the municipalities – is going to be updated as well. On the final stage, the electronic system of the document turnover and the municipality governance system will be implemented.

By means of the system mentioned above, the control over the services will be improved, the service deadlines will be reduced, and the operational and human flaws will be minimized, and the decision-making process will be made more transparent. Within the frames of the preparation for the project "e-governance implementation in local government", already five municipalities of Georgia have been included: Akhmeta, Kvareli, Khashuri, Kareli and Khobi.

"The municipalities are already transferring to the electronic governance system which in fact implies a one-window principle. Therefore, the citizens of Georgia will receive the services and engage in local self-governments' activities more easily. This will make the services more comfortable for the population" – the representatives of the Tchkhorotsku municipality members say.

In order to get an idea about the e-services of Georgia, it is appropriate to briefly analyze some of the most popular Georgian e-government websites**,** which have been created in order to enhance and simplify the electronic services related to the e-ID card usage. The brief analysis of these websites will include several dimensions, including: informativeness, transparency, effectiveness, simplicity and the possibility of mutual contact, including the feedback from users etc.

One of the noticeable e-government websites is www.my.gov.ge. The website has a wide range of electronic services, including the next services: private information, family, health, social services, real estate, business, taxes, penalties and education. Among these services, the access to private information, social services, real estate and some other services can be accessed electronically via using the e-ID card (in the case of owning the electronic ID card reader).

The website also contains information about various public administration services for citizens and business. In terms of informativeness, this website definitely fits the international standards for an e-government website. Being an interactive website, it offers users a comfortable and simple interface, making it a user-friendly website. Although the problem is that the website doesn't provide the citizens with feedback

opportunity, so it could not be considered as a very transparent website, although it is really informative for all who need to use its services online.

Another website utilized within the process of e-governance is http://www.rs.ge/, the website for income taxes. This website offers a wide range of information to its users, but just like the one mentioned above, it's not an interactive website, in terms of unavailability of mutual contact. Although it has to be mentioned that it offers the detailed information to users about various issues, including information on corresponding legislation and statistics. So, it could be considered as a more transparent website, compared to the latter website. This website is also user-friendly, as far as it has quite comfortable search engine for Georgian citizens, offering a wide range of information about each electronic or non electronic service it offers to users. This website too can be accessed by an e-ID card via ID card reader attached to the computer.

In Georgian internet-space, considering the e-governance websites, there are some websites which can't be directly accessed by an electronic ID card online, but they nevertheless represent an important source for the effective realization of e-governance. One of such websites is https://matsne.gov.ge/ which offers the citizens an opportunity to find any kind of legislative documents they need. The website is highly informative and user-friendly, as far as it offers the search instructions and help to its users. This website can be considered as a transparent one because it displays almost every kind of information on legislative documents openly.

The website https://declaration.gov.ge/ contains information about the declarations of the government officials, as well as of other individuals who operate on the level of government and the administration. Being a public website, it enables the citizens to receive the information about each government official. The level of transparency of this website is quite high, and it also offers citizens some of the basic legislative documents about the ownership rights of government and public officials. Because of this reason, this website can also be considered as a user-friendly, although there's a lack of availability of feedback from citizens, as far as the validity of declarations can not be evaluated by individual citizens or independent NGOs working on such issues.

One more website linked with the e-governance issues is http://www.e-government.ge/. This is the website which offers users a wide range of information about e-services, as well as the non-digital public administration services. This website has many portals, which include the sections for citizens, businessmen, state officials, foreign citizens of

Georgia etc. This website is the most interactive one, compared with the websites listed above, offering the widest range of information and services which look more transparent and efficient.

The website http://psh.gov.ge/ being the website of the "Justice House", offers users the information about virtually all available services at "Justice House". Citizens can use the online services of the website, which include the online registration for certain documents, without the need to stand in long rows for ordering necessary documents, and this simplifies the process of interaction and definitely is one of the most noticeable improvements in Georgian e-public administration. Many of the website's services can be accessed via an e-ID card.

The website for the National Bureau of Enforcement, http://nbe.gov.ge, enables users to receive information about the procedures and services of their interest. This website too is user-friendly, as far as it offers wide range reciprocal information, including the FAQ and the availability of feedback.

To sum up, almost every Georgian e-public administration website provides a wide range of information for citizens, but almost each of them lacks an adequate mechanism of feedback. Some of them contain a certain number of electronic services while others serve just as informants for those who use internet in order to get access to public services. Of course, there are some problems, but the current policy of the Georgian government towards the implementation of e-government services has been quite successful and has affected the change in citizens' awareness in relation to the e-ID cards.

4.4 Research – the electronic ID card awareness in Georgian citizens

As mentioned above, the citizen awareness towards the e-ID cards programs represents an important part of the success of the implementation and realization of such programs. Because of this reason, it is necessary to study the citizen awareness towards the e-ID cards both at theoretical and practical levels.

In order to investigate the characteristics of the citizen awareness towards the e-ID cards in Georgia, I conducted a study which aimed to reveal the main aspects of citizen awareness towards the ID cards in Georgia.

The study was conducted using the quantitative method, and I utilized the instrument of the survey in order to gain the comprehensive information about the subject of my

interest. The questions of the survey were open-ended, leaving the respondent free to answer with any statement he considered right.

The instrument of the survey is one of the most popular and common instruments used within the research of social and political sciences. The tool utilized within the survey was a questionnaire.

According to Shaughnessy Zechmeister and Jeanne (Shaughnessy J. et al. 2011, pp 161 - 175), "Survey research is often used to assess thoughts, opinions, and feelings". The survey research is often used in fields such as psychology sociology and politics, as far as it is very useful when trying to analyze behaviour. According to Hansen (Hansen Morris H. 1953), "a survey consists of a predetermined set of questions that is given to a sample". It is important to mention that survey is a great method for conducting a research on a representative sample which then can be generalized to the general population.

4.5 Interview results

1. **What do you know about the electronic ID cards?**

%

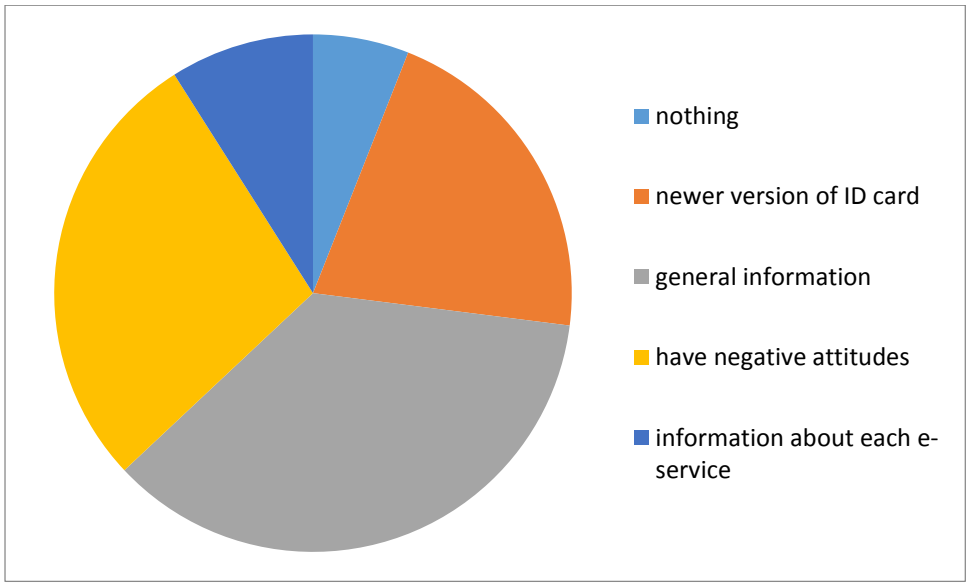

Figure 2 The results of the question "What do you know about the electronic ID cards?"

As the result of the research conducted among the citizens of rural and urban areas of Georgia, it was revealed that 6 % of the respondents know nothing about the electronic

ID cards; this is mostly true for the population of older age. 21 % of the respondents think that the electronic ID card is the newer version of the ID, but they know nothing about the electronic services attached to it. 36 % of the respondents stated that they have general information about the new e-ID cards, but they don't have the detailed information about it.

28 % of my respondents stated that the e-ID cards are "the work of devil", and they requested the alternative IDs. This represents the result of country's religious policy, which is often misunderstood by its citizens. As already mentioned above, since the beginning of the implementation of the electronic ID cards project in Georgia (as well as months before its start) in 2011, there has been much diversity in opinions towards the moral, ethical and religious relevance of obliging the citizens to receive the electronic ID cards. Particular religious leaders of the country have discouraged the utilization of the e-IDs by the citizens, stating that they could limit their freedom of choice and will, while other religious leaders state that there's nothing wrong with receiving the e-ID cards, as far as they can not interfere with the free choices of the individuals.

Only 9 % of the interviewed respondents know exactly about all those electronic services, which can be accessed via an e-ID card. This speaks of the quite undeveloped awareness of e-government services among Georgian citizens, which could be conditioned by the country's economic situation and its developmental status. As far as Georgia represents a developing country, the access to the new technology is relatively limited, in particular – in high-mountainous and some rural areas of the country, as well as in some cities, considering the fact that quite a large percentage of Georgian population live under the threshold of poverty. This causes the lack of access and knowledge of the possibilities the e-ID card is giving them in terms of simplifying the use of bureaucratic services.

2. **Do you have new electronic ID card?**

%

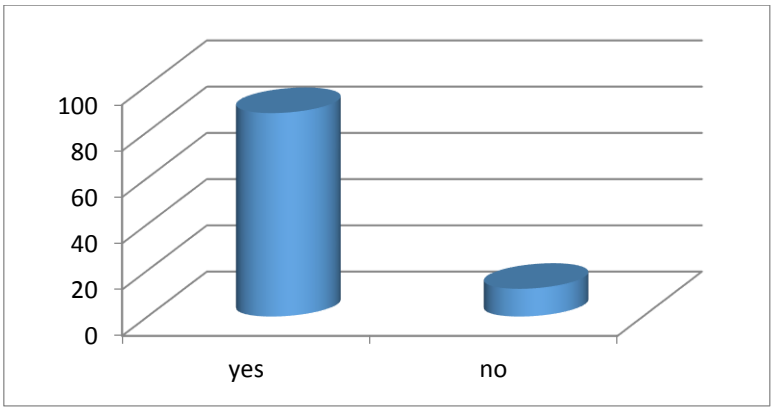

Figure 3 The results of the question "Do you have the new ID card?"

The research has revealed that almost 88 % of the interviewed citizens have the new ID card while 12 % haven't received the new e-ID card yet. It has to be mentioned that the majority of those who don't have the new e-ID card – represent the residents of the rural areas. Because of the fact that some of the rural areas don't have the direct access to so-called "Justice Houses", prevalent in Tbilisi and other major cities of Georgia, and in order to receive the new e-ID card, the residents of such regions have to travel to the nearest cities, which requires additional efforts and expenses from them.

59 % of those residents which don't have the new e-ID cards, state that their old IDs still haven't expired and they don't see an urgent necessity of replacing it with a new e-ID card; 28 % of them state that they aren't going to take the new e-ID card, as far as they consider it to be "the work of devil", and the remaining 13 % haven't decided yet whether they want to receive e-ID card or not.

3. What do you know about the ID card services?

%

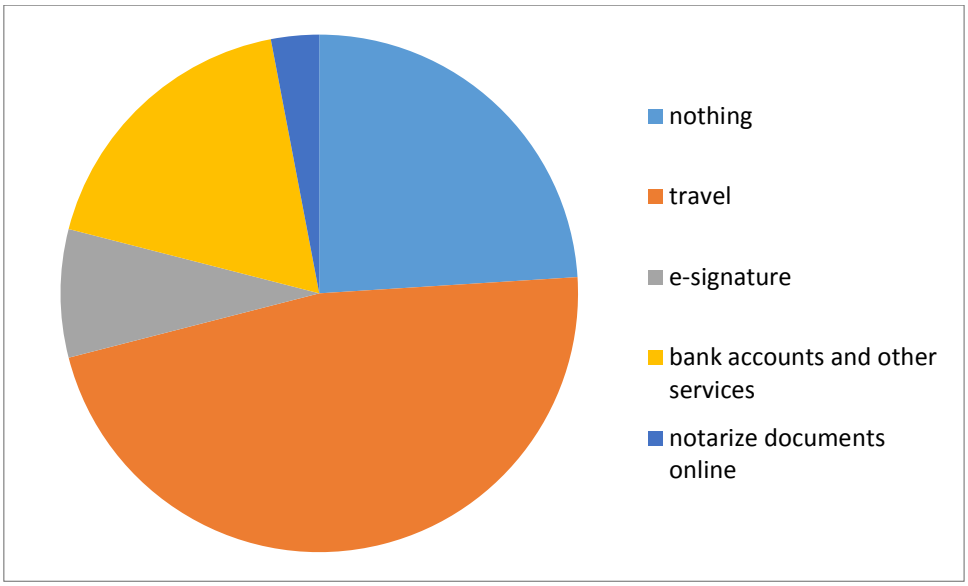

Figure 4 The results of the question "What do you know about the ID card services?"

The research revealed that as much as 24 % of the respondents know absolutely nothing about the electronic services of the new e-ID cards and they think that the e-ID card is just a renewed version of the traditional ID card. 47 % of the respondents know that they can travel to Turkey without a passport, using the e-ID card, and 8 % of them know that they can use the service of electronic signature. 18 % of the interviewed population knows that they can open a bank account and register a property and register a new organization electronically, using the e-ID, without leaving their home. Finally, only 3 % of the population knows that they can notarize the documents electronically via the internet.

4. Do you trust the electronic services?

%

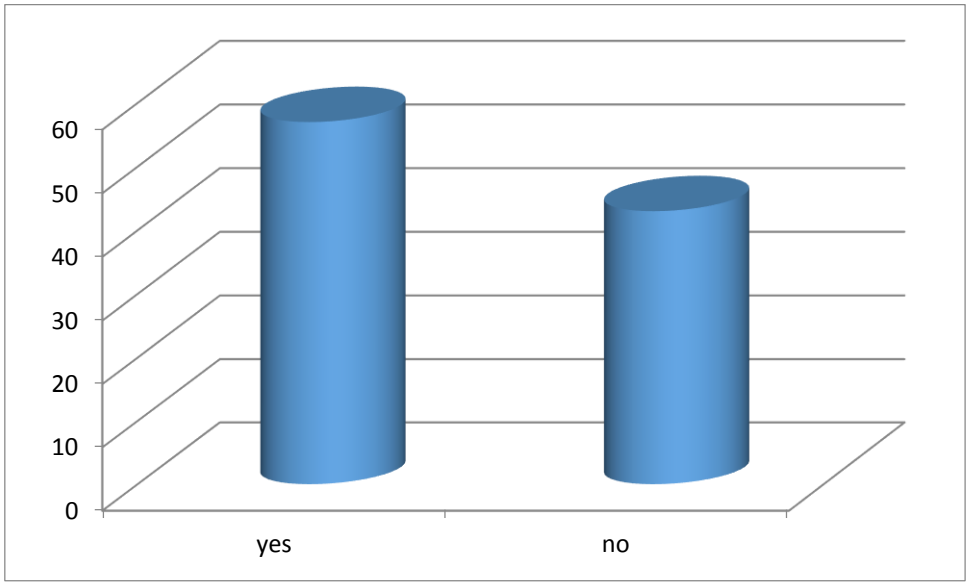

Figure 5 The results of the question "Do you trust the electronic services?"

57 % of the population is completely sure that the electronic services attached to the electronic ID cards – are safe while 43 % of them don't trust the electronic services. Considering the fact that quite a large percentage (43 %) of the population thinks that owning the e-ID card isn't safe, they have only taken the e-ID cards because their previous ID cards had expired and they had no other choice.

As it has become clear, quite a large part of the citizens of Georgia (43 %) doesn't trust the new e-ID cards and the services attached to them. This, in turn, could be conditioned by the fact that the citizens aren't fully informed about the e-governance services, making them suspicious towards the e-ID cards. Another reason for the lack of trust could be the socio-cultural aspects of the country, namely – the influences of the misunderstanding of the Orthodox Christian religion and the faulty statements of some religious leaders, describing the e-ID card as the "work of devil", making its citizens more vulnerable towards the suspicions that someone might be trying to control their lives by means of the technology attached to the e-ID cards. Although, it has to be mentioned that those suspicions aren't without a foundation, as far as it is far easier for the government to gain the information about a citizen's public life in case he or she owns an e-ID card.

5. Do you have an access to the internet?

%

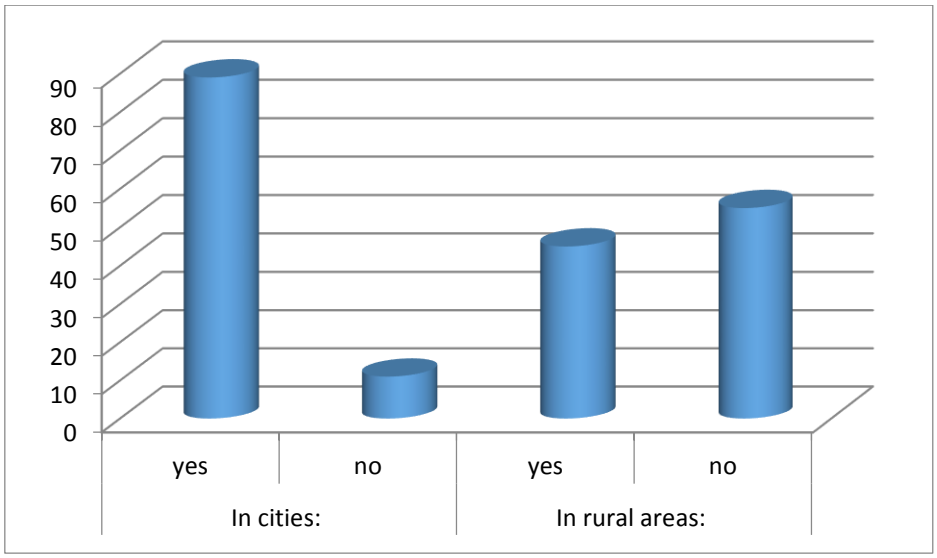

Figure 6 The results of the question "Do you have an access to the internet?"

The research has revealed that in large cities of Georgia (such as Tbilisi)as much as 89 % of the population has access to the internet, but this number in smaller towns and the rural areas of Georgia is much lower – 45 %, while another 55 % of the population of such areas doesn't have an access to the internet.

This too is probably caused by the fact that Georgia still represents a developing country, and its financial resources aren't enough to support the distribution of technology in rural areas. As far as the economic development level is quite low in Georgia in relation with even some other developing countries, I shouldn't expect an exceptionally high level of trust and knowledge towards and of the e-ID cards and the e-governance services, as this requires that vast majority of the citizens have an access to the internet and computer technologies.

6. In your opinion, what is the most beneficial thing about the usage of ID cards?

%

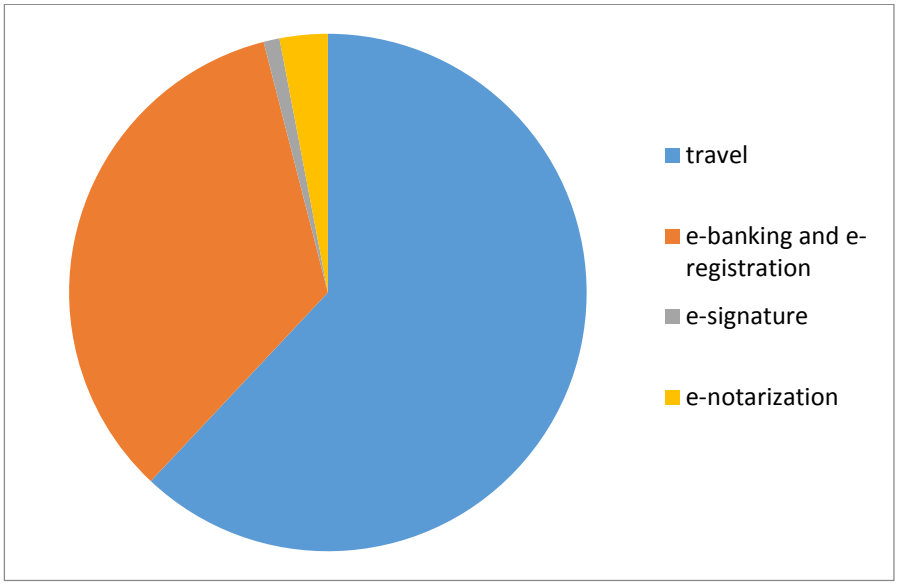

Figure 7 The results of the question "In your opinion, what is the most beneficial thing about the usage of ID cards?"

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As it has been found, the chance to travel to the neighbour country without an international passport represents the most popular e-service attached to the ID card. The study has shown that majority of the citizens think that the most beneficial thing about the e-ID card is that they can travel to Turkey using the e-ID card, without the need of an international passport.

Another 34 % of the interviewed citizens think that the most beneficial thing about the usage of the e-ID card is that they can open a bank account or register an organization by means of the electronic ID card and the internet, without even having to leave their homes. 1 % and 3 % of the citizens correspondingly think that the most beneficial thing about the e-ID card usage is the e-signature and the e-notarization.

As for the last question of my survey, studying the attitudes towards implementation of ID cards, quite a high percentage (61 %) of the interviewed citizens have stated that by means of the implementation of the ID cards, their use of the electronic services will be simplified as it won't require leaving their houses to access those services. Another 28 % of the citizens still answer that the e-ID cards are "the work of devil", revealing their negative attitudes towards it, and they require the standard old-style ID cards. And at last, 11 % of my respondents stated that it doesn't have any special meaning for them,

displaying their neutral attitudes towards the issue (stating that the new e-ID cards have the same functions as the old IDs).

4.6 Conclusion

To sum up, my research has revealed that the ID card awareness in Georgian citizens is quite developed, but their awareness towards the e-governance services is still limited. This can be attributed to the fact that the e-governance services are quite new for Georgian citizens, causing their trust still to be at a relatively low level towards the e-ID cards. Another important factor influencing the ID card awareness in Georgia is the religious factor, which has had its implications even before the start of the implementation of the e-ID program. In addition, the citizens of urban areas – such as the major cities of Georgia – have a higher awareness of the e-ID card and the e-services related to it – compared to the residents of the rural areas. This is caused by the fact that many of the regions of Georgia still don't have a fully developed internet infrastructure which would enable the citizens to access the e-governance services without much effort.

The research has revealed one more interesting issue, which is the issue of the usage of the e-ID card as the tool to access various e-services. It was found that the majority of Georgian citizens view the e-ID card as the simplest means for travelling abroad without an international passport (considering the countries which have visa free travel with Georgia). On the other hand, the Georgian citizen awareness towards the e-services is quite limited, as far as a majority of the citizens can not name more than a few such services when asked.

Despite the fact that, as the research has shown, up to 90 % of citizens have received an e-ID card, their awareness towards the e-ID card and the e-services still has plenty of room for development; and the further development of the citizen awareness towards the e-ID card and the related services depends on upon the successful socio-economic development of the country and the creation of further e-governance awareness programs accessible to even the most underdeveloped regions of the country.

5 Findings and possible future perspectives of the ID card

In chapter 5 is analyzed the third research sub question "How to attract people?" below are reviewed possible future perspectives of the ID card usage in Georgia, future possibilities for the digital ID and the electronic government development, the vision of e-Georgia strategy and Digital Georgia strategy and action plan 2014-2018. Below is considered what is needed to find adequate ways for effectively increase the citizen awareness related to the e-ID card programs and the implementation of the e-governance technologies and programs, also Estonia as the country of successful reforms and case study about Estonian ID card and citizens' awareness from the beginning till present time.

5.1 Possible future perspectives of the ID card usage in Georgia

As already mentioned above for many times, Georgia, representing a developing country with the underdeveloped economy and relatively short history of independence and democracy, stands before the challenge to implement the e-governance programs successfully and effectively.

It has to be mentioned that, the future perspectives of the ID card awareness development are directly related to the situation of the e-governance within the country. Below I will discuss some of the future possibilities for the digital ID and the e-governance development in Georgia, before continuing with the ways of increasing the citizen awareness related to it.

The document "Digital Georgia strategy and action plan 2014-2018" is one of those documents, which are related to the possible future perspectives of the e-ID card programs in Georgia (Bernhard Krabina et al. 2014 - 2018). The program mentioned above comprehensively discusses the current and future changes conditioned by the informational technology novelties.

Within the vision of the e-Georgia strategy, the wide spectre of the digitalization of various e- governance services is discussed, including the creation of some e-services which haven't yet been present in Georgian digital space. According to the "e-Georgia strategy and action plan 2014 - 2018", "Georgia improves its e-Services score in the biannual UN e-Government Survey with 5 points by 2014, 10 points by 2016, and 20 points by 2018 from its 2012 base of 72nd position (0.556 e-Government Index in UN

Study 2012).7 – 90 % of central public G2B/G2NGO/B2G services and 70 % of services from local governments and private sector are available through multiple channels at transactional level in a user-friendly and efficient manner through the one-stop portal (single hub) accomplishing public duties" (Bernhard Krabina et al. 2014 - 2018 page 14).

The thematic priorities of the program mentioned above include the improvement of electronic services, both for business and the ordinary citizens, and it includes the G2C, G2B, B2G, G2NGO and G2G directions of action. Regarding the usage of ID cards, the G2C strategy, which also aims to improve the electronic services for citizens and make them more efficient, simplifying the access to e-governance services with an even higher degree.

Another priority for the program is increasing the e-involvement and establishing the open governance. As for the ID cards, this will ensure the inclusion of the citizens in all aspects of the e-society, making the ID cards as necessary for Georgian citizens as any other kind of daily item they own. The inclusion of the citizens within the "open governance", which outlines the transparency of the governance, will enable the citizens to get involved in the greater number of the social aspects. This, in turn, is going to result in the higher degree of assimilation with the e-governance programs and the e-ID cards.

E-health is one more priority of the "Digital Georgia strategy and action plan 2014-2018", which implies the electronic services related to health. The Georgian ministry of health, labour and social protection has also developed a "Georgia Health Management Information System Strategy".

The e-ID card, which is required for receiving the e- health services, is going to gain a new meaning for citizens, making it more familiar and usual for them. This will ensure the decrease of the existing resistance towards the e-ID cards in Georgian citizens, especially – among the elderly population. According to the strategy mentioned above, "In a first stage, e-Health includes the availability of the diagnosis and the documents electronically. In an advanced stage, applications support the doctors in diagnosis, treatments or evaluations. With a strong communications, network doctors can exchange their experience and share their thoughts. A platform providing reliable health information satisfies the demand of citizens to know more about their health and illness. In a further stage, Ambient Assistive Living (AAL) supports the monitoring of the

status of persons suffering from chronic diseases or elder people in their own home and thus enhances their life quality" (Bernhard Krabina et al. 2014 - 2018 page 34).

The “skills and e-inclusion” plan, incorporated within the “Digital Georgia strategy and action plan 2014-2018", includes the process of clear definition of the issue of the acquisition of the new technology management by the future generations of Georgian citizens, and various measures for improving the skills of managing the new technologies are planned. As the strategy states, “the Georgian population will be able to use the full potential of the informational-communicational technologies only in case they know how to utilize and develop the new technologies” (Bernhard Krabina et al. 2014 - 2018 page 34)

Hence, it is necessary to incorporate the issue mentioned above within the process of education. Thus, in turn, will influence the increase of e-ID card usage within the country and make it more familiar to the future generations from their very start of the formal education, decreasing the resistance which is currently quite prevalent in particular regions of Georgia.

As mentioned within the previous parts of the given thesis, increasing the awareness of citizens in relation to the e-ID card usage represents an important issue for the successful implementation of the programs related to it. The “Digital Georgia strategy and action plan 2014-2018” considers the issue of increasing the citizen awareness in relation to the ID cards, stating that “The focus of awareness raising will be on increasing citizens and businesses knowledge of and desire to use government electronic services, including the benefits of these e-Services compared to analogue service channels (i.e. in writing, in person and by telephone service requests) – and ultimately the increased take-up of e-Services. That said, fundamental changes are currently taking place in public sector communication. Government institutions at all levels need to respond to the societal shifts and learn to navigate multiple communications and service delivery channels” (Bernhard Krabina et al. 2014 - 2018 page 93).

The “Digital Georgia strategy and action plan 2014-2018” prioritizes the increasingly available online services for the citizens by means of the portal my.gov.ge, together with increasing the availability of e-services establishing the “Justice Houses” in many cities and towns of the country, considering the fact that many large and average cities already own such entities. In addition, placing the automatic self-service devices in

social centres and the libraries are planned, which will assist citizens in using all types of e-services by means of an e-ID card. Such devices will also include the pay-boxes.

How will the parties of interest benefit from the "Digital Georgia strategy and action plan 2014- 2018?" The strategy mentions that, with the goal of increasing the potential of utilization of the informational technologies, the Georgian e-strategy have to be focused both delivering the official electronic services and increasing the number of these e-services. This is necessary for creating the efficient public sector of e-service delivery, bringing the additional benefits for the citizens in terms of minimizing the time required for using these services, ensuring the 24/7 availability.

The "Digital Georgia strategy and action plan 2014-2018" includes several important goals and action plans in relation to its performance targets. These goals have been as follows: "Guide on user-friendly, personal and relevant e-Service design available in 2014, with evaluation process agreed by 2015; Feasibility study on better digital communication performed and recommendations developed by 2015; - Implementation of the recommendations made in feasibility study better digital communication performed and recommendations developed by 2018" (Bernhard Krabina et al. 2014 - 2018 page 17). In addition, according to "Digital Georgia strategy and action plan 2014-2018", there are several important indicators to be achieved by the end 2018, including the improvement of Georgia's e-services significantly by the end of 2018. As the action plan states, "Georgia improves its e-Services score in the biannual UN e-Government Survey with 5 points by 2014, 10 points by 2016, and 20 points by 2018 from its 2012 base of 72nd position (0.556 e-Government Index in UN Study 2012)" (Bernhard Krabina et al. 2014 - 2018 page 17).

Georgian government could consider the creation of the e-police, which has been successfully implemented in Estonia. The website for the e-police services www.politsei.ee – serves as an informational database, including the list of the criminals and the information about them, as well as the victims of crimes etc. With the consideration of Estonian experience, this kind of e-database will most likely reduce the crime within the country and prevent the citizens from becoming the victims of unknown criminals (e-Cabinet 2016).

In addition, creating a digital documents portal would be beneficial both for citizens and the government, as far as it would probably decrease the costs and the time for registering on various official entities. Such portal, which is named "Dig Doc" portal, "is available for Estonian ID card and Estonian and Lithuanian Mobile-ID users and

allows for digital signing, verification of validity of digital signatures, forwarding of documents to other users of the portal and receiving documents from other users of the portal", and it "provides a quick and easy way to raise the security of any web service to meet the highest demands" (e-Government in Estonia January 2015).

5.2 Case study: Estonian ID card and citizens' awareness from the beginning till present time

As I already mentioned above in Estonia the digital ID card project started in 1998. Later in January 2002, the first electronic ID cards were issued and since then approximately 1.24 million of electronic ID cards have been issued. "By the end of 2014 digital ID card has been used about 315 million times for personal identification and 157 million times for digital signatures. An average annual growth rate over 12 years (from 2003 to 2014) amounts to about 7.4 million authentications and about 3.5 million signatures per year". (Kristjan Vassil, June 2015)

The figure 7 below is shown growth digital signatures and authentications from 2003 until 2014. Evident that from the beginning 2002 till 2007 the usage of digital signature and authentication were too low, but after that the usage of ID cards started to increase rapidly. It is very interesting, what was the reason of sudden growth?

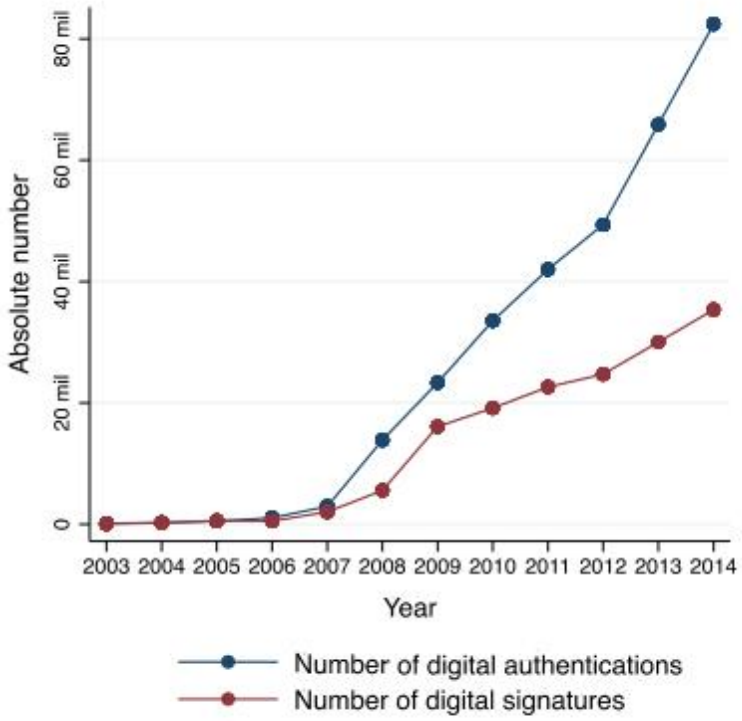


Figure 8 Growth of digital authentications and signatures from August 2003 until March 2014 (Kristjan Vassil, June 2015)

In the beginning of 21st century, Estonia has problems of usage internet, because less than one third had an access to the internet. A large amount of people did not have computers in their homes. But the main problem was not lack of infrastructure; it was the lack of motivation and skills.

The main solution for Estonian citizen to increase awareness and usage of digital ID cards was provided by the private sector. In particular, for the banking and telecom industry the low number of internet users was a large concern, so the banking sector wanted to use more trustworthy and secure way of identifying their customers instead of physical pin-code cards. At that time banking sector as well as telecom industry was flourished and well developed compared to other industries, so they had financial support to promote the society in raising awareness in modern ICT (Information and Communication Technologies).

Also at the same period of time in Estonia was the Project "Tiger's Leap" from the governmental side. This national program was started in 1997 which goal was computerization of schools. Its budget included 10.5 M EUR from the state budget and 5,6 M EUR from local communities (Tiigrihupe, SA 1997 - 2000) The program had

number of activities, such as buying computer hardware and software for schools, ICT trainings, and courses for teachers, creation of a portal "Õpetaja võrguvärav" www.opetaja.ee for teachers, which contains learning materials, articles, documents and so on.

Second largest project from the governmental side was the Look@World foundation by Vaata Maailma, which was founded in 2001 to serve the public interest by supporting education, science and culture via encouraging and popularizing the use of the Internet (Vaata Maailma, 2001). At the beginning of the project association members agreed to support extensive use of ID cards and after one year private banks were allowed to deliver digital ID cards in their offices.

The engagement of private banks was fundamental in terms of the success of increase the ID card societal awareness and as well as its distribution. If there was not the effort and a strong involvement of private banks of ID card advertisement, the transition would have taken significantly more time. To be more explicit, when Estonian people realized that their banks gave priority to digital ID cards for identification, and they assured that it was more secure and comfortable way out of solution, they begin to replace old ID card methods with the new digital ID cards. Soon after people realized that with using their digital ID cards they would be able to communicate faster and more efficiently with private and government services.

Nowadays in Estonia population is 1.35 M and there are 1.2 M active e-ID cards and it is nearly 95 %, internet usage is 64 %, internet banking 88 %, Mobile penetration 100 %, and there are 1000+ free internet access points (Avro Ott, ega.ee). On Figure 8 and Figure 9 below you can see Estonian ID card front and back sides. According to data 27 of January of 2012, the Estonian Police and Border Guard Board's service centre director Ms Tatjana Portnowa said that in the recent years, people's interest n the use of the ID card has been significantly increased "Over the last years, the number of people who use the card on a daily basis has multiplied" She added that "Hotline callers often ask for advice on the use of the electronic ID document, especially before the elections and for the filing of tax returns, and this is currently the case for instance with the ongoing census." (eID card a ten year success, 2012)

Figure 9 Front side of Estonian ID card

Figure 10 Back side of Estonian ID card

The front side of the card contains the card holder's signature and photo, and also the following data: (The Estonian ID card, Ver 20030307)

- name of card holder
- personal code (national ID code) of card holder
- card holder birth time
- card holder sex
- card holder citizenship
- residence permit details and other information (if applicable)
- card number

- card validity end

The back side contains the following data: (The Estonian ID card, Ver 20030307)

- card holder birth place
- card issuing date
- card and holder data in machine-readable (ICAO) format

Estonia nowadays has a lot of electronic ID applications. Below are defined the most innovative and used e-services:

- e-Ticketing – its first pilot project was created in 2002 and at first it was called m-ticketing (mobile ticketing), but it needed to deliver cards to the users. The main reason to create such kind of electronic service was to personalize tickets in the public transport. So Tallinn city government decide to introduce new scheme of ticketing and also introduced some discounts for students, mothers with 3 or more children, older and disabled people and etc. Nowadays with the development of technology this e-ticketing service developed and refined. From the fact that for all citizens of Estonia and for resident permit card holders' public transport is free in Tallinn and Tartu, now it is available to use ID card as an electronic ticket.
- i-Voting – same as internet voting is an electronic system, which allows the user to vote from any internet connected computer, anywhere in the world. Estonia was the first country to use internet voting in parliamentary elections in 2007. User only need to be citizen of Estonia or have the residence permit, ID card pin codes for the authentication and ID card reader. After voter identification there is available to see the list of candidates and after picking and selecting favorite candidate it needs pin code number 2 for the digital signature and done. Users are able to vote as much as they want, but only last vote will be counted (the last vote will cancel all the previous votes).
- Digital signature – is equivalent to handwriting signature, but it saves a lot of time, money and energy. It is simple to use, user needs to have computer connected with internet, ID card, ID card reader and PIN code 2 or mobile ID. This electronic service allows the user to sign document without any physical participation from anywhere in the world.

- e-Healthcare – is a patient portal where users can authenticate themselves by using ID card or mobile ID. This foundation helps to promote and develop the health care system in Estonia.
- e-Prescription – is an one of the innovative electronic service in Estonia, which is fully paperless system and it is for issuing medical prescriptions to patients. customer should use his/her ID card to authenticate, after logging in the service the user is available to have a look at all information available there digitalized and combined from different hospitals. All the information mentioned above are also available to the licensed doctors in Estonia. This is the great way to see patient diagnoses, hospital visits, hospital treatments, prescriptions, medications, blood type, allergies, X-ray pictures and so on. Patients are also able to mark responsible persons, for example family members or doctor to also have an access to patient's medical health record, also they will be able to pick up patient's prescription medications instead of patient.

Besides these electronic services Estonia has already implemented a lot of other advanced functions of ID card.

5.3 Increasing the awareness of Georgian citizens with the consideration European experience

As discussed above, the government of Georgia has done a lot for increasing the awareness of ID cards and the related e-governance programs among the citizens of Georgia. But, there still are particular problems related to the ID card awareness in Georgia, especially among the citizens who are either elderly or live in regions of Georgia where the internet and computer technologies are still not fully available for each citizen. The citizens, who live in such regions, basically lack the computer and internet skills, which itself represent the problem related with the underdeveloped economy within the country. In addition, as already mentioned above, the religious factors and reasons for resisting and not accepting the electronic ID cards – are very common.

Breaking the barriers mentioned above is important for increasing the citizen awareness. Because of this, it is important to use the experience of the countries of the European

Union, which have successfully overcome the problems of resistance related to the ID card and e-governance awareness among the citizens.

Representing a developing country, Georgia needs considering the European experience in terms of finding adequate ways for effectively increasing the citizen awareness related to the e-ID card programs and the implementation of the e-governance technologies and programs which are still unfamiliar for Georgian citizens, but have been found to be quite successful in similar European countries.

The country which represents the member of the European Union and shares certain similarities with Georgia – is Estonia. With its 1.3 million citizens, it represents one of the smallest countries in the EU, and both Georgia and Estonia were the members of the former Soviet Union, making them the countries of the similar recent socio-political history.

After the 20 years of independence, Estonia has become known as the country of successful reforms. The reforms in Estonia were mainly based on the usage of the models of other successful countries of Europe. Herewith, the priority direction for Estonia was the state governance and the tool of achieving it became the large-scale project "e-Estonia" (Электронный справочник Государственных органов).

Georgia and Estonia currently share some similarities in the field of e-governance, such as the computer technology awareness and programs for skill acquisition for the citizens, which previously was the priority for the e-Estonia program as well, especially – in the beginning of the program. But the fact is that Estonia now is far more developed in terms of e-governance programs and facilities than Georgia is.

Georgia, like previously Estonia, has made a decision to digitalize most of the state registers and make a unified informational database, which has been realized successfully and currently most of the state registers have been digitalized, making it easier for Georgian citizens to access the e-governance services without much efforts and time.

Another important achievement of Georgian government in relation with the e-governance is the fact that all citizens who have access to the internet and e-banking, can pay the taxes online, register for exams online, register a property online and realize some other activities either by an ID-card reader attached to their computer or simply be using the e-service websites for consultations and other purposes.

But, despite particular success of the e-governance realized by Georgian government, there are still many things left and much effort to be made in order to achieve the e-

governance level of Estonia and other European countries, together with achieving the increased awareness of Georgian citizens in relation to the ID card usage and e-governance programs in general.

Considering the European experience, there are several possible ways of increasing the awareness of Georgian citizens in relation to the ID card programs and the e-governance in General. First of all, increasing the intensity and the frequency of the educational programs delivering the general information about the essence of the digital ID cards and the e-governance is required, especially – among the citizens of Georgia who live in rural areas, high mountainous regions and poorly digitalized regions of Georgia. Such programs will support the inclusion of presently distanced population within the processes of technological development, and explaining the basic qualities and benefits of the digital governance, helping them to overcome the cultural and religious barriers preventing them from acquiring the computer and internet skills. Besides getting to know the skills needed for effectively using the e-services, such programs will help the citizens in gaining more understanding of the ideological and religious neutrality of the e-ID cards and the e-governance in general.

In addition to the formal education programs, Georgian government could consider implementing the interactive e-governance awareness programs, making it easier for citizens who don't have the computer and internet skills to understand the essence of the ID cards and the e-services related to it.

Considering the fact that the most citizens of Georgia are highly interested in politics, another way of increasing the awareness of Georgian citizens in relation to the ID cards and e-governance could be the consideration of creation of the "e-Cabinet", which is currently present in Estonia and represents the way of electronically informing the citizens about the current processes taking place in the operation of country's government.

At last, the repeated distribution of the culturally adapted booklets and pamphlets describing the benefits of e-ID cards and e-services namely for Georgian citizens would support increasing the awareness of Georgian citizens. This would be particularly beneficial for socially and economically marginalized groups, such as the elderly population, the citizens who live in high mountainous regions, ethnic minorities etc.

5.4 Recommendations for Georgia

Within the frames of the thesis given above, I have discussed the basic characteristics and experiences of European countries and Georgia in relation to the electronic ID card usage and the e-services provided by the e-governance systems of various countries. The research has included an action research considering the current situation of the e-ID card and interrelated services awareness in Georgian citizens.

The study has revealed that, despite particular success related to the implementation of the digital ID card programs and the e-governance within Georgia, there are still some problems related to the citizen awareness. In particular, it has been displayed that some segments of Georgia's population, in fact, have a very little idea about the essence of the digital ID cards, thus attributing it to various negative forces trying "to invade the country". It was revealed that the most problematic segments regarding the ID card awareness are the elderly population and the residents of high mountainous regions and the rural areas, where the computer and internet technologies still aren't very common, thus being quite unfamiliar for the population of such areas. In addition, the knowledge and skills of the electronic devices such as the computer technology – is a quite low level in rural regions of Georgia, because of the low level of economic development of the country.

Other important factors related with the low level of the e-ID card awareness were also revealed, such as the religious and cultural factors. Being an Orthodox Christian country with not a very high education level, some citizens of Georgia still think that the digital ID cards might be the "work of devil", or a mechanism is given to them in order to gain some kind of control over them.

Another interesting tendency revealed within the process of the study was that although the vast majority of Georgian citizens have heard about the digital ID cards, few of them know about the e-services attached to the ID card and/or the ways of utilization of those services. This too could be explained by the low citizen awareness and the lack of the Government's efforts to increase citizen awareness related to the usage of the services offered by the e-governance mechanisms.

The thesis has placed an accent on identifying the ways of increasing the citizen awareness in relation to the digital ID cards and the related e-services, and it has been outlined that the best ways for increasing the citizen awareness is the repeated exposure of the less-aware citizens to the educational programs conducted with the goal of

increasing their skills and awareness related to the ID cards, e-services and the computer and the internet skills in general, together with finding the ways of culturally adapting the e-ID card programs so that they are more acceptable for Georgian citizens. And at last, designing the programs for breaking the cultural-religious barriers, causing the resistance towards the ID cards and e-services is important for the successful delivery of these services to the citizens living in even technologically most underdeveloped areas of the country.

Based on the results of my study and the tendencies outlined within the process of the research, it is possible to make some recommendations in relation to increasing the success of the ID card programs and the citizen awareness related to them:

1. Consideration of providing the rural and high mountainous regions of the country with the appropriate computer technology and the skills training will enable the citizens of such areas to become more confident in relation to the ID card and e-services usage, increasing both their physical and mental ability to effectively utilize the e-services for their own benefit;
2. Providing the citizens with the culturally adapted program pamphlets and/or training considering the basic information about the cultural and religious neutrality of the ID cards and e-services will decrease the mental barriers currently existing towards such programs.
3. The repeated production and delivery of the ID card and the related e-services educational programs among various regions of Georgia, particularly – in those regions where the availability of the computer and internet technology is still limited could help the increase of the citizen awareness.
4. As far as the elderly population could be as available for the technological changes as the younger generation is, it would be beneficial if they are left with the choice to decide whether they want to use electronic services or not, providing an alternative non-digital solution for them which will enable them to use the services with the old, paper based methods, which are already familiar to them.

My study was an attempt to identify the general trends and the ways of increasing the success of the ID card programs within the country and the citizen awareness related to it.

I hope that the further research will reveal more precise mechanisms and methods for increasing the citizen awareness related to the ID card and the e-services, making it easier for both government and citizens to effectively collaborate for the benefit of both parties of interest.

5.5 Proposal to Georgian Government for increasing students' awareness about Digital Signature

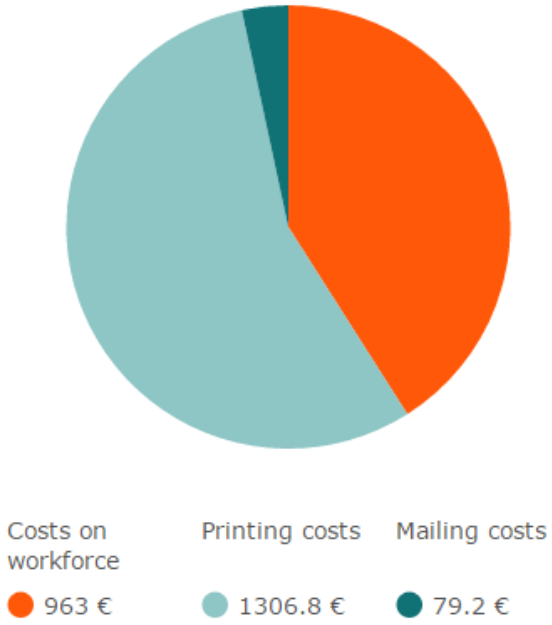
The research has revealed that in Georgia, a very small part of the population is aware of the digital signature and few more knows how to use it. Therefore, I decided to develop a plan for the promotion of this electronic service. Given that, some part of the population does not know how to use the computer, especially older people, so I decided to choose students who want to apply in universities. I concentrated on students because young people at the age of 16-25 almost everyone know how to use the computer and most of them have an access to the internet.

I am planning to propose to Georgian government this kind of service: to make an obligation to every student who wants to apply for universities to use digital signatures. It will help to increase students' awareness about digital signature, and also, it will help to increase usage of this e-service. The student will be obligated to make signature digitally and after that he/she will be able to register in the Georgian National Exams. This kind of obligation will help students to make even only one digital signature in their lives.

From the fact that the digital signature will be mandatory for every applicant and without using it they will not be able to register for the entrance examination, this will step forward towards the promotion of the e-service.

Somehow citizens should involve in this process and after that when they will realize that e-services are reducing their time and costs and they are more comfortable than the old method, they will start to use it by themselves. Additionally, electronic signature on documents can significantly reduce the amount of consumed paper and it makes a positive impact on the environment. Also, digital signatures make doing business more efficient, because it significantly reduces the use of paper and printing, copying, faxing, postage, storage, scanning and couriering costs. Example of cost profit of digital signature you can see on figure 10.

Monthly saving



Using digital signing you can save

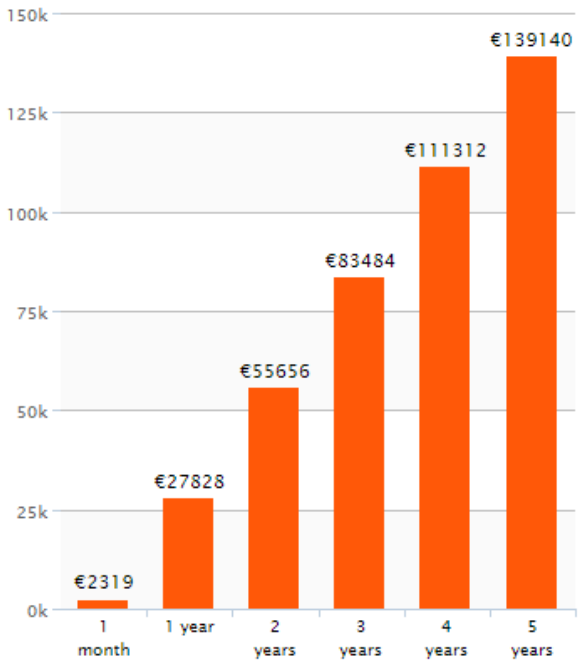


Figure 11 Digital signature monthly and yearly cost profit (Digital signature cost profit calculator, SK)

According to the figure 10, if the monthly costs in the work place are 963 euro, printing costs are 1308,8 euro and mailing costs are 79,2 euro by using digital signature business can save 2319 euro and in 5 years 139140 euro. In addition to reducing the amount of time it also reduces a quite a large sum. These numbers point to the fact, that using digital signature is all the best and efficient way out of solution.

Digital signature benefits:

- Easiest and fastest way to sign document
- Reduces time
- Reduces cost
- Increases efficiency
- Easing coordination
- Reduces the risk of signature falsification
- Regenerates of lost or missing documents

- Promotes paperless green environment
- Paperless office

Digital Signature weaknesses:

- Peoples trust
- Technical challenges

It is very important to mention weaknesses of the digital signature. The main problem is the people's trust; a lot of people are afraid and does not want to exchange their personal information through the internet. All of the ways lead us back into the awareness. This is because there are no proper advertisements and digital signatures like other electronic services are not frequently used.
These results are the reason to believe that my proposal to Georgian government will work and help the population to start to use a digital signature.

6 Conclusion

During working on my master thesis research I used Action Research and case study as a research methodology. I choose these two research methodologies, because my thesis needed to compare to another country's experience, such as Estonian electronic ID card and citizens' awareness is. As I already mentioned above Georgia step by step follows Estonian reforms. Estonian case was very useful for my research because considered such important issues like how they started to make a reform, how they increased citizens' awareness, how they helped to attract people and what kind of results they have present time.

For data collection I used questionnaire (survey), which contained the specific questions for investigating various aspects of the citizen ID card awareness in Georgia, including the cultural, social, economic and religious aspects. As a result of interviews, verified that despite the fact that most part of the population already has new electronic ID card most of them are not aware of how to use it and what kind of possibilities ID card has.

For data analysis I used Quantitative data in my research, because it ensures the collection of information about a large number of respondents in a relatively short period of time.

6.1 Answering the Research Questions

My Master's Thesis research contains one main research question and 3 research sub questions. Below you can see the answer to them.

- Main Research Question: 'How to raise citizens' awareness?'

The main goal of my research was to define all aspects related to the electronic ID card implementation and its usage in Georgia. That's why this question was the main question and my main goal was to answer it. As far as I am concerned my thesis fully covers all the aspects and problems of Georgian citizens' awareness about ID cards. I addition in the thesis is discussed examples of different developed and developing countries of the world. Also as a conclusion there is my proposal to Georgian government about how to raise students' awareness about digital signature. From the fact that I am Georgian, and I know Georgians character I am sure that obligation of the digital signature will work successfully.

- Sub Question 1: 'how ID cards have been implemented in developed and developing countries of the world?'

The purpose was to analyze a general introduction of electronic ID cards in developed and developing countries of the world, that's why I decided to review the examples of Estonia, Sweden, Belgium, India and Georgia. The study showed that the most important of the ID cards in good governance is the proper implementation and promotion of the electronic IDs, which are closely related to the realization of e-governance and its services, because the proper and effective implementations of the eID system have a direct influence on the field of governance and vice versa.

- Sub Question 2: ‘How does people’s awareness influences ID card usage (in Georgia)?’

The study has revealed that, despite particular success related to the implementation of the digital ID card programs and the e-governance within Georgia, there are still some problems related to the citizen awareness. Important factors related with the low level of the e-ID card awareness were also revealed, such as the religious and cultural factors. Being an Orthodox Christian country with not a very high education level, some citizens of Georgia still think that the digital ID cards might be the “work of devil”, or a mechanism is given to them in order to gain some kind of control over them. This is due to the fact that among the Georgian population is not the appropriate level of consciousness. Another interesting tendency revealed within the process of the study was that although the vast majority of Georgian citizens have heard about the digital ID cards, few of them know about the e-services attached to the ID card and/or the ways of utilization of those services. This too could be explained by the low citizen awareness and the lack of the Government’s efforts to increase citizen awareness related to the usage of the services offered by the e-governance mechanisms.

- Sub Question 2: ‘How to attract people?’

The most important was to identify how to attract people, what should be possible future perspectives of the ID card usage in Georgia, also future possibilities for the digital ID card and the electronic government development. As I already mentioned in the first main research question’s answer, my research’s main goal was to define the appropriate ways of increasing peoples’ awareness and usage of electronic services.
At the same time, it was very interesting to analyze case study about Estonian electronic ID card and citizens awareness because Georgia step by step follows Estonian reforms. Estonian example showed that with the help of proper promotion and reforms, even in five years is possible to achieve such kind of development level as Estonia has now.

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