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CITIZENS' CUSTOMER SATISFACTION WITH THE ESTONIAN ELECTRONIC ID USER SUPPORT

Master's thesis

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TALLINNA TEHNIKAÜLIKOOL

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KODANIKE RAHULOLU EESTI ELEKTROONILISE ID KASUTAJATOEGA

magistritöö

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Author's declaration of originality

I hereby certify that I am the sole author of this thesis. All the used materials, references to the literature and the work of others have been referred to. This thesis has not been presented for examination anywhere else.

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Abstract

This Master's thesis is going to analyse citizens' customer satisfaction with the Estonian electronic ID user support and taking a closer look at the quality of the user support provided today. Three main questions will be answered by the end of the thesis:

1. Is today's customer service level for the electronic ID satisfactory enough for the users?

2. Why are the volumes of requests for the user support channels of electronic ID increasing?

3. What could be done in order to control the situation by the state?

The survey proves that the service level of today's user support is high. The reasons why the volumes of requests to the customer support channels have increased are objective – there are approximately 30% more users in 2015 compared to the previous year, new users of the electronic ID need more help than earlier and major software changes have increased the natural amount of calls. In the end of the thesis the author is going to provide a list of recommendations to be considered by the state for the better management of the resources and customer satisfaction.

This thesis is written in English and is 43 pages long, including 6 chapters and 24 figures.

Annotatsioon

Kodanike rahulolu Eesti elektroonilise ID kasutajatoega

Käesolev magistritöö analüüsib kodanike rahulolu Eesti elektroonilise ID kasutajatoega ning võtab täpsema uurimise alla tänase kasutajatoe teeninduskvaliteedi. Töö jooksul vastatakse kolmele küsimusele:

1. Kas tänane teenindustase Eesti elektroonilise ID kasutajatoe puhul on piisavalt kõrge ning kas see rahuldab täiel määral kasutajate vajadusi?

2. Miks pöördumiste arv elektroonilise ID kasutajatoe suunas on suurenemas?

3. Mida saaks riik teha, et elektroonilise ID kasutajatoe ressursse ja vajadusi paremini juhtida?

Autori poolt läbiviidav uuring tõestab, et tänane rahulolu elektroonilise ID kasutajatoega on kõrge. Kliendipöördumiste arvu suurenemisel on objektiivsed põhjused – kasutajate arv on eelmise aasta sama perioodiga võrreldes 30% võrra kõrgem, uued elektroonilise ID kasutajad vajavad tihemini abi ning kolmandate osapoolte muudatused tarkvaras on perioodiliselt pöördumiste arvu tugevalt tõstnud. Magistritöö lõpuosas toob autor välja nimekirja soovitustega, mida riik võiks edaspidi elektroonilise ID kasutajatoe planeerimisel arvesse võtta, et teenuseosutamiseks vajalikke ressursse ning kodanike rahuolu paremini juhtida.

Lõputöö on kirjutatud inglise keeles ning sisaldab teksti 43 leheküljel, 6 peatükki ja 24 joonist.

List of abbreviations and terms

Good Governance

For the World Bank (2006), good governance (or the good use of governmental power) is "epitomized by predictable, open and enlightened policy making; a bureaucracy imbued with a professional ethos, an executive arm of government accountable for its actions; and a strong civil society participating in public affairs; and all behaving under the rule of law". (Kettani and Moulin 2014, p 76)

Digital divide

The term "digital divide" refers to the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard to both their opportunities to access information and communication technologies (ICTs) and to their use of the Internet for a wide variety of activities. The digital divide reflects various differences among and within countries. (OECD 2010)

e-Government

The term "e-government" focuses on the use of new information and communication technologies (ICTs) by governments as applied to the full range of government functions. In particular, the networking functionalities offered by the Internet and related technologies have the potential to transform the structures and operation of government. (OECD 2010)

e-Governance

Electronic governance or 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 and Masud, 2007).

Electronic ID/e-ID	A Tool for identifying a person in electronic environments (https://www.ria.ee/ee/elektrooniline-identiteet.html)
E-readiness	E-readiness is a measure which shows the ability of an entity to leverage the information and communication technology (ICT). (Roy. S.G., Upadhyay, P. (2017)
Online Citizen	Online Citizen is a term for a person who has a great confidence in the institution and puts his skills or connections at disposal of governmental office, if required. He/she distinguishes him/herself from the online community member by the frequency and regularity of his visits. (Meier 2012, page 178).
Online knowledge sharing	Knowledge sharing is an activity through which knowledge, namely, information, skills, or expertise, is exchanged between people, friends, families, communities or organizations. Online knowledge sharing activities are flourishing with the advent of social media and digital life.
ICTs	Information and communication technologies. ICT technologies are intended either to fulfil the function of information processing and communication by electronic means, including transmission and display, or to use electronic processing to detect, measure and/or record

physical phenomena, or to control a physical process. (OECD 2010)

UNDP   United Nations Development Programme, www.undp.org

Call To Action   A marketing related term. Means a good and visible special offer for a product or service which works as an appetizer for the whole offer/service/info.

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1 Introduction

This Master's thesis is going to analyse customer satisfaction with the user support of the Estonian electronic ID's and taking a closer look into the trends in people's needs for support.

As working with electronic information and communication systems requires sophisticated procedures for user recognition and user administration, the electronic identification, authentication and authorization (all together named as identity management, Meier 2012, p84-85) are the basic preconditions for the citizens to become the e-citizens and start to communicate with the e-state and consume different privately owned e-services. That is why the usage, the customer satisfaction and also problems when using the electronic ID are very important and worth keen attention.

During the autumn of the year 2016 until the winter of 2017, the author of this thesis has been participating in the project analysing the effectiveness of the user support channels of the Estonian electronic ID. The project was ordered by RIA (Information System Authority of the Republic of Estonia), financed by EU structural support scheme "Rising the awareness of the information society" (European Fund of Regional Development) and conducted by PricewaterhouseCoopers Advisors AS. The Project name was "Analyses of the e-ID user support". The author's task in that project was to put together a questionnaire and run an internet based survey among today's electronic ID users. Author was also participating in the interview sessions with the employees of the first level customer support and drawing the conclusions and recommendations for the owner of the project.

As a theoretic concept for the thesis, the principles of the Good Governance will be introduced and many links between successful e-governance and citizens' awareness and educational background will be made.

In the second chapter, the author is introducing the spread of the e-services currently in Estonia. The main outcome will be that the use of services is increasing steadily. The main research questions will be raised – is the state able to provide a proper customer

support for the increasing amount of people using the e-services? Author is also introducing the methodology of the research work done in the 5th Chapter.

The third chapter is describing the principles of the Good governance which predefines the standards for the happy citizens in a healthy society as a background for the development of the e-society. A special attention will be paid on the role of the education in the future growth of the information society.

In the fourth chapter, the author is going to describe the ecosystem of the Estonian electronic ID and gives an overview how the service support is organised today.

In the fifth chapter, the author is going to introduce the survey results. A web-based survey among Estonian residents has been conducted to find out, what are the preferred support channels used in case of problems of when using ID-card and what is the perceived quality of these channels. The findings and conclusions of the survey will be provided in the same chapter, also the recommendations by author how to make the customer experience when using e-ID in the future even better.

In the last chapter, the author is summarising the citizens' perception of the electronic ID usage and the quality level of the customer support. The author is also providing the comments and proposals for the main improvement areas to be considered for the state institutions in order to be a successful and supportive owner of the e-service and provide considerable help when needed.

2 Spread of Estonian e-Society

2.1 Trends in the Consumption of e-Services in Estonia

The official statistics about Estonia says that the consumption of the e-services (both private and public) has increased during the previous years and the need for electronic identity is more relevant to the bigger amount of society day by day. The new interested groups of citizens have become active and started to use the e-services. According to the Statistics Estonia the internet usage in the households increases. The frequency in using internet increases and also the number of people in society using internet. The amount of e-commerce and e-voting users is bigger year by year. This all means that the market of the e-services is larger than before, growing fast and the service providers have to recalculate their ability to serve their customers (www.estat.ee, www.vk.ee).

The perceived usefulness of the public e-services is high. Most of the questioned people in Estonia say that they have saved time and money, got more information, felt less bureaucracy and more friendly conversation through the usage of different public e-services (MEAC 2014).
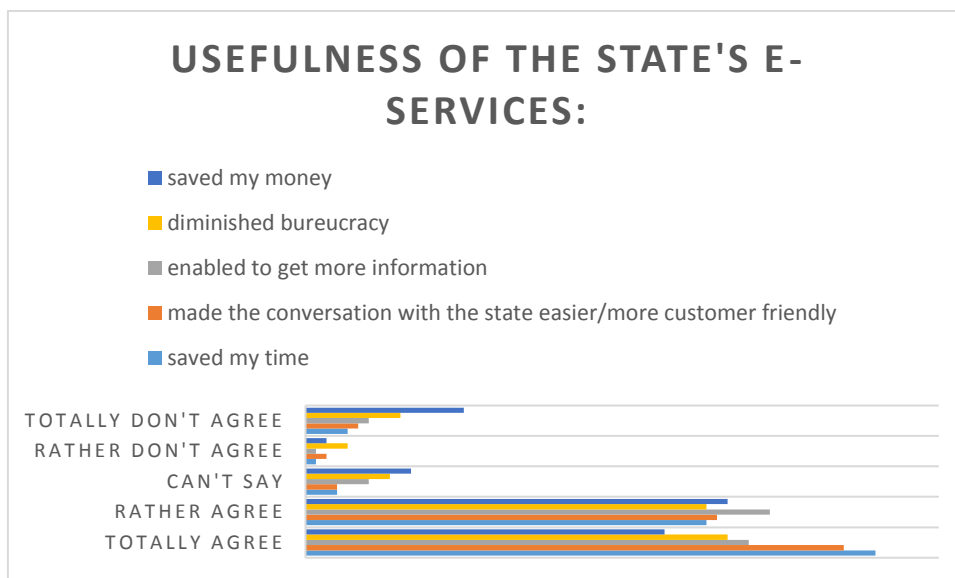
Figure 1 Perceived usefulness of the public e-services (source: MEAC study 2014)

At the time when the readiness to talk to the state via electronic channels only increases and the general satisfaction with the services is high (enabling to save time, money, makes the conversation with the state easier), there are still some bottlenecks brought out by users like *too time consuming, complicated, inadequate help provided*. (MEAC 2014)

The question relevant to this master thesis would be: Is the state able to provide a proper support for increased usage of public e-services?

2.2 Research Questions

Moving closer to the topic of this master's thesis, the increased usage of e-services generates also a bigger need for the use of electronic ID. The data about today's electronic ID usage says that the requests towards the electronic ID support channels have increased remarkably (44% compared to 2013 when there was a new *user support service outsourcing contract* signed by the state), the duration of the calls to the centre has increased too (18% during the same period). The owner of the electronic ID subject in the state - The Information Systems Authority of the Republic Estonia - is facing the fact that the planned resources for the customer support of electronic ID are in deficit (RIA 2016). The increased need for the resources is relevant to the larger part of the user support system:

Figure 2 Structure of the problem (source: PWC 2017)

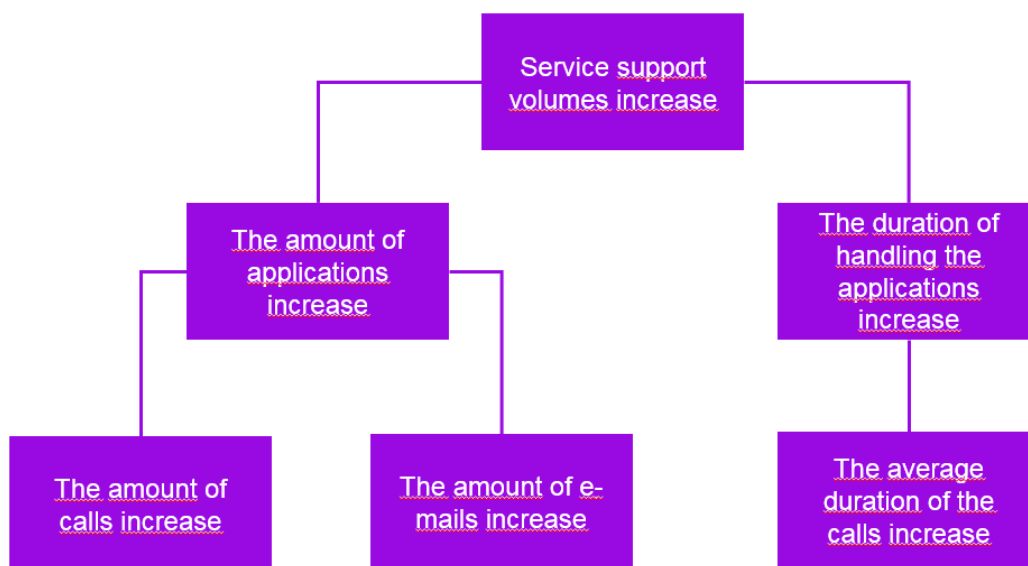When looking at the Ministry of Economic Affairs and Communications' report on the users' satisfaction with the public e-services (MEAC 2014) then despite of the high level of customer satisfaction the challenge for most of the services is "lack of support and guidance" which refers to the possibility that the general ability of the state to provide sufficient support to its e-services, is low. One of the conclusions of the MEAC's report named above says that there is a need for the larger concept of information sharing and there is also a need for simplifying today's state-owned portals.

The similar assumptions have been made also by RIA in their invitation to the public procurement about the analyses of the user support for the electronic ID (RIA 2016) that the main official source for the info about the electronic ID www.id.ee could be too complicated to help and the general quality and efficiency of the other user support channels is not known.

This Master's thesis is going to open the context of the increased requests of the electronic ID user support service and takes a closer look on the quality of the user support provided today based on the research work done by PricewaterhouseCooper Advisors and where the author of this thesis was involved as a member of the project team. The three main questions will be answered by the end of this Master's thesis:

4. Is today's customer service level for the electronic ID satisfactory enough for the users?

5. Why are the volumes of requests towards the user support channels of electronic ID increasing?

6. What could be done in order to control the situation by the state?

2.3 Methodology

The inquiry part of the survey was conducted by the CAWI (Computer Assisted Web Interview) method. The target group of the survey were Estonian residents who have had an experience in the service support of the ID-card or mobile-ID. The distribution of the survey was made via popular web-sites of different e-services like www.eesti.ee, www.id.ee and www.tootukassa.ee. The potential respondents of the survey were motivated by an opportunity to win a prize – a good quality mobile phone together with

the smart watch (first e-SIM product available in the Estonian market at that time). The final amount of respondents, who fulfilled the questionnaire completely, was 1824. The large amount of respondents enables the author to provide the quantitative analyses of the survey that is enriched with some qualitative deep dives into the interesting correlations.

3 Good Governance as Enabler of the Digital Society

In this Chapter the author is taking a closer look at the term Good governance and the context around it. Author sees the Good governance as the main and driving governance principle to be followed when facilitating the conversation in the society and the dialogue between the government and citizens about the electronical environments.

3.1 Characteristics of the Good Governance

There are different approaches to defining the term Good governance. The author brings out some of them to give an overview of the different aspects of the research field.

Many information resources describe Good governance as a process.

The United Nations say that Good governance is a process for decision making and the process by which decisions are implemented (or not implemented). The Good governance puts eight important characteristics on top of that process which assures that the corruption is minimized, the views of minorities are taken into account and that the voices of the most vulnerable in society are heard in decision-making. Those characteristics are participatory, consensus oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive and follows the rule of law. (www.unescap.org)

The other topic-related website (www.goodgovernance.org.au) adds that Good governance is about goodwill, a good understanding of roles and relationships and good processes. Good governance is about the decision-making process, not what the decision is about. It contributes to better decisions, better relationships and better local government.

Good governance was presented by the World Bank as a requirement, at a national level, to enable and facilitate the success of economic development reforms (Haldenwang 2004, cited in Kettani and Moulin 2014).

When efficiently and purposefully implemented, e-government systems are not only major instruments for transparency, good governance, improved and efficient provision of public goods and services, etc., but also important sources of productivity and economic growth (Wimmer 2004, cited in Kettani and Moulin 2014).

Drechsler (2004) is saying: "When the Governance today is about the steering mechanisms and concentrating on the interaction between three main players (State, Business and Society) then Good governance should take more advantage of the business sector and implement its standards, principles and interests into the governance operation" (p 388). And „no good Governance is possible without a well-working government to begin with" (ibid 390).

This statement leads to the further discussion point. To look for the parallels with the business sector, one very important indicator for a trustworthy business is a good treatment of its clients, the welcoming face of the company, the perceived customer experience which is worth of sharing. To reach that level of a feeling is usually an outcome of a well-functioning system. The administrative processes should be ready to deal with customer wishes, the information systems should support to help quickly and adequately and the discussion should happen in the format which is most suitable for the customers. If the preferred channel is electronic, all the pleasant feeling should be delivered without actual human face in the discussion and with the help of the best knowledge about the welcoming electronic user interfaces. But on top of that all the business owners' wish should dominate to provide such an excellent service and the readiness to invest into that level of performance.

The final goal for the people is „Good Life in the Good State", Drechsler (2004) says. "Good Governance is providing the security to the citizens that the government is functioning in a right and modern way, setting into the forefront citizens' interests."

The strategy and vision of the government plays a crucial role in the real implementation of the Good governance and when reaching to this point, it is even more critical to keep the sustainable functioning of the state and constantly see the new innovative solutions to develop the concept of Good governance.

The question in the context of this thesis arises – is the ICT actually helping the state to create a good dialogue with the citizens?

OECD (2010) has an answer to that saying that nowadays the ICT policies have progressively broadened to encompass wider social and economic dimensions, with the

aim of exploiting the potential of ICT's to contribute to social and economic gain. Specifically, these objectives can now include promoting sustainable economic growth, boosting productivity, providing employment opportunities, encouraging innovation, improving the effectiveness and responsiveness of public services, generating welfare for citizens and promoting social inclusion (OECD 2010, p61).

In the opinion of OECD the information society can be split into two major dimensions – economic and social. More interesting in the context of this thesis is the social part which describes the ICT's role in revolutionising the communications, improving the quality of life and generating welfare benefit.

3.2 Interplay between Good Governance and e-Governance

The link between e-government and Good governance has been investigated by several authors. Both concepts share the same objectives such as administrative efficiency, quality of public services and democratic participation (Haldenwang 2014, Waema and Adera 2011, cited in Kettani and Moulin 2014). Haldenwang (2014) sees e-government a means for creating good governance as it improves both the back office (government internal operations and relations) and the front office (government relations with citizens and other external stakeholders) in such a way that makes good governance a reality" (Haldenwang 2004, cited in Kettani and Moulin 2014).

Kalsi has participated in different surveys (2008, 2009) which bring out a straight correlation between Good governance and e-Governance naming the first as a pre-condition for the second (Kalsi and Kiran 2015). Rephrasing that reference we might say that the first and ultimate precondition for the e-Society is adopting the Good governance initiatives.

Kalsi and Kiran (2015) have studied whether the new information and communication technologies can make a significant contribution to the achievement of Good governance. They bring out the idea that excellence in e-governance requires the initiative in to be effectiveness-driven and not merely efficiency-driven and that effectiveness needs higher investments into speed and convenience. The same authors come out with the six more pre-conditions for the e-governance: data systems infrastructure, legal infrastructure,

institutional infrastructure, human infrastructure, technological infrastructure, and leadership and strategic thinking (2015, p 172).

Based on the Spain's example, the OECD (2010) brings up the **critical factors** in countries **IS policy** design:

- Strong leadership for a clear and consolidated IS vision.
- Supportive legal and regulatory framework that was conducive to – and promoted – IS goals.
- A communication's strategy that leveraged accomplishments in ICT diffusion to promoted usage.

These three goals among the other more Spain-specific ones are very relevant also to Estonia. What is questionable – do we have a clear and consolidated IS vision today in the different levels of state services. The one that might be missing is a good and compact communication strategy for the state – with the priorities of the preferred channels, with development plans for those channels and also a supportive communication program of different institutions and of different communication channels. The purpose of this communication program wouldn't be only a well-informed citizen but also a rising trust towards the state as an institution and citizen's satisfaction level with the society and the state.

The Digital Agenda 2020 for Estonia (2014) sets the focus on creating an environment that facilitates the use of ICT and the development of smart solutions in Estonia. The ultimate goals of the agenda is to increase the economic competitiveness, the well-being of people and the efficiency of public administration.

As the technology, user habits and legislation are in a constant change, a part of the strategy is a reform of public e-services with the purpose of getting rid of the obsolete technologies, avoiding the soaring costs of system maintenance and introducing „no legacy principle" which means not having any important ICT solutions in use older than 13 years.

The digital agenda has an agreed governance structure with the purpose of

- ensuring efficient coordination, including exchange of information and ideas and cooperation, at all levels and stages,
- ensuring the creation and execution of a long-term perspective,
- ensuring that the implementation of the strategy is focused and consistent,
- ensuring flexibility in order to take into account the changing environment and conditions,
- improving the ongoing communication and exchange of ideas.

One big target of the Digital agenda is making governance and public administration smarter, more efficient, more "whole-of-government", more sustainable and more open as a result of using ICT. For individuals and businesses, it means easy-to-use and non-burdening services. For the public sector it means increased cost-effectiveness, better horizontal coordination and more openness (Digital Agenda 2020).

The target indicator set for measuring the **development of better public services** by using ICT is awareness of public e-services which should be 90% by the end of the 2020 among the adults aged 16 to 74. The indicator set for measuring the **satisfaction with public services** among the same target group is 85% by the end of 2020. Among the entrepreneurs the target is even higher – 90%. Under the measure of higher inclusion and participation with ICT there has been mentioned user-friendliness, accessibility and interoperability of public sector websites which should be improved by 2020, the information layout on websites will be standardised and data search simplified (Digital Agenda 2020).

Kettani and Moulin (2014) similarly sum up with one of their conclusions on the success of e-governance **-** careful user interface engineering is required to provide a user experience that is intuitive and delivers the right information at the right time. All the priorities of an excellent online presence for a company or institution are relevant and absolutely necessary also for the contemporary e-governance - a great deal of user-orientation, flexibility, modularity, information management and contest awareness, supported by technologies over multiple channels (mobile access and enterprise network access) for a variety of user devices (smartphones, regular desktops and PDA-s).

Bringing one more example of a country's agenda besides Spain and Estonia, Danila and Abdullah (2017) have described their research project about the **IT adoption in government agencies** in Malaysia from the perspective of citizens' intention and use of the e-government services. The parameters going to be measured are taken from different models of e-government implementation and considering both technological and non-technological aspects - personal innovativeness, perceived usefulness, perceived ease of use, attitude, subjective norm, perceived behaviour control and system quality and all of them are called as predictors of continued usage of e-government services. No results were available yet but the set of the predefined factors gives a good context to this Master thesis.

In the context of government and administration, the identification of specific public needs and issues is a core element of citizen-friendly and sustainable policies even though this is very often highly difficult to obtain. As people frequently do not reach out to the administration, the administration has to approach the people to help create a system of mutual confidence and detect important problems (Baur 2016).

The literature shows that the public needs seen from this perspective are similar everywhere – in the well developed countries the attention is more on proactive and open approach creating higher customer satisfaction with the state, in the developing countries the stress is more on overcoming the distances and bringing the administration closer to the people, but the big aim is the same – both parties need each other and are interested in the close and trustworthy relationship.

From the state point of view a wanted relationship with its citizens is trust. Trust is a precondition to build long lasting good relationships. Cracia and Arino (2014) have introduced a research in Spain which confirmed that perceived quality of public e-services has a strong positive effect on trust in the public administration. In turn, public administration communication (i.e., campaigns to promote the benefits and use of e-government) only influence trust in the public administration for citizens with a favourable attitude towards e-government. In Estonia, where the citizens' e-readiness is remarkably high, there is a higher reason to support country's image about good e-services also internally which would have a potential to rise the trust towards the country.

An interesting evaluation about the state-citizen relationship was done by Kosonen (cited in Vaarik): that "in a way in e-Estonia the government and the public sector is serving you and you are on the driver's seat. Or more so than in other societies. The citizen is a subject and not and object of government. That change of philosophy, I think that you are the only country where this has being implemented" (p 20) It is hard to compare the feeling of the citizen with the other countries when being an Estonian but if the difference in the feeling really exist, the more it is worth to build an image of the trusted and caring e-state also internally.

Rindermann et al (2015) bring in a term of cognitive capital and say that the quality of governance depends on the attributes of the people involved. The importance of cognitive capital is reflected in the rate of innovation, the degree of economic freedom, and country competitiveness. From that point it is a good reason to turn to the last part of the theoretical frame – people in different roles representing the state.

3.3 Education as a Key Enabler of e-Governance

The term digital divide has changed its meaning over the time, but is still very relevant topic for the digital societies. The STOA report (brings out that the access divide is shrinking because of the huge deployment of technology at schools, a new digital divide, namely the knowledge divide, is arising as a result of different abilities of students to use technology in their daily activities. The increasing speed of the technology evolution makes current policies obsolete very rapidly. The result is persistent inequalities among different countries and within the countries.

The division of different types of the digital divide is not new, Belanger and Carter (2009) separate access divide (ethnicity, income, education, age) and skills divide (computer experience, general internet use, online purchases, online information search) and studied the exact impact of the different components on the size of the divide. In 2009 in the United States the authors point out that for use of the governmental websites in the earlier times there were well seen differences among the users by ethnicity and education. White people with higher educational levels used the governmental online environments more. Moving to the skills divide, the need for better understanding and higher education became also relevant when using governmental websites. Mossenburg et al (2003) cited

in Belanger and Carter (2009) adds the terms technical competence (typing, moving the mouse etc.) and information literacy (people's ability to find the answers to the questions using the information available on the websites). But according to the survey in 2009 conducted by the authors the ethnicity and gender don't play any role in the access divide, the age, income and education do. For the skills divide the technical competence and information literacy are still relevant influencers, but interestingly computer experience and prior online purchases didn't play a role.

There are other authors available who claim that the challenges facing IT and public managers in developing countries are not allocation constraints but knowledge problems (Kulchitsky, 2001, cited in Kalsi and Kiran 2015).

Roy and Upadhyay (2017) analyse the outcome of the Digital India project carried through within the years 2011-2013 where the Indian government put large investments into digitalizing Indian society – creation of digital infrastructure, delivering services digitally and increasing digital literacy.

The study was carried through defining and measuring the performance of the critical factors for e-readiness. The factors named in the study were:

1. government's initiative (policy, regulatory mechanism, incentives and tax breaks) to promote ICT;
2. concerns about safeguard and security of online transaction and automated services;
3. private participation and market compulsion;
4. technological advancement and its effect on human life and business;
5. citizens' pro-activeness (readiness and optimism) about technology-based products and services.

The citizens' pro-activeness and readiness about technology and products was unexpectedly high, they felt themselves confident even when having only limited opportunities to use internet and internet enabled devices. The surprizing finding of the survey was about the potential of government initiative to promote ICT – authors claimed that taking the ICT revolution to the far and wide villages would empower both public and government and not only enabling ICT infrastructure but also encouraging private participation (Roy and Upadhyay 2017).

The examples of those different surveys and references say that governments face the challenge where more than ever the citizens want to be connected and live their lives online, but the missing component is rather the knowledge, not the missing device or connection.

Meier (2012) introduces the term Online Citizen with the important characteristics of having a great **confidence** in the governmental institution which puts the institution into the need to keep the online citizens with them, as satisfied and recurrent citizens (p 178). Meier emphasizes that it is necessary to put the design of the public website or portal to a test. If the user guidance is poor there, the confidence of the online citizens will quickly decrease. So the gained trust from the citizens means also the high responsibility to keep the trust and provide the proper public service.

Vrabie (2014) continues with the similar theme - the new methods of administration don't need only innovative solutions but also "intelligent citizens". He strongly suggests that before investing into the expensive IT-solution it is worth to invest into the citizen's education first. Vrabie says that it is equally necessary to educate all the parties of the digital society – the citizens, civil servants and public managers.

The main task for the citizens is to understand, what services are available online in order to use and take advantage of the digital solution.

The civil servants task is to maintain the specialist of the public institution but educate themselves on the basic concepts of technology to be a bridge between the IT specialists and users of the public services.

For the public managers Vrabie (2014) suggests the IT education because he is certain that the future civil servants must have IT competences. He also suggests to take seriously the role of education in the society (ibid).

Two Estonian authors Solvak and Vassil (2016) have introduced the research about the e-voters profile based on the 9 latest elections where e-voting was possible in Estonia. The profile of the e-voters was only one area of the outcomes of the research but it gave much interesting data about the current status and also historical trends about the profile. The authors claim that the time is over in Estonia when the profile of an e-voter was rather one with higher technical skills, better living standards, higher education and younger

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age. The new e-voters nowadays come from different age and social groups and do not differ in the level of digital literacy. The authors say: „...age and e-voting are no longer associated and voters choosing to e-vote for the first time come equally from all age groups" (Solvak and Vassil, 2016, 83).

Both researches show that there has been a large technological diffusion in the society in Estonia and the very big pre-condition for using e-services (the computer literacy and access) has been overcome. The authors also describe that this level of technological diffusion has been strongly supported by the private sector in Estonia. Years ago Estonian banks and telecommunication companies made a huge contribution to the digital society, teaching and training the use of e-identity and before that just encouraging to use the computers and enjoy the digital world. The telecoms invested heavily in the internet connection and all this together built a solid starting ground for the spread of e-services.

A very important conclusion by the Estonian authors (Vassil and Solvak, 2016) is that the e-voting has been properly diffused among the overall voter population and not remained a privilege of a few. They add that "technology has the potential to bridge social divisions and ease political participation not only for those not facing any substantive obstacles, but also for the less privileged who command fewer resources. The experience of Estonia seems to show that technology should not be considered as a hurdle, but as an enabler of political participation" (ibid, 69).

The STOA report tells that education leaders are the catalysts for change at their schools and universities. Teachers represent the most important actors, however, 75 per cent of students in the EU are taught by teachers who are not digitally confident and supportive. The role of students is becoming increasingly active in the new digital environment, but, despite being digital natives, only 30 per cent of European students can be considered digitally competent. Families should provide a home environment that supports digital learning. The industry is at the same time a provider of educational technology and a "consumer" of educated employees (STOA 2015).

A basis for change is the provision of infrastructure and technology at institutional level, but teachers and educational managers must also be able **to keep up with the change** by acquiring new skills. New technology-enabled models will make it possible for learning

to become open and collaborative and the education process more personalised (STOA 2015).

So, basically everyone needs to keep up and constantly adopt their skills in ICT. There are positions which are responsible for the growth of the others like public managers, teachers in the schools or parents in the homes, but no excuses to anybody – the digital skills are the new literacy.

The digital literacy has been described like this: the ability to use the Internet and new media in order to access and critically evaluate different formats and types of digital information so as to participate in the socio-economic activities of a community through digital content creation, communication and exchange (Sharma et al 2016, p 630).

Jenkins (2006, cited in Sharma et al 2016) identified twelve "new media literacies" as necessary for a full participation in today's diverse media environment: play, performance, simulation, appropriation, multitasking, distributed cognition, collective intelligence, judgment, trans-media navigation, networking, negotiation and visualization. For sure all of that is not necessary to live the rich and interesting life or act as an online citizen, but it is a nice list of competences to follow when planning to "keep up".

There have been separate studies to understand how the trust is formulating in knowledge sharing practice. Young and Tseng (2008, cited in Charband and Navimipour 2016) have investigated interplay between physical and virtual settings and the analysis revealed three important facets of the inter-personal trust formation process: (1) the social role of the teachers, (2) the rigid and tight professional community, and (3) the keys to breaking through.

Knowledge sharing as a term and method is surely a theme to follow. According to Charband and Navimipour (2016) the knowledge sharing in the online environment increases the speed of doing things, enhances the innovation, improves the efficiency, increases the sales volume, reduces the face to face relationships, reduces transportation costs, and etc.

One more largely discussed topic which comes out from the contemporary e-governance discussion is the principles of **sustainable development**. When an e-government system

makes its way into the lives of citizens and becomes the preferred process to adopt, it is critical to allow for the **continued provisioning of government services**, Kettani and Moulin (2014) are saying.

Cash (2016) argues that „Good governance" and „strong political will" alone are inadequate for understanding the requirements for **sustainable transformation** towards urban society. The author of this thesis agrees that only will and good principles are not sufficient. A sustainable development means sustainability and long-term strategy in all the parts of the e-governance.

Klavins and Plenena (2010, cited in Filho et al 2015) are pointing out: "…lack of operationalization of theories of sustainability and sustainability governance reduces society's capacity to solve problems and support sustainability transitions. This deepens the problem of the lack of knowledge about sustainable development both in society and amongst stakeholders as indicated by several surveys"

Estonia as a relatively young state should have the same tendency that we don't have the history of sustainable government policies or any policy which has been in practice more than 20 years.

The authors Kharrazy et al (2016) see a big potential in the Big Data. They welcome everybody to emphasise the value of the data and invest to the specialized research and education programs how to use the public data.

4 Electronic ID in Estonia.

4.1 Use of Electronic ID in Estonia

The electronic identity is available since 2002 in Estonia when the first ID-cards were issued. The available functions were electronical identification and digital signing of the documents. For using the electronic ID there is a need for a tool carrying the certificates (ID card, mobile ID etc.), an internet capable device and the PIN codes.

A special software is also available and needed for the usage of the electronic ID. Due to the constant development of the user environments the e-ID software needs updates approximately twice per year.

The Estonian State is having 2 main partners for electronic identity management – the Police and The Border Guard Board issuing all the physical and non-physical tools carrying the certificates; and the Certification Centre developing the software and issuing the Certificates and organising the customer support for the citizens. The elextronix ID itself belongs to the administrative field the of State's Information Systems Authority (RIA).

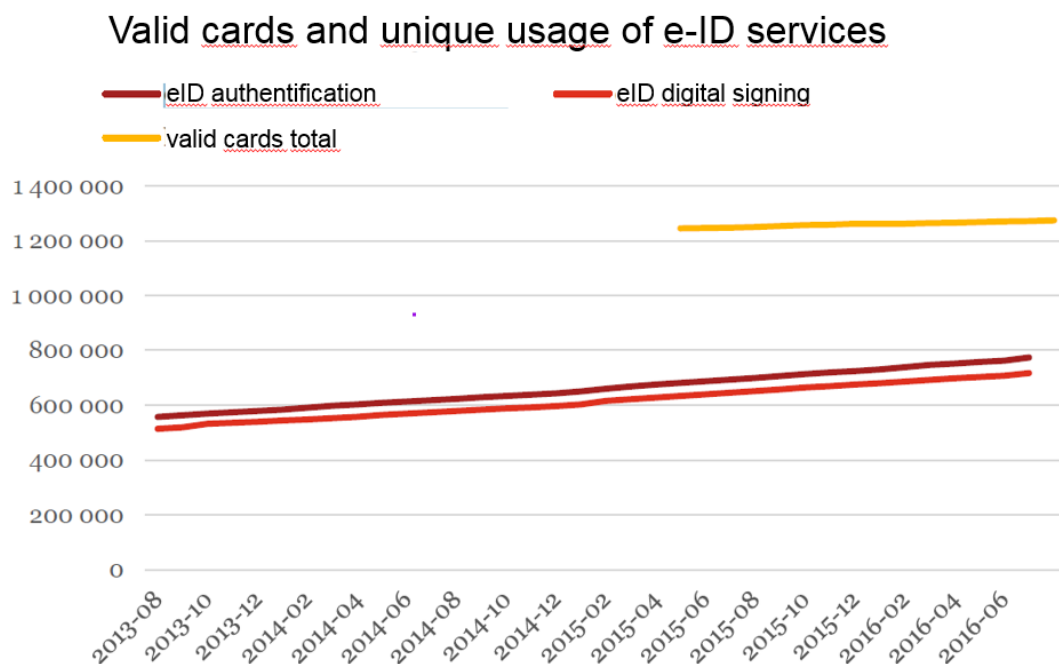The trend of the usage of the authentication and digital signing are increasing.

Figure 3 Increasing trend in using valid ID-cards and e-services

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Since the middle of 2015 until the middle of the 2016 the linear trend of the electronic identification has risen from 6,5 million user cases up to 8,5 million which makes 31% increase in one year. In parallel to this, the digital signing has increased 30% - from 5 million uses up to 6,5 millions.

Every additional act of usage has a potential to create a customer service incident which means a new request to the user support channels. In 2015 there was one request per every 3127 user case. In 2016 the frequency of the requests increased and consequently the average number of the requests increased, reaching the level of one request per every 2942 user case. (PWC 2017)

This statistics shows that the additional number of citizens who started to use the electronic ID service, have a bigger need for the help than the early adopters. The e-residents – a new target group for using electronic ID, has entered the picture since the beginning of the 2015. That might have slightly influenced the increased amount of requests. The interviews with the first level customer support people in the autumn of 2016 provided the information that there is a slightly bigger need for the support in the English language in the e-mail and call centre work recently, but not a remarkably higher service amount on e-residents yet.

4.2 User Support Channels for Electronic ID

There are 3 levels of user support today.

The **first level** is the eID users' first level customer service where the citizens turn to with their questions. The service is organized by Certification Centre and outsourced from Transcom Eesti OÜ.

The **second level** is the eID users second level service which is operated by the Certification Centre and handling the more difficult questions, also serving different e-service providers.

The **third level** is the most advanced level provided by the Estonian Information System Authority. This level of user support is handling the escalated problems from the 2nd level of the service support and bringing up the development needs for the software.

The first level service support for the citizens works 24 hours per day. The support channels are the official website (www.id.ee), the e-mail service (abi@id.ee for the citizens, support@sk.ee for the e-service providers) and the call centre (1777 and 6773377).

The outsourced partner for the first level service support is acting according to the agreed process:

1. Recruitment of employees
2. Training of employees
3. Quality management and measurement
4. Call centre administration
5. E-mail support administration
6. Escalation of the problems
7. Incident management

The involved professions in the process are the Quality Manager, Product Manager and First Level Customer Support Employees. The resources are planned according to the volume forecasts provided by the Certification Centre which takes into account the seasonal peak periods and major software updates that influence the amount of requests to the support channels.

The www.id.ee web page is administered by the Certification Centre. The employees of the Customer Support of the Certification Centre are generating the new articles according to the relevant topics. The content management process for the web is flexible and without specific rules. The relevance check is made periodically by the customer support employees and outdated articles will be removed. The web page is available in three languages (Estonian, Russian and English) and built on the platform called Saurus (PWC 2017).

There are statistics available for www.id.ee usage during the August 2013 - July 2016 period that brings up the main topics people need help with when using electronic ID. Approximately 90% of all the problems are divided into 5 categories. A seasonal impact on the topics is clearly demonstrated – the digital signing is more relevant in the taxes declaration period (February, March), the many software updates at the end of 2014 increased the software installation topics and one more major impact on the digital signing

has been caused by the Google Chrome new internet browser often. This has changed the policy towards the 3rd parties' software extensions radically, making the default as "disabled". The change means one additional operation to all the Google Chrome users before starting to administer electronic signature – to go to the computer "settings" menu and switch the extension named Token Signing into the mode "enabled". Seemingly one simple operation, but causes many calls to the call centre by the people not knowing it.

The nature of the applications:
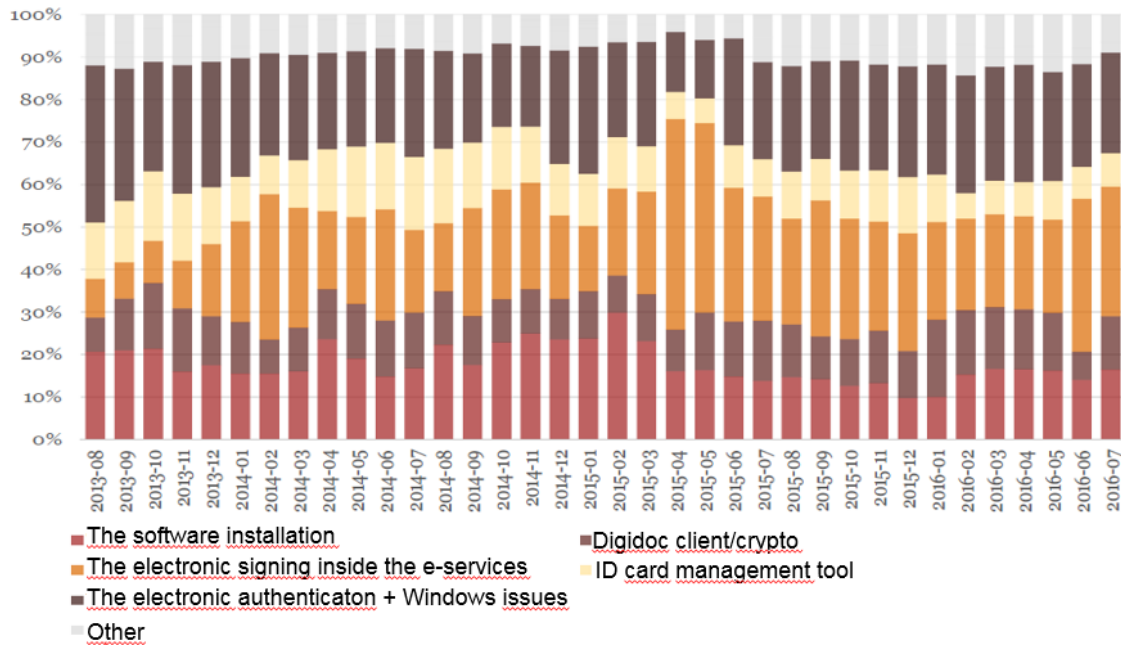
Figure 4 Dominating reasons of the applications to the service support channels

5 Survey – Results and Recommendations

5.1 Citizens' Customer Satisfaction with the User Support

The need for this survey emerged from the hypothesis that the user support of electronic ID provided by Transcom Estonia OÜ and Certification Centre might have shortage of efficiency and quality. This hypothesis was one part of the bigger research question – where is the bottle neck in the entire user support process that the number of the requests and duration of one service incident are steadily growing.

In addition to the answers about the quality and efficiency of the support channels, RIA was very interested also in the user profile of today's users and if there were any specific findings about different needs for different age groups or computer literacy levels.

The author of this thesis run a survey to find out, how well could the Estonian residents cope with different barriers when using Estonian ID card, what are the channels they are searching for the help from and what is their opinion of the user support when a problem arises.

5.1.1 Methodology

The inquiry part of the survey was conducted by the CAWI (Computer Assisted Web Interview) method. The target group of the survey were Estonian residents who have had an experience in the service support to the ID-card or mobile-iD. The distribution of the survey was via popular web-sites of different e-services like www.eesti.ee, www.id.ee and www.tootukassa.ee. The potential respondents of the survey were motivated by an opportunity to win a prize – a good quality mobile phone together with a smart watch (first e-SIM product available in the Estonian market at that time). The final amount of respondents who completed the questionnaire was 1824. The large amount of respondents enables the author to provide the quantitative analyses of the survey and is enriched by some qualitative deep dives into the interesting correlations.

5.1.2 Results

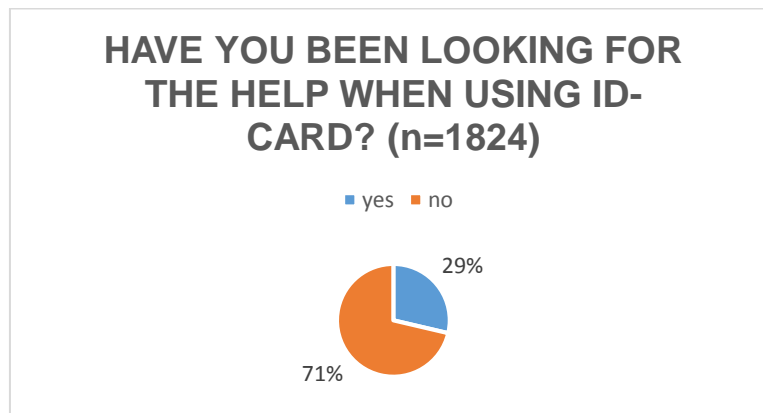71% of the respondents said they have searched for the help when using the ID card.

Figure 5. Percentage of the people who have looking for the help when using the ID-card.

Users' Profile

The majority of the respondents were at the age of 20-39 years (31% of the sample). Almost the same size was the age group of 20-29 (29% of the sample). The amount of the younger audience (up to 19 years old) was very little – only 3% of the sample. The reason might be the limited amount of e-services today targeted towards the people younger than 20 years old. One good accelerator of the use of the ID-card could be the lowering of the age to vote down to 16 years in Estonia in 2017. This is an important change not only from the e-elections point of view but also from the increasing amount of conscious young citizens' point of view, which should lead to the future use of larger amount of different e-services among younger audience.
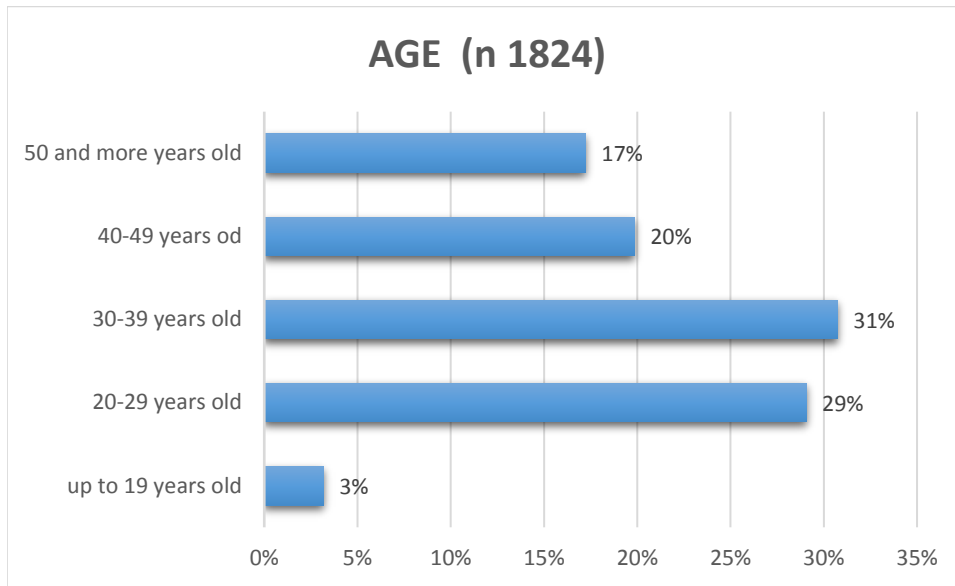
Figure 6 Age of the respondents

The level of education of the respondents happened to be high – over 46% had the higher education – bachelor's degree or higher. 43% had some type of secondary degree. 11% had lower education than secondary school.
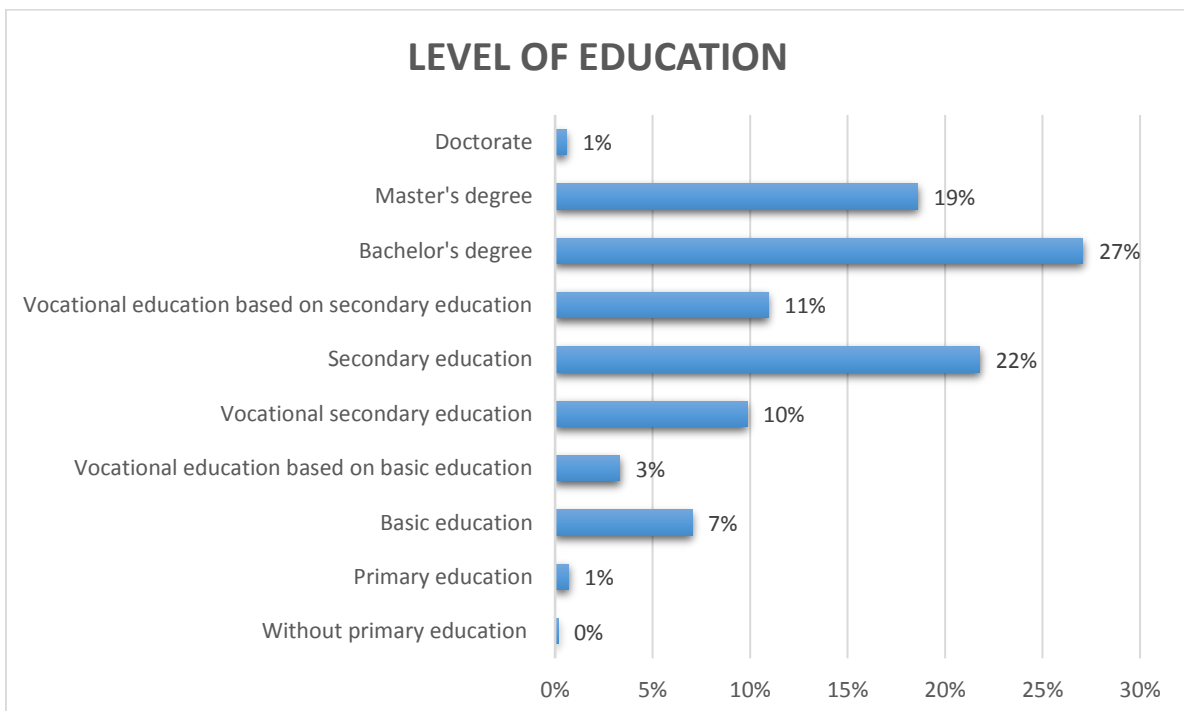

Figure 7 Educational level of respondents

The main occupation for 80% of the respondents is employment. In the oldest age group (50+ years) the amount of retired people was 25%, the others were employed as well.
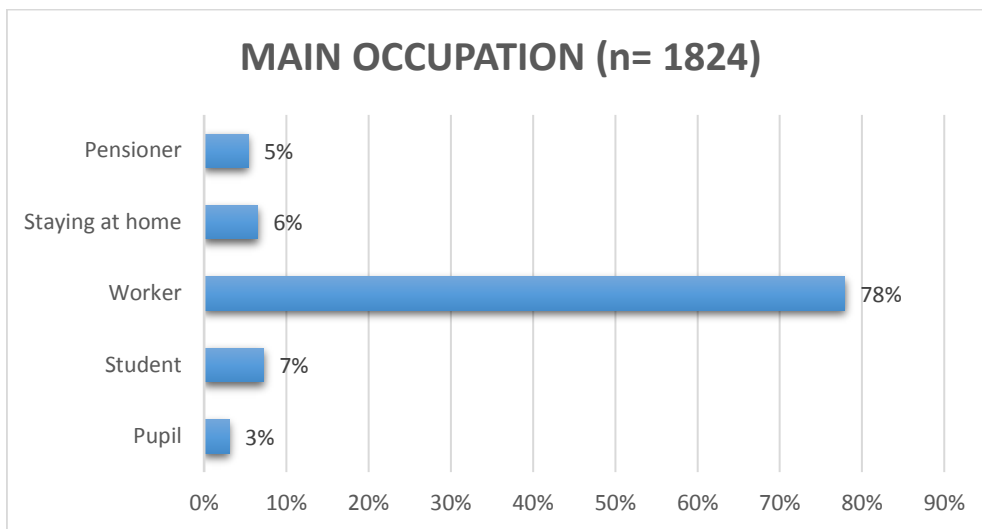
Figure 8 Main occupation of the respondents.

Almost 80% of the respondents evaluated their computer skills high or very high which means that they are able to solve their problems with using the computer independently.
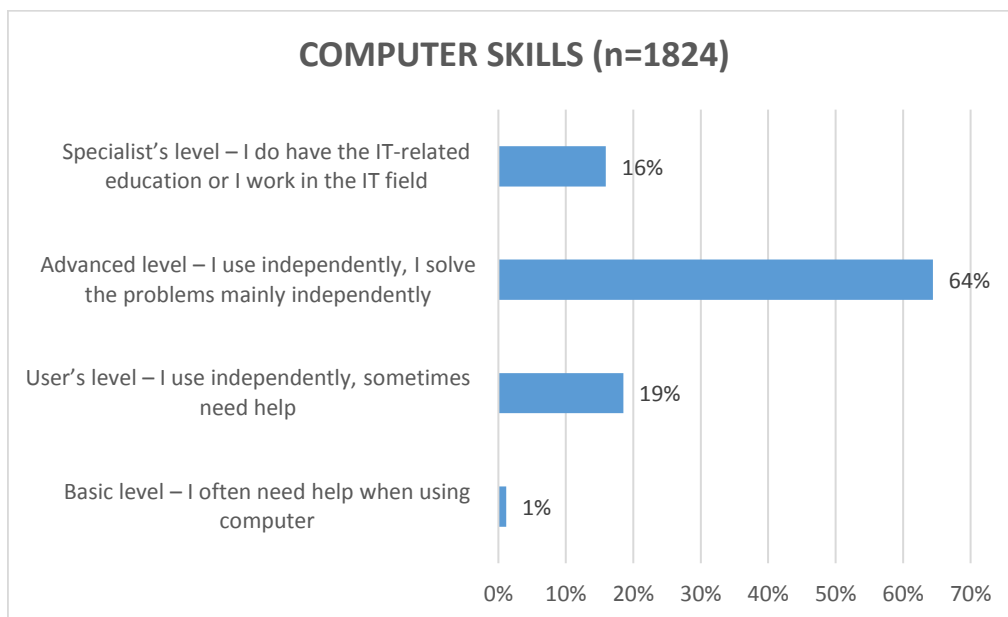

Figure 9 Level of computer skills perceived by the respondents

It was interesting to us, that there were more than half of those who rated their computer skills as "advanced" or "specialist's level" also in the oldest age group (50 and more years old people).
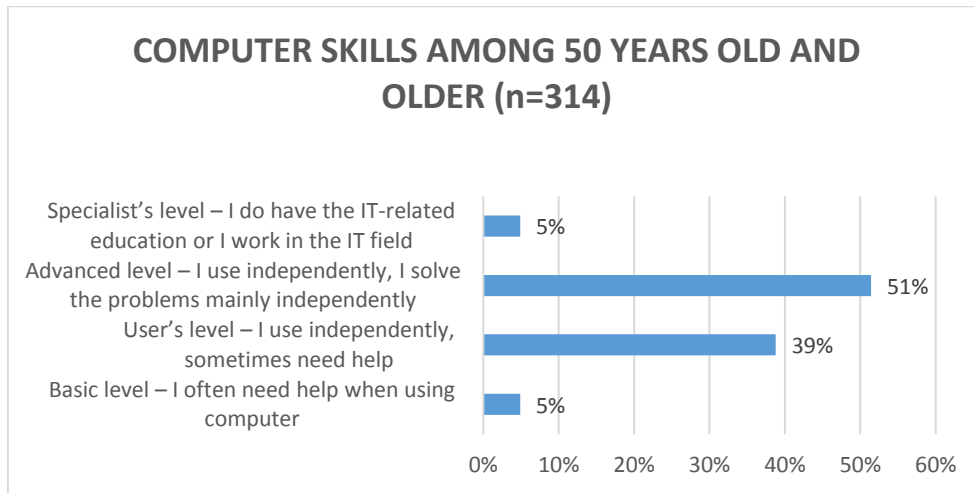
COMPUTER SKILLS AMONG 50 YEARS OLD AND OLDER (n=314)

- Specialist's level – I do have the IT-related education or I work in the IT field: 5%
- Advanced level – I use independently, I solve the problems mainly independently: 51%
- User's level – I use independently, sometimes need help: 39%
- Basic level – I often need help when using computer: 5%

Figure 10 Perceived level of computer skills in the oldest age group of the respondents.

As mentioned before, the general educational level of all the respondents was very high. When linking the educational level with the computer skills the data shows that there is a clear connection between these two parameters. The higher the educational level the better the computer skills.
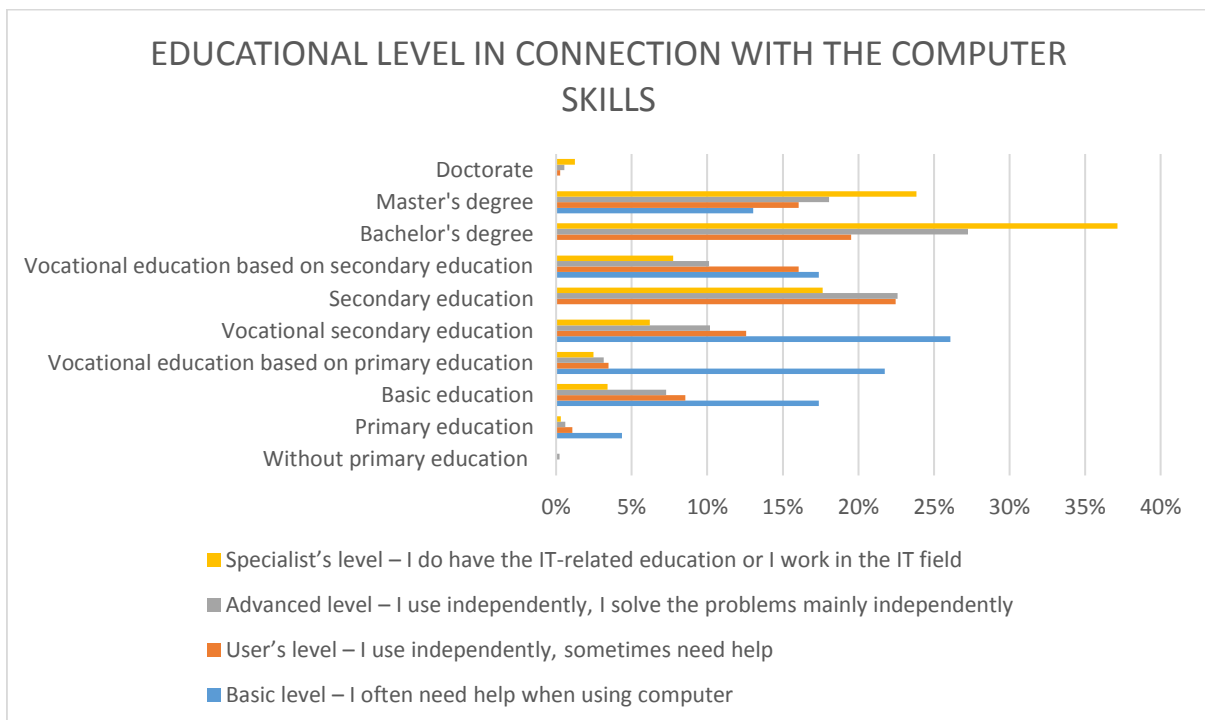

EDUCATIONAL LEVEL IN CONNECTION WITH THE COMPUTER SKILLS

- ■ Specialist's level – I do have the IT-related education or I work in the IT field
- ■ Advanced level – I use independently, I solve the problems mainly independently
- ■ User's level – I use independently, sometimes need help
- ■ Basic level – I often need help when using computer

Figure 11 Connection between the educational level and computer skills of the respondents

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Use of the Customer Support Channels.

60% of all the users who needed help when using ID-card, turned to the website www.id.ee. The second popular choice (17%) was a call centre number 1777. The least of the users (9%) turned to the e-mail service and a little more (14%) turned to somewhere else. The dominant choice of the www.id.ee as the first source of help shows that Estonian electronic ID users are highly welcoming internet as a customer service environment.
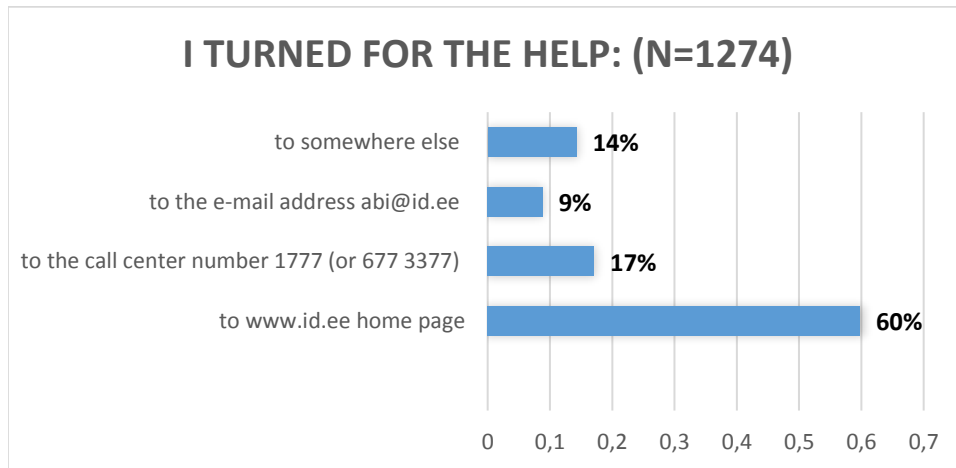

Figure 12 Channel chosen for help

Only 45% of the youngest age group said they needed help and 66% of those who needed the help searched it from the web page www.id.ee. Only 10% preferred to call. At the same time 67% of all the respondents needed the help in the oldest age group and 20% of them chose to call. Remarkable is that the first and preferred channel for the oldest respondents was also the web page www.id.ee (54%).

WHICH CHANNEL DID YOU USE FOR THE HELP?
UP TO 19 YEARS OLD RESPONDENTS

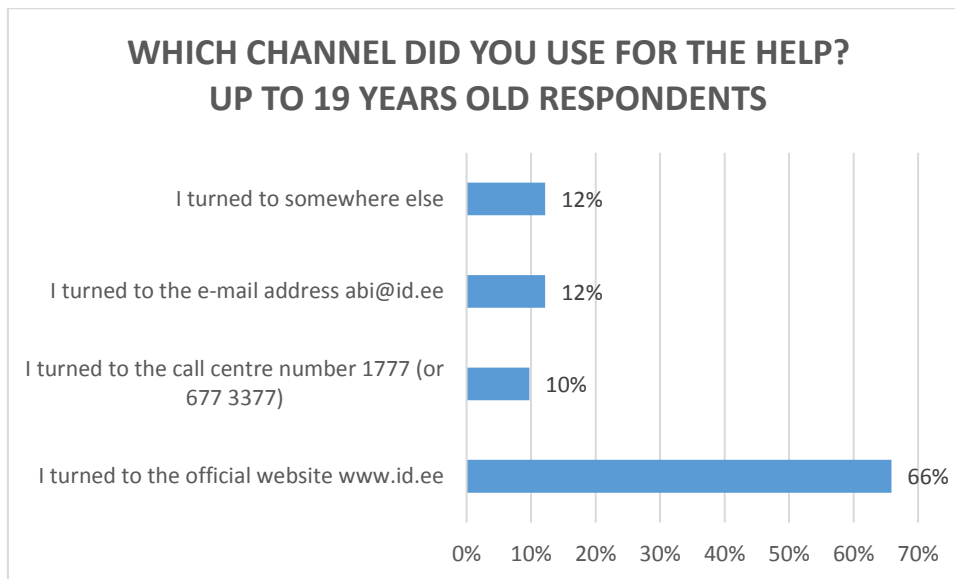| Channel	Percentage
I turned to somewhere else	12%
I turned to the e-mail address abi@id.ee	12%
I turned to the call centre number 1777 (or 677 3377)	10%
I turned to the official website www.id.ee	66%

Figure 13 Preferred service channel by the youngest target group

The general awareness of the available support channels was very high. 84% of the respondents said they knew where to look for the help.

When specifying the source of information – where was the customer channel found from – then 54% of the respondents claimed themselves turning directly to www.id.ee which means that the awareness of the official website is high. The similar data comes out from the Google Analytics for the www.id.ee which says that 48% of the visitors turn directly to the website www.id.ee.

31% of the survey respondents used the internet search to find the support channel (the comparable info from the Google Analytics shows 27%), 5% were informed by some e-service provider and 10% said they had other sources to find the information from (mainly friends, children, family members).
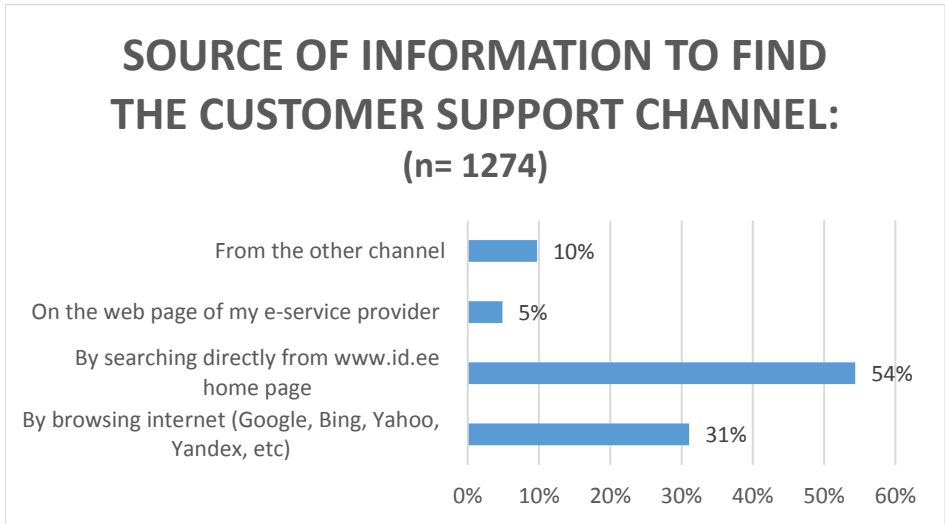
Figure 14 Source for finding the customer support channel

Only 15% of the respondents claimed that they had difficulties when finding the contacts of the support channels. 85% didn't have any problems with it.
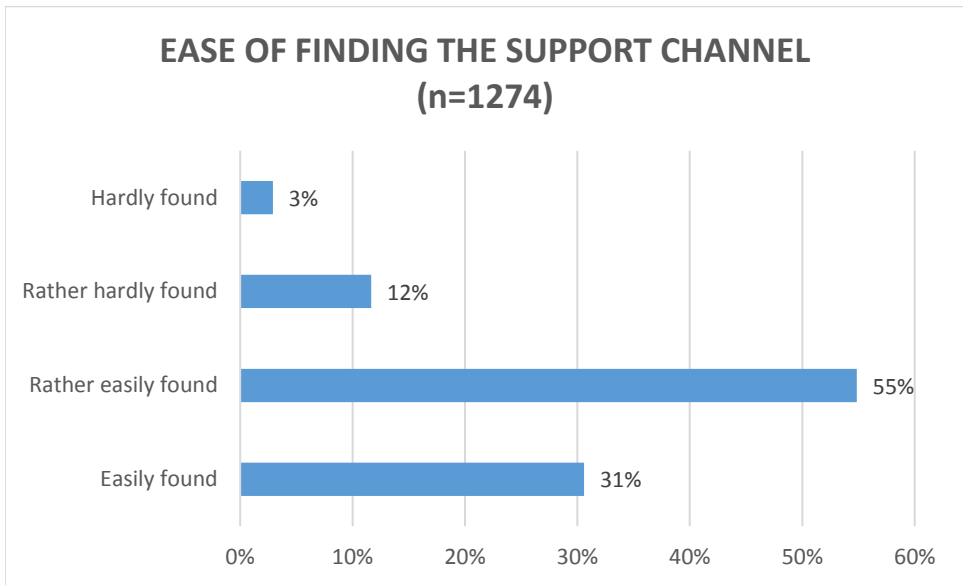

Figure 15 Ease of finding the eID support channel

82% of all the respondents who used the official website www.id.ee as a source for the information have said that they got all the necessary info to solve the problem.
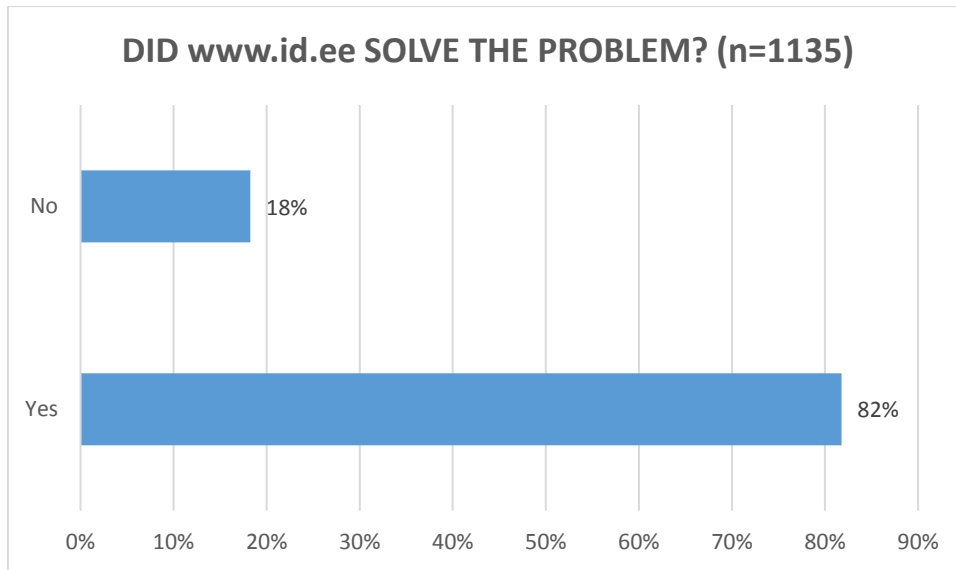
Figure 16 Ability to solve the problem by www.id.ee

60% of all the users of www.id.ee claimed of using the step-by-step help solution on the webpage and 83% of those evaluated the quality of step-by-step help high or very high.
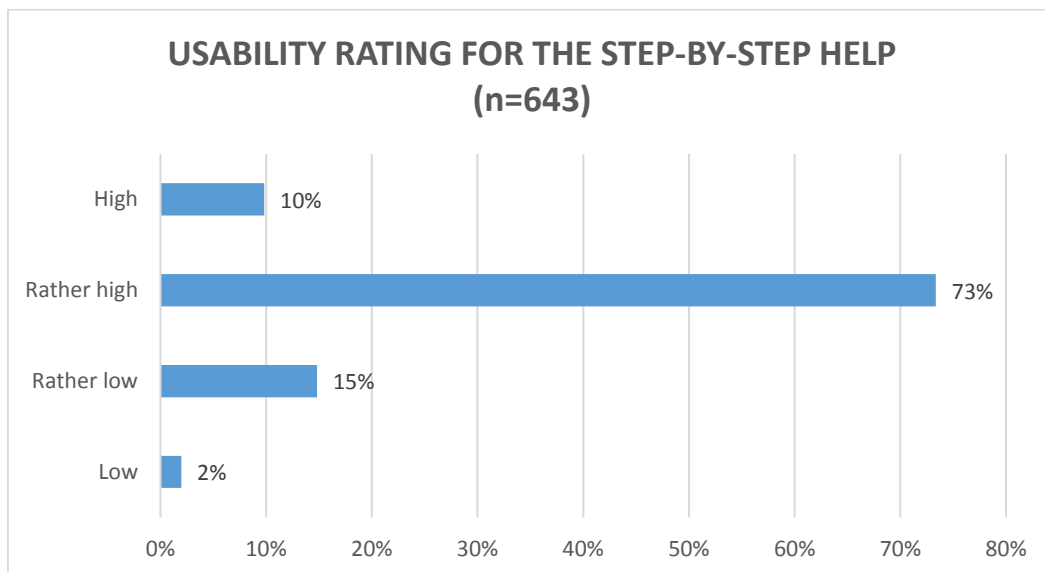

Figure 17 Usability rating for the step-by-step help

When asking more specifically about the satisfaction with different aspects of the step-by step help, the ease of comprehension gets the best ratings and the visibility lowest (where to find the step-by-step help on the web-page).

Call centre

75% of those respondents who turned to the call centre said that they were satisfied with the answer and the solution.
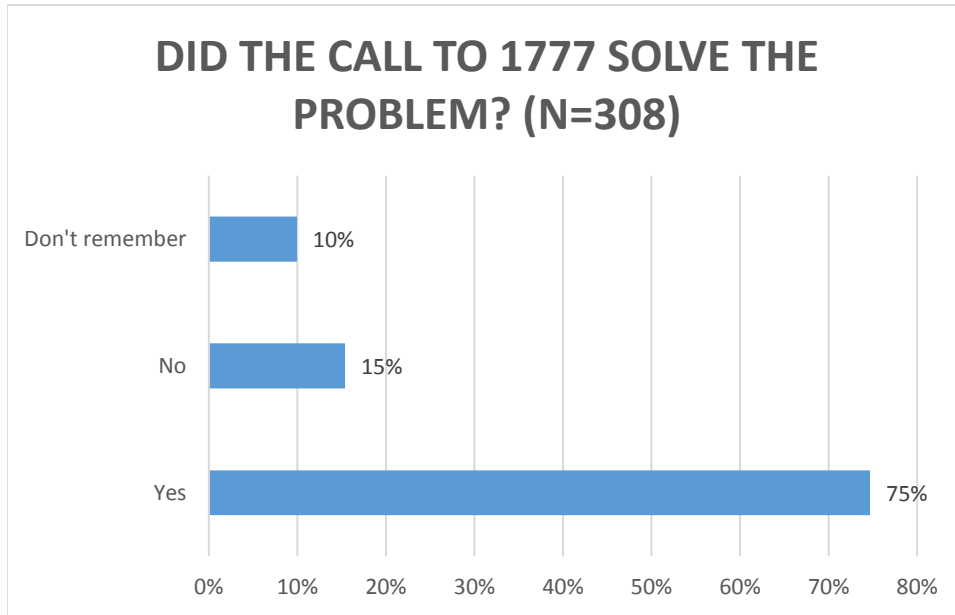
Figure 18 Call centre's ability to solve the problem

23% of those respondents who used the call centre said that they had to make more than one call about the same question which is less than the similar indicator by the e-mail channel (28%).
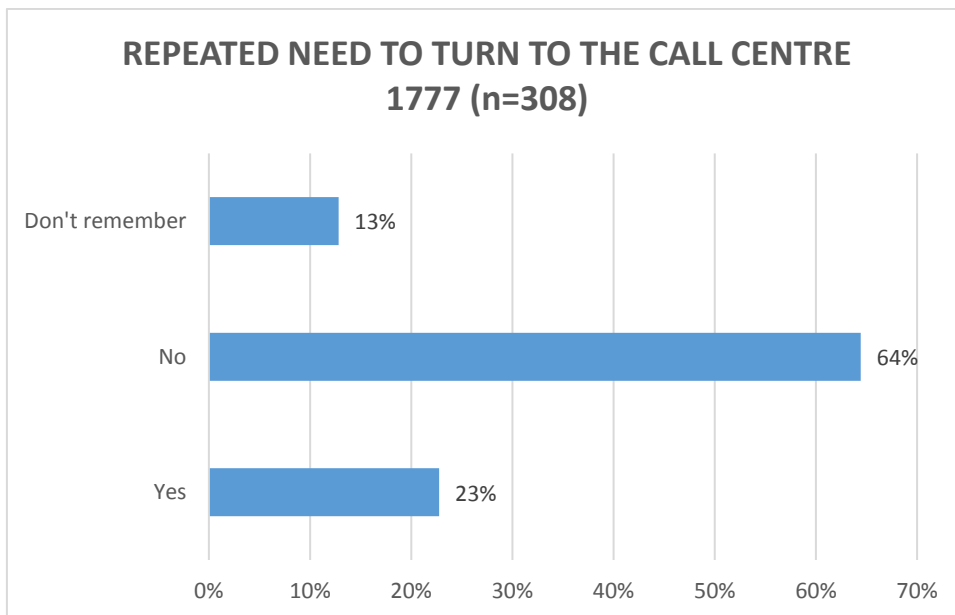

Figure 19 Repeated need to turn to the call centre

The evaluation of the different aspects of the call centre quality shows that over 90% of the respondents are reasonably satisfied with the service. Most of the 150 open answers

to the question „what could be done differently by the call centre when solving your problem?" were a neutral or positive evaluation of the service.

E-mail service

The satisfaction with the e-mail service was the lowest among all the support channels. 30% of the respondents were saying that they didn't get an answer to their question via e-mail.
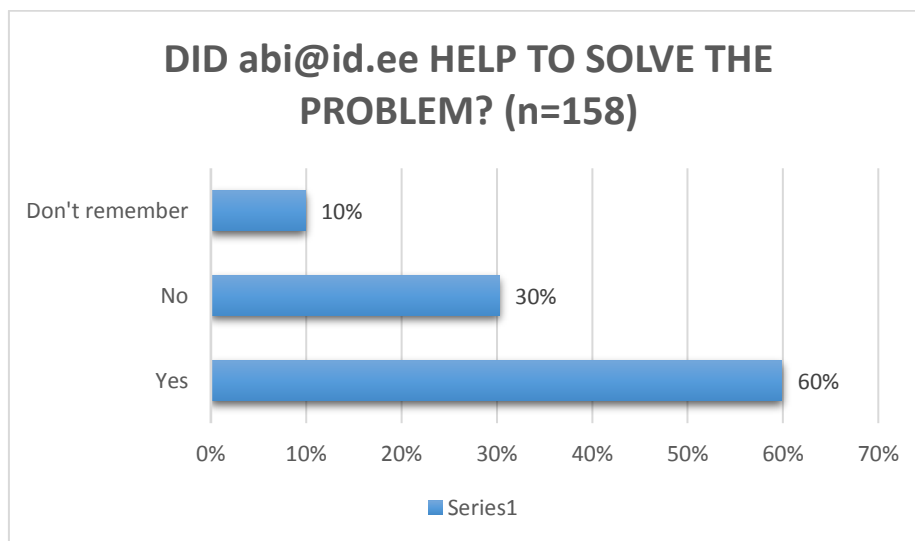

Figure 20 abi@id.ee ability to solve the problem

Interesting is the evaluation of the speed of the answering. 33% of the respondents say that they got the answer within the same day. Almost the same amount (32%) of the respondents remember getting the answer next day. The rest of the people got the answer later or didn't remember the exact time.
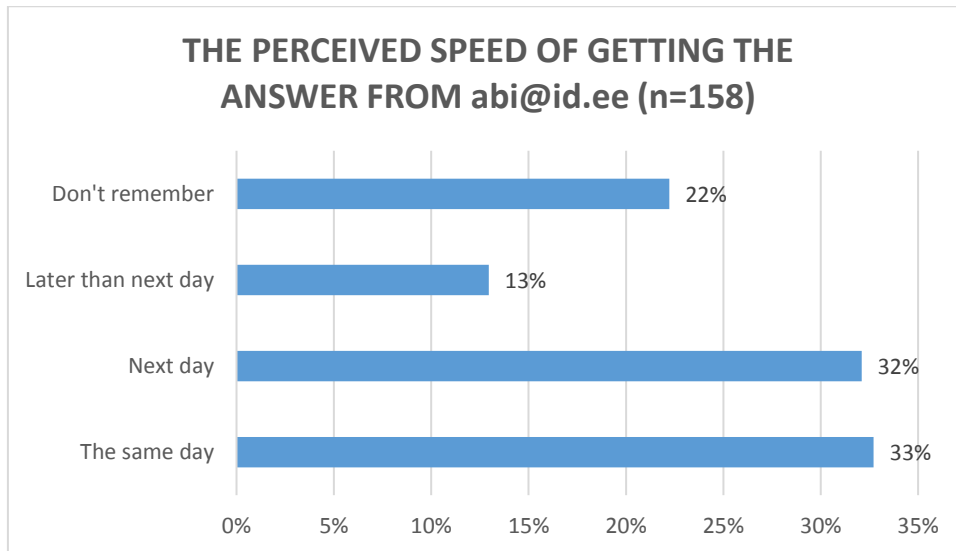
Figure 21 Perceived speed of getting the help from abi@id.ee

When answering the question – how fast would everybody like to get the answer via e-mail – it turned out that the expectation of the speed of the answer was much higher than the actual speed today. 27% of the respondents would expect the answer within 1 hour, 44% would be satisfied with the answer on the the same day. The rest of the respondents, approximately 30%, are ready to wait longer. It is interesting that the younger people tend to be more patient. There might be a reason that the younger people are more optimistic about other ways of getting help. Another reason might be that e-mail as a communication channel is not so popular among younger people any more.
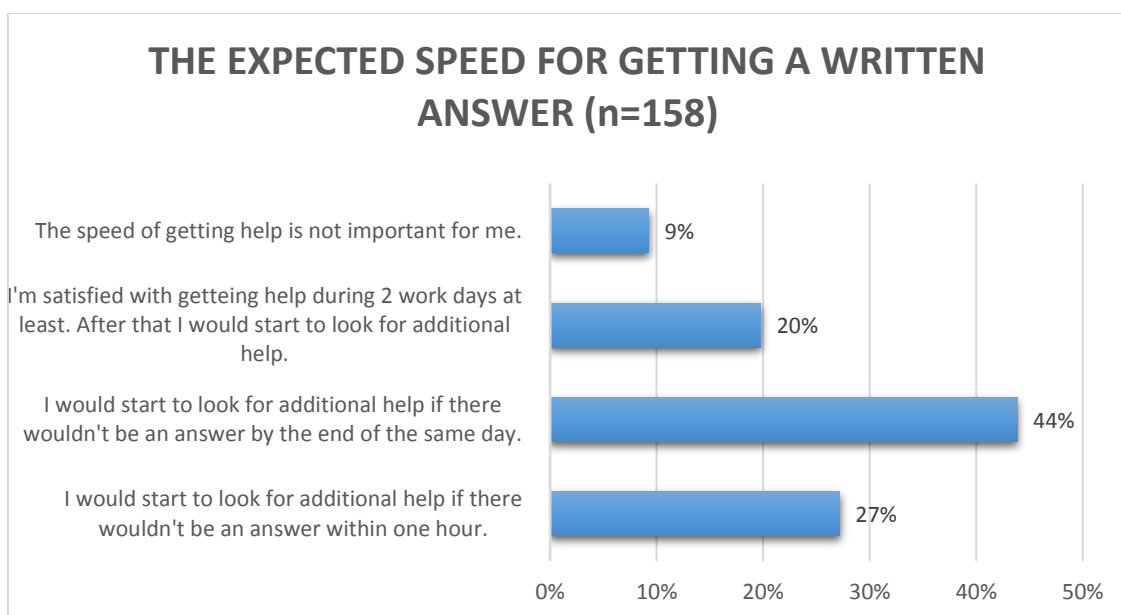

Figure 22 Expected speed for getting a written answer

When evaluating the general quality of the service level via e-mail, 90% of the respondents confirmed similarly to the other channels that they were satisfied with the way of service. Although, the amount of the people who felt satisfied with the final solution was lower than who were serviced by www.id.ee (60% versus 82%). 28% of the respondents have said that they turned repeatedly to the e-mail help with the same question and that was the highest among all the channels.
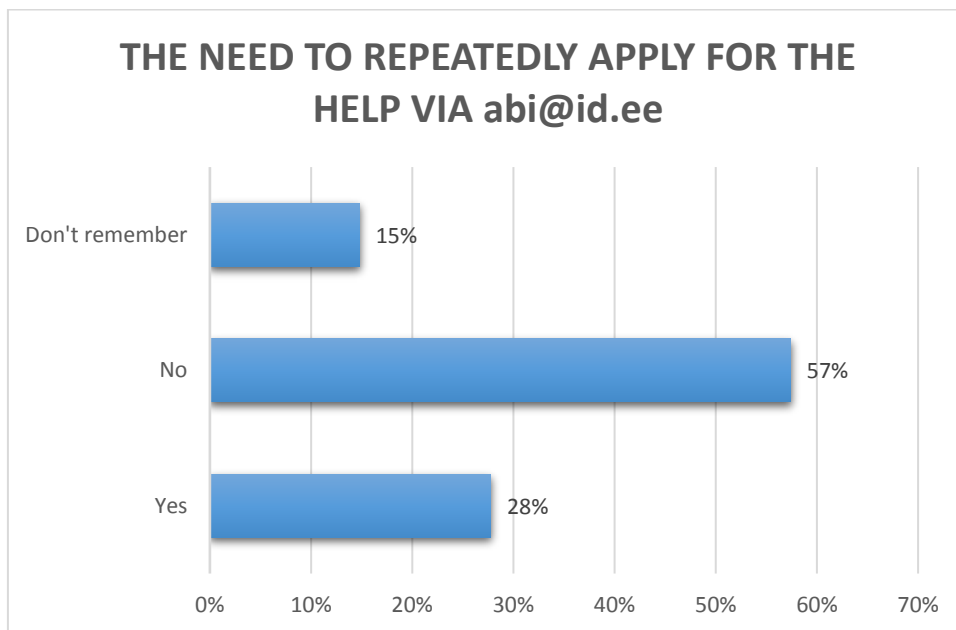

THE NEED TO REPEATEDLY APPLY FOR THE HELP VIA abi@id.ee

Don't remember — 15%
No — 57%
Yes — 28%

Figure 23 Need to repeatedly apply for the help via abi@id.ee

Looking at the higher expectations of the speed of the e-mail channel than today's delivery, there is an idea that maybe there is a point to launch more contemporary way of online servicing (online Chat, Chat bot etc), to better meet the people's expectations, avoid the repeated conversions and raise the general speed of the service.

5.1.3 Conclusions

The survey respondents happened to be active users of the computers and evaluated their computer skills highly. Most efficient is the help provided by the official web page www.id.ee which has satisfied 82% of the respondents needs. The call centre was second in efficiency (75% questions solved) and the least efficient in providing the help was e-mail service (abi@id.ee) which satisfied only 60% of the needs.

THE % OF SOLVED QUESTIONS

Channel	Percentage
e-mail abi@id.ee	60%
Call centre 1777	75%
www.id.ee	82%

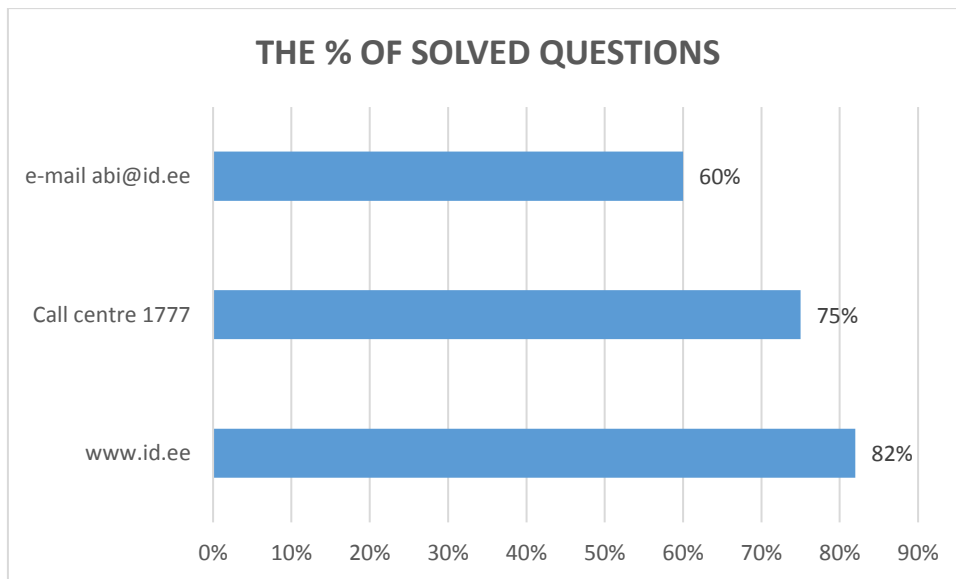Figure 24 Percentage of the solved questions by different support channels

An interesting finding was that even the oldest age group preferred the www.id.ee as the first channel for the help, though the usage of the call centre was also highest in that age group. Even more interesting is that the age group which found the most successfully the answers from the web was also the oldest age group, the students were second in being successful and the third were people at home and without daily employment. This fact leads to the conclusion that the quality of the help provided in the web channels should be a priority for the state and it is worth to consider it more largely than only for the electronic ID user support.

The conclusions from the customer survey and the impressions from the additional interviews with the customer service people say that the channels are well run and the workers of Transcom Estonia OÜ are often taking more responsibility than it is required by the contract between Certification Centre and Transcom Estonia OÜ. The only channel which has not been under a closer surveillance and managed with a vision is www.id.ee. The quality of the articles written in the web and also a logical structure of the web has happened to be of good quality due to the smart people behind it. The content management platform is old and the official support for that is finished. The Google Analytics has been in use but not regularly analysed and taken into account by improving the everyday service, because this has not been a request from the owner of the service (The Information Systems Authority). On the other hand, it might easily be a "grey area" for the state where the direct responsibilities are not recently updated and the expectations

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between different parties towards each other might be surprisingly different from the everyday performance. Taking into account the fact that the usage of www.id.ee has increased and people use the internet channel as the first priority and spend time in it, it would be reasonable to start to implement the quality management also for www.id.ee channel (PWC 22-23)

Solvak and Vassil (2014) in their study claim that the profile of the e-voters in Estonia doesn't differ any more from the general profile of the Estonian residents. E-voting is popular equally in all social groups and in constant growth. Based on the outcome of that study we can say that the respondents of the electronic ID users' survey were well educated and with high computer skills and those two parameters were in a direct correlation between each other. As shown in the earlier chapters of the thesis, more and more users are accepting the use of e-services and in some years perspective we are facing the same situation – the pattern of e-citizens doesn't differ from the general pattern of citizens which means that the communication channels people prefer when using digital services shouldn't be much different from the rest of the life.

So the state faces the challenge in the communication with its online citizens. Growing the e-society means also having a strategic plan for the communication through the online channels. Which means a proper communication agenda for building the awareness about the services, providing support where needed, building the trust towards the state via trustworthy and user friendly digital face of the state.

5.2 Additional Findings from the Research Project

For the broader context of the increased volumes in the electronic ID user support the author brings out the main findings from the PWC final report (PWC 2017) which are influencing the increased amount of customer service applications:

- The quality of the base software – the authors of the PWC report find this area as the main influencer in the volumes of the generated requests to the customer support.

- The unclear responsibility and roles in the service provision – the responsibility is divided between different state authorities, part of the service is outsourced and

some part of the service might stay in the "grey area" – like the communication strategy and development of the citizens information on the www.id.ee

- The increased usage of e-ID services

- The increased number of the unique users of e-services

- The increased usage of the base software

- The increased software updates

- The increased usage of the e-services

- The increased number of e-ID tools (Mobile ID, Smart ID, digital ID for e-residents)

- Changes in the e-ID tools (need for the update of the ID card)

- Low understanding of the e-ID terminology

- Changes in the third party' software (like the Google Chrome third parties' software extension changes)

- Periodical peak usage periods of the e-services

- Changes in the users' profile – from the technology aware people towards the average profile of the Estonian population.

- Long service time for some type of clients (older people, people with low computer skills)

- The platform support for the www.id.ee page is officially over.

- The handling of the general knowledge base is duplicated (internal customer service tools and www.id.ee in the use at the same time)

- Handling the e-mails need much resources

- The real volumes of the customer service are exceeding the projected volumes

- The first level customer support is servicing many clients in parallel, not concentrating only on the e-ID users.

- Users support channels' personnel is changing quickly, hard to guarantee a steadily high service level

- The repeated calls and e-mails are not connected with each other, it takes more time to introduce the same problem to different user support consultants.

- The problem classification is too broad for some problems.

- The support channels are serving in 2 languages today, but there is an emerging need for the third (English for e-residents) already.

All these factors can be used for better prognoses of the customer service volume and needs. But the main conclusion of the increased volume is that these are objective reasons of the higher volumes and minor fine-tuning in different areas doesn't change the reality that there are many more users of e-services today compared to the previous years, the average need for help per user has increased and it is wise to deal with allocating the best resources for satisfying the citizens needs and solving their problems.

5.3 Recommendations

As a conclusion of the research carried through by the author among the users of the electronic ID and based on the other findings brought up by the PWC final report for the research project *Analyses of the user support of the electronic ID in Estonia* (PWC 2017) the author is making following recommendations to think through by the owners of electronic ID:

1. As mentioned above there is no point to put too much energy on understanding why the volume of help needed is increasing, the reasons are objective. The energy should be spent on the strategy and vision - what is the state's solution to the increased need for the help? One solution could be to allocate the official resources to serve the customers in different channels, but the other task, for sure, is to pay attention on the future vision of the development of the www.id.ee

website in a way that it constantly satisfies the users' needs and even exceeds the expected user experience with their proactive and consulting approach.

2. It is worth to audit the software development for the electronic ID. It might be on a good level already today but as it generates constantly at least 20%, sometimes more requests to the user support channels, it is surely a way to diminish the number of requests and also build a future trust towards the easy and seamless user experience. A good example here is the Mobile ID solution compared to the ID card which requires minimum amount of support because it doesn't have the need for the constant updates.

3. The broader recommendation to the state would be that according to the findings of such a digitally capable citizenship the superior web-based communication and help could be a future key to the higher trust towards the state as the institution and well established web-analytics could provide very good overview about the "health" of the administrative situation in different spheres.

4. Coming back to the chapter 2's overview of the Good governance and the need for the strong vision and plan, the government should take the part of the digital agenda about the …. Seriously. The citizens need to have a good dialogue with the state and when in physical world we expect the administration be well accessible, polite and helping, the same feeling should welcome the citizens from the electronic face of the state. The satisfaction today with the customer service for the electronic ID was good, but it is exactly the right time to review the situation and set the new targets to achieve – what should be improved to even rise the level of the customer satisfaction knowing that large majority of the citizens are ready to independently look for the help from the electronic environments.

5. As one of the state's priority is to grow as much smart consumers as possible, the special communication program for that should be implemented. It could be with a proper influence on the wellbeing of the citizens but also building a higher trust towards the state and its communication channels. Besides a good communication plan, the motivation or so called Call To Action offer for behaving smart should be developed out to engage larger audiences.

6. The academic literature recommended to study how to better collect and use the data which is available through the solid traffic of public services. The findings based on the data analyses should point out the directions for the sustainable development and provide a lot of good information for the daily management of e-services and general public administration.

7. Looking at the awareness and customer satisfaction targets with the e-services in the Digital Agenda 2020 for Estonia, it seems, that electronic ID as a service is well known and the service support has high customer satisfaction level. There might be an opportunity to build the other services' awareness through the e-ID customer support too, as electronic ID is a heart of every other e-service.

6 Summary

This Master's thesis was initiated by the wish to find the answers to the three important questions:

1. Is today's customer service level for the electronic ID satisfactory enough for the users?

2. Why are the volumes of the requests towards the user support channels of electronic ID increasing?

3. What could be done in order to control the situation by the state?

With the help of the conducted survey and participation in the PWC's research project *Analyses of the user support of the electronic ID in Estonia* the author analysed the background of the problem, gave the theoretical frame for the discussion and introduced the outcome of the customer survey. It enables to give answers to all the risen questions:

1. Is today's customer service level for the electronic ID satisfactory enough for the users?

As the customer satisfaction level with different user support channels was high or very high, there is no critical need to change or improve anything quickly. The only recommendation will be to improve the www.id.ee channel. Due to the fact that it was largely most preferred channel among the users to look for help and the additional survey said that there is no sustainable development plan currently under the implementation. The agreed roles are well played but due to unclear responsibility, the owner of the www.id.ee developments stays unclear too.

2. Why are the volumes of the requests towards the user support channels of electronic ID increasing?

As shown in the chapter 5.2, there was a long list of objective reasons why the volumes of the requests towards the user support channels of electronic ID are increasing. The most dominant reason is the remarkable increase in the general usage of the electronic ID during recent years (approximately 30% growth during the last year compared to the previous similar period) The second important reason is that the users who have started

to use the electronic ID lately, have according to the statistics more frequent need for help. The third remarkable reason could be the changes in the third parties software extension (like the Google Chrome updates told before).

3. What could be done in order to control the situation by the state?

The first recommendation was to accept the increased volume and start to plan additional resources for the supportive consultancy for the citizens where needed. The user support survey showed that it is worth to put more energy on creating a new level of user experience on the website www.id.ee because it showed a high level of people's interest and also a good level of satisfaction already today. The discussion should focus on the e-mail support. The service level at the moment is not responding to the expectations of the customers and needs a good policy and update in the service provision. The supportive and larger recommendation was about the necessity to take the sustainable development principles seriously, review if possible the software development principles and audit them in accordance with the Digital Agenda 2020 "no legacy principle".

The additional positive outcome of the electronic ID user support survey was the understanding that Estonian society is very well digitalized, the citizens are able to help themselves in the electronic channels and the profile of the online citizen in Estonia doesn't differ from the regular citizen.

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Appendix 1 – The questionnaire of the survey "Citizens' customer satisfaction with the of Estonian electronic ID user support"

Opening words and general information.

To begin with the survey, please mark out which kind of inquiries have you made to solve your problems when using ID-card (please mark out all the valid options) and after that please click „continue".

❑ I did not look for the help how to use ID-card (1)

❑ I turned to www.id.ee home page (2)

❑ I turned to the call center number 1777 (or 677 3377) (3)

❑ I turned to the e-mail address abi@id.ee (4)

❑ I turned somewhere else (5)

Profile

Q1 How old are you?

○ 19 or younger (1)

○ 20 - 29 years old (2)

○ 30 - 39 years old (3)

○ 40 - 49 years old (4)

○ 50 or elder (5)

Q2 What is your main occupation?

○ Pupil (1)

○ Student (2)

○ Work (3)

○ Staying at home (4)

○ Pensioner (5)

Q3 What is your level of education?

○ Without primary education (1)

○ Primary education (2)

○ Basic education (3)

○ Vocational education based on basic education (4)

○ Secondary education (5)

○ Vocational secondary education (6)

○ Vocational education based on secondary education (7)

○ Bachelor's degree (8)

○ Master's degree (9)

○ Doctorate (10)

Q4 How would you evaluate your computer skills?

❍ Basic level – I often need help when using computer (1)

❍ User's level – I use independently, sometimes need help (2)

❍ Advanced level – I use independently, I solve the problems mainly independently (3)

❍ Specialist's level – I do have the IT-related education or I work in the IT field (4)

Q7 Information about the request

What where the exact reasons of your request?

Q8 Have you been aware where to turn to?

❍ Yes I was aware. (1)

❍ No, I needed help to find out where to turn to. (2)

If „yes, I was aware". Is Selected, Then Move To the End of the Block

Q9 Where did you find the contacts of the customer support channels for your request?

❍ By browsing internet (Google, Bing, Yahoo, Yandex, etc.) (1)

❍ I went directly to the www.id.ee home page (2)

❍ From the web page of my e-service provider (3)

❍ From the other channel (please specify) (4) _____

Q10 Please evaluate how easily was the customer support channel shown?

❍ Easily shown (1)

❍ Rather easily shown (2)

❍ Rather hardly shown (3)

❍ Hardly shown (4)

www.id.ee help.

Q11 Did you find a solution for your problem based on the information available on www.id.ee?

❍ Yes (1)

❍ No (2)

Q12 Did you use the step-by-step help on www.id.ee?

○ Yes (1)

○ No (2)

Q14 Please evaluate the user friendliness of the step-by-step help on www.id.ee.

○ Low (1)

○ Rather low (2)

○ Rather high (3)

○ High (4)

Q13 Based on your experience please evaluate the quality of the auxiliary materials on www.id.ee. How do you evaluate ...

	Rating of the auxiliary material on www.id.ee			
	Low (1)	Rather low (2)	Rather high (3)	High (4)
... understandability (1)	○	○	○	○
... timeliness (2)	○	○	○	○
... accuracy (3)	○	○	○	○
... the level of detail (4)	○	○	○	○
... visibility (5)	○	○	○	○

Q15 What kind of suggestions would you make to improve the quality of the auxiliary materials on www.id.ee?

The use of abi@id.ee

Q16 How fast did you get the answer from abi@id.ee?

❍ The same day (1)

❍ Next day (2)

❍ Later (3)

❍ Don't remember (4)

Q17 For how long are you ready to wait an answer to your written application before starting to look for additional help?

❍ I would start to look for additional help if there hasn't been an answer and help within one hour starting form the turning. (1)

❍ I would start to look for additional help if there hasn't been an answer and help within the same day of turning. (2)

❍ I am satisfied if I get help during 2 work days at least. After that I would start to look for additional help. (3)

❍ The speed of getting help is not important for me. (4)

Q18 Please evaluate the quality of information you received when sending a written application. How would you rate the …

	Rating of the auxiliary material through e-mail help			
	Low (1)	Rather low (2)	Rather high (3)	High (4)
... understandability (1)	❍	❍	❍	❍
... accuracy (2)	❍	❍	❍	❍
... the level of detail (3)	❍	❍	❍	❍

Q19 did you get an answer to your written application about the problems when using ID-card?

❍ Yes (1)

❍ No (2)

❍ Don't remember (3)

Q20 Have you had the need to make the repeated requests about the same probleem via e-mail help?

❍ Yes (1)

❍ No (2)

❍ Don't remember (3)

Q21 What could the customer support have done differently/better to better solve your problem?

The use of call centre (1777)

Q22 How would you evaluate the quality of information and guidance received from call center:

	Rating to the quality of the guidance of the call centre			
	Low (1)	Rather low (2)	Rather high (3)	High (4)
... relevance (1)	❍	❍	❍	❍
... understandability (2)	❍	❍	❍	❍
... accuracy (3)	❍	❍	❍	❍
... the level of detail (4)	❍	❍	❍	❍

Q23 Did you find a solution to your problem when using call centre's help?

❍ Yes (1)

❍ No (2)

❍ Don't remember (3)

Q24 Have you had the need to make the repeated requests to the call centre about the same problem?

❍ Yes (1)

❍ No (2)

❍ Don't remember (3)

Q25 What could the call centre have done better to help you to solve the problem?

The use of other channels for getting help:

Q6 Which other channels have you used to get help for the questions when using ID card?

❑ I got the help from the e-service provider (internet bank, e-services provided by the state, mobile operator's customer support (1)

❑ From IT-aware colleague/acquaintance (2)

❑ From other channels (please specify) (3) _____

Q26 Preferences and awareness

If you would need the help in the future about the usage of the ID-card, what channel would you prefer (starting from the most preferred etc)

_____ Call to the call centre 1777 (1)

_____ Written application to the abi@id.ee (2)

_____ Internet help on www.id.ee (3)

_____ Colleague/acquaintance (4)

_____ The customer support of the e-service provider I'm facing the problem with (5)

Q28 Are you aware that there is a need to periodically make the updates in your computer software for using the ID-card? (Update in your web browser to be able to sign documents)

❍ Yes, I am aware. (1)

❍ No, I hear it for the first time. (2)

Q29 Are you aware about the neccessary periodical updates for the sertificates of ID card?

❍ Yes, I am aware. (1)

❍ No, I hear it for the first time. (2)

Q27 What would be your preferred information channel to get the information about the most important updates and failures in functions of ID-card?

❍ Publication on www.id.ee (1)

❍ Publication in media (web, print, radio, TV) (2)

❍ Notifications by the software of ID-card (3)

❍ Other channel (please specify) (4) _____

Q30 Are you updating your ID-card software every time when a new version is available?

❍ Yes, immidiately after I get a notification. (1)

❍ No, not always. (please specify) (2) _____