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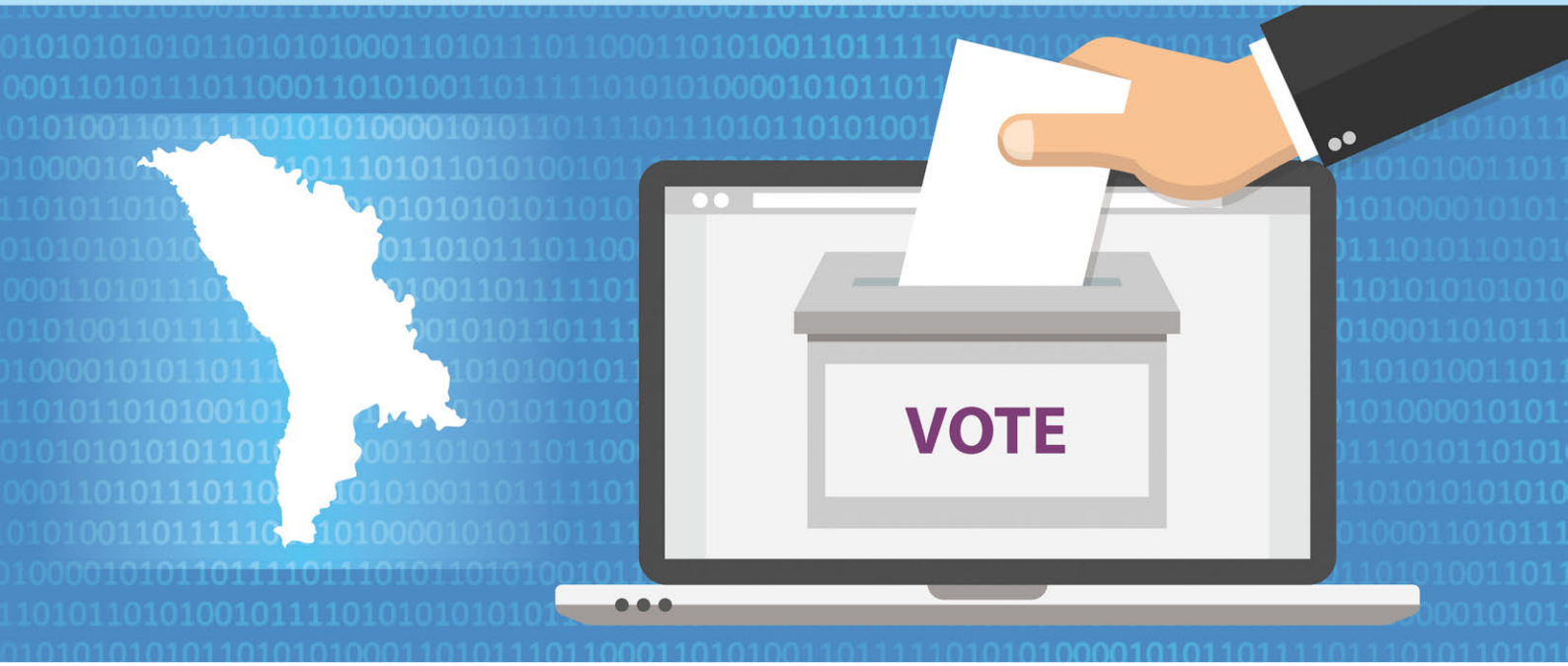

People's perception of the information technology tools in the perspective of implementation of Internet voting

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Chisinau, 2018

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The Study is realized within the framework of the "Democracy, Transparency and Responsibility" Program, financed by the United States Agency for International Development (USAID).

The opinions expressed in the Study "People's perception of the information technology tools in the perspective of implementation of Internet voting" belong to the author and do not necessarily reflect the donor's views.

Summary

This study aims at revealing the perceptions and attitudes of the citizens of the Republic of Moldova towards information and communications technologies in terms of implementing of Internet voting. The study includes three chapters and a list of recommendations on the social dimension of Internet voting.

The first chapter provides an analysis of international experience in the use of technologies by citizens, access to the Internet, and citizens' trust and confidence in these tools. Data show that EU citizens are active Internet users, with 87% of households being connected to the Internet. Although they use e-commerce, Internet banking and social networking services, 43% of the member states' population have insufficient digital skills. Despite this, several European countries have implemented the Internet voting, some of which support it, and others, on the contrary, being opposed to remote voting. Estonia, Switzerland and Canada are among the countries that use Internet voting and whose experience has been analyzed in this study, while countries as Netherlands, France and Norway, who refused Internet voting, are at the opposite side. The findings of the study show that success of the countries that use online voting has been influenced by several factors, including by high level of trust in public institutions and democratic processes. Additionally, the introduction of Internet voting was based on the principles of transparency and security, the voting system being gradually implemented through multiple pilot projects. In the case of the countries that renounced Internet voting, the reasons were rather organizational than technical, these states being marked by a low level of transparency and a lack of participatory discussions and debates in the decision-making process.

Chapter 2 analyzes the normative framework in the electoral and ICT fields, offering an inventory of available technological platforms and tools that can be applied for Internet voting. Also, citizens' perceptions and attitudes towards electronic services are analyzed based on the data of national surveys on assimilation of e-government services. The main findings of this section are:
1) Moldova has a high level of Internet access;
2) Technically, we have a technological infrastructure that could provide the necessary elements for Internet voting, such as voter authentication in the system, vote confirmation by signature, real-time data exchange;
3) availability of digital signature is an advantage;
4) citizens' positive perception of the introduction of technological innovations and the use of electronic services, which could positively influence the decision to use Internet voting.

Chapter Three reflects the findings of online surveys and interviews with political parties and public institutions. The main conclusions of the study are:
1) Citizens of the Republic of Moldova tend to trust the Internet;
2) They perceive Internet voting as a useful tool, but at the same time, they are aware of the related technological and organizational risks;
3) The degree of population's trust in public institutions and electoral processes is insufficient for the introduction of Internet voting;
4) Politicians regard the introduction of Internet voting with a certain degree of skepticism and they do not consider it possible to implement it in the next 2–4 years;
5) There are technological and organizational prerequisites for introducing or, at least, for piloting Internet voting in the Republic of Moldova.

Introduction

Unlike traditional voting procedures such as paper based or mail voting that have been tested and used in multiple rounds of voting, Internet voting is a relatively new method.

Existing studies have highlighted the social dimension of Internet voting, considering the demographic situation in the Republic of Moldova, access of households to technologies and the Internet, as well as the opinion of the diaspora citizens, who are the main beneficiaries of this voting option[1].

At the same time, assimilation of Internet voting depends, to a great extent, on the social factor, on the way the introduction of this voting method will be communicated to the public. In the debates on the implementation of Internet voting, the opinions of legislators, politicians and various IT experts usually prevail. At the same time, voters' views are often left in the shadow, without being taken into account.

In this study, we intended to focus our efforts on the demand for Internet voting, to analyze the attitude and the confidence of the citizens of the Republic of Moldova in the information technology tools in terms of Internet voting, answering the following question: what are the perceptions, attitudes and conditions necessary, from the point of view of the voters, for a successful implementation of an Internet voting system in the Republic of Moldova?

The overall objective of this study is to measure the use of information and communications technology tools by the citizens of the Republic of Moldova and to assess their knowledge, attitudes, trust and opinions about Internet voting.

Specific objectives:

- To identify international experience in the field of Internet voting;
- To analyze the legal framework in the ICT and electoral fields, as well as carry out an inventory of the existing ICT tools in the Republic of Moldova and identify the potential for their implementation for the Internet voting;
- To identify the opportunities related to Internet voting in the Republic of Moldova, as well as the potential challenges in the opinion of the citizens, political and institutional actors;
- To formulate recommendations to improve citizens' readiness for electronic voting;

To achieve the above general and specific objectives, the following aspects have been analyzed:

- The legal framework in the information and communications technologies and electoral fields;
- ICT tools existing in the Republic of Moldova and their potential for implementing the Internet voting;
- Factors that could influence citizens' intention to vote or not, using Internet voting (availability, access to technologies and the Internet, digital skills, trust, etc.);

The study has been developed in accordance with the approved research plan that included the following:

- A series of interviews with representatives of the Central Election Commission, ministries, government agencies, political parties, and other stakeholders (Annex 1). The interview guide includes 15

1 Udris, J., & Groza, I. (2016). Feasibility Study of Internet Voting for the Central Election Commission of the Republic of Moldova, Chisinau.

questions, intended to identify the opinion of these institutions about the implementation of e-voting in the Republic of Moldova, given that each of them has a role or could have a role in this process that can influence the success or failure of Internet voting implementation in the Republic of Moldova.

- An online questionnaire, filled in by a heterogeneous group of citizens with voting rights from the country and abroad, sent to a sample of 200 people. Prior to primary data collection, the tool was pre-tested to improve the clarity of questions. The online version of the survey was disseminated by various online promotional methods. The survey contains 20 questions, grouped into several sections: 1. Socio-demographic data; 2. Questions about vote participation; 3. Questions about Internet access and digital skills; 4. Questions about electronic services and Internet voting.
- Analysis of different patterns of implementation of Internet voting used in other countries.
- Analysis of the legal, technical and social frameworks of the Republic of Moldova, based on the existing documents, reports and statistical data.

I. Citizens' Perception and Trust in Information Technology and Internet Voting. International Experience

This chapter aims at introducing the theoretical notions that will be used in this study, such as electronic voting and Internet voting, the notion of trust in the context of Internet voting, legal and technological standards of Internet voting. It will also analyze different countries' experiences in granting access to technologies, Internet use, introduction and use of Internet voting.

1.1. Internet voting: fundamentals

Information and communications technologies (ICT) are used almost in all the electoral processes, starting with voter registration, counting of votes, etc. Information and communications technologies are used in controlled environments, such as polling stations, as well as in uncontrolled remote settings, such as voting from a home computer or smartphone. From a technical point of view, most electronic voting systems fall into one of the following four types:

- Electronic voting machines working with paper – the ballot paper with the voter's option is produced by an electronic voting machine. The voter selects the desired option and the voting machine generates a ballot, on which the field chosen by the voter is marked.
- Direct recording electronic voting machines – devices that collect votes by using a keyboard, a touch screen, a mouse, a pen or other electronic device that allows the voter to record the vote electronically.
- Optical recognition systems – devices that scan special ballot papers and identify the voter's option.
- Internet voting systems – votes are transferred via the Internet to a metering server. Votes can be expressed using public computers, voting booths or more frequently, any computer with an Internet connection accessible to a voter[2].

This research focuses on the study of Internet voting in the Republic of Moldova in terms of social demand, citizens' attitudes towards the use of ICT tools, and the degree of their trust in them. The focus on the analysis of a single type of electronic voting, namely that of Internet voting, is explained by the fact that it is a module planned to be piloted in the Republic of Moldova, according to the Strategic Plan of the Central Election Commission for 2016–2019. At the same time, the authors of the feasibility study of Internet voting[3], which was drafted for the CEC, highlighted that voters who are abroad would not be able to use other electronic voting methods, such as electronic voting machines or ballot scanners, Internet voting being the only method that allows remote voting. Therefore, in this study, the term of e-voting will be referred strictly to Internet voting.

2 The classification has been developed by the author, based on the following sources:
1) ACE Electoral Knowledge Network. E-voting. Aceproject.org
https://aceproject.org/ace-en/focus/e-voting/types-of-e-voting (Accessed on May 30, 2018).
2) Wolf, Peter. (2011) Introducing Electronic Voting: Essential Considerations. International Institute for Democracy and Electoral Assistance.
http://www.eods.eu/library/IDEA.Introducing-Electronic-Voting-Essential-Considerations.pdf (Accessed on May 18, 2018).

3 Udris, J., & Groza, I. (2016). Feasibility Study of Internet Voting for the Central Election Commission of the Republic of Moldova, Chisinau.

1.2. Internet voting: trust and security challenges

The introduction of new technologies in the field of democracy has sparked considerable talks on trust and security. In this study, trust and confidence have often been mentioned by interviewees as a factor that can influence people's perceptions and attitudes, as well as the decision to use or not to use this voting tool. As the notion of trust is complex, it is necessary to explain this term in order to further analyze the issues related to the confidence of the citizens of the Republic of Moldova in relation to information and communications technologies and Internet voting (Chapter III).

Citizens' trust in Internet voting as a means of expressing the voter's will include two distinct levels: trust in elections as a democratic process and trust in electronic voting as a tool based on the use of information technologies. On the one hand, trust in the election process involves certainty about the degree to which elections guarantee the quality of the democratic regime (if they are followed by a government capable of protecting the rights of citizens, to achieve development goals, to prudently manage public funds, etc.). Engaging in political activities, such as voting, requires confidence that these expectations will be met[4].

On the other hand, trust in electronic voting refers to more limited expectations and perceptions and focuses on the legal way of organizing and conducting the voting procedure, to the extent that the voting results represent precisely citizens' preferences. However, trust in elections as a democratic process can be one of the preconditions that generate trust in the electronic voting, including the citizens' motivation to vote and their predisposition towards the electoral authorities and the technologies they use.

At the same time, online security is one of the issues that raises several questions as to the reliability of electronic voting systems and the citizens' trust in them. Internet voting systems pose numerous challenges in terms of voting security, the most important being associated with vulnerabilities of user's personal computer and the Internet. Computers used by the voters can be placed in their homes, in commercial or public institutions, making it almost impossible to ensure that all of them are secure and do not contain malware or viruses. There are also Internet-related infrastructure issues that make the vote susceptible to attacks or system failures. In addition to computer and Internet issues, there are risks associated with providers of voting systems, which are potential targets for interior attacks. At the same time, the closed nature of software creates difficulties in developing appropriate standards, tests and certifications for these systems[5]. The table below is a summary of technological risks associated with Internet voting.

Risk	Consequence	Probability	Precautions
Dos Attacks[6]	Deprivation of the right to vote	High[7]	There are no simple countermeasures
Spy programs of the Trojan type to modify or monitor votes	Voter identity theft, loss of voting confidentiality	There are widely available tools to remedy this issue	Detection is difficult. Individual computers can be protected, but ensuring compliance is difficult, especially for public computers.

4 Moisés, J. (2006). Á. Citizens' distrust in democratic institutions. International Review of Sociology. 16(3), 593–616.
5 Lauer, Thomas W. (2004) The Risk of E-Voting. The Electronic Journal of E-Government (EJEG) 2, no. 3: 177–86.
6 A DoS attack can be defined as an attack, targeting the availability of a computer or a computer network so that they can no longer provide the service, for which they were created.
7 Occurred in the elections in Canada.

Risk	Consequence	Probability	Precautions
Automated vote buying	Compromised elections	Very likely, since there are organizations dealing with this.	They do not exist. There may be organizations outside the jurisdiction of the country.
Internal attack on the voting system	Compromised elections	Such attacks are widespread within commercial systems	Separation of responsibilities, adequate documentation, control over physical goods, independent audit.
Virus specific for Internet voting systems	Voter identity theft, loss of confidentiality, compromising the elections	Unknown	Very difficult, because such a virus might be unknown at the time of detection
Spoofing[8]	Voter identity theft	Easy to do	It can be launched anywhere. Can be prevented by using a PIN code

Source: Thomas W. Lauer, *The Risk of e-Voting*, School of Business Administration, Oakland University, Rochester, USA

1.3. Citizens' access, perception and confidence in the use of the Internet and information technologies. A comparative analysis of EU countries

Information and communications technologies (ICT) have become more accessible to the general public, both in terms of access and their costs. By 2017, the share of households with Internet access in the EU-28 increased to 87%, which is about 32 percentage points more than in 2007[9]. Eurostat statistics[10] shows that in 2017, 84% of EU-28 citizens, aged 16 to 74, used the Internet. The share of EU-28 population that has never used the Internet was 13% in 2017, which decreased to almost one third of the level recorded in 2007, when it was 37%. The lack of the need or interest in using the Internet, insufficient digital skills and cost barriers continue to be the most common reason for lack of home Internet access.

The Internet is used for a variety of online activities, such as consumption of online video content (videos, music, games, etc.) as well as online shopping and banking. The share of Internet users that engage in such online activities as reading online news (72%), making video or audio calls (46%), using social networks (65%), online shopping (68%) online banking (61%) has slightly increased in recent years.

8 Considering network security, a spoofing attack is a situation, where a person or program successfully imitates another one by forging the data to obtain an illegitimate advantage. A spoofing attack occurs when one of the communicating parties is deceived in the process of opening a secure connection by a site controlled by an attacker.

9 Digital Economy and Society Statistics – Households and Individuals. Statistics Explained (2018, March). Accessed on July 15, 2018. http://ec.europa.eu/eurostat/statistics-explained/index.php/Digital_economy_and_society_statistics_-_households_and_individuals

10 Ibid.

Although the differences in the common use of the Internet have been reduced in 2017, in some Member States, over one third of the population is not online on a regular basis[11]. This phenomenon is conditioned by the digital disparity in terms of access to technologies and the digital skills gap attested in different population groups. Reports of the European Parliament[12] show that a large proportion of EU voters still have underdeveloped digital skills and the level of trust in the Internet is low.

Lack of some basic digital skills can affect the quality and safety of digital services, therefore, these skills are an aspect that needs to be analyzed in parallel with access to technology. According to the data of 2017[13], 43% of the EU population had an insufficient level of digital competence. The Digital Competence Index, an indicator based on the Digital Competence Framework for Citizens[14] shows that 17% of the EU population did not have digital skills in 2017, the main reason being that they did not use the Internet or did so very rarely.

Proportionally, there are more men than women that have developed basic digital competences – 60% and 55%, respectively. In addition, only about 31% of people with a low level or no education have at least some basic digital skills. This figure is also significantly lower among those living in rural areas (49%), who tend to be relatively older. The share of people with basic digital skills ranges from 29% in Bulgaria and Romania to 85% in Luxembourg and 79% in the Netherlands.

In addition to Internet access and digital skills, citizens' experience in using information technologies is influenced by the perception and the level of trust in the existing digital tools. Eurobarometer data from November 2017 shows that while Europeans' confidence in traditional media seems to improve, distrust of the Internet and online social networks is growing. A little over one third of Europeans, i.e. 34%, say they "tend to trust" the Internet, while mistrust increases and reaches 51%. The trend is also true for online social networks: two out of ten Europeans, or 20% "tend to trust" them, while 62% do not. However, the degree of trust of the Internet varies between member countries. Since autumn 2016, trust of Internet has fallen in 16 Member States, it decreased by more than ten percentage points in the Netherlands (31%, –13 percentage points), Sweden (17%, –12 percentage points) and Finland (33%, 11 percentage points). However, Internet confidence has increased in nine countries, particularly in Hungary (49%, +10) and Croatia (42%, +7)[15].

A study[16] made in 2016 based on a sample of ten thousand respondents from the United Kingdom and the United States, shows that the respondents' trust in Internet security is weak. Approximately two-thirds of the respondents are concerned about online theft of personal and financial information, and it is unlikely that society's efforts in this respect help alleviate their fears. Only 42% of the respondents consider that economic agents are making sufficient effort to protect their personal information. About 60% of the respondents said they are more concerned about online security than they have ever been. According to another study[17], the main reasons for mistrust of the Internet are as follows: it

11 European Commission (2018). Human Capital Digital Inclusion and Skills. Report. http://ec.europa.eu/information_society/newsroom/image/document/2018-20/2_desi_report_humancapital_B5DC055D-DD1E-51CD-229138BE55F9AE8A_52247.pdf

12 Trechsel A. H. Kucherenko V. (2016, mai). Potential and Challenges of E-Voting in the European Union. http://www.europarl.europa.eu/RegData/etudes/STUD/2016/556948/IPOL_STU(2016)556948_EN.pdf

13 European Commission (2018). Human Capital Digital Inclusion and Skills. Report. http://ec.europa.eu/information_society/newsroom/image/document/2018-20/2_desi_report_humancapital_B5DC055D-DD1E-51CD-229138BE55F9AE8A_52247.pdf

14 Digital Competence Framework https://ec.europa.eu/jrc/en/digcomp

15 European Commission (2017). Standard Eurobarometer 88 Autumn. Media use in the European Union.

16 NCC Group (2016). Trust in the Internet Survey. https://www.nccgroup.trust/uk/about-us/resources/trust-in-the-new-internet-survey-2016-discussion-paper/ [Accessed in June 2018].

17 Centre for International Governance Innovation. (2017). Global internet security and Trust Survey [PowerPoint Presentation] https://www.cigionline.org/internet-survey-2017 [Accessed in June 2018].

is not safe, it is not trustworthy, it is controlled by corporations or by the government and it does not allow for entirely private communications.

In conclusion, the data show that, although information technologies have become more accessible over the last decade, digital disparity with regard to digital skills and Internet access is still impressive. In 2017, over 50% of EU population had some basic digital skills, while 43% could be characterized by low digital literacy. This reflects a rapid development of available technologies, as well as a slower acquisition of digital competences among the population, which can affect the quality and safety of the use of electronic services and increase the risk of digital exclusion of certain categories of citizens. As regards user attitudes towards the ICT tools and the Internet, there is a degree of mistrust, where just over 50% of EU population tend to have no trust in the Internet and social networks. However, against the backdrop of these trends, the share of Internet users, who are on social networks, are doing online shopping, or using online banking has slightly increased over the past few years.

1.4. Legal, operational and technical standards of e-voting in the European Union

Introducing and accepting Internet voting depends on the ability to respect, defend and promote the principles of democratic elections.

In 2004, the Cabinet of Ministers of the Council of Europe approved a Recommendation on legal, operational and technical standards for electronic voting. The initial recommendation was applied by the member states of the Council of Europe and beyond. In 2017, the Cabinet of Ministers adopted a new recommendation on electronic voting standards, replacing that of 2004. At the same time, it is now the only international standard on electronic voting[18].

This recommendation has been developed to ensure that electronic voting is compatible with the principles of democratic elections and is currently the only international standard available for electronic voting. The document[19] aims at harmonizing the application of the principles of democratic elections and referenda, using electronic voting, in order to strengthen voters' confidence in the voting process and e-voting systems in their respective countries.

The standards of e-voting, adopted by the Council of Europe, aim primarily at respecting the democratic principles of the elections, such as universal suffrage, equal suffrage, free suffrage and secret suffrage.

I. Universal suffrage – the electoral interface of an electronic voting system must be easy to understand and use by all voters, enabling people with disabilities and special needs to vote independently. The display of voting options on the device used by the voter should be optimized for all voters, including those who do not have specialized computer skills. The document mentions that voters should be involved in the development of electronic voting systems, in particular, to identify the constraints and facilitate their testing at every stage of the development process. IT products and services need to be functional and take into account the needs of the public, without being unnecessarily complicated. Such requirements could be met through a common approach, involving the development team and a representative user group.

18 According to the website of the Council of Europe. https://www.coe.int/en/web/electoral-assistance/-/council-of-europe-adopts-new-recommendation-on-standards-for-e-voting

19 Recommendation CM/Rec (2017)5 of the Committee of Ministers to member States on standards for e-voting (Adopted by the Committee of Ministers on 14 June 2017 at the 1289th meeting of the Ministers' Deputies).

II. Equal suffrage – all official voting information must be presented equally through all voting channels. Where both electronic and non-electronic voting methods are used in the same poll, there must be a safe and reliable method to aggregate all the votes and calculate the results. Voter identification must be ensured in a way that enables the person to be clearly distinguished. The electronic voting system must grant access to a user only after s/he has been authenticated as a person with voting rights. It is particularly important for the voter to be informed of his or her possibilities to vote, including of the possibility to cast more votes by electronic voting system, or to vote successively by different voting methods if multiple voting is allowed[20].

III. Free suffrage – the voter's intention to vote will not be affected by the voting system or any other unjustified influence. The electronic voting system will provide the voter with a genuine ballot and authentic information. The voter must be informed of how to verify that a connection to the official server has been established and that an authentic ballot has been used. The voter must be able to verify that his/her intention is accurately represented and the ballot has entered the electronic ballot box without being modified.

IV. Secret suffrage – electronic voting is organized in such a way that the secret of voting is observed at all stages of the voting procedure. The electronic voting system develops and stores, as long as it is necessary, only personal data required to conduct electronic voting. The electronic voting process, especially the counting stage, must be organized so that it is not possible to reestablish the link between the open vote and the voter. Votes are and remain anonymous.

1.5. Lessons learned and best practices for adopting Internet voting by citizens. A comprehensive analysis

Based on the data mentioned in the above paragraphs, one can deduce that against the background of improved Internet access in different countries, there is a growing trend of mistrust in its use and a disproportionate development of citizens' digital skills. However, some countries have succeeded in introducing and successfully using Internet voting, while others have abandoned the idea. Further, we will provide an overview of Internet voting implementation in Estonia, Switzerland, France, the Netherlands, Canada and Norway.

1.5.1. Estonia

In 2005, Estonia became the first country in the world to hold nationwide local elections, where people could vote through the Internet. This world premiere was followed by a successful implementation of e-voting at all levels of elections: local, national and European. So far, Estonia has held nine ballots using the Internet voting system. The Internet voting process consists of five steps: testing, system configuration, voting, vote counting and data destruction[21].

In early 2000s, less than one third of Estonians were using the Internet, Estonia being characterized as a country with relatively few Internet users, limited access to computers and an increased number

20 The multiple vote option (multiple electronic votes or more votes cast through multiple voting channels) can be introduced in the case of electronic voting as a countermeasure of voter constraint, which remains possible when voting takes place outside a controlled environment (remote voting). In Estonia, for example, the multiple vote assumes that a voter can vote more than once, the last vote being considered.

21 OSCE/ODIHR (2015). Estonia Parliamentary Elections. 1 March 2015. Final Report (Rep.). https://www.osce.org/odihr/elections/estonia/160131?download=true

of public places with Internet access[22]. The low number of Internet users and paper-based means of identification created impediments to the development of banking and telecommunications industries, so the government, together with the banking and telecommunications sectors, launched several projects to spread and popularize the use of the Internet among the population[23]. Currently, Estonia ranks 10th in the European Union in terms of human capital size, while the number of Internet users and the share of people with at least a basic digital literacy level is higher than the average level in EU-28 in 2017, 86% and 60% respectively. Compared to the EU average level, Estonians are very active users of Internet services. They are very confident in using Internet banking (90%), registering 29 percentage points above the EU average, as well as active consumers of various online services, including news, video, music and games[24].

With regard to e-voting, voter weight in the first electronic elections was very low, with less than 2% of the total votes cast online, which means that of every 50 votes one was cast via the Internet. This figure increased on average by around 4.3 percentage points with each subsequent election and reached a record level in 2014, when every third vote was cast via the Internet.

It took some time before e-voting spread and was used in mass. These conclusions can also be found in the table below, which shows that over the years, the number of votes cast via the Internet is increasing. At the same time, the statistical data show that, initially, most voters who opted for the Internet voting were in the age groups of 18–24 and 25–34 years old. Subsequently, by the last elections, the age categories of e-voters have balanced[25].

	Local Elections of 2005	Parliamentary Elections of 2011	Local Elections of 2017
Citizens with voting rights	1 059 292	913 346	1 100 647
Voter turnout	502 504	580 264	586 519
Internet votes	9 317	140 846	186 034
Internet votes, % of total votes cast	2	24	32
Canceled Internet votes	30	82	163
Multiple internet votes[26]	364	4 384	4 527

Source: Developed by the author based on the data of Estonian National Electoral Committee, https://www.valimised.ee/en/archive/statistics-about-internet-voting-estonia (accessed on June 2, 2018)

In this context, one of the factors that contributed to the spread of Internet voting in Estonia was the high degree of trust in the governmental environment, in which e-voting was implemented. The OSCE/ODIHR Report[27] on the 2015 parliamentary elections in Estonia highlighted the high degree of trust in the reliability and security of Internet voting. Although users were aware of the potential vulnerabilities of the system, they were confident that benefits outweigh the risks.

The second factor was the confidence in secure methods of online authentication. The identity card has been the primary identification document since 2002, which was mandatorily issued to every citizen.

22 Kalkun, M. and T. Kalvet (2002). Digitaalne lõhe Eestis ja selle ületamise võimalused. Praxis.
23 Solvak M., Vassil K (2016) E-voting in Estonia: Technological Diffusion and Other Developments Over Ten Years (2005–2015).
24 European Comission (2018) Digital Economy and Society Index Country Report Estonia.
25 https://www.valimised.ee/en
26 In Estonia, multiple voting is allowed, which means that a voter has the opportunity to vote as often as he wants, only the last vote being counted.
27 OSCE/ODIHR (2015). Estonia Parliamentary Elections. 1 March 2015. Final Report (Rep.). https://www.osce.org/odihr/elections/estonia/160131?download=true

Involvement of private banks played a key role in the successful implementation of identity cards, both in terms of company awareness and their actual distribution. In particular, when people realized that banks prefer digital IDs for personal identification because they are safer and more convenient, it has been a real motivation to replace old methods of identification with digital methods[28].

The Estonian e-voting system was developed on the basis of the principle that all components of the system should be transparent for audit purposes: the procedures are fully documented, critical procedures being recorded, audited, observed and video-recorded (since 2013, also published on YouTube). In most Estonian elections, the central electoral body allowed all the voters to test the e-voting system before the voting period to encourage people to see how the system works. This helped voters detect the problems they might face before the actual poll.

Estonian experience demonstrates that technology should rather be regarded as a factor of political participation than as an obstacle. It is essential to note that the potential positive effects did not emerge immediately after the adoption of the new voting technology, requiring a period of at least three ballots[29].

1.5.2. France

French citizens are active Internet users, 83% of people aged 16 to 74 access the Internet at least once a week and have good digital skills (57% of people aged 16 to 74 have at least basic digital skills). With regard to online transactions, France is above the European average, 72% of the Internet users have used online banking services over the past three months, and 76% of last year's Internet users have ordered goods or online services. Broadband Internet covers 99.5% of its households, and 71% of them are connected to the Internet, this indicator being slightly below the EU average of 75%[30].

In France, Internet voting was made available only to the Diaspora. The French Foreign Ministry introduced Internet voting for French citizens living abroad to allow them to vote electronically during the 2012 national legislative elections. This project was implemented to ensure full access to the voting right of French voters abroad, who encountered obstacles, such as long distances to the polling station, ballot papers sent to wrong addresses, difficult administrative procedures, or delays due to post services. During the two rounds that took place between May 23rd – May 29th and June 6th – June 12th, over 240 000 votes were cast, representing over 55% of the total votes cast to elect directly 11 members of the Parliament in France.

According to the election monitoring report of the OSCE[31], Internet voting was supervised by a commission, led by a State Council Judge (Conseil d'État) and included a representative of the Ministry of the Foreign Affairs, Ministry of Internal Affairs, the National Cybersecurity Agency of France (ANSSI) and five representatives of the French National Assembly living abroad. The source code of the Internet voting system was audited by a private company, hired by the National Commission for Information and Liberties, and the system was tested in January 2012 with the participation of over 5000 users. The same report mentions that there was too little public information on the introduction of Internet

28 Solvak M., Vassil K (2016) E-voting in Estonia: Technological Diffusion and Other Developments Over Ten Years (2005–2015).
29 Ibid.
30 European Comission. (2018) Digital Economy and Society Index (DESI). Country Report France.
31 OSCE/ODIHR (2012) France. Presidential Elections. 6 May 2012. Final Report (Rep.) https://www.osce.org/odihr/elections/89000?download=true

voting, and some actors voiced concerns about the security and secrecy of Internet voting, as well as about the limited public debates before its introduction[32].

Due to concerns about foreign cyber threats and technical issues, the government decided to suspend Internet voting for the 2017 parliamentary elections for the citizens located outside the country. Although the importance of preventing foreign interference and minimizing the risk of jeopardizing the integrity of election results was recognized by most actors involved, there were concerns about limited information and public debates before the suspension of Internet voting[33]. Withdrawal of electronic voting for French citizens located abroad was decided in accordance with the recommendations of the ANSSI three months before the elections. The proximity of this decision to the election date stirred suspicions that the risk of a cyber-attack had been known in good time, but the necessary steps were not taken to minimize it[34].

The sudden decision to abolish Internet voting for the French citizens living abroad raised suspicions with regard to the limitation of their voting rights. The suspension of electronic voting coupled with lack of communication with consulates regarding the alternative postal voting questioned the motives of the ministry. Many voters that were away from polling stations relied on Internet voting and failed to register for postal voting. In conclusion, it should be noted that the reasons claimed to justify the mistrust of Internet voting did not reveal a new threat, but rather some technical issues, most of them already identified in 2012[35].

1.5.3. Switzerland – Geneva Canton

Switzerland is characterized by a fairly high degree of Internet use. In the first quarter of 2017, 90% of adult population surfed the Internet. According to the available data, there was a significant increase in the number of Internet users aged 65 and over. In 2017, 9 out of 10 households in Switzerland were connected to the Internet. Nearly all of Switzerland's population aged 15–54 is connected to the Internet (between 99% and 96% depending on the age category). At the same time, there has been a significant increase in users aged 55–64 years. Figures show that 91% of them use the Internet. At the same time, 77% of people aged 65 to 74 use the Internet, and almost half (45%) of the 75-year-old population are online[36].

Switzerland is the country where most pilot projects on Internet voting have been implemented. The general principle of the Internet voting process is that "safety has priority over speed". In 2004 and 2005, the Cantons of Geneva, Neuchâtel and Zurich made the first attempts to use Internet voting. Internet voting was limited to Swiss residents only until 2008, when Neuchâtel first allowed Swiss citizens living abroad to vote online. In 2012, already 50% of Swiss citizens based abroad could vote

32 OSCE/ODIHR (2012) France. Parliamentary Elections. 17 June 2012. Final Report (Rep.) https://www.osce.org/odihr/90763?download=true

33 OSCE/ODIHR (2017) France. Presidential and Parliamentary Elections. 13–15 March 2017. Final Report (Rep.) https://www.osce.org/odihr/elections/france/311081?download=true

34 Camguilhem, B. (2017) Retour sur la fin du vote électronique pour les Français établis hors de France aux élections législatives. Incertitudes d'un recul http://droitelectoral.blog.lemonde.fr/2017/04/03/03042017-retour-sur-la-fin-du-vote-electronique-pour-les-francais-etablis-hors-de-france-aux-elections-legislatives-incertitudes-dun-recul-b-camguilhem/

35 Garriaud-Maylam, J. (2017, March 08). La suppression surprise du vote électronique est un coup politique. https://www.huffingtonpost.fr/joelle-garriaudmaylam/vote-internet-legislatives_a_21876251/

36 Office fédéral de la statistique. (2017, November 20). Internet use in households 2017 – Swiss population more online than ever | Communiqué de presse. https://www.bfs.admin.ch/bfs/fr/home/actualites/quoi-de-neuf.assetdetail.3782202.html

online in federal elections. Since the launch of the project, more than 200 tests[37] of e-voting system were made at the federal level. Numerous tests were carried out at cantonal and community level.

In the case of Geneva canton, the Internet voting system is based on the principle of transparency, security being a priority. Since 2010, citizens of Geneva have been granted access to the source code. Geneva has thus set out to increase confidence of a transparent and secure system. In this way, the authorities of Geneva encourage programmer communities to contribute to the quality and security of the source code, which is available on the Github platform[38].

Before every round of voting, the voters in Geneva receive by post a one-time-only voting card. This is their numeric code. This card contains the unique identifier of the voter and his/her PIN. In order to validate the ballot, the voter must enter the date of birth. There are also other ways of combating frauds, such as adding a personal question to the voting procedure, limiting the number of votes cast from a single IP address.

The success of implementing Internet voting in the Geneva Canton was due to the following factors:

1) Politicians have been actively involved. The project was initiated and sponsored by the highest official in the field of political rights in Geneva – the Chancellor of State.

2) Implementation was organized step by step. The significance of pilot projects has gradually increased in two dimensions: the number of potential voters targeted and the stakes of votes. This method allowed the project to manage the risks and to turn to advantage the increasing pressure, relying systematically on accepted success before proceeding to the next step.

3) The teams involved in the project were multidisciplinary. Issues of distance voting have been dealt with by experts in specific areas. These approaches allowed them to avoid building a system based on an exclusively technical concerns.

1.5.4. Canada – the Internet voting experience at municipal level

According to the data provided by the Canadian Internet Registration Authority[39], 86% of citizens have a broadband Internet connection at home. Most Canadians spend online 3–4 hours a day to work, learn, socialize, and shop. Of the Canadians who have Internet connection at home, 93% said it is important to have high speed Internet access. According to the same report, 74% of Canadians are very/somewhat comfortable, when calling for a service / making payments on a governmental site, feeling comfortable when purchasing or paying through Canadian commercial websites. At the same time, the Canadian Internet users are concerned about the security and confidentiality of their personal data. Three quarters of Canadians are aware of the potential cyber-attacks. They continue to be most concerned about the security of personal information held by the government.

So far, in Canada, the Internet has been used to conduct a series of local elections. Markham, Ontario was the first Canadian municipality to introduce e-voting as part of a strategy aimed at increasing voter participation. Voters, who wanted to vote online, were asked to pre-register and their names

37 Prior to each pilot project, voters were given an explanatory notice and could call a support phone number. Before each attempt, a public conference was organized, with the participation of the Chancellor of State, who answered the questions. Participants could also simulate voting using personal computers, located in the conference room. Trained staff answered questions from the public. During the voting, the government website indicates on a daily basis the number of votes received by post and e-mail.

38 https://republique-et-canton-degeneve.github.io/chvote-1-0/index-en.html

39 The Canadian Internet Registration Authority. (2018) Canada's Internet factbook https://cira.ca/factbook/canada%E2%80%99s-internet-factbook-2018

were immediately removed from the paper-based lists of voters. When registering, voters were asked to create a single security question and, shortly afterwards, they were sent a unique PIN. The use of the PIN code and the correct answer to the security question were necessary for online voting.

The city of Edmonton conducted a rigorous public engagement campaign in the period between September and December 2012 to assess the possibility of introducing Internet voting in local and school elections. The city implemented four complementary participatory initiatives with different degrees of public impact: 1) a jury of citizens to evaluate the policy proposal; 2) a mock election to verify the security of online voting technology; 3) a public opinion poll to assess the citizens' readiness to accept this mode of voting and their intention to use it; and 4) consultative meetings and roundtables to request feedback from the general public and other groups. The initiative aimed at both the scale and the depth of public participation through the use of various participatory tools to assess the proposed change. In the case of Edmonton, the reasoning of the city administrators' initiative to involve citizens was to avoid controversy through a careful study of public attitudes and involvement of citizens in the political process.[40]

Another location where Internet voting was introduced is Halifax. Halifax City Hall first introduced remote voting for the municipal council elections in 2008 as part of a pilot project that tried to increase the viability and reliability of electronic voting. The municipality decided to offer the possibility of Internet and telephone voting. A mock election was conducted on a sample of 276 000 voters. Since 2008, remote voting has been used by the regional municipality of Halifax for five electoral events, including three general elections and two special elections. Voting rates varied during the last five electoral elections, although in 2016, it declined by 31%. Remote voting did not increase the participation rate, although the share of those who voted online accounted for about 60% of the total votes cast[41].

1.5.5. Norway

Digital Economy and Society Index 2018 data show that Norway is among the most digitized countries in Europe. Norway is well-positioned in terms of broadband connectivity, Internet use, digital business and public services. Norway is also superior to the European average in terms of digital competences of the population, with 75% of the population having basic digital competences. According to Norway's Statistics Office, in 2017, about 97% of the country's population had access to the Internet. Most Norwegians use the Internet for e-mails and Internet banking services (91%) and 94% of the Norwegian population pay their bills online[42]. In 2017, 44% of Norwegians bought goods online, and 54% booked holiday accommodation using the Internet. Norwegians quickly adopt new technologies and have a high trust in digital services.

During the elections of 2011, Internet voting was used as an additional voting channel for voters in 10 selected municipalities, both in the country and abroad. Internet voting was available in advance before the voting period. A total of 27 557 voters, or 16.4% of eligible voters, chose to use Internet voting.

The pilot project on Internet voting was conducted in an open and inclusive way. Electoral actors, even though some of them doubted the Internet voting principle, expressed confidence in the

40 Kamenova, K., & Goodman, N. (2015). Public Engagement with Internet Voting in Edmonton: Design, Outcomes, and Challenges to Deliberative Models. Journal of Public Deliberation, 11(2). https://www.publicdeliberation.net/cgi/viewcontent.cgi?article=1370&context=jpd

41 Halifax Regional Council (2018) Electronic Voting Security and Increasing Voter Participation, Information report Halifax.

42 European Commission (2018) Digital Economy and Society Index, Country Report Norway.

implementation of the pilot project. To allow for verifiability and ensure the transparency of the voting process, the ministry published on its website the full version of the software, although its final version was displayed only after the election day. To ensure verification of the electoral process, secret codes were sent to voters. The codes allowed voters to check whether their votes were recorded in the way they were cast. At the same time, the system did not provide for voters to check whether their votes were actually counted.

The ministry provided full access to observe all stages of the process. However, electoral participants displayed little interest in monitoring Internet voting. This is largely due to the high level of confidence in the electoral authorities and the fact that they will conduct the elections in a safe and fair manner[43].

In the evaluation report on the pilot projects of 2011 and 2013, the conclusions show that Internet voting has not led to an increased participation rate. As for the differences between the two polls, compared to 2011, many voters remained in the same category in 2013. Most of the voters who voted traditionally chose paper-based voting and those who voted via the Internet continued to do so. As for the attitudes to Internet voting, citizens' support for Internet voting remained the same, even when there were counter-arguments about anonymity, secrecy of ballot and security issues. In general, there is little resilience among the citizens and a considerable trust in Internet voting is observed[44].

From a technical perspective, the system worked well, experiencing insignificant availability/ performance issues. Only a few invalid ballots were registered. The audit reports did not reveal irregularities and the system proved to be popular among users. Although the source code was publicly available, there was a low degree of public control, without a thorough analysis. Generally, the project failed to involve the technical community[45].

However, in 2014, a public statement on the ministry's website announced the suspension of Internet voting. Despite technical achievements and high level of public confidence in Internet voting, the pilot projects implemented in 2011 and 2013 were politically controversial, with major concerns related to the fact that the security mechanism was insufficient, and allowing voting outside polling stations would diminish the importance of voting. Due to the lack of a consensus on all the issues related to electoral policy and the lack of a broad political will to introduce Internet voting, the Minister of Local Administration and Development decided to discontinue the pilot projects.

1.5.6. The Netherlands

The Netherlands continues to be among the European leaders in terms of connectivity, offering its citizens a high-quality, omnipresent digital infrastructure. Almost all the Dutch residents (94%) use Internet services on a large scale, especially for banking services (93%) and for shopping (82%). The Netherlands is among leaders in terms of number of people using the Internet and those with advanced digital competences, 79% of citizens having at least basic digital skills[46].

43 OSCE/ODIHR (2011) Norway internet voting pilot project. Local Government elections. 12 September 2011. Election Expert Team Report.

44 Segaard, S. B., Christensen, D. A., & Og Jo Saglie, B. F. (2014). Internettvalg Hva gjør og mener velgerne? (Rep. No. 2014:07). Oslo, Norvegia: Institutt for samfunnsforskning. (Summary in English).

45 Bjørstad, T. (2014). The rise and fall of Internet Voting in Norway. https://events.ccc.de/congress/2014/Fahrplan/system/attachments/2551/original/31c3-final.pdf

46 European Commission (2018) Digital Economy and Society Index, Country Report Norway. http://ec.europa.eu/information_society/newsroom/image/document/2018-20/nl-desi_2018-_country-profile_eng_B440E332-00FB-01A6-56315943FF4C573F_52234.pdf

The Netherlands adopted the electronic voting quite early. The voting terminals were introduced in 1966, and in the municipal elections of March 2006, almost 99% of the voters voted using a voting machine. Both in the European Parliament elections in 2004 and in the national elections in November 2006, voters from abroad were able to vote via the Internet. However, since 2007, elections are conducted using paper-based ballots and postal voting, while the counting is done manually. The activities of the group "We Do not Trust Voting Machines" raised questions about the safety of voting machines and the Internet voting system[47]. This prompted the Ministry of the Interior to renounce these systems and to re-evaluate the use of e-voting in the Netherlands.

Before the parliamentary elections of 2006 that were marked by controversies over e-voting, the Dutch Parliament was a big supporter of e-voting. Most MPs supported the idea that every Dutch voter should be able to use Internet voting and asked the government to provide them with this opportunity. However, the criticism of the obscurity of the electoral procedure through the use of voting machines has increased since 2000. The main reasons for mistrust were the secrecy of the source code and of evaluation reports, as well as lack of verifiability. Attempts to retrieve the source code of voting machines through *the Access to Information Act* failed because the source code was considered to be the intellectual property of the manufacturer.

After Ireland filed a lawsuit against the Dutch Nedap, which produced voting machines used in the Netherlands, Dutch citizens and politicians began to question the safety and reliability of these machines. In the autumn of 2006, a chain of events completely changed the trajectory of e-voting in the Netherlands. The "Wij vertrouwen stemcomputers niet" (We do not trust voting machines) activists group managed to gain access to several voting machines and reversed the source code. The first problem that was identified was the possibility to easily replace a component of the voting machine, which allowed the attacker to influence vote counting or perform any other desired task. Due to the lack of verification, such attacks could go unnoticed. The second problem identified was the possibility of intercepting electrical emissions of the voting machine. Problems of physical security of storage premises, where machines are stored between elections, were also raised.

In 2012, a member of the Parliament filed for examination the proposal to introduce the possibility of Internet voting for those living abroad. In 2014, on the basis of a security study, the government informed the Parliament of its decision, stating that Internet voting involves too much risk and that it is not possible to identify a way to avoid these risks. Combined with high costs for the implementation of Internet voting and low probability that this system would increase voter participation rate, the Dutch government decided that in the near future, it would not introduce Internet voting for voters living abroad.

47 Jacobs, B., & Pieters, W. (2009). Electronic Voting in the Netherlands: From early Adoption to early Abolishment. Foundations of Security Analysis and Design, 121–144. http://www.cs.ru.nl/B.Jacobs/PAPERS/E-votingHistory.pdf

II. State of Affairs in the Republic of Moldova – an Overview of the Legal Framework, Platforms and Tools Used by the Information and Communications Technologies Departament (ICT)

This chapter will analyze the normative, technological and institutional framework related to the ICT and the electoral field in the Republic of Moldova. Additionally, citizens' perceptions and attitudes towards the available e-services and e-government tools will be analyzed based on the opinion polls, conducted in 2013–2016 at the request of E-Government Agency. The findings will be used to foresee the potential attitude of citizens to Internet voting.

2.1. Electoral system in the Republic of Moldova: legal framework, institutions and roles

The Republic of Moldova is a parliamentary republic. Depending on the elected body, the following types of elections are organized in the Republic of Moldova: 1) parliamentary elections, by which representatives of the people are elected to the supreme legislative body of the country; 2) local elections, by which mayors of municipalities (municipalities), villages (communes) and district, city (municipal) and village (communal) councils are elected; 3) presidential elections – the president of the country is elected.

According to the Constitution adopted on 29 July 1994, the Parliament is the supreme representative body and the sole legislative authority of the state. The Parliament is elected by a universal, equal, direct, secret and free suffrage for a four-year mandate, being the supreme representative body of the people of the Republic of Moldova. Since 1994, parliamentary elections have taken place on the basis of a proportional system, the entire territory of the country being an electoral constituency that elects 101 members of the Parliament. In 2017, the electoral legislation was changed, and the proportional voting system was replaced by the mixed voting system for the parliamentary elections.

In the Republic of Moldova, the elections are regulated primarily by the Constitution adopted in 1994, by the Electoral Code of 1997 and the Law no. 294 of 21.12.2007 on political parties, all of which have been modified in the last two years. Other legislative acts applicable to the election process include the Criminal Code of 2002, the Code of Administrative Offenses of 2008, the Audiovisual Code of 2006, Law no. 101 of 15.05.2008 on the Concept of "Elections" State Automated Information System, the Regulation on the State Register of Voters approved by the CEC Decision no. 2974 of 19 November 2014, etc.

The Electoral Code underwent changes in 2016, when the manner of electing the President of the Republic of Moldova was changed. The document was edited rapidly[48] in July 2016, following the decision of the Constitutional Court, which declared unconstitutional the Law No. 1227 of 21 September 2000 amending the Electoral Code.

48 Following a call from civil society organizations, public debates were held only after the first reading of the draft amendment. Twenty-five civil society organizations emphasized the lack of transparency in the process of adopting amendments and additions to the Electoral Code regarding the elections of the President of the Republic of Moldova. The signatory organizations called for a public debate on the project, in which should consider the opinion of the project's authors, the position and opinion of the Venice Commission, as well as the position of the civil society organizations, extra-parliamentary political parties on the draft law.

A year later, on 20 July 2017, the Parliament of the Republic of Moldova voted for the adoption of a mixed voting system[49]. The document stipulates that 50 MPs will be elected by a proportional system in a single national constituency and 51 deputies will be elected in 51 uninominal constituencies, in which the winning candidate is the one, who receives the highest number of votes validly cast. The voter will have two ballots, one for the proportional component and one for the majority component. Candidates will be able to run simultaneously for the national constituency mandate and for the uninominal constituency, the uninominal one being given priority to, if a candidate is elected in both constituencies.

2.1.1. Administration of elections

The Central Election Commission is a permanent state body constituted for the implementation of electoral policy, the organization and conduct of elections. The commission is made up of 9 members holding the right to a deliberative vote, one being appointed by the President of the Republic of Moldova, the other 8 members by the Parliament, respecting the proportional representation of the majority and the opposition and confirmed by the Parliament's decision.

According to the Electoral Code, the mission of the Central Election Commission is to create optimal conditions for all the citizens of the Republic of Moldova to be able to freely exercise their constitutional right to vote and to be elected in free and fair elections. Constituency Councils are electoral bodies constituted at least 50 days before the elections by the Central Election Commission. The electoral bureaus of the polling stations are electoral bodies constituted by the Constituency Councils at least 20 days before the election day.

According to the Electoral Code, in the process of organizing and conducting the elections, the CEC cooperates with the Public Services Agency[50] to ensure the record of voters, including those located abroad, on the basis of the State Register of Voters, created on the basis of the State Registry of Population; local authorities, the Ministry of Internal Affairs, the Ministry of Foreign Affairs and European Integration, diplomatic missions and consular offices.

The organization and conduct of the elections in the diaspora is established by the Regulation on voting of citizens of the Republic of Moldova based abroad. In the case of elections organized abroad, one or more polling stations shall be organized in addition to the diplomatic missions and consular offices of the Republic of Moldova for voters, who are abroad at the time of the elections. Besides the polling stations, attached to the diplomatic missions and consular offices of the Republic of Moldova, polling stations may be also organized with the consent of the competent authorities of the respective country in other settlements. The organization of these polling stations shall be established by the

49 The change of the electoral system took place in the absence of a political and social consensus on the preferred electoral system. Several parliamentary and extra-parliamentary political parties did not support the project, noting that the proposed reform does not serve the interests of the country. The debates were largely focused on the aspects and benefits of the proposed changes, while a thorough public debate should discuss all the positive and negative effects of the amendments, as well as other possible reform options.

50 The Electoral Code mentions the Ministry of Information Technology and Communications, but following the reform of the central public administration this ministry merged with the Ministry of Economy and the Ministry of Transport and Road Infrastructure, thus creating the Ministry of Economy and Infrastructure. Also, following this reform, the Public Services Agency, which is currently the administrator of the State Register of Population, was created on the basis of the CRIS Registry S.E.

CEC on the basis of statistical information and on the basis of a prior registration of the citizens based abroad and the number of voters that participated in the previous elections[51].

Besides the powers provided by the Electoral Code, the Commission has responsibilities for the modernization and automation of the electoral process, according to SAISE Concept described in Law no. 101 of 15 May 2008. In line with the Strategic Plan for 2016–2019, the Commission aims to develop and implement new technical solutions to automate the electoral procedures, namely to develop and implement all the SAISE modules by 2018[52]. This action plan also contains an action on the implementation of the pilot project on the use of remote voting through electronic systems.

The need to introduce a new remote voting option has emerged from the requirement to grant access to voting to the citizens of the diaspora, as well as from the desire to align with the technological progress that exists internationally. Due to a large number of citizens living outside the country, voting abroad is a crucial issue for Moldova. Currently, there is no other way of involving the diaspora in the voting process, except for the existing polling stations. However, there is constant criticism and problems reported about the insufficient number of polling stations[53]. Also, the introduction of this voting option was proposed following an analysis of the legal framework, demographic situation and the level of development of information technologies. The introduction of this voting option was proposed[54] with the support of UNDP Moldova. The authors of the study concluded that it is appropriate to create an Information System for Internet Voting (hereinafter referred to as ISIV), owned and administered by the CEC as a module of SAISE system.

According to the Central Election Commission Activity Report for 2017[55], this project was divided into several stages, as follows:

1. Pre-project work – the stage of the project that involves raising the awareness of the necessity to create such an informational system, studying and adjusting to the requirements of the legislation in force, involving all interested users/stakeholders (voters, political parties, NGOs, civil society, media, etc.). The document states that by the end of this stage, it will be clear whether the CEC had to implement the ISIV or to abandon the idea.

2. The elaboration stage – at this stage, all the functional requirements, the mechanisms of interaction between the elements of the system with the external systems are established, the technical requirements related to infrastructure and hardware are determined, the purchase process is launched.

3. Implementation stage – This stage contains two phases: piloting and final implementation. The pilot phase involves testing the product on a segment defined by volunteer voters (according to the document, the estimated figure is 500–800 voters), with their direct involvement in all the stages of development. It is important to note that at the pilot phase, the votes will have no legal effect, only technical and procedural. The final implementation phase implies extending to all voters and

51 In the view of the representatives of Diaspora, the issue of voting right becomes more acute for citizens based abroad. On 14 June 2018, representatives of civil society and the Diaspora publicly presented in a press conference the proposals to amend the legislation that would guarantee them the right to vote outside the country. The list contains nine proposals including: the opening of more polling stations, opening of additional polling stations at the request of at least 300 people, establishment of a sufficient number of ballots, amounting to about 5000 compared to the current 3000), the possibility of online reporting of deficiencies in the voting process, and so on. Most of the proposals were rejected by the Central Election Commission.

52 Strategic Plan of the Central Election Commission for 2016–2019, approved by the CEC Decision no. 4341 of 08.12.2015.

53 Interview with Tanja Hollstein, UNDP Electoral Specialist.

54 Udris, J., & Groza, I. (2016). Feasibility study of Internet voting for the Central Election Commission of the Republic of Moldova, Chisinau.

55 Strategic Plan of the Central Election Commission for 2016–2019, approved by the CEC Decision no. 4341 on 08.12.2015.

attributing the legal effect both to the voting status expressed through Internet voting and to all the procedures related to this process[56].

Although the piloting of the Internet voting system was planned for 2018, the report mentions that, in connection with the modification of the electoral system and lack of funding, it was proposed to postpone its implementation. According to the activities foreseen in the Action Plan of the Central Election Commission for 2018, drafted in line with the CEC Strategic Plan for 2016–2019, there is no activity on the implementation of the pilot project on Internet voting.

2.1.2. Legal framework

Any attempt to introduce e-voting, i.e. a voting process that will allow voters to vote securely and secretly over the Internet, will have to address a number of complex constitutional and legal issues. Further, we will enumerate the legislative acts of the Republic of Moldova that set certain legal requirements for elections and could influence the development and use of Internet voting system.

Constitution of the Republic of Moldova

The Constitution of the Republic of Moldova is its Supreme Law. No law or any other legal act that contravenes the provisions of the Constitution has legal power[57]. According to Article 38 of the Constitution, the right to vote and the right to be elected is a citizen's right and the elections are free, they take place periodically through universal, equal, direct, secret and freely expressed suffrage.

From the very beginning, it is necessary to mention that in the implementation of the ISIV in the Republic of Moldova, it is necessary to ensure observance of the fundamental constitutional principles of elections[58]. Based on these democratic principles, the challenges of introducing e-voting are of a double nature. On the one hand, the technologies used must guarantee that only persons with voting rights can vote and can do so only once[59]. On the other hand, the technologies used must guarantee that voter identification is impossible. In other words, both aspects must be guaranteed by the Internet voting system, i.e. voter identification and authenticity of the vote expressed, and at the same time, strict anonymity of the ballot[60].

Given the introduction of a new voting process that would allow voters to vote online, differentiated access to online technology would be a serious concern in this respect. There are certain categories of voters that benefit from access to technology and they may be advantaged by implementing the possibility of remote online voting. The problem becomes more complicated, given that secure online voting requires not only access to the Internet, but also additional means of security that would be available to the voter, such as a digital certificate. Providing opportunities for voting participation based on ICT tools could lead to the exclusion of voters that have no digital competences from the electoral process and, consequently, from the political process[61]. Considering the disparity of access

56 The document also requires three more stages for this project: exploitation, maintenance and use. These steps relate more to technical aspects that go beyond the scope of this study, so we will not analyze them at this stage.

57 The Constitution of the Republic of Moldova, adopted on 29.07.1994, published in the Official Gazette No. 1, art. No. 1, 12.08.1994. http://lex.justice.md/document_rom.php?id=44B9F30E:7AC17731

58 Udris, J., & Groza, I. (2016). Feasibility study of Internet voting for the Central Election Commission of the Republic of Moldova, Chisinau.

59 It should not be confused with the opposite of multiple voting. And in the case of multiple voting, the principle of a one voter-one vote operates, where the last vote expressed online is taken into account.

60 Interview with specialists from – E-Governance Agency.

61 Mitrou, L., Gritzalis, D., Katsikas, S., & Quirchmayr, G. (2003). Electronic Voting: Constitutional and Legal Requirements, and Their Technical Implications. Advances in Information Security Secure Electronic Voting, 43–60.

and the relevant risks, the Internet voting procedure should be introduced as an alternative, being used in parallel with the traditional voting.

More challenges are related to the principles of secret, personal and free voting. Internet voting has problems similar to voting by post. Both types of voting are not cast in a secure polling station, and voters themselves must ensure that voting is secret and free. The Constitutional Court of the Republic of Moldova has expressed several times its opinion[6263] on the secret nature of voting, relying on Resolution no. 1590 of 2007 adopted by the Parliamentary Assembly of the Council of Europe, which states that "during the electoral process and within the polling station, the secret of voting implies not only the right, but also an obligation for voters to keep their vote secret." The authors of the feasibility study of Internet voting[64] mention that "the recent constitutional practice of the Republic of Moldova, in particular the Court's ruling of 2012, opens a way for the application of the Internet voting in Moldova considering the secrecy of vote." However, in Moldova, we anticipate further academic, political and legal debates on the constitutionality of Internet voting. In this respect, in order to successfully implement the pilot project and proceed to the use of e-voting, a wider interpretation of Article 38 of the Constitution of the Republic of Moldova will be needed to avoid constitutional impediments.

Electoral Code

The Electoral Code of the Republic of Moldova determines the organization and conduct of the parliamentary, presidential, local elections, as well the organization and conduct of referenda. The Electoral Code regulates the electoral system, the application of fundamental electoral principles, voters' lists, the role and powers of the Central Election Commission, as well as of other institutions responsible for managing the elections, preparing and holding referenda, parliamentary, presidential and local elections.

In June 2018, deputies of the Liberal Democratic Party of the Republic of Moldova registered a draft law with the Parliament[6566] to amend and complement some legislative acts, including the Electoral Code. They proposed to supplement the Electoral Code with a new article, which provides for special rights of the diaspora voters. The project also proposed to introduce the notion of voter from the diaspora, referring to a citizen with the right to vote, who lives or is temporarily/permanently based abroad. Also, the draft included a point proposing extension of the duration of elections abroad, so that they would last for two consecutive days.

Currently, the Electoral Code does not contain provisions regulating issues specific to Internet voting. In case of introduction of remote voting, in addition to ensuring the constitutional voting principles, it will be necessary to amend the Electoral Code.

The Recommendation of the Committee of Ministers of the Council of Europe on e-voting standards emphasizes that electoral legislation, policies and practices must be in line with the mandatory

62 Decision no. 1 of 12.01.2012 on the control of the constitutionality of the Parliament's Decision no. 266 of 23 December 2011 on the results of the ordinary elections for the position of President of the Republic of Moldova, http://lex.justice.md/md/341979/

63 Constitutional Court Decision on the Interpretation of Some Provisions of Article 78 paragraph (1) of the Constitution of the Republic of Moldova No. 39 of 04.12.2000.

64 Udris, J., & Groza, I. (2016). Feasibility study of Internet voting for the Central Election Commission of the Republic of Moldova, Chisinau.

65 Draft Law on Amendment and Supplementing of Legislative Acts (Election Code of the Republic of Moldova – art. 1, 13'1; Law on political parties – art. 26) (special rights of diaspora voters) http://parlament.md/ProcesulLegislativ/Proiectedeactelegislative/tabid/61/LegislativId/4261/language/ro-RO/Default.aspx

66 The draft law includes the proposals previously submitted by the civil society and diaspora and was developed at the request of the Moldovan public associations, representatives of the diaspora associations and active members of the group "Adopt a vote" on the social networks.

requirements for an e-voting system, taking into account the universal, equal, free and secret suffrage, and it also includes regulatory and organizational requirements, transparency and observability, as well as requirements for reliability and security of voting[67]. According to this document, it is important that the key legal provisions on the use of e-voting system are made at the legislative level so that the use of these technologies would not be fully managed at the regulatory level.

The use of e-voting will lead to changes in the procedures for organizing and conducting the elections, including vote counting. New procedures for setting up and conducting e-voting, such as prior registration of voters wishing to vote online, drafting and approving an e-ballot, creating a key to encrypt votes cast via the Internet and an encryption key to open votes and to count votes must be included in the electoral law that will need to be revised and amended to adapt to the use of e-voting. Procedures relating to the preparation, initiation, counting and closing of e-voting process should also be introduced in the law, including: voting time, voter identification, voting exercise, encryption of the electronic vote, introduction of the vote in the ballot box, cancellation, verification procedures, change of the vote, counting of e-votes, special provisions for Internet voting abroad[68].

At the same time, electoral legislation should contain provisions on security requirements, preparation of voting systems, testing and certification, as well as details of how the system will be operated, who will have access to it during and after the elections, etc. The way in which all electoral data are secured and stored will have to be stipulated in the electoral framework, as well as the timetable and procedures for the destruction of electronic data, and these provisions should be in line with the existing legislation on data protection.

In the first chapter of this study, we highlighted the importance of a high degree of transparency of e-voting process at all stages. A high degree of transparency leads to a higher level of confidence among the citizens, political parties and society in the fairness of elections and their reliability. In this respect, for transparency sake, appropriate procedures should be developed to ensure that political actors and observers have access to the new election processes so that they can have full oversight of the process. These transparency measures should be clearly defined in the legal framework so that observers and their representatives understand and be able to use their rights to access. It is also appropriate to introduce clauses on the openness of the source code and the mechanisms for accessing it by interested parties.

67 Council of Europe. CM/Rec(2017)5 Recommendation on Standards for E-Voting https://www.coe.int/en/web/portal/news-2017/-/asset_publisher/StEVosr24HJ2/content/council-of-europe-adopts-new-recommendation-on-standards-for-e-voting?inheritRedirect=false&desktop=true

68 Udris, J., & Groza, I. (2016). Feasibility study of Internet voting for the Central Election Commission of the Republic of Moldova, Chisinau.

Law no. 101 on the Concept of State Automated Information System "Elections" (SAISE)

This law was adopted in 2008 and provides a legal basis for the implementation of "Elections" State Automated Information System. The perspective objective set by this law is to conduct fully automated elections. This objective will be achieved once several organizational and technical issues have been solved, such as: establishment of a modern system for the automation of all the electoral processes, identification of citizens in the electronic electoral system, full implementation of the procedure of digital signature, widespread use of information technologies by citizens of the Republic of Moldova, etc. "Elections" state-run automated information system is designed to automate the processes of preparing, conducting and aggregating the results of the elections and the referenda.

The present concept includes a provision, which provides for the creation of favorable conditions for the realization of citizens' constitutional right to vote by offering them the possibility to vote through the Internet, using electronic reading devices, new type of documents, or digital signature for identification.

Law no. 91 on digital signature and digital document

This law establishes the legal status of the e-signature and e-document, including setting the main requirements for their validity and the main requirements for certification services.

According to Article 5, which sets the legal regime for its use, the digital signature, irrespective of the degree of protection at its disposal, produces legal effects. Only a qualified digital signature has the same legal value as a handwritten signature. The digital signature is not a means of encrypting information. A qualified digital signature allows authentication of electronic documents, ensuring the identity of the sender and the integrity of the document. Also, the qualified digital signature provides access to all electronic public services such as electronic reporting, electronic submission of income statements, etc.

It is necessary to explain two notions related to digital signature: the private key and the public key. Under Law 91, a private key is a unique digital sequencing formed by the electronic signature creation device and intended to be used to create a digital signature. In turn, the public key is a unique digital sequencing formed by the digital signature creation device that corresponds to the interdependent private key and is intended to be used to verify the authenticity of the digital signature.

The private key and the public key used to create a qualified digital signature are created by the certification service provider through a secure signature creation device. It is important to note that the law includes a provision, according to which the private key is stored and used exclusively by the owner, in a way that excludes other person's access to it. In other words, the user or the holder of a digital signature is obliged, under this law, to keep it and use it so that no one else can access it. In this respect, considering Internet voting and the obligation to secure the secret of voting, the citizen must ensure that no one has access to and cannot use the digital signature to vote in his/her place, for example.

The validity period of the user's public key certificate is set by the certification service provider, but it cannot be longer than 5 years, depending on the capabilities of the technical means used to create the digital signature. According to these provisions, the digital signature available to users is currently valid for one year. A more detailed description of citizens' availability and use of electronic signatures is outlined in Section 2.5.1. – Authentication and signing tools available to citizens.

Regulation on prior registration, approved by CEC Decision No. 1568 of 24 April 2018

Pre-registration is a procedure, whereby citizens of the Republic of Moldova with voting rights who are temporarily or permanently based abroad, as well as those residing in the settlements in

Transnistria, register in advance and on a voluntary basis through the www.alegator.md website, or by submitting one or more written requests, signed by at least 300 voters, to diplomatic missions and/or consular offices of the Republic of Moldova and/or to the Central Election Commission. The purpose of preliminary registration is to establish the estimated number of voters, who will vote abroad on the election day with a view to establishing additional polling stations abroad, drawing up the electoral list of the citizens, who will register within the respective polling station, as well as estimating the number of ballot papers to be distributed to the respective polling stations.

Pre-registration is not mandatory. Citizens who will be out of the country on election day and who, for various reasons, do not register beforehand, may exercise their right to vote, presenting themselves to any polling station established outside the country.

Once the "Confirm the statement" button in the form available on the website is pressed, the voter expresses his/her will to participate in the elections, for which the application is activated, and requests temporary deletion from the main electoral list from his/her place of residence/domicile in the Republic of Moldova; or from the electoral list drawn up by the diplomatic mission or consular office, where the consular record is made, and if he/she does not have his/her residence in the Republic of Moldova, with the inclusion in the main electoral list of the polling station from abroad, in the event of its establishment.

The pre-registration on www.alegator.md, as well as the procedure for filing the applications, begins not earlier than 6 months before the expiry of the mandate of the President of the Republic of Moldova, or of the previous Parliament (in case of early elections or republican referenda on the date announced by the Central Election Commission, but no later than 60 days before the poll) and ends no later than 45 days before the election day / day of the first round in the presidential elections.

Currently, 2098 voters from 376 settlements registered on the www.alegator.md for the elections that will take place in February 2019. This Decision could set the legal framework for the registration of voters wishing to vote through e-voting system, if pre-registration is mandatory.

Regulation on the State Register of Voters

The Regulation on State Register of Voters, approved by CEC Decision No. 2974 of 19.11.2014, has been developed in accordance with sections 2, 7 and 9 of the Concept of "Elections" State Automated Information System, approved by Law no. 101-XVI of 15 May 2008. The Regulation defines the term of the State Register of Voters, determines its purpose and scope, establishes the manner, in which the Register is created and maintained, the content and the legal regime for the processing and use of the data contained therein, the responsibilities and powers of the owner, administrator and registrars, ways of control and accountability. The data contained in the Register are intended solely for drawing up of electoral lists and the Register is the only official source of personal data of the citizens of the Republic of Moldova entitled to vote.

2.2. Elections in the Republic of Moldova and use of ICT tools

In the period of 2012–2015, the Central Election Commission carried out activities for gradual implementation of the State Register of Voters, a unique integrated information system for electoral records of the Republic of Moldova, intended to collect, store, update and analyze information on the citizens, who have reached the age of 18 years and are not legally restricted in their civil rights. Initially, the simulations were conducted in several referenda and new local elections in different settlements,

so that in the parliamentary elections of November 2014 and the general local elections of June 2015, the State Register of Voters was put in place nationally in all the polling stations.

The OSCE Election Observation Mission Report[69] on the parliamentary elections of 30 November 2014, noted that insufficient testing and an ad hoc approach to possible issues of security and integrity of the system led to significant problems in its operation on the election day. CEC Regulation on maintenance of the State Register of Voters had been adopted ten days before the election day and was not controlled by interested parties or election observers. Shortly after its introduction, the CEC faced a number of challenges, such as lack of infrastructure, lack of qualified staff and security issues. However, in a press release posted on the its website, CEC claimed that the election process was not affected by the failure of the SAISE. The press release also mentioned that, although previously the system had been tested both in terms of capacity and security, with the involvement of operators, on the election day, it did not resist for more than an hour. Urgently, technicians identified the causes and the connection was restored. At the same time, not to endanger the electoral process during that time, the operators processed the information manually. In the presidential elections of 2016, the State Automated Information System "Elections" (SAISE) was used for the third time. It was available at all polling stations and provided protection against double voting. In addition, SAISE served as a tool for timely tabulation and announcement of preliminary results.

In this context, the Recommendation of the Committee of Ministers of the Council of Europe on e-voting standards emphasizes the importance of maintaining the availability of e-voting services for all the voters throughout the entire electronic voting process. Any implementation of pilot projects on e-voting should start with sufficient time before the elections and include essential preparations such as adoption of some detailed regulations, if necessary, for pilot projects and systems testing. Internal and international observers and the media should be able to observe software and hardware testing. Observation of these auditing tests and/or procedures should not interfere with the electoral process.

2.3. Demographic situation and voter turnout

According to the statistical data, published by the National Bureau of Statistics on 17 September 2018, the Republic of Moldova has a population of 3550.9 thousand inhabitants[70]. More than half (55.6%), i.e. 1 977.2 thousand people live in the rural area, and 1 379.6 thousand people – in the urban area (44.4%). The official population of the Republic of Moldova will be revised this year by the National Bureau of Statistics, according to the 2014 Population and Housing Census, as recommended by the United Nations. At the time of the Census, the population of the Republic of Moldova was of 2 998 235 inhabitants[71].

In late 2016, the number of Moldovan citizens, who left the country for different periods of time, was 764 thousand persons, of which 409.7 thousand were women and 354.3 thousand – men[72]. The data presented by the Ministry of Foreign Affairs and European Integration, obtained from the diplomatic missions and consular offices of the Republic of Moldova, show that at the end of 2015, the estimated number of Moldovans abroad was of about 805 thousand persons (Annex I).

69 OSCE/ODIHR (2014) Moldova. Parliamentary elections, November 30, 2014. Final Report.
70 National Bureau of Statistics. www.statistica.md
71 Press release of the National Bureau of Statistics. http://www.statistica.md/newsview.php?l=ro&idc=168&id=5583&parent=0
72 Migration and Asylum Bureau (2017) Statistical Compendium of the Extended Migration Profile of the Republic of Moldova for 2014–2016.

According to the data from the State Register of Population, as of 1 June 2018, the Republic of Moldova had a population of 3 987 879 inhabitants. The Central Election Commission stated on 2 April 2018 that the total number of voters registered in the State Register of Voters (SRV) is 3 259 025. The existence of repetitive deficiencies, such as insufficient transparency of the voter turnaround mechanism, the continued presence of deceased voters in the SRV, cause distrust on the part of several actors, including political parties, civil society and voters. The quality of data in the State Register of Voters and, respectively, the contents of the electoral lists, remain a problem with increased risk of violating the electoral process[73].

The table below shows data on the latest elections, starting from 2009, delimiting diaspora voting. We can see that the number of polling stations opened abroad increased, from 33 in 2009 to 100 in 2016, although initially 150 had been planned. According to a survey conducted by IRI[74] on a sample of 1 517 permanent residents of the Republic of Moldova, 64% of respondents indicated that most likely they would participate in the next parliamentary elections, 21% of the respondents said that they would probably participate in the elections, while only 11% said they would not take part in the next ballot. At the same time, the data show that the pattern of age participation is similar to that of the previous elections. Age categories of 30–49 years and 50+ indicate a higher probability of participation in the elections than the 18–29 age group.

Type of elections / Year	Number of eligible voters	Number of citizens that voted in the Republic of Moldova	Participation in the elections	Number of citizens that voted abroad	Number of polling stations opened abroad
PRESIDENTIAL ELECTIONS 30.10.2016					
ROUND I	2929694	1373528	49.17%	67 205	100
ROUND II	3019495	1475303	53.45%	138 720	100
PARLIAMENTARY ELECTIONS 30.11.2014	2800827	1576091	57.28%	73 311	95
PARLIAMENTARY ELECTIONS 28.11.2010	2645488	1668850	63.37%	64 201	75
REFERENDUM 05.09.2010	2662052	798 724	30.29%	19 705	78
PARLIAMENTARY ELECTIONS 29.07.2009	2603158	1574213	58.77%	17 544	33
PARLIAMENTARY ELECTIONS 05.04.2009	2586309	1539167	57.54%	16916	33

Source: *Feasibility Study of Internet voting for the Central Election Commission of the Republic of Moldova*, calculations are made by the author.

Further, we will not refer to all of the elections that have taken place lately, we will pay special attention to the last election, in which the diaspora was actively engaged, namely the Presidential elections of

73 OSCE/ODIHR (2016) Election Observation Mission for the Presidential Elections in the Republic of Moldova of October 30, 2016. Final Report.

74 International Republican Institute. (2018) Public Opinion Survey: Residents of Moldova. May-June 2018 http://www.iri.org/resource/moldova-poll-high-voter-turnout-expected-upcoming-parliamentary-elections

30 October 2016. The reasons for this are as follows: 1) in these elections, the largest turnout of the diaspora was registered; 2) due to the massive voter turnout in the second round, about 10 polling stations opened abroad ran out of ballot papers before the closure of the polling stations; 3) it is in these elections that the online community "Adopt a vote" was created. It currently has over 90 000 members and it served as a platform to raise the awareness of diaspora voters;

Due to the low number of polling stations available abroad, Moldovan citizens living in the diaspora had to go to the nearest polling station to exercise their right, some of them having to make thousands of kilometers to be able to vote. The Moldovan diaspora community mobilized and created the group "Adopt a vote", an online group, in which citizens proposed transport and accommodation opportunities for those, who had to go to other cities to vote. It is not a new model, it is well-known to the tourists, who travel and do not choose hotels as an accommodation option. They widely use websites, where people of different countries offer apartments or houses to the tourists to stay for a short period of time. The same applies to the transportation, sites and groups are often found where drivers, willing to take passengers, post their itineraries. In this case, this innovative model of collaborative economy[75] that was used to ensure the right to vote to as many diaspora citizens as possible, is practically an example of consolidating democracy.

The actions of this initiative group were not limited to providing travel and accommodation opportunities, they continued in the post-electoral period. Due to the premature exhaustion of ballot papers in several polling stations, many citizens failed to exercise their right to vote. After the second round of presidential elections, diaspora representatives challenged the way in which presidential elections were organized abroad. Diaspora citizens sued the Moldovan Government and the Central Election Commission, because they had not been offered the conditions to vote in overseas polling stations on 13 November 2016. The courts rejected the lawsuit claims of more than 140 citizens of diaspora as unfounded. At the Election Validation Meeting, the Constitutional Court noted that there were no objective indications that the authorities would have acted in bad faith. The Constitutional Court admitted that citizens could not exercise their right to vote, but 4 031 votes (the number of appeals filed by Moldovans from abroad after the second round) would not have influenced the final outcome of the elections.

The Court urged the Parliament to adopt several changes to the electoral legislation on the voting mechanism abroad, to clearly regulate the criteria that would form a basis for the establishment of polling stations abroad and the distribution of ballot papers.

2.4. Access to technologies and use of the Internet in the Republic of Moldova

Moldova has a relatively high Internet coverage rates compared to the post-Soviet countries. The International Telecommunication Union (ITU) mentions that the share of people aged 6+ using the Internet in Moldova is 71%, compared to 63% in 2015[76]. According to the National Regulatory Agency for Electronic Communications and Information Technology (ANRCETI), in 2017, the number of fixed Internet access subscribers increased by 4.8% compared to 2016 and amounted to 584.3 thousand, the number of users of broadband mobile Internet access services increased, exceeding 2 million 430 thousand[77]. The geographic distribution of Internet access reflects the socio-economic distribution

75 Collaborative economy is a socio-economic system built on the concept of sharing physical and human resources.
76 Moldova: State of Affairs Report. (2018, June 11). https://digital.report/moldova-state-of-affairs-report/#_ftn7
77 ANRCETI (2017) Evolution of the electronic communications market in 2017.

patterns. As for the residential environment of subscribers to fixed Internet access services, the reports submitted by ANRCETI show that in the year 2017, 61% of them resided in urban and 39% in rural settlements. Most of these subscribers – 40% – are concentrated, similar to the previous years, in Chisinau. According to the GemiusAudience Study, age groups of 15–29 years account for 38% of the Internet's overall audience, while penetration among the age group of 20–25 years is almost 100%[78].

The frequency of Internet use has significantly increased since 2010. According to the provided by IRI[79], in 2010, only 12% of the respondents indicated they used the Internet every day. In 2018, the percentage of those who are daily online is 49%. However, a large number of the respondents (about 32%) indicated that they do not use the Internet at all. Financial constraints are a significant barrier for most Moldovans without Internet access. Data from a study published by the E-Governance Agency shows that 1/4 of respondents said they did not have Internet connection and the main reason claimed was that there was no computer in the house. Another major reason explaining lack of Internet connection was that the Internet services are too expensive[80].

According to the same survey, the Internet is used predominantly for socialization and communication purposes, services provided to the population by various structures, including public institutions, being used to a lesser extent. Thus, about 90% of the respondents said they use to have chats on social networks. About 70% use the Internet for recreational purposes, 66% follow online publications for the news, almost 60% use e-mails and 40% of the respondents use the Internet for activities related to capacity development – download of software, training and education. Only about 15% of the respondents said they are banking through the Internet, and fewer (7%) access the Internet to seek out some services provided by the governmental agencies[81].

2.5. E-Government: instruments and legislation relevant to Internet voting

In 2010, the Government of the Republic of Moldova launched the e-Transformation of the governance process. The objectives of this program include modernization of public services through digitization and by reforming the operational processes so that citizens and business community could more easily access information and electronic services, provided by central public administration authorities; and streamlining governance by ensuring interoperability of information systems, as well as by strengthening and re-using their resources.

Over this period, several electronic platforms have been launched to enable authorities to provide faster services, including: the Public Services Portal, which provides access to 125 public electronic services, the Electronic Payment System (MPay), the Joint Governmental Technology Platform (MCloud), MSign and MPass signing and authentication services, and others. These platforms have been developed with the aim of creating a common infrastructure and a mechanism for a rapid deployment of ICT-based public services.

Taking into account the objectives of this study, we continued to select products and platforms that could facilitate the implementation of Internet voting and influence voter's experience in using Internet voting.

78 Internet and Circulation Auditing Office http://www.bati.md/news/0002
79 International Republican Institute. (2018) Public Opinion Survey: Residents of Moldova. May-June 2018 http://www.iri.org/sites/default/files/2018-7-16_moldova_poll_presentation.pdf
80 National Survey "Perception, Assimilation and Support of e-Transformation of the Government of the Republic of Moldova", 2016. http://egov.md/ro/resources/polls/sondajul-national-perceptia-asimilarea-si-sustinerea-de-catre-populatie-e-2
81 Ibid.

2.5.1. Authentication and signing tools available to citizens

The digital signature acts as a virtual identity card and allows authentication of identity in the online space. There are several types of digital signatures available to the citizens: mobile signature available on SIM (mobile signature), digital signature available on cryptographic devices, electronic ID card.

Mobile signature can be obtained from mobile operators. For this, citizens will present their identity card and fill out a request, which will not take longer than 15 minutes. The usual SIM card owned by citizens will be replaced by a special SIM card, which includes the mobile signature.

Digital signature available on cryptographic devices (token) – the digital signature is embedded on a device that allows user authentication and document signing. Such a device can be obtained from two public institutions, by submitting an application and signing a contract. Subsequently, the user has to follow a few steps to install this device and the software needed to use the digital signature later.

Digital ID card – identical to identity card, but containing the means of digital signature and serving as a tool for identification and authentication of the individual in information resources and systems, as well as for the provision of electronic services. A card reader is required to use it.

These signing instruments are not yet widely spread among Moldovan citizens but, according to the statistics, 3 million signatures are applied monthly. In 2018, according to the data provided by the Information Technology and Cyber Security Service, there are 120 000 active digital signatures, of which 80 000 are on cryptographic devices and 40 000 digital signatures based on SIM cards[82]. It is important to note that many of the holders of digital signatures are residing on the territory of the Republic of Moldova. Digital signatures are used by citizens, and entrepreneurs, accountants and other employees of the economic sphere to benefit from electronic business services, to submit monthly reporting to state institutions, etc. Recently, it has become mandatory for civil servants to file online statements on property and interests by using the digital signature[83].

Digital signature is the tool that can ensure identification and authentication of voters in the e-voting system. As mentioned earlier in this study, the validity of the digital signature certificate it is one calendar year since its creation, even if the law allows for up to five years, depending on the technical possibilities available. Even if every citizen had a signature on a cryptographic device or on her/his mobile phone, s/he should extend the certificate every year. This would create impediments for citizens, who are abroad and for various reasons, cannot return to the country so often. In addition, elections usually take place in a period of time that is longer than one year. Therefore, even if the citizen could have voted online in one of the ballots, s/he would most likely not be able to do so next time because the digital signature would no longer be valid. In this regard, in case Internet voting is introduced, it will be necessary to review the validity of digital signature so that citizens of diaspora could plan to extend the validity of digital signatures when they return home. Another possibility that could facilitate the access of diaspora citizens to signing tools would be to ensure access to means of signing through consular sections, similar to the process of issuing passports[84].

82 E-mail correspondence with STISC specialists.
83 Law no. 133 of 17.06.2016 on the declaration of property and personal interests.
84 Interview with specialists from the E-Governance Agency.

2.5.2. Government platforms available to public institutions

E-governance agenda made it possible to launch several e-platforms to enable public authorities deliver faster services, including MPass, MConnect, MSign, etc. These platforms provide the necessary components of an e-service, such as authentication, data exchange, host systems, signing of applications and other documents. Further, we will analyze their impact on Internet voting.

MPass[85] is a governmental service for authenticating and controlling access to electronic services. MPass offers several authentication mechanisms: mobile signature, digital identity card, digital certificates, username and password, the latter being considered insecure. Using one of the authentication mechanisms, users can access more electronic services in a secure way. To implement the Internet voting system in the Republic of Moldova, MPass can be used to ensure the voter identification in a system that confirms that s/he intends to vote electronically and not someone else (a process similar to the presentation of identity card to the operator). At the same time, based on voter's data, the system will be able to verify whether this citizen is eligible for voting in the given elections. The responsibility for authenticating the identity of the user in this case lies with the identity providers integrated in the MPass service.

MConnect Interoperability Governance Platform[86] was created to facilitate the exchange of data between authorities in order to increase the efficiency and quality of public service provision. Through the interoperability platform, public authorities exchange real-time data in the form of certificates, reports, etc., without requiring them from citizens and the business environment.

In December last year, the Central Election Commission signed a tripartite agreement with the Public Service Agency and the Electronic Governance Agency that allows for data exchange and interoperability between public institutions, generating important data for the electoral process, to be implemented through the governmental platform MConnect. The objectives of the collaboration agreement include increasing the credibility of the electorate in the data, provided by the State Register of Voters (SRV) by developing the Information System of Civil Status Acts, developing the Information System of the State Register of Addresses for the territorial delimitation of polling stations, and referral of voters to the polling stations. Thus, since a correct operation of an electronic voting system depends on the quality of the data provided to it, the exchange of data necessary for the electoral process in real time is a major advantage in this respect.

The integrated governmental digital signature service (MSign) enables the user to apply and verify the authenticity of the digital signature (including the use of information systems and e-services) through a secure, integrated and flexible mechanism. It is important to note that MSign service is not responsible for the content, accuracy and character of data in the documents or information submitted for signature, it bears responsibility for data integrity and information contained in these documents in the process of signing. If Internet voting is made via this platform, voters will be able to sign the vote with a signing device out of those currently available, the signing function being used to confirm the voter's option.

85 The MPass Platform operates on the basis of Government Decision no. 1090 of 31.12.2013. This decision approves the Regulation on Government Electronic Service for Authentication and Access Control.

86 On 19 July 2018, MPs approved in the second reading the draft law on data sharing and interoperability. The law was developed for the use of the platform and the regulation on the data exchange process and the procedure for granting access to the registers and information systems for persons with a legal mandate and competence in the field.

2.6. Citizens' perception and assimilation of e-government products

One of the success factors in Estonian experience of using Internet voting is based is the digital ID, held by each citizen and the possibility to use it to access electronic public services. We can say that, to some extent, the degree of confidence in Internet voting and the citizen's readiness to use it has been influenced by previous experiences of interacting with available electronic services. Notwithstanding the issues of security and reliability of Internet voting, if the use of an electronic public service is convenient to the citizens, the positive experience of interacting with this service could positively influence the decision whether or not to use Internet voting.

In this respect, based on the national surveys on the assimilation of e-Transformation of the Government in the Republic of Moldova, we will analyze citizens' perception of available electronic services and e-government products in order to extrapolate a preliminary view of the potential attitude towards Internet voting in the Republic of Moldova.

2.6.1. Population's perception, assimilation and support of Government e-Transformation in the Republic of Moldova. Comparative data for 2012–2016

The idea of reforming the central public administration and its interaction with citizens with the help of ICT tools was, from the outset, largely supported by citizens. According to the data from the report, published by the E-Governance Agency, the perception of the population of the importance of e-transformation governance reform was appreciated by a score of a little over 4 (4.2 in 2016) on the scale of 1 (it does not matter) to 6 (it is very important). In 2016, more than 40% of the respondents appreciated the importance of this reform with scores of 5–6, and around ¼ of the respondents gave the highest score to the importance of implementing this reform.

According to the same report, the degree of importance is appreciated as high by the following groups of respondents: managers of all levels, higher qualified specialists, administrative officials, university graduates, residents of the capital. At the same time, it is important to note that young people attach greater importance to this reform compared with the elderly, with the average score being reduced by age-related factor from 4.4 for young people aged 16–25 to 3.8 in the case of elderly people aged 66–74. The same scale from 1 to 6 was used to assess the level of support of e-Government implementation by the population, and the average score provided by the respondents increased to 4.6 compared to 4.1 in 2013. The share of those who gave maximum scores of 5–6 is stable and represents about half of those interviewed.

Based on these data, we can conclude that citizens support the use of ICT tools in various areas of public sectors and therefore, display a positive perception of the application of technological innovations to modernize public services. Similar to the access to the Internet and its use, we note that young people are the group of users, who are more likely to be in favor of implementing such a reform, and the degree of support they display is higher. We can deduct from this the hypothesis that in case of Internet voting, young people would be most inclined to take advantage of this voting option. However, studies show that young voters find more excuses for not voting than reasons for voting. That is why the availability of online voting may not increase the chances for youth voter turnout

to change positively. For example, the most active Internet voting users in Estonia are those aged between 30 and 55 years[87].

2.6.2. The level of support and trust in the quality and safety of online public services. Comparative data for 2012–2016

Existing studies[88] suggest that a country's electronic voting skills are to a certain extent determined by past experiences of using digital public sector products (electronic services, electronic registers, electronic signature, etc.). Findings of another author[89] demonstrate that positive experience of using technology forms a favorable public attitude towards the use and adoption of ICT and electronic voting. The author notes that a positive culture of using ICT tools influences citizens' perception and confidence in the e-voting system.

In the case of the Republic of Moldova, the data on the level of support and trust in the quality and safety of online public services show that there is a positive attitude towards the use of the available ICT tools and this trend is growing. About 70% of the participants in the study of e-transformation assimilation expressed their willingness to use public services online via a computer, and 63% – via a mobile phone, being rated with scores 3 and above on the scale of 1 (do not want) to 6 (I want it very much). Compared to the study of 2014, the percentage of those intending to use the services both through the computer and those who want to access them through a mobile phone has increased, this increase being more pronounced for those who said they would use the mobile phone for this purpose.

Citizens also tend to trust the quality of the service provided, as well as the security of the environment, in which these electronic services are provided. In addition, the percentage of those who have full confidence increased in 2016 compared to other years. Over the past three years, analyzed by surveys (2013–2016), the level of confidence was rated by 3 and above (on a scale of 1 to 6), accounting for about 70% of the responses, increasing in relation to 2012 and 2013. Approximately 67% of the respondents stated that they are confident that by accessing an electronic public service, they will certainly obtain it (scores of 3 and above on a scale from 1 to 6, the value of 1 signifying lack of confidence, and value of 6 – full confidence), and 34% appreciated this confidence with scores of 5 and 6, the trends being positive compared to previous studies.

The level of confidence that in the process of using electronic public services, the services will be rendered safely (for example, personal data will not be in the possession of foreign persons or institutions, no foreign person will be able to find out how often some services are used, etc.) registers upward trends compared to previous studies, with an increase in the share of respondents, who appreciated it with scores of 5–6 (full confidence), which was 21% in 2016 compared to 17% in previous years. About 52% of the respondents rated the safety of online services with scores of 3 and above compared with about 40% registered in 2013 and 2012.

Study data show that men more often than women access public services through the Internet, using a computer or a mobile phone for these purposes. Also, online service requests are more popular among higher-income respondents than among those with lower incomes. About 40% of respondents

87 Cushing La Grone, C. H. (2016). Engaging youth voter participation with internet voting in Estonia (Unpublished master's thesis). Tallinn University Of Technology.
88 Krimmer R., Prosser A. (2004) The Dimensions of Electronic Voting. Conference paper.
89 Avgerou C. (2013) Explaining Trust in IT-Mediated Elections: A Case Study of E-Voting in Brazil, published in Journal of the Association for Information Systems.

with incomes of over 5,000 lei accessed online services, compared to less than 10% among those with low incomes (less than 2000 lei).

On the basis of these conclusions, we could anticipate that citizens' positive attitudes towards ICT tools and electronic services will positively influence citizens' attitudes and perceptions of using the Internet voting system. However, one should be aware that Internet voting cannot be compared to accessing an online service, because the election is of a social nature and its stake is of a higher weight compared, for example, with a certificate obtained by accessing an electronic service.

Therefore, in addition to the technological factor and previous experiences of using ICT tools, there are other factors that influence the adoption of Internet voting, such as the digital disparity, digital skills, as well as citizens' trust in electoral processes and in public institutions. In the next chapter, we will consider these issues, based on the data, collected in an online survey addressed to the citizens from the diaspora and in the country.

III. The Potential of Using Internet Voting by the Citizens of the Republic of Moldova – Research Results

3.1. Citizens' perceptions of the use of ICT and implementation of Internet voting in the Republic of Moldova

Internet voting is often presented as a purely technological innovation, omitting the socio-political context in which it operates. Research and academic literature attempt to address e-voting from a wider perspective, avoiding focusing on a single aspect. E-voting is often incorporated into what we call e-democracy where, in addition to the technological and legal aspects that influence the development of e-voting, the influence of politics and society on its implementation and assimilation is investigated.

Research suggests that trust is a vital component of adopting e-services. Citizens must be confident that the Government and public institutions have the capacity to implement and integrate different systems to properly support Internet voting. As mentioned in Chapter I, the issue of trust, in this case, is an entity applying to the organizations in charge of the conduct of elections and the technologies used to register voters and votes, aggregate and communicate the results. These two components, the electoral authorities and the technological ensemble, become interdependent parts of e-voting[90].

This section summarizes the findings of an online survey of citizens in the country and from the diaspora, which provided us with 200 responses. Although the citizens outside the country are considered to be the main beneficiaries of Internet voting, the author believes that the option of e-voting would be favorable for both citizens in the country and those in the Transnistrian region, especially for the young people. The survey was distributed on social networks in the group "Adopt a vote", groups of Moldovan communities in different countries, diaspora associations, etc.

The questions of the survey were formulated on the basis of the theory of diffusion of innovation,[91] developed by Everett M. Rogers, through three of the five features that can describe an innovation and show how individuals' perceptions of these features predict their adoption rate: (1) The relative advantage – the extent, to which an innovation is perceived as being better than the one it replaces, (2) Compatibility – the extent, to which an innovation is perceived as being consistent with the existing values, past experiences and needs of potential adopters, (3) Complexity – the extent, to which an innovation is perceived to be relatively difficult to understand and use.

The survey contains 19 questions, grouped into several sections: 1. Socio-demographic data; 2. Questions about participation in elections; 3. Questions about Internet access and digital skills; 4. Questions about e-services and Internet voting. The questions were formulated using Likert's Scale, where the respondent has to choose from five available values his/her opinion about certain statements.

90 Avgerou C. (2013) Explaining Trust in IT-Mediated Elections: A Case Study of E-Voting in Brazil, published in Journal of the Association for Information Systems.

91 Diffusion of innovation is a theory that attempts to explain how, why and to what extent new ideas and technologies are spreading. It examines innovations from several perspectives, including the process of innovation development, the decision-taking process, adoption rates, different categories of adopters, and factors influencing the changes and innovations in organizations.

To assess the digital skills of the respondents, the questions were formulated on the basis of the Digital Competence Framework 2.0 developed by the European Commission. According to this framework, digital competence means that people should have skills in each of the five areas: Surfing, searching and filtering information, Communication and collaboration, Digital content creation, Online security (including digital literacy and IT skills), and Problem solving.

3.1.1. Skills and the degree of digital literacy of the population

In the questionnaire developed for this study, citizens answered some questions about the experience of using e-tools and services available on the Internet.

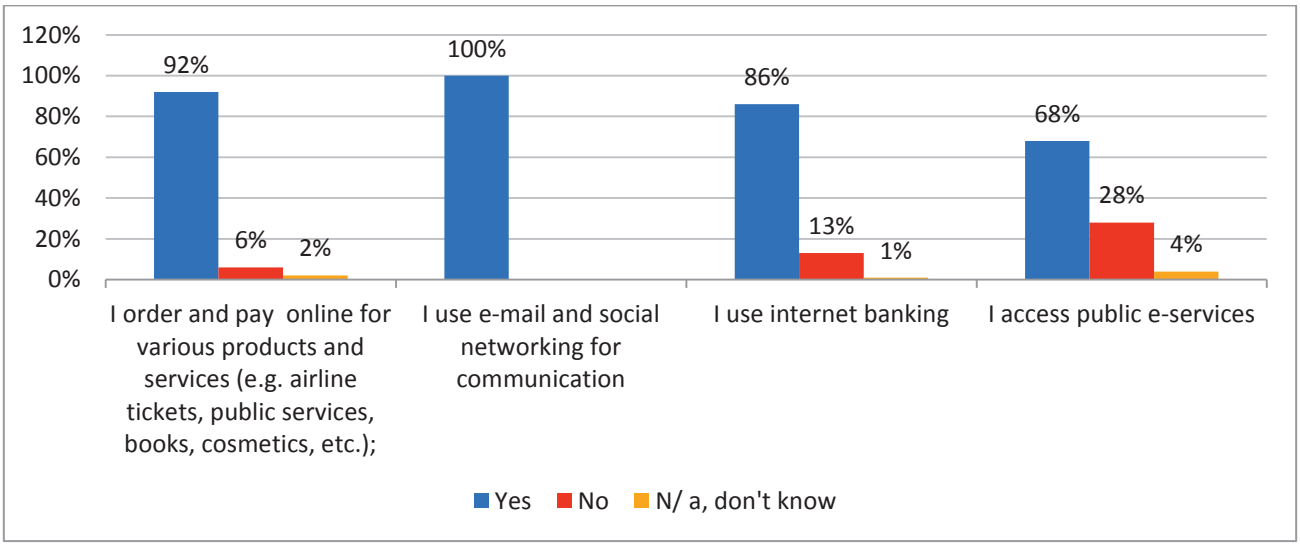

Figure 1. E-services accessed by citizens

According to the data collected through the online survey[92], 91% of respondents said they were using e-commerce services. All the respondents indicated they were using social networks. When asked about using the Internet banking option, 86% of the respondents gave an affirmative answer. Also, 68% of the respondents said they use or know about such e-services as issuance of e-criminal records, e-declaration of income, and so on.

Based on these data, we can conclude that citizens who filled in the survey are familiar with the use of digital tools. Besides these tools, previous experience of interacting with different electronic processes, be it online shopping, card payment, e-mail, and social networking could positively influence the citizen's decision to use e-voting[93]. Available literature suggests that Internet-based innovations will be attractive to citizens, who frequently use the Internet. Individuals who have used e-commerce or e-government services have been more likely to adopt an innovation, such as Internet voting. However, we must be aware that, unlike completing an e-statement of income or renewing an online license, Internet voting has societal implications. The unique nature and consequences of Internet voting distinguish it from other e-Government services. We can certainly claim that the use of Internet voting would be attractive to those who use technology innovations every day.

92 It is important to note that this was an online survey and it was filled in by those who already have access to the Internet and use these digital products and services. If this survey had happened offline, then the figures could reflect a lower proportion of e-service users.

93 L. C. Schaupp and L. Carter, (2005) E-voting: From apathy to adoption, Journal of Enterprise Information Management, vol. 18, no. 5, pp. 586–601.

Being asked how well citizens handle navigation, searching and filtering of information on the Internet, 62% of respondents referred themselves to experienced users, 24% said they were advanced users, only 5% said they were beginners. As for the analysis and evaluation of online information credibility (e.g., I know that not all online information is credible), 50% have chosen the experienced user rating, 34% consider that they are advanced users, 11% have selected the average user rating, and only 7 respondents said they were beginners. Based on these data, we can identify a trend in the quality of Internet browsing among the respondents. Although most respondents have indicated that they are well-versed in using the Internet for information search, fewer have indicated a higher level of ability to analyze and evaluate the credibility of this information. Assessing the authenticity and credibility of certain information, websites, applications or digital tools is an important factor in the security and integrity of Internet voting. In the case of Internet voting, voting takes place in an uncontrolled environment, from the user's computer. Therefore, voters should know how to distinguish an official and secure website of a public institution from a clone that would compromise Internet voting. In this respect, citizens should be informed about the risks in information campaigns to be conducted when Internet voting is introduced.

Personal data protection is the responsibility of both those who develop information systems but also of the user. For example, when voting via the Internet, s/he must keep in secret the PIN s/he receives to vote or the private key of digital signature. Nearly half of the respondents indicated they are experienced in protecting personal data and privacy in digital environments, which accounts for about 48% of responses. An advanced level of skills was indicated by 34% of respondents, 11% – medium and 5% – beginners. Slightly over than half (56%) of the respondents identified themselves as experienced users in managing their digital identity in an online environment, 31% – selected the advanced level, 6% – the average level and 5% – the beginner level.

Fewer respondents indicated advanced knowledge of civic engagement and involvement through public and private digital services (e.g. e-petitions, reporting road traffic violations, online public consultations), where 43% of the respondents indicated a level of experienced users, 26% – advanced, 24% – medium and 10% – beginner. These data, as well as those presented in Chapter II on the purpose of using the Internet (only 7% of respondents access the Internet to request services from government institutions), show a low level of citizens' digital interaction with public institutions and the fact that they are not frequent consumers of governmental digital products. Similar to Estonia's experience, we could anticipate a low level of Internet voting use in the initial period, but with the diversification of digital content, increasing the user familiarization with available tools, the number of voters, who would choose to vote online, could grow. In this regard, a public education and publicity campaign is needed, requiring the involvement of all stakeholders (civil society, mass media, political parties, etc.).

However, on the basis of these data, we cannot positively say whether the level of digital skills, estimated through this survey, is sufficient for the safe use of Internet voting by citizens of the Republic of Moldova. Estimating the level of digital literacy of the population remains an exercise that requires analysis of several indicators, as well as a complex methodology of data analysis. At the same time, studies show that there are differences between the level of self-perceived and actual digital competences. Differences persist even among young people, who are said to be "digital natives". Self-evaluation of digital skills does not fully render true performance, and people tend to overstate them. However, on the basis of available data, we can state that there is a potential for the use of Internet voting in the Republic of Moldova, and it can be turned into advantage through communication campaigns, pilot projects, which are gradually being extended on a larger scale.

3.1.2. Citizens' trust and their compatibility with Internet voting

As mentioned in Chapter II of this study, digital signature is the identity card of the citizen in the virtual space, which could facilitate both authentication in the system and signing of the electronic ballot. In the poll, citizens were asked to choose from a list of services and e-products the ones they know or had used. 82% of the respondents said they used or know about the digital signature. Citizens are informed about the mechanism of digital signature, however, according to the author, access to this tool of the diaspora citizens remains the biggest challenge in its use for Internet voting. Also, 63% of the respondents said they are familiar with e-statements, 54% – with the e-criminal records and 63% – with the MPay Government Payments Service.

Before analyzing the public trust in Internet voting as a voting mechanism, it is necessary to determine citizens' trust in the Internet in general. For this purpose, citizens were asked to indicate on a scale of 1 to 5 (where 1 is the minimum level of trust, 5 – the maximum) how much trust they have in the Internet (statistical annexes, question 8).

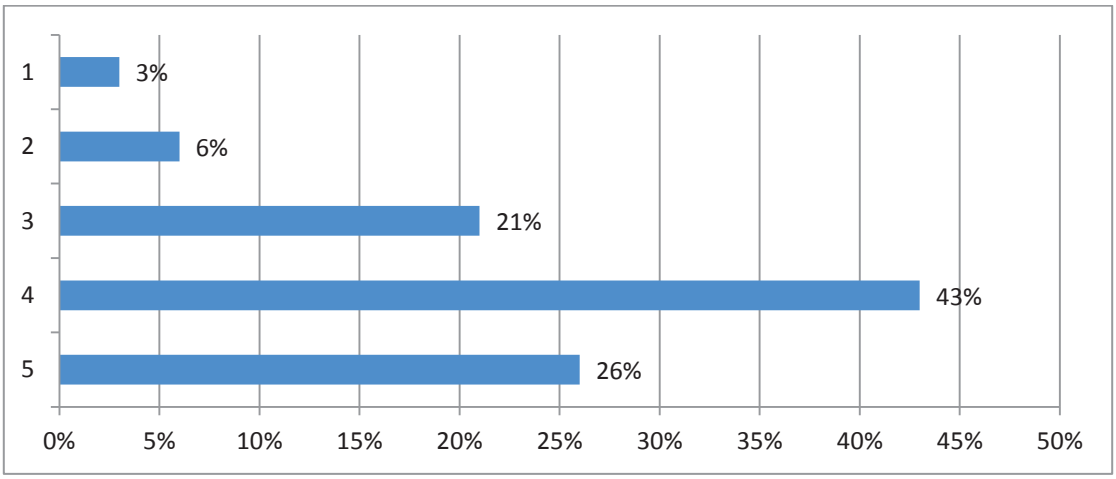

Figure 2. The level of trust in the Internet

A maximum level of trust was indicated by 26% of the respondents, 43% rated it with a score of 4. On the opposite side, scores of 2 and 1 were given by 6% and 3%, respectively. On average, on a scale of 1 to 5, citizens' confidence in the Internet was rated at 3.78 (about 4), meaning people tend to trust the Internet. At the same time, the data of a poll presented by the International Republican Institute[94] show that 50% of the citizens inform themselves about the politics from the Internet, so they trust the Internet as a source of information, which ranks second after television and newsletters.

Citizens also positively perceive the way, in which an e-service is provided using the Internet. They trust that an e-service will be provided safely (69% said they are confident and very confident) that they will certainly obtain the service (70% are confident, 22% – have little confidence), and the service is to the level of their expectations (21% – very confident, 46% – confident, 24% – little confidence).

As mentioned in Chapter I, confidence in Internet voting is manifested in two respects: confidence in the technology used and confidence in public institutions and democratic processes, taking place in a country. We have outlined below, based on these two aspects, the opinions of the citizens, who participated in the survey.

94 International Republican Institute. (2018) Public Opinion Survey: Residents of Moldova. May-June 2018 http://www.iri.org/sites/default/files/2018-7-16_moldova_poll_presentation.pdf

Survey respondents are optimistic about the credibility of an Internet voting system (Figure 3), 67% of them indicate that they agree that e-voting would enjoy a high level of public confidence in the Republic of Moldova (total agreement – 28%, partial agreement – 39%) (statistical annexes, question 12).

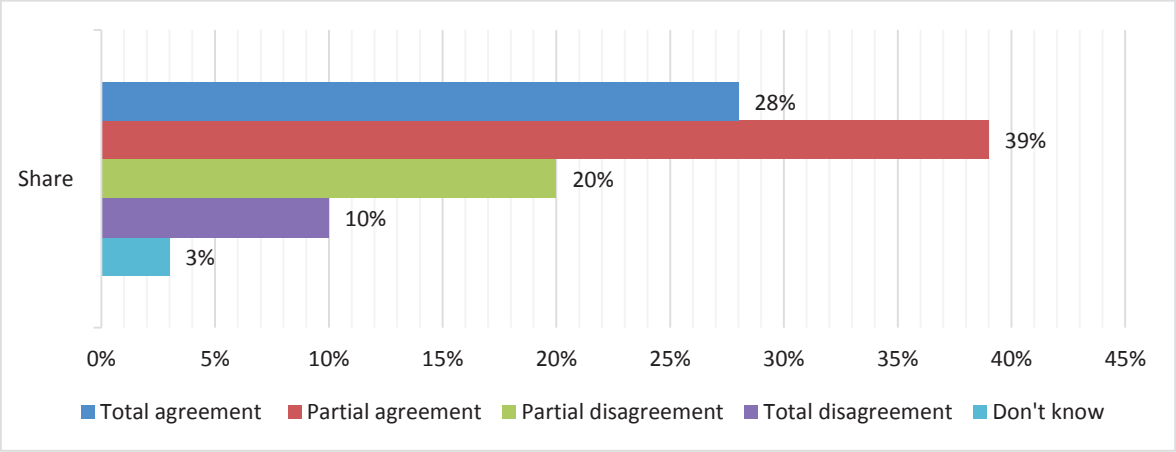

Figure 3. Credibility of an e-voting system

At the same time, 77% of survey respondents would have trust in the correctness of Internet voting and counting of votes, 75% believe that respecting security and information encryption would provide a sufficiently secured environment for e-voting, while 73% of the respondents indicated that they would feel comfortable voting online (Figure 4).

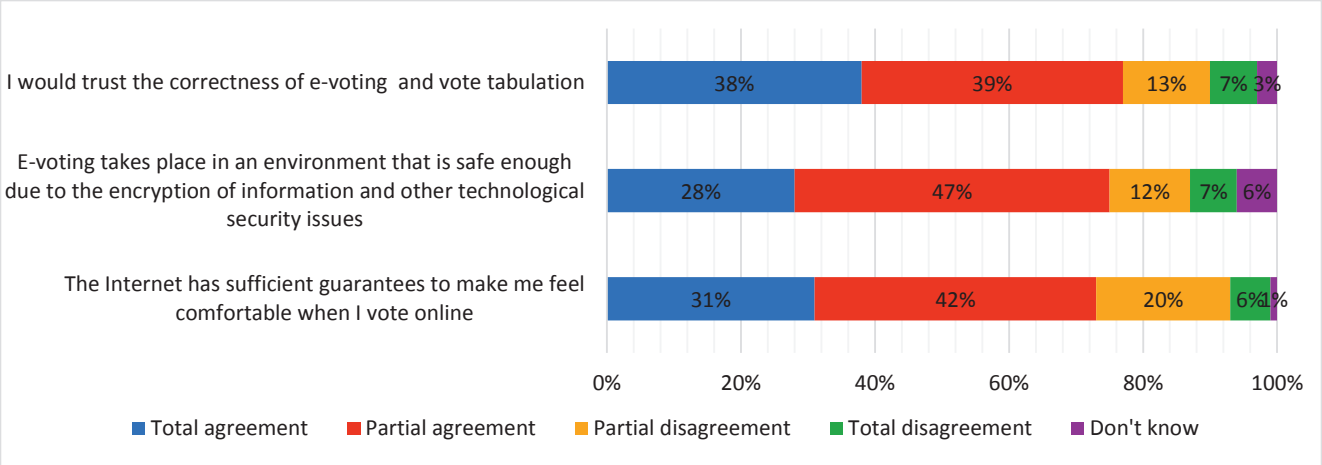

Figure 4. Citizens' perception of the correctness and security of Internet voting

However, more than half of the respondents believe that the anonymity of voting cannot be fully ensured, as administrators of the system could have access to voter's data and their votes (total agreement-36%, partial-agreement 36%). This conclusion can be drawn with regard to the confidentiality of the voting, the respondents believe that Internet voting does not guarantee full confidentiality (e.g. the voter will not be protected from pressure or influence against voting according to his/her political preferences), 69% agree with this statement (24% – total agreement, 45% – partial agreement).

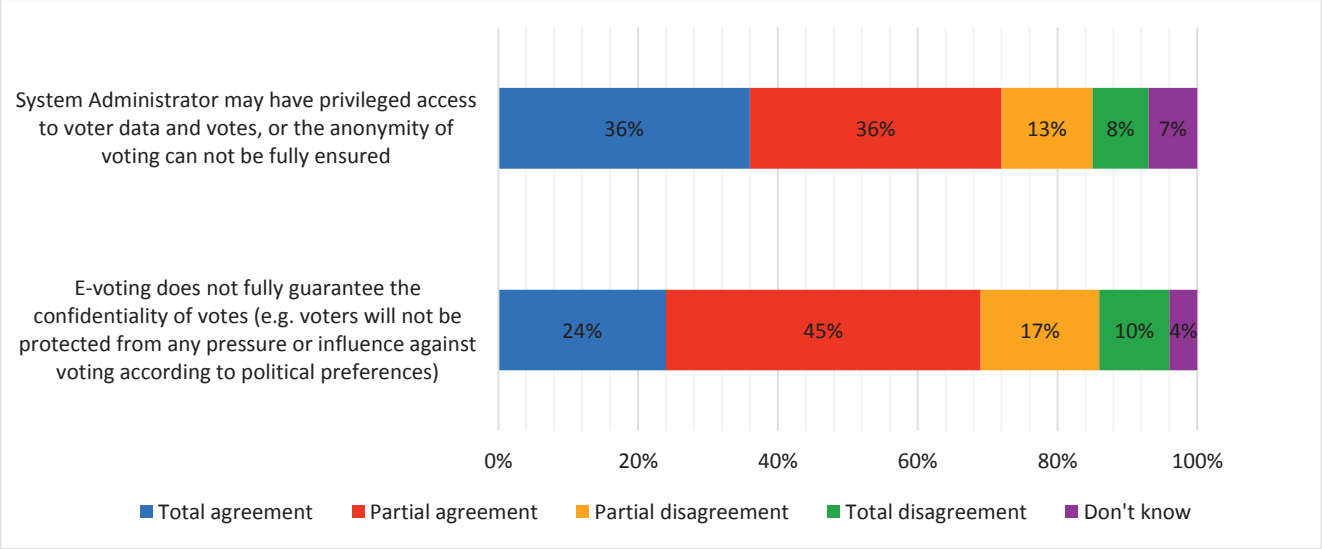

Figure 5. Citizens' perception of privacy and anonymity of Internet voting

At the same time, only 11% of the respondents totally agreed with the fact that the level of citizens' trust in the institutions of the Republic of Moldova is sufficiently high for the implementation of e-voting system. 21% indicated partial agreement, 26% – partial disagreement, and most of the respondents (34%) indicated total disagreement with this statement. From these data, we can deduce that 60% of the respondents consider the current level of confidence in state institutions to be insufficient to introduce an e-voting mechanism (see statistical annexes, question 12).

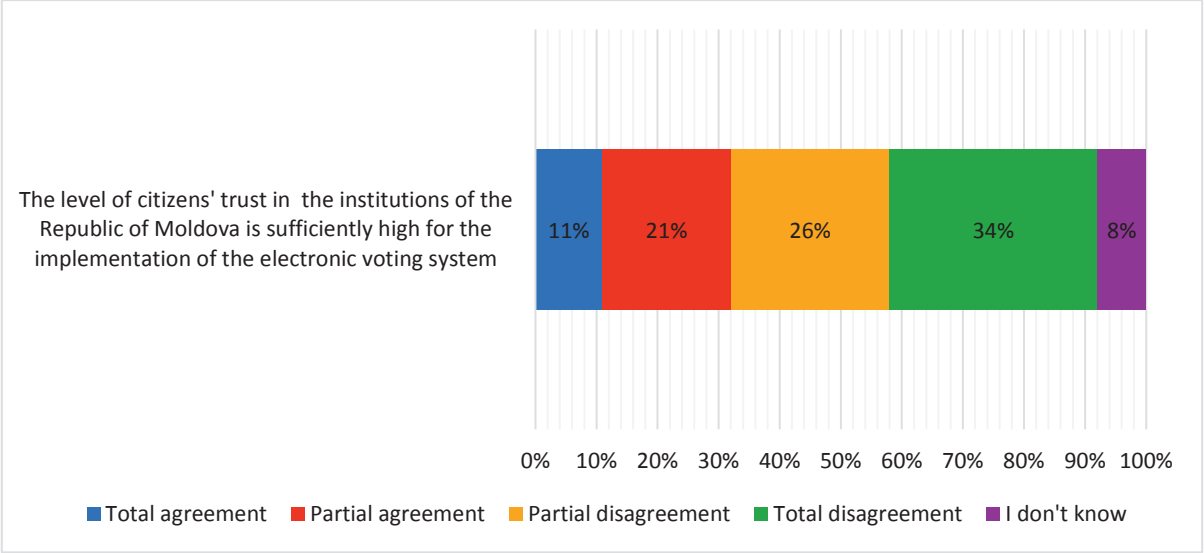

Figure 6. Level of confidence in state institutions

This hypothesis is also confirmed by other studies[95][96], which analyzed citizens' confidence in state institutions. According to a study, carried out on a sample of 1326 citizens, a majority share of 77% of citizens are dissatisfied with the Parliament's work, of which 47% are not at all satisfied. 69% of the population are not satisfied with the Government's activity and 60% of the citizens are dissatisfied with the CEC's activity. The data also show that 39% are dissatisfied with the evolution of democratic processes in the Republic of Moldova and 33% are somewhat unsatisfied.

95 Magenta Consulting (2018) Study of Citizens' Perception of the Activity of the Promo-LEX Association during 2017.
96 International Republican Institute. (2018) Public Opinion Survey: Residents of Moldova. May-June 2018 http://www.iri.org/sites/default/files/2018-7-16_moldova_poll_presentation.pdf

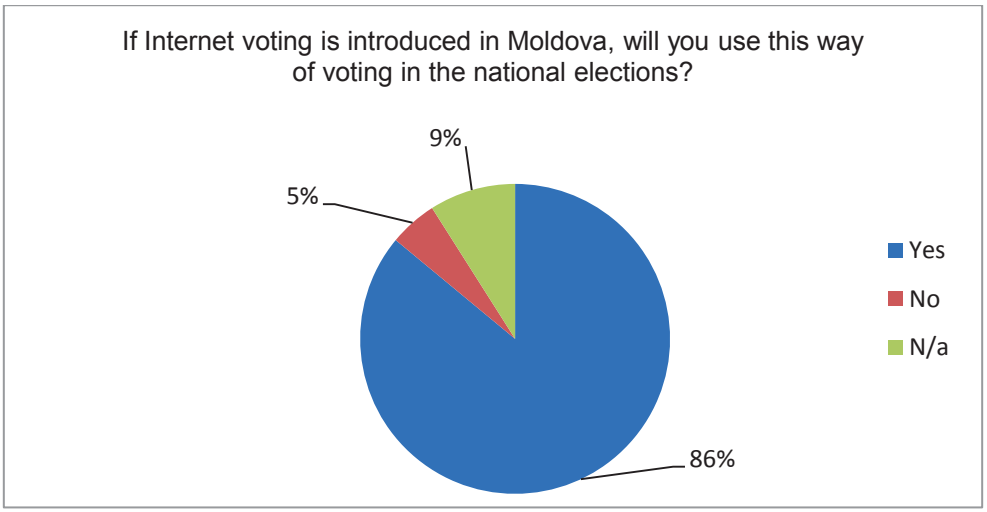

Figure 7. Citizens' response to the use of Internet voting

As for the decision to use Internet voting or not, 86% of respondents replied that they would use it, if it were introduced in the elections in the Republic of Moldova. For 84% (total agreement) of respondents this voting mechanism would be useful, and for 90% (total agreement) of respondents would not find it difficult to use Internet voting (see statistical annexes, question 14).

3.1.3. Advantages and risks of Internet voting from citizens' perspective

90% (46% – total agreement, 44% – partial agreement) of the respondents consider e-voting to be a useful tool, but at the same time difficult to implement in the Republic of Moldova. Citizens believe that Internet voting has the potential to increase voter participation rates in Moldova. In response to this statement, 64% of the respondents showed total agreement with it and 24% – partial agreement. 52% fully agreed that e-voting could motivate those who do not usually vote, and 34% partly agreed with the statement.

In the last question of the survey, citizens were asked to express their own thoughts about the introduction of Internet voting. Below we have summarized the trends observed in these comments.

1) Limited trust in state institutions

One of the risks identified by the citizens is the lack of trust in public institutions, both in relation to those involved in the electoral process, and to state institutions in general. One of the respondents wrote: "I believe that it is premature for the Republic of Moldova to introduce this instrument, considering the low level of citizens' confidence in the state institutions." Although citizens are aware of the need to align with the technological development, they are skeptical of the success of Internet voting. At the same time, the distrust of the institutions affects their decision to use or not the Internet voting once it is introduced. Although the majority of respondents answered positively to the question about their readiness to use Internet voting, they displayed reticence in the comments, claiming that credibility of the government and public institutions needs to be improved. The low level of trust is associated with major risks of fraud, the citizens mentioning that it is "a very good idea, but unfortunately, I don't trust the state institutions of the Republic of Moldova. We have a high level of corruption in the country, so it's hard to believe that the voting will be carried out correctly."

2) Technical impediments

Data security, the risk of election frauds and manipulation, lack of a technical infrastructure to ensure continued availability of the system, lack of a legal framework favorable to the implementation of Internet voting are some of the technical impediments, mentioned by the respondents. In addition, citizens are concerned about ensuring the confidentiality of voting, integrity and anonymity. Also, the citizens, who participated in the survey, mentioned some uncertainties as to how the voter identification would take place.

3) Cyber-attacks and data manipulation

Citizens claim there is a risk that voters will be monitored, compromising the secret nature of voting. If the implemented system is designed in a way that allows the intervention of malicious persons due to a low level of security, the risk of election fraud and unauthorized access to voter data will be high. One of the respondents mentioned the risk of in-house attacks as "the greatest concern", including "the possibility of backdoor development,[97] by which the authorities could manipulate suffrages. "Citizens are aware that Internet voting involves many confidentiality issues, and "the privacy and uniqueness of e-voting is still a problem, a paradigm that cannot be solved 100% securely." However, some respondents argue that "any software can be defrauded, but that's not a reason to give up online services, including Internet voting."

4) Need for training

In the event of Internet voting introduction, a voter training and education campaign will be required to reduce the digital barriers among the population, a citizen mentions "tutorials for different user categories, on-line usage assistance, including voiced assistance for visually impaired people, promotion […] among the 17–18 year-olds, who will have the right to vote "so that Internet voting" becomes as accessible as possible, easy to understand and used by all categories of the population."

5) Threat to the legitimacy of the voting

In the view of some respondents, e-voting could "debase the citizen's vote and risks setting up a dictatorship of a single group." Also, due to limited digitization among some categories of citizens, users with lower digital skills would be easily influenced, and online voting would become a way of committing frauds. The complexity of the system and the low level of understanding of electronic security mechanisms by non-technical community could undermine confidence in a process that must be perceived as reliable and trustworthy. People mention that "as long as ordinary citizens cannot properly understand and appreciate the proposed cryptographic solutions to secure e-voting, the latter could totally undermine confidence in a process that must be perceived as honest." The negative experience of other countries that reached a higher technical and democratic development would increase distrust of the use of such a system, as "the experience of other more advanced countries shows that e-voting is vulnerable in terms of security."

6) Positive, but skeptical

The success of such an instrument depends on how it is implemented. It would be useful, but "extremely difficult or almost impossible to implement it correctly". With regard to the introduction of a new voting option, one citizen mentioned that "e-voting should be implemented in parallel with classical voting, at least for the first few years, because there is an extended category of population that is not ready for e-voting. At the same time, e-voting is considered "very welcome for modern people, who are used to technology".

97 A backdoor is a means of accessing a computer system or encrypted data that avoids the usual security mechanisms of the system.

3.2. Political support for the introduction of Internet voting in the Republic of Moldova

The experience of countries that have successfully implemented Internet voting shows that this was possible due to political support and confidence in the administration of e-voting system. The discussions with the political parties interviewed revealed the general opinion that in the case of the Republic of Moldova, the high degree of distrust in state institution and in democratic processes is a major risk. This risk has also been identified by citizens. All the representatives of the political parties that have been interviewed mentioned distrust in the political context, that "there is a general distrust in all democratic processes, […] people do not believe anything, even the paper-based voting, and we are witnessing a decline of people's confidence that their vote counts", "there is persisting distrust of the legislative, […] government, the Central Election Commission and the judiciary."

In the case of Internet voting, trust is manifested in two respects: the actual information system and the institutional framework, in which it is implemented. Public trust in the authorities, responsible for election management is a prerequisite for the introduction of e-voting. In the case of the Republic of Moldova, there is a risk of compromising Internet voting because of the lack of confidence in case it is introduced. Several respondents mentioned that, "even if the system is created by the best company", there is a risk that "voters will say the government wants to fraud the election." At the same time, another interlocutor highlighted the need to monitor access to the system: "even if the software is well-designed, we need to see who gets access to it so that it does not get into the hands of people with bad intentions" and "the authorities wouldn't get access to it and change the citizen's vote." The negative sociopolitical context creates serious risks, even if the technical and operational fundamentals of e-voting option are sound. In this context, some factors can be addressed directly through an ample implementation strategy, while others, such as the general lack of trust in electoral bodies, a fundamental political or technical opposition, would be more difficult to change.

Several interlocutors claimed that the information system itself and the technological processes are difficult to understand for citizens that are non-technical users. One of them referred to the validation of e-voting system and the fact that a simple citizen without advanced technical knowledge "receives this validation from the institutions implementing the system, from the company that has been selected and developed the system, including from international institutions". If these institutions are credible and independent, it is easier for the citizens to ensure the credibility of the system. In most interviews, a well-secured information system was associated with the need for well-intentioned governance, and in this case, "the risks would be lower, even though "there may always be the risk of some technical malfunctions."

Another interlocutor pointed out to the difference between Internet voting and another service, that of e-commerce. In his view, the difference between these two Internet services is that "if something happens, the bank can be notified to block the card and the user has the opportunity to recover the money." At the same time, the question arises, "In the case of Internet voting, how can it be remediated in case something happens?" Countries that are already using Internet voting organize it before the election day, so that if something happens, the authorities can take action. In Estonia, for example, the option expressed online can be canceled by the one expressed on paper on the election day.

At the same time, the political parties are aware of the advantages and the necessity of aligning themselves with the technological progress in the electoral field. The fact that such a tool like Internet voting should be introduced gradually, with the involvement of the society in various pilot projects was acknowledged by most parties. Several speakers mentioned a "participatory process

with the involvement of the diaspora", "with information campaigns presenting both advantages and disadvantages", including "a participatory process at technical level, with discussions involving expert opinions", because "others, who are not experts need their opinion." In the view of another speaker, a sudden, rapid implementation could raise suspicions and compromise this system in the view of the public opinion. The testing of e-voting should not necessarily take place in the parliamentary elections, it could be done in electoral processes of a smaller scale, such as "the election of university senate, the election of a council, etc.". A pilot project on Internet voting testing must be "representative, including components from different spheres such as political parties, initiative groups, etc."

Another challenge identified by political representatives is the confidentiality and integrity of voting that is expressed in an uncontrolled environment, such as one's home, library, etc. Several interviewees voiced their concern about online voting outside the voting booth claiming reasons of privacy and freedom of vote. According to them, a person, who does not have sufficient digital skills could ask someone for help and this could be a risk of influencing the vote. On the other hand, in the polling stations "observers are involved not only in the counting of votes, but in the voting process as well. In the case of Internet voting, observation comes down to counting". In interviewees' view, "certain conditions are created in the polling stations, and observers monitor that privacy is ensured in these conditions." In the case of Internet voting, we cannot ensure the conditions for the secret of voting. For these reasons, one of the interviewees mentioned that he would support e-voting, "only in the polling stations", and this would "cancel the issue of insufficient number of ballots" in the polling stations located abroad.

In this case, the responsibility to ensure the secrecy and integrity of voting lies with the citizen, and the voting process itself cannot be monitored in the way it happens during the classical elections. In the view of some interlocutors, this would mean a potential for fraud and compromise of the elections, and "lack of personal integrity (of the citizen) jeopardizes the voting."

In addition to the risks described above, political party representatives also mentioned other risks, such as "lack of transparency in the company selection process", "failure to allow independent monitoring from outside", "independence of democratic institutions."

Being asked if the implementation of Internet voting in the Republic of Moldova is possible in the next 2–4 years, all the political parties interviewed were skeptical about this term, saying that "it is an idealistic term", "the risks of corruption are obvious, there is a need for a new political class", "it would have been possible to do it in four years, if the reform had been started at the beginning of the mandate. "On the one hand, they are aware that this innovation is necessary, but on the other, there is a risk that its implementation could be postponed indefinitely. Political parties have said that it would take time to make certain changes in restoring public confidence, proper functioning of the institutions involved in this process, educating citizens and promoting a general culture in the electoral field, addressing technical challenges. However, the majority agreed that in the coming years, the focus should be on testing such a voting option, organizing pilot projects, debates, all in a more participatory way, as "things should be tested in time", "requiring a practical approach".

3.3. Institutional support for implementation of Internet voting

According to the representatives of the public institutions we discussed with, Moldova currently has the necessary technological means to implement Internet voting. The available digital signature can ensure the principle of authenticity of voting, i.e. the voter's identity can be virtually verified by certain

existing mechanisms. The same tool can be used to sign the vote to confirm the choice made. In this sense, it is not necessary to develop a new instrument or mechanism dedicated to Internet voting. Instead, in order to ensure the confidentiality principle, in addition to the technological authentication tool, a certain set of measures is required, and these measures can be ensured, "technically, they do not constitute a difficulty"[98].

In the view of technical experts, the technological process necessary for Internet voting can be achieved and "in terms of technological development, the society is ready for Internet voting". One of the interviewees mentioned that "all the pre-conditions to migrate to e-voting are present, and "online identification is no longer a problem. An impediment to this is that, although we have a community with an electronic identity, they reside in the country and therefore, are not part of the target group for Internet voting, which is a diaspora. According to the same speaker, "at the moment, we don't have a critical mass of content and services that will make these citizens take their electronic identity card or other tools. The low access of diaspora citizens to electronic identity tools is an impediment mentioned by most speakers.

At the same time, 3 out of 5 representatives of the public institutions involved in the discussion have indicated that the level of citizens' familiarization with digital content and electronic services is low and while "we have a high rate of Internet penetration, 80% of card transactions are ATM operations, which is a problem." According to another respondent, "the situation has changed dramatically in recent years and people have become more familiar with technology and banking services." If we talk about citizens' availability and ability to use Internet voting, two of the respondents pointed out that the society "will never be ready, if the citizens are not informed" and that this process should be started "by small steps, through simulations and trials", since "culture does not appear overnight, it takes years", and "e-voting is an exercise that we have to adopt." We are aware that the implementation process is not a fast one, it takes time to get citizens' confidence in Internet voting so they can gradually start using this tool. There are challenges such as insufficient use of ICT tools and electronic services, resistance due to the difficulty of understanding the technological mechanism of the operation, but in the view of the representatives of public institutions, these challenges can be overcome in time. To begin with, a pilot project could be implemented with the participation of digital signature owners, where citizens could "log in an IT module, vote, sign the vote, and send it to the server." Also, the voting should be allowed for a certain period of time, the number of votes that can be cast would be unlimited and the last vote would have been taken into account[99].

In the view of the institutions involved in the interviews, the risks related to the implementation of e-voting are classical in the Republic of Moldova. In the discussions, we identified the following risks:

1) Socio-political context – lack of trust and the perception of political class that is against the introduction of Internet voting, because "there is a fear that vote legitimacy will be damaged." One of the speakers mentioned that lack of political support is obvious in relation to other risks, such as technical ones.

2) Expensive exercise – piloting and implementing Internet voting is a costly exercise, involving the purchase of equipment, etc. Costs are also influenced by the fact that the implementation of the system needs to be tested in a real environment, including with the involvement of diaspora citizens.

3) Complex process – the process of introducing e-voting is complex and therefore, all the options have to be taken into account, "and the process has to be well thought."

98 Estonian practice provides for multiple voting, taking into account only the last vote.
99 Interview with specialists from the E-Governance Agency and Mr. Iurie Ciocan, member of the Central Election Commission.

4) Other risks that can be detected during the piloting phase.

Each segment of the implementation process or, initially, the design of a pilot project on Internet voting needs to be analyzed in terms of vulnerabilities. In the view of technical experts, documentation and transparency measures are necessary to ensure the desired level of confidence in these processes. If technically, it is possible to carry out the process, there are several issues that need to be monitored in terms of operational organization and transparency. That is why, in the view of technical experts, it is important to hold the e-voting before the actual elections, so that there is enough time for checking, ensuring server security, etc. In practice, Internet voting depends on two principles which are opposed to each other, where on the one hand, "we must be able to say with certainty who voted", and on the other, "we must not say with certainty for whom the citizen voted". Technical experts consider that this problem is not entirely technical, sooner it is organizational, where there must be a human factor that will certify that this separation has taken place.

Public institutions also highlighted the need to introduce e-voting gradually, by stages. All stakeholders and actors having a specific role in the electoral process, such as citizens, political parties, civil society organizations, the Diaspora Relations Office, may be involved in the pre-project stage. This stage could involve activities aimed at raising the awareness of the need for such an information system, explaining how it works, discussing benefits and risks, etc. This stage is also foreseen in the CEC Strategic Plan for 2016–2019. Communication efforts required at this stage are complex, and the involvement of the CEC and diplomatic missions may not be enough. In the view of some speakers, the involvement of civil society and the IT community would be a solution in this respect.

Conclusions

Experience of countries, where Internet voting has been successfully implemented revealed the existence of several factors that ensured a smooth operation of these systems. A high level of confidence in public administration and democratic processes is an indispensable prerequisite in this respect. Only those e-voting systems that are safe, reliable, efficient and robust from a technical point of view, as well as open to independent verification and easily accessible to voters, can strengthen public confidence, which is a prerequisite for conducting e-voting. This conclusion is reflected both in the experience of Estonia and Switzerland, where confidence is high and at the same time, transparency and security are the principles that form the basis for Internet voting.

The second factor of success is gradual implementation of Internet voting and gradual increase of election stakes. By implementing pilot projects, the risks and vulnerabilities of the system can be observed in practice. In such a way, citizens are informed and educated about the new method of voting, the level of public confidence being increased through citizens' involvement in this process.

In the countries where Internet voting did not work, the reasons were not always technical. In the case of Norway, the project was stopped, as the objective of increasing the voter turnout rate was not attained, and the expensive investments did not reach its goal. In the Netherlands, although citizens were not initially asking questions about the reliability of voting machines, the controversy surrounding the lack of access to the source code and directly to the voting machines, the lack of the possibility to test them, led to the formation of an initiative group, which finally, demonstrated the existing technical vulnerabilities. And in France, the decision to stop Internet voting was rushed a few months before the elections, the executive being accused of having no public debates and participatory discussions before the decision to adopt e-voting was taken. The experience of these countries demonstrates the importance of transparency in e-voting process, the existence of adequate documentation and independent audit procedures, etc.

Equally important are citizens' perceptions of the use of ICT tools and the Internet in general. In all the analyzed countries, there is a high degree of Internet penetration, existence of at least basic digital skills among the population, the use of e-commerce services, Internet banking and other digital services. Based on a positive experience of using the existing services, citizens are more inclined to use Internet voting.

In the case of the Republic of Moldova, the negative socio-political context represents a risk in the process of e-voting implementation. The electoral changes of the past two years introduced in a hurried manner, in absence of a political and social consensus, without ensuring a level of transparency and public debate, caused distrust among citizens and other actors. Citizens' distrust in democratic processes and institutions is powered by a high level of corruption. At the same time, in the view of the representatives of the diaspora, the issue of voting abroad becomes more and more pressing, the solutions taken by the authorities are not effective, and those proposed by the citizens of the diaspora are not taken into account. On the one hand, the need for an Internet voting system is justified by the need to ensure the right to vote of citizens living abroad, on the other hand, the socio-political context is not favorable to such an exercise.

At the same time, there are several advantages in terms of technologies. Citizens of the Republic of Moldova benefit from a high level of Internet access. Survey data show that they are almost daily online, have a positive perception of the use of ICT tools and digital services. At the same time, the use of digital services, such as Internet banking, e-government services, remains low, but growing. One of

the impediments encountered is the provision of households with Internet access and computers, or their cost is high for certain categories of the population. At the same time, the Republic of Moldova has an e-government infrastructure that could facilitate the implementation of Internet voting to ensure the authenticity and integrity of the voting process. One of the advantages is the availability of the digital signature, which offers citizens the possibility to authenticate themselves in the system and sign their vote. The disadvantage of this instrument is the relatively low degree of its spread among the population and its validity for 1 year.

At the legislative level, will need to take steps to modify the legal framework that includes both the regulation of the technical aspects of Internet voting and the procedures for managing the electoral process and other operations necessary for a voting based on information technologies.

Survey data show that citizens have a positive perception of the use of ICT tools, tend to trust the use of the Internet, have a positive attitude towards accessing e-services. Citizens tend to perceive Internet voting as a technological innovation, but at the same time, they are aware of the risks to its implementation, given the realities of the Republic of Moldova, some of them even enumerating them in the comment box. If online voting was implemented, they would opt for this means of voting. Although the majority of respondents positively answered the question about their readiness to use Internet voting, they displayed reticence in their comments, unless the credibility of government and public institutions is improved. However, the Republic of Moldova has the potential to test Internet voting. At this stage, it would be useful to implement at least pilot projects, which would show the citizens how this process is actually taking place and they could have an idea of this tool.

At the political level, there is a degree of skepticism about the introduction of e-voting. Although, to a certain extent, everyone is aware of its necessity, however, the issues of population's trust in democratic processes, reform of state institutions, ensuring the integrity and confidentiality of the vote remain a priority and only after that comes the introduction of Internet voting.

As far as the institutional support is concerned, there are technical and organizational prerequisites that would allow the introduction of Internet voting or at least testing it through pilot projects. In the view of the institutions involved in the discussions, at this stage, the efforts should be concentrated on testing Internet voting in practice. However, even a mock exercise would involve considerable cost and effort on the part of the actors involved.

Recommendations on the Introduction of Internet Voting

1. Defining and clearly communicating the objectives

The reason for introducing e-voting must be clearly defined. Clear objectives facilitate the evaluation of advantages and disadvantages and the motivation for introducing such a voting system. In the case of the Republic of Moldova, an objective could be enhancing the diaspora's participation the voting process so that citizens based abroad could freely exercise their voting rights;

Relevant institutions: Central Election Commission

2. Identifying the necessary adjustments in legislation

E-voting often changes the way elections are held in a country. Consequently, all adjustments needed to harmonize the legal framework and the technological framework must be identified, taking into account the national and international obligations to assure democratic elections.

Relevant institutions: Central Election Commission, the Parliament, the Government, E-Governance Agency;

3. Building trust and engaging key stakeholders

Introducing e-voting is a compromise between advantages and disadvantages, therefore, a consensus among stakeholders, including political parties, civil society organizations, etc. must be reached. Involving them in the development process from the early stages of implementation will minimize the risk of low user support. It is good to seek the support of various beneficiaries in approving the necessary legislative changes for the introduction of e-voting systems.

Relevant institutions: Central Election Commission, the Government, the Parliament;

4. Organizing public debates

The decision to introduce e-voting should be preceded by numerous public debates on this issue. They can be organized in different forms, both online and in some real time meetings, round tables, workshops, etc. Thus the advantages and weaknesses of e-voting will be discussed. Also, public opinion on the introduction of e-voting could be sought. Public debates can improve the electorate's confidence in the system and provide transparency to the decision-making process. However, if the discussions are insufficient or poorly organized, the debates can produce the opposite effect, increasing the degree of mistrust. Well-informed stakeholders will more be more inclined to trust the new system.

Relevant institutions: Central Electoral Commission, the Government, civil society organizations;

5. Involving voters in the system development process

Voters should be involved in designing e-voting systems, in particular, in identifying their constraints. The e-voting system must be functional and take into account the needs of the public, without unnecessarily complicating the process. Such requirements could be achieved through a common approach, involving the development team and a representative user group.

Relevant institutions: Central Election Commission;

6. Ensuring diaspora's access to digital signature tools

In the discussions with representatives of public institutions, the issue of digital signature and its validity term of one year was highlighted. If Internet voting is introduced, it is essential to review the legislation on the validity of digital signature and to stipulate the ways in which it can be obtained.

Relevant institutions: the Government, the Parliament, Intelligence and Security Service, E-Governance Agency;

7. Involving a wide range of experts in the discussions

Internet voting involves multiple sensitive issues that can influence the success of its implementation, starting with the legal framework, cyber security, acceptance of the society, etc. In this regard, it is recommended that these issues be addressed by experts in the field. The broader the range of experts involved, the lower the risk of omitting certain challenges that may arise during the implementation of Internet voting.

Relevant institutions: Central Election Commission;

8. Involving the local IT community

IT expert groups are often strongly opposed to e-voting. In the citizens' survey some respondents have expressed their concern about technical impediments that may affect the smooth running of elections. A part of this opposition provides arguments, so it is important that these concerns be heard and taken into account by clarifying any misunderstanding, correcting weaknesses or accepting certain risks. Also, the IT community could be involved in testing the e-voting system, identifying vulnerabilities, etc. The Republic of Moldova already has such communities of IT developers, who discuss on social networks the errors they identify in different information systems.

Relevant institutions: Central Election Commission;

9. Involving the civil society

Social actors such as non-governmental organizations (NGOs) and independent experts often have opinions or concerns about e-voting. Ideally, these actors should be included in the discussion when it is only planned to introduce e-voting, both by providing extensive information about the system and by providing the opportunity to communicate concerns at the early stages of the process, when there is sufficient time for improvement.

Relevant institutions: Central Election Commission, civil society organizations;

10. Planning voter and civic education campaigns

Informed citizens will find it easier to use e-voting, it will be easier for them to trust a new system, if they understand the reason for its introduction, the potential benefits, and how security measures support the integrity of their choices and their votes. Here are just a few examples of educational materials for voters: brochures, a website, videos, banners and posters, disseminated through different channels, such as social networks, television, post, etc.

Relevant institutions: Central Election Commission, civil society organizations, Novateca Network of Libraries;

11. Gradual implementation of pilot projects

Any implementation of pilot projects on e-voting should start well in advance of the elections and include essential preparations, such as adoption of detailed regulations for pilot projects, if necessary, and system testing. Pilot projects should be based on broad and clear criteria in order to assess the effectiveness and integrity of e-voting system, including the transmission of results.

Relevant institutions: Central Election Commission

12. Ensuring a high level of transparency

The e-voting component of ICT must be implemented with a high level of transparency that inspires trust among stakeholders. This must include credible mechanisms to prevent handling by outside persons, as well as by system operators. These mechanisms need to be communicated and publicly explained so that citizens and other stakeholders can understand how to prevent a fraud. Promoting transparent practices is a key element in building public confidence. Transparency of e-voting system, the details of various electoral procedures will contribute to voters' knowledge and understanding of the system, thus generating trust among the general public.

Relevant institutions: Central Election Commission

13. Ensuring transparent certification and audit procedures

The e-voting system must be certified by an independent agency. Certification and audit are important confidence-building measures and they should be transparent, allowing stakeholders to access procedures and related documents.

Relevant institutions: Central Election Commission

14. Allowing multiple voting

To avoid compromising the elections by influencing the voter, s/he should be able to vote online whenever s/he wants and then go to the polling station on the election day, if s/he has changed his/her mind. The vote to be taken into consideration will be the last vote expressed online, or the one cast in the polling station. In this sense, the multiple vote must be reflected in the legislation.

Relevant institutions: the Parliament, the Government, the Central Election Commission

15. Enabling the possibility of vote verification

It is advisable that the voter be able to verify the accuracy of his or her e-vote through a system or an application different from that of e-voting system. In the case of remote e-voting, the voter must be informed of the arrangements for verifying that a connection to the official server has been established and that an authentic ballot has been used. This measure may increase the voter's safety level in terms of correct vote counting, or it could signal an error if it appears.

Relevant institutions: Central Election Commission

16. Collecting statistical data and feedback

It would be good to collect different statistical data, for example, the total number of voters, the number of voters who chose to use e-voting, the errors/problems that occurred, etc. At the same time, a questionnaire could be disseminated to a sample of voters, who voted online so that they can come up with feedback on this process.

Relevant institutions: Central Election Commission

List of Abbreviations

CEC	Central Election Commission
MConnect	Government Interoperability Platform
MPass	Government Service for Authentication and Access Control for Electronic Services
SRV	State Register of Voters
ISIV	Information System for Internet Voting
SAISE	State Automated Information System "Elections"
ICT	Information and Communications Technologies
EU-28	Member States of the European Union
MFAEI	Ministry of Foreign Affairs and European Integration

Annexes

Annex I: Number of citizens based abroad, according to the country of residence

Host country	2014	2015
Total of which live in:	983 708	805 509
Russian Federation	550000	477 949
Italy	150 021	142 266
USA	47 554	…
Canada	12830	17565
Ukraine	17706	17237
Spain	16433	16202
Germany	11665	14815
Israel	11000	13005
Romania	11699	9277
Greece	18825	9085
Portugal	23000	6948
Bulgaria	3372	5147
Czech Republic	5415	5129
Belarus	3465	3481
Belgium	1299	1364
Austria	1682	1284
UK	1052	…
Switzerland	650	765
Poland	867	756
Ireland	15000	728
Slovenia	299	299
Norway	256	275
Sweden	273	243
Hungary	238	230
Estonia	128	129
Other countries	78 970	61 330

Source: MFAEI (estimated data, based only on the information provided by the diplomatic, consular missions that submitted data).

Annex II
List of interviews conducted within the research

1. **Central Election Commission** – Iurie Ciocan, Member of the Central Election Commission
2. **E-Governance Agency** – Iurie Turcanu, Technical Director and other experts of the Agency
3. **Special Telecommunications Center** – e-mail correspondence with experts from the institution
4. **Diaspora Relations Office (DRO)** – Ghenadie Slobodeniuc, Chief Executive Officer of DRO
5. **Ministry of Economy and Infrastructure** – Vitalie Tarlev, State Secretary (information and communications technology area)
6. **Party of Communists** – Elena Bodnarenco, Deputy, Moldovan Parliament
7. **Liberal Democratic Party of the Republic of Moldova** – Vadim Pistrinciuc, Deputy, Moldovan Parliament
8. **European Parliamentary Group** – Valeriu Ghiletchi, Vice-President of the Moldovan Parliament
9. **Dignity and Truth Party** – Inga Grigoriu, Vice-President of the Dignity and Truth Platform Political Party (PPPDA)
10. **Action and Solidarity Party** – Maia Sandu, President of the Action and Solidarity Political Party (PAS)
11. **United Nations Development Program** – Tanja Hollstein, UNDP Electoral Specialist
12. **Estonian Information System Authority** – Margus Arm, eID Domain Manager

Statistical Annexes

Gender	Masculine	52.8%
	Feminine	41.8%

Residence environment	Urban	86.6%
	Rural	13.4%

Level of education	Doctoral, postdoctoral	4.6%
	Secondary school	0.5%
	High school	1%
	Technical college	7.2%
	Vocational	1%
	Higher education, Bachelor's degree	41.8%
	Higher education, Master's degree	43.8%

Age group	> 65	1%
	18–24	18%
	25–34	53.6%
	35–44	18%
	45–54	5.2%
	55–64	4.1%

Occu-pation (multiple choice question)	Full time employee	60%
	Part time employee	11.3%
	Students	19.1%
	Homemaker	3.1%
	Retiree	1%
	Entrepreneur	17%
	Unemployed	1%
	I don't know /don't want to answer	2.6%

Results of online survey

	Answers	Results
1. In the last 10 years, which of the following statements best describes your participation in the elections?	I voted in all parliamentary, local and presidential elections;	50%
	I didn't vote just in a few of the polls;	44%
	I didn't vote	5%
	I don't know /answer	1%

	Answers	Results
2. What was the last poll you attended?	Presidential elections of 2016	85%
	Local elections of 2015	4%
	Parliamentary elections of 2014	4%
	Local elections of 2011	2%
	Parliamentary elections of 2010	0.5%
	Parliamentary elections of 2009	0%
	Local elections of 2007	0.5%
	I haven't voted in any poll recently	3%
	I don't know /answer	1%

	Answers	Results (Answers)
3. If you have not voted at all or voted for only a few polls in the last 10 years, please indicate the reason why you did not participate in the elections:	Because of my study/work program	18
	I was not interested in that	9
	I was outside the area;	70
	I didn't like any candidate/party	19
	I forgot	0
	I had transportation issues;	9
	Because of bad weather	2
	Other	13
	I don't know /answer	7

	Answers	Results
4. Please indicate where you voted at the last election you attended:	In the polling station, where I have my residence visa;	56%
	In a different polling station than the one where I have my residence visa	4%
	In the polling stations opened abroad	38%
	I haven't attended any poll recently	2%

	Answers	Results
5. Please select, if any, what impediments you encountered when you went to vote (multiple choice was possible)	Travel expenses to travel to the polling station in the locality where I have my residence visa;	16.8%
	Transport expenses for moving to the nearest polling station from the town where I am abroad	18.4%
	Too much time waiting in the queue	22.2%
	Unprofessional conduct (attitude) of members of the electoral bureau of the polling station;	8.1%

	I was not on the list	2.2%
	An insufficient number of ballot papers in the polling stations from abroad	14.1%
	I haven't encountered any impediments	44.9%
	I don't know /answer	2.7%
	Other	5.6%

	Answers	Results
6. Please specify to what extent you use the Internet:	Every day /almost every day	100%
	2–3 times a week	
	Several times a month	
	I don't know /answer	

7. Please answer Yes or NO to the following questions:

	YES	NO	I don't know / answer
I own a personal computer or have access to a computer;	100%		
I can easily access the Internet	100%		
I order and pay online for different products and services (e.g. airline tickets, public services, books, cosmetics, etc.)	92%	6%	2%
I use e-mail and social networking for communication	99.50%		0.50%
I use internet banking services;	86%	12%	2%
I access public electronic services (e.g. E-criminal record, e-certificate from civil status office, e-invoice, e-declaration on income);	68%	28%	4%

8. On a scale of 1 to 5, please indicate how much you trust the Internet, where 1-I is the minimum level of trust and 5 the maximum confidence.

Score		1	2	3	4	5	I don't know / answer	Total
Age group	> 65		50.00%	50.00%				100.00%
	18–24		2.94%	26.47%	52.94%	17.65%		100.00%
	25–34	3.88%	9.71%	19.42%	35.92%	28.16%	2.91%	100.00%
	35–44	2.70%		13.51%	54.05%	27.03%	2.70%	100.00%
	45–54			30.00%	30.00%	40.00%		100.00%
	55–64		14.29%	14.29%	57.14%	14.29%		100.00%
Level of education	Doctoral, post-doctoral		11.11%	22.22%	44.44%	11.11%	11.11%	100.00%
	Secondary school				50.00%	50.00%		100.00%
	High school			50.00%		50.00%		100.00%
	Technical college		7.14%	7.14%	57.14%	28.57%		100.00%
	Vocational				50.00%	50.00%		100.00%
	Higher education, Bachelor's degree	3.80%	6.33%	24.05%	41.77%	24.05%		100.00%
	Higher education, Master's degree	2.35%	7.06%	18.82%	41.18%	27.06%	3.53%	100.00%

9. Please assess your digital skills based on your knowledge and skills (choosing a user level: beginner, medium, advanced, experienced).

9.1 Navigating, searching and filtering information on the Internet (e.g. searching for online information);							
		I don't know / answer	Advanced user	Intermediate user	Experienced user	Beginner user	Total
Age group	> 65			50.00%		50.00%	100.00%
	18–24		20.59%		73.53%	5.88%	100.00%
	25–34	0.97%	24.27%	2.91%	68.93%	2.91%	100.00%
	35–44		24.32%	10.81%	62.16%	2.70%	100.00%
	45–54	10.00%	30.00%	50.00%	10.00%		100.00%
	55–64		28.57%	28.57%	14.29%	28.57%	100.00%
Level of education	Doctoral, post-doctoral	11.11%	22.22%		44.44%	22.22%	100.00%
	Secondary school		50.00%	50.00%			100.00%
	High school				100.00%		100.00%
	Technical college		21.43%	14.29%	57.14%	7.14%	100.00%
	Vocational	50.00%			50.00%		100.00%
	Higher education, Bachelor's degree		25.32%	11.39%	60.76%	2.53%	100.00%
	Higher education, Master's degree		23.53%	3.53%	68.24%	4.71%	100.00%

9.2 Analysis and evaluation of online information credibility (e.g. I know that not all online information is credible)							
		I don't know / answer	Advanced user	Intermediate user	Experienced user	Beginner user	Total
Age group	> 65			100.00%			100.00%
	18–24		35.29%	11.76%	50.00%	2.94%	100.00%
	25–34	1.94%	37.86%	1.94%	53.40%	4.85%	100.00%
	35–44		24.32%	13.51%	59.46%	2.70%	100.00%
	45–54	10.00%	30.00%	40.00%	20.00%		100.00%
	55–64		28.57%	57.14%	14.29%		100.00%
Level of education	Doctoral, post-doctoral	11.11%	33.33%	11.11%	22.22%	22.22%	100.00%
	Secondary school				50.00%	50.00%	100.00%
	High school				100.00%		100.00%
	Technical college		28.57%	21.43%	50.00%		100.00%
	Vocational	50.00%	50.00%				100.00%
	Higher education, Bachelor's degree		43.04%	13.92%	41.77%	1.27%	100.00%
	Higher education, Master's degree	1.18%	27.06%	7.06%	61.18%	3.53%	100.00%

9.3 Retrieving and storing data, information in digital media (e.g. can save files (text, images, music) and retrieve them once stored)							
		I don't know / answer	Advanced user	Intermediate user	Experienced user	Beginner user	Total
Age group	> 65			50.00%		50.00%	100.00%
	18–24		23.53%		73.53%	2.94%	100.00%
	25–34	0.97%	24.27%	2.91%	67.96%	3.88%	100.00%
	35–44		21.62%	13.51%	62.16%	2.70%	100.00%
	45–54	10.00%	50.00%	30.00%	10.00%		100.00%
	55–64	14.29%	28.57%	14.29%	14.29%	28.57%	100.00%
Level of education	Doctoral, post-doctoral	11.11%	22.22%		44.44%	22.22%	100.00%
	Secondary school			50.00%	50.00%		100.00%
	High school				100.00%		100.00%
	Technical college	7.14%	14.29%	14.29%	57.14%	7.14%	100.00%
	Vocational	50.00%			50.00%		100.00%
	Higher education, Bachelor's degree		27.85%	11.39%	58.23%	2.53%	100.00%
	Higher education, Master's degree		25.88%	1.18%	68.24%	4.71%	100.00%

9.4 Sharing information with other people using digital technologies (e.g. sending files to others using Skype, social networks, etc.);							
		I don't know / answer	Advanced user	Intermediate user	Experienced user	Beginner user	Total
Age group	> 65			100.00%			100.00%
	18–24	2.94%	23.53%		70.59%	2.94%	100.00%
	25–34	0.97%	24.27%	0.97%	68.93%	4.85%	100.00%
	35–44		29.73%	8.11%	59.46%	2.70%	100.00%
	45–54	10.00%	50.00%	30.00%	10.00%		100.00%
	55–64	14.29%	14.29%	28.57%	14.29%	28.57%	100.00%
Level of education	Doctoral, post-doctoral	11.11%	33.33%		33.33%	22.22%	100.00%
	Secondary school		50.00%			50.00%	100.00%
	High school				100.00%		100.00%
	Technical college	7.14%	14.29%	21.43%	50.00%	7.14%	100.00%
	Vocational	50.00%			50.00%		100.00%
	Higher education, Bachelor's degree	1.27%	32.91%	6.33%	56.96%	2.53%	100.00%
	Higher education, Master's degree		21.18%	3.53%	71.76%	3.53%	100.00%

9.5 Civic involvement and participation through public and private digital services (e.g. electronic petitions, trafficking reporting, online public consultations);							
		I don't know / answer	Advanced user	Intermediate user	Experienced user	Beginner user	Total
Age group	> 65			50.00%		50.00%	100.00%
	18–24	5.88%	23.53%	20.59%	44.12%	5.88%	100.00%
	25–34	0.97%	30.10%	12.62%	45.63%	10.68%	100.00%
	35–44		16.22%	27.03%	48.65%	8.11%	100.00%
	45–54	10.00%	30.00%	40.00%		20.00%	100.00%
	55–64		14.29%	42.86%	28.57%	14.29%	100.00%
Level of education	Doctoral, post-doctoral	11.11%	11.11%	11.11%	33.33%	33.33%	100.00%
	Secondary school			50.00%	50.00%		100.00%
	High school	50.00%			50.00%		100.00%
	Technical college	7.14%		35.71%	50.00%	7.14%	100.00%
	Vocational	50.00%	50.00%				100.00%
	Higher education, Bachelor's degree		32.91%	21.52%	34.18%	11.39%	100.00%
	Higher education, Master's degree		24.71%	16.47%	50.59%	8.24%	100.00%

9.6 Being aware of behavioral norms, while using digital technologies and interacting in digital environments (e.g. ethical online communication rules)							
		I don't know / answer	Advanced user	Intermediate user	Experienced user	Beginner user	Total
Age group	> 65			50.00%	50.00%		100.00%
	18–24	2.94%	29.41%	5.88%	58.82%	2.94%	100.00%
	25–34	2.91%	33.98%	4.85%	53.40%	4.85%	100.00%
	35–44	2.70%	18.92%	10.81%	64.86%	2.70%	100.00%
	45–54	10.00%	50.00%	20.00%	20.00%		100.00%
	55–64		14.29%	42.86%	28.57%	14.29%	100.00%
Level of education	Doctoral, post-doctoral	11.11%	33.33%		33.33%	22.22%	100.00%
	Secondary school			50.00%	50.00%		100.00%
	High school				100.00%		100.00%
	Technical college		14.29%	21.43%	57.14%	7.14%	100.00%
	Vocational	50.00%	50.00%				100.00%
	Higher education, Bachelor's degree	3.80%	35.44%	13.92%	45.57%	1.27%	100.00%
	Higher education, Master's degree	1.18%	28.24%	2.35%	63.53%	4.71%	100.00%

9.7 Managing your own digital identity (e.g. I know what private information I should not post on social networks)							
		I don't know / answer	Advanced user	Intermediate user	Experienced user	Beginner user	Total
Age group	> 65		50.00%	50.00%			100.00%
	18–24	2.94%	32.35%	2.94%	58.82%	2.94%	100.00%
	25–34	0.97%	33.01%	3.88%	58.25%	3.88%	100.00%
	35–44	2.70%	18.92%	5.41%	67.57%	5.41%	100.00%
	45–54	10.00%	60.00%	20.00%	10.00%		100.00%
	55–64	14.29%	14.29%	14.29%	28.57%	28.57%	100.00%
Level of education	Doctoral, post-doctoral	11.11%	33.33%		33.33%	22.22%	100.00%
	Secondary school				50.00%	50.00%	100.00%
	High school				100.00%		100.00%
	Technical college	7.14%	21.43%	7.14%	57.14%	7.14%	100.00%
	Vocational	50.00%			50.00%		100.00%
	Higher education, Bachelor's degree	2.53%	37.97%	7.59%	48.10%	3.80%	100.00%
	Higher education, Master's degree		28.24%	4.71%	64.71%	2.35%	100.00%

9.8 Creating and editing digital content in different formats, digital means of expression (e.g. I know how to create a video, how to edit it and post it online)							
		I don't know / answer	Advanced user	Intermediate user	Experienced user	Beginner user	Total
Age group	> 65	50.00%	50.00%				100.00%
	18–24	5.88%	20.59%	14.71%	55.88%	2.94%	100.00%
	25–34	0.97%	40.78%	12.62%	36.89%	8.74%	100.00%
	35–44	2.70%	24.32%	24.32%	35.14%	13.51%	100.00%
	45–54	10.00%	20.00%	50.00%	10.00%	10.00%	100.00%
	55–64	28.57%	28.57%	42.86%			100.00%
Level of education	Doctoral, post-doctoral	11.11%	11.11%	44.44%	11.11%	22.22%	100.00%
	Secondary school			50.00%		50.00%	100.00%
	High school				100.00%		100.00%
	Technical college	21.43%	21.43%	14.29%	42.86%		100.00%
	Vocational	50.00%	50.00%				100.00%
	Higher education, Bachelor's degree	3.80%	40.51%	16.46%	30.38%	8.86%	100.00%
	Higher education, Master's degree		30.59%	17.65%	44.71%	7.06%	100.00%

9.9 Protecting personal data and privacy in digital environments (e.g. I can change the privacy settings for my profile on social networks)							
		I don't know / answer	Advanced user	Intermediate user	Experienced user	Beginner user	Total
Age group	> 65			50.00%	50.00%		100.00%
	18–24	5.88%	20.59%		70.59%	2.94%	100.00%
	25–34	0.97%	42.72%	4.85%	46.60%	4.85%	100.00%
	35–44	5.41%	21.62%	18.92%	48.65%	5.41%	100.00%
	45–54	10.00%	50.00%	40.00%			100.00%
	55–64	14.29%	14.29%	42.86%	14.29%	14.29%	100.00%
Level of education	Doctoral, post-doctoral	11.11%	22.22%		33.33%	33.33%	100.00%
	Secondary school		50.00%	50.00%			100.00%
	High school				100.00%		100.00%
	Technical college	7.14%	14.29%	28.57%	50.00%		100.00%
	Vocational	50.00%			50.00%		100.00%
	Higher education, Bachelor's degree	5.06%	32.91%	13.92%	43.04%	5.06%	100.00%
	Higher education, Master's degree		40.00%	4.71%	52.94%	2.35%	100.00%

9.10 Protecting others against possible hazards in digital environments (e.g. online harassment)							
		I don't know / answer	Advanced user	Intermediate user	Experienced user	Beginner user	Total
Age group	> 65		50.00%	50.00%			100.00%
	18–24	5.88%	23.53%	20.59%	38.24%	11.76%	100.00%
	25–34	3.88%	36.89%	14.56%	33.98%	10.68%	100.00%
	35–44	2.70%	37.84%	18.92%	32.43%	8.11%	100.00%
	45–54	10.00%	30.00%	30.00%	10.00%	20.00%	100.00%
	55–64		28.57%	14.29%	28.57%	28.57%	100.00%
Level of education	Doctoral, post-doctoral	11.11%	11.11%	11.11%	33.33%	33.33%	100.00%
	Secondary school			50.00%		50.00%	100.00%
	High school				100.00%		100.00%
	Technical college		14.29%	7.14%	57.14%	21.43%	100.00%
	Vocational	50.00%		50.00%			100.00%
	Higher education, Bachelor's degree	6.33%	37.97%	20.25%	25.32%	10.13%	100.00%
	Higher education, Master's degree	1.18%	38.82%	16.47%	35.29%	8.24%	100.00%

	Answers	Results (Answers)
10. Please select from the list below the public e-services that you have heard of and/ or that you have used:	Digital signature (e.g. Mobile signature)	160
	Online petitions	156
	E-tax statements (e.g. Statement of Income)	122
	e-criminal record	106
	e-certificate of civil status	92
	MPay government e-payment service (e.g., paying the kindergarten fee, paying land tax)	126
	Checking the data in the State Register of Voters	92
	Pre-election online registration for citizens from abroad	92
	I don't know /answer	10

11. Please indicate how much confidence you have in the fact that an e-service:

will be certainly obtained;							
		Little confi-dence	I don't know / answer	Much confi-dence	Very little confidence	Very much confidence	Total
Age group	> 65	50.00%	50.00%				100.00%
	18–24	26.47%		50.00%	5.88%	17.65%	100.00%
	25–34	23.30%	1.94%	49.51%	6.80%	18.45%	100.00%
	35–44	21.62%	5.41%	48.65%		24.32%	100.00%
	45–54	20.00%		60.00%		20.00%	100.00%
	55–64	14.29%		71.43%		14.29%	100.00%
Level of education	Doctoral, post-doctoral	22.22%	11.11%	55.56%		11.11%	100.00%
	Secondary school	50.00%		50.00%			100.00%
	High school	50.00%				50.00%	100.00%
	Technical college	42.86%		42.86%		14.29%	100.00%
	Vocational			50.00%		50.00%	100.00%
	Higher education, Bachelor's degree	21.52%	2.53%	46.84%	6.33%	22.78%	100.00%
	Higher education, Master's degree	21.18%	2.35%	55.29%	4.71%	16.47%	100.00%

will be performed as expected;							
		Little confidence	I don't know / answer	Much confidence	Very little confidence	Very much confidence	Total
Age group	> 65		50.00%		50.00%		100%
	18–24	29.41%	2.94%	41.18%	5.88%	20.59%	100%
	25–34	28.16%	2.91%	43.69%	8.74%	16.50%	100%
	35–44	13.51%	2.70%	62.16%	5.41%	16.22%	100%
	45–54	20.00%		50.00%		30.00%	100%
	55–64	14.29%		85.71%			100%
Level of education	Doctoral, post-doctoral	33.33%	11.11%	44.44%		11.11%	100%
	Secondary school			100.00%			100%
	High school	50.00%		50.00%			100%
	Technical college	21.43%		50.00%	14.29%	14.29%	100%
	Vocational			50.00%		50.00%	100%
	Higher education, Bachelor's degree	18.99%	3.80%	45.57%	8.86%	22.78%	100%
	Higher education, Master's degree	29.41%	2.35%	49.41%	5.88%	12.94%	100%

will be safely delivered;							
		Little confidence	I don't know / answer	Much confidence	Very little confidence	Very much confidence	Total
Age group	> 65	50.00%	50.00%				100%
	18–24	35.29%	2.94%	38.24%	2.94%	20.59%	100%
	25–34	24.27%	2.91%	48.54%	7.77%	16.50%	100%
	35–44	18.92%		54.05%	2.70%	24.32%	100%
	45–54	20.00%		40.00%		40.00%	100%
	55–64	14.29%		85.71%			100%
Level of education	Doctoral, post-doctoral	22.22%	11.11%	55.56%		11.11%	100%
	Secondary school			50.00%		50.00%	100%
	High school	50.00%				50.00%	100%
	Technical college	28.57%		50.00%		21.43%	100%
	Vocational		50.00%			50.00%	100%
	Higher education, Bachelor's degree	21.52%	2.53%	49.37%	6.33%	20.25%	100%
	Higher education, Master's degree	28.24%	1.18%	48.24%	5.88%	16.47%	100%

12. Please indicate the level of your agreement or disagreement with the following statements:

E-voting might be a useful tool, but I think it will be difficult to implement it in the Republic of Moldova.							
		Partial agree-ment	Total agree-ment	Partial disagree-ment	Total disagree-ment	I don't know / answer	Grand Total
Age group	> 65	50.00%	50.00%				100.00%
	18–24	35.29%	55.88%	5.88%	2.94%		100.00%
	25–34	46.60%	43.69%	5.83%	2.91%	0.97%	100.00%
	35–44	40.54%	45.95%	10.81%	2.70%		100.00%
	45–54	60.00%	20.00%	10.00%	10.00%		100.00%
	55–64	28.57%	57.14%			14.29%	100.00%
Level of education	Doctoral, post-doctoral	44.44%	55.56%				100.00%
	Secondary school	100.00%					100.00%
	High school		100.00%				100.00%
	Technical college	42.86%	42.86%	7.14%		7.14%	100.00%
	Vocational		100.00%				100.00%
	Higher education, Bachelor's degree	44.30%	49.37%	2.53%	3.80%		100.00%
	Higher education, Master's degree	43.53%	40.00%	11.76%	3.53%	1.18%	100.00%

E-voting could increase voter turnout in the Republic of Moldova.							
		Partial agree-ment	Total agree-ment	Partial disagree-ment	Total disagree-ment	I don't know / answer	Grand Total
Age group	> 65	50.00%	50.00%				100.00%
	18–24	26.47%	67.65%	5.88%			100.00%
	25–34	19.42%	66.02%	10.68%	2.91%	0.97%	100.00%
	35–44	29.73%	59.46%	8.11%		2.70%	100.00%
	45–54	40.00%	60.00%				100.00%
	55–64	14.29%	71.43%	14.29%			100.00%
Level of education	Doctoral, post-doctoral	44.44%	44.44%			11.11%	100.00%
	Secondary school		100.00%				100.00%
	High school	100.00%					100.00%
	Technical college	35.71%	57.14%	7.14%			100.00%
	Vocational		100.00%				100.00%
	Higher education, Bachelor's degree	18.99%	70.89%	7.59%	1.27%	1.27%	100.00%
	Higher education, Master's degree	23.53%	62.35%	11.76%	2.35%		100.00%

E-voting could motivate to vote those, who do not usually participate in the elections;							
		Partial agreement	Total agreement	Partial disagreement	Total disagreement	I don't know / answer	Grand Total
Age group	> 65	50.00%	50.00%				100.00%
	18–24	32.35%	52.94%	8.82%	5.88%		100.00%
	25–34	33.98%	52.43%	8.74%	3.88%	0.97%	100.00%
	35–44	37.84%	45.95%	10.81%	2.70%	2.70%	100.00%
	45–54	30.00%	50.00%	10.00%		10.00%	100.00%
	55–64	14.29%	71.43%	14.29%			100.00%
Level of education	Doctoral, post-doctoral	44.44%	44.44%			11.11%	100.00%
	Secondary school	50.00%	50.00%				100.00%
	High school		50.00%		50.00%		100.00%
	Technical college	35.71%	57.14%	7.14%			100.00%
	Vocational		100.00%				100.00%
	Higher education, Bachelor's degree	27.85%	62.03%	6.33%	2.53%	1.27%	100.00%
	Higher education, Master's degree	38.82%	41.18%	14.12%	4.71%	1.18%	100.00%

E-voting could reduce the number of mistakes that lead to invalidating the ballot (e.g. reducing the human error)							
		Partial agreement	Total agreement	Partial disagreement	Total disagreement	I don't know / answer	Grand Total
Age group	> 65	50.00%	50.00%				100.00%
	18–24	35.29%	44.12%	11.76%	2.94%	5.88%	100.00%
	25–34	28.16%	48.54%	13.59%	7.77%	1.94%	100.00%
	35–44	37.84%	48.65%	10.81%		2.70%	100.00%
	45–54	20.00%	60.00%		20.00%		100.00%
	55–64	14.29%	85.71%				100.00%
Level of education	Doctoral, post-doctoral	33.33%	55.56%		11.11%		100.00%
	Secondary school		100.00%				100.00%
	High school		50.00%	50.00%			100.00%
	Technical college	35.71%	64.29%				100.00%
	Vocational	50.00%	50.00%				100.00%
	Higher education, Bachelor's degree	26.58%	54.43%	7.59%	6.33%	5.06%	100.00%
	Higher education, Master's degree	34.12%	41.18%	17.65%	5.88%	1.18%	100.00%

E-voting could reduce the number of electoral frauds							
		Partial agree-ment	Total agree-ment	Partial disagree-ment	Total dis-agreement	I don't know / answer	Grand Total
Age group	> 65	50.00%	50.00%				100.00%
	18–24	32.35%	35.29%	23.53%	2.94%	5.88%	100.00%
	25–34	31.07%	28.16%	17.48%	17.48%	5.83%	100.00%
	35–44	32.43%	43.24%	16.22%	5.41%	2.70%	100.00%
	45–54	20.00%	70.00%		10.00%		100.00%
	55–64	14.29%	71.43%	14.29%			100.00%
Level of education	Doctoral, post-doctoral	55.56%	22.22%		11.11%	11.11%	100.00%
	Secondary school		100.00%				100.00%
	High school	50.00%	50.00%				100.00%
	Technical college	35.71%	42.86%	14.29%	7.14%		100.00%
	Vocational	50.00%	50.00%				100.00%
	Higher education, Bachelor's degree	18.99%	43.04%	25.32%	8.86%	3.80%	100.00%
	Higher education, Master's degree	37.65%	28.24%	12.94%	15.29%	5.88%	100.00%

E-voting does not fully guarantee the confidentiality of votes (e.g. voters will not be protected from any pressure or influence against voting according to political preferences)							
		Partial agree-ment	Total agree-ment	Partial disagree-ment	Total dis-agreement	I don't know / answer	Grand Total
Age group	> 65	50.00%	50.00%				100.00%
	18–24	44.12%	29.41%	14.71%	11.76%		100.00%
	25–34	41.75%	27.18%	20.39%	7.77%	2.91%	100.00%
	35–44	51.35%	16.22%	10.81%	16.22%	5.41%	100.00%
	45–54	50.00%	10.00%	10.00%	20.00%	10.00%	100.00%
	55–64	57.14%		28.57%		14.29%	100.00%
Level of education	Doctoral, post-doctoral	44.44%	22.22%	33.33%			100.00%
	Secondary school		100.00%				100.00%
	High school		50.00%		50.00%		100.00%
	Technical college	57.14%	7.14%	21.43%	7.14%	7.14%	100.00%
	Vocational	50.00%	50.00%				100.00%
	Higher education, Bachelor's degree	50.63%	22.78%	15.19%	8.86%	2.53%	100.00%
	Higher education, Master's degree	40.00%	24.71%	17.65%	12.94%	4.71%	100.00%

E-voting could reduce errors in vote counting							
		Partial agreement	Total agreement	Partial disagreement	Total disagreement	I don't know / answer	Grand Total
Age group	> 65	50.00%	50.00%				100.00%
	18–24	35.29%	55.88%	2.94%	2.94%	2.94%	100.00%
	25–34	26.21%	57.28%	6.80%	7.77%	1.94%	100.00%
	35–44	21.62%	62.16%	8.11%	5.41%	2.70%	100.00%
	45–54	40.00%	50.00%	10.00%			100.00%
	55–64	28.57%	57.14%	14.29%			100.00%
Level of education	Doctoral, post-doctoral	22.22%	66.67%		11.11%		100.00%
	Secondary school	50.00%	50.00%				100.00%
	High school	50.00%	50.00%				100.00%
	Technical college	28.57%	57.14%	7.14%	7.14%		100.00%
	Vocational		100.00%				100.00%
	Higher education, Bachelor's degree	27.85%	60.76%	5.06%	3.80%	2.53%	100.00%
	Higher education, Master's degree	28.24%	52.94%	9.41%	7.06%	2.35%	100.00%

The system administrator may have privileged access to voter data and votes, or the anonymity of voting cannot be fully ensured.							
		Partial agreement	Total agreement	Partial disagreement	Total disagreement	I don't know / answer	Grand Total
Age group	> 65		100.00%				100.00%
	18–24	29.41%	35.29%	20.59%	11.76%	2.94%	100.00%
	25–34	45.63%	32.04%	12.62%	3.88%	5.83%	100.00%
	35–44	35.14%	29.73%	10.81%	13.51%	10.81%	100.00%
	45–54	20.00%	50.00%		20.00%	10.00%	100.00%
	55–64	57.14%		28.57%		14.29%	100.00%
Level of education	Doctoral, post-doctoral	22.22%	33.33%	33.33%		11.11%	100.00%
	Secondary school	50.00%	50.00%				100.00%
	High school	50.00%	50.00%				100.00%
	Technical college	42.86%	35.71%	14.29%		7.14%	100.00%
	Vocational	50.00%	50.00%				100.00%
	Higher education, Bachelor's degree	32.91%	36.71%	17.72%	5.06%	7.59%	100.00%
	Higher education, Master's degree	45.88%	27.06%	8.24%	12.94%	5.88%	100.00%

E-voting takes place in an environment that is safe enough due to the encryption of information and other technical security issues.							
		Partial agree-ment	Total agree-ment	Partial disagree-ment	Total dis-agreement	I don't know / answer	Grand Total
Age group	> 65		50.00%			50.00%	100.00%
	18–24	58.82%	23.53%	5.88%	8.82%	2.94%	100.00%
	25–34	46.60%	28.16%	14.56%	6.80%	3.88%	100.00%
	35–44	43.24%	32.43%	10.81%	5.41%	8.11%	100.00%
	45–54	40.00%	30.00%	20.00%		10.00%	100.00%
	55–64	42.86%	28.57%		14.29%	14.29%	100.00%
Level of education	Doctoral, post-doctoral	66.67%	11.11%	11.11%		11.11%	100.00%
	Secondary school	100.00%					100.00%
	High school	100.00%					100.00%
	Technical college	35.71%	28.57%	7.14%	7.14%	21.43%	100.00%
	Vocational		50.00%	50.00%			100.00%
	Higher education, Bachelor's degree	45.57%	32.91%	11.39%	5.06%	5.06%	100.00%
	Higher education, Master's degree	47.06%	27.06%	12.94%	9.41%	3.53%	100.00%

The Internet has sufficient guarantees to make me feel comfortable when I vote online.							
		Partial agree-ment	Total agree-ment	Partial disagree-ment	Total disagree-ment	I don't know / answer	Grand Total
Age group	> 65	50.00%	50.00%				100.00%
	18–24	52.94%	26.47%	17.65%	2.94%		100.00%
	25–34	38.83%	26.21%	25.24%	8.74%	0.97%	100.00%
	35–44	48.65%	29.73%	13.51%	5.41%	2.70%	100.00%
	45–54	40.00%	60.00%				100.00%
	55–64	14.29%	71.43%	14.29%			100.00%
Level of education	Doctoral, post-doctoral	22.22%	11.11%	44.44%	11.11%	11.11%	100.00%
	Secondary school	100.00%					100.00%
	High school	100.00%					100.00%
	Technical college	50.00%	42.86%	7.14%			100.00%
	Vocational		100.00%				100.00%
	Higher education, Bachelor's degree	39.24%	34.18%	18.99%	6.33%	1.27%	100.00%
	Higher education, Master's degree	44.71%	27.06%	21.18%	7.06%		100.00%

E-voting could be credible and enjoy a high level of public confidence in the Republic of Moldova.							
		Partial agree-ment	Total agree-ment	Partial disagree-ment	Total disagree-ment	I don't know / answer	Grand Total
Age group	> 65	50.00%	50.00%				100.00%
	18–24	41.18%	29.41%	20.59%	5.88%	2.94%	100.00%
	25–34	39.81%	23.30%	20.39%	14.56%	1.94%	100.00%
	35–44	43.24%	29.73%	24.32%	2.70%		100.00%
	45–54	10.00%	60.00%	20.00%	10.00%		100.00%
	55–64	42.86%	42.86%		14.29%		100.00%
Level of education	Doctoral, post-doctoral	44.44%	11.11%	33.33%		11.11%	100.00%
	Secondary school	50.00%	50.00%				100.00%
	High school	100.00%					100.00%
	Technical college	50.00%	28.57%	7.14%	14.29%		100.00%
	Vocational		100.00%				100.00%
	Higher education, Bachelor's degree	31.65%	40.51%	16.46%	8.86%	2.53%	100.00%
	Higher education, Master's degree	43.53%	17.65%	25.88%	12.94%		100.00%

The level of trust of citizens' trust the institutions of the Republic of Moldova is sufficiently high for the implementation of e-voting system.							
		Partial agree-ment	Total agree-ment	Partial disagree-ment	Total dis-agreement	I don't know / answer	Grand Total
Age group	> 65		50.00%	50.00%			100.00%
	18–24	23.53%	11.76%	26.47%	29.41%	8.82%	100.00%
	25–34	20.39%	6.80%	26.21%	39.81%	6.80%	100.00%
	35–44	18.92%	18.92%	27.03%	27.03%	8.11%	100.00%
	45–54	20.00%	20.00%	20.00%	30.00%	10.00%	100.00%
	55–64	42.86%	14.29%	28.57%	14.29%		100.00%
Level of education	Doctoral, post-doctoral	11.11%	11.11%	22.22%	44.44%	11.11%	100.00%
	Secondary school	100.00%					100.00%
	High school			50.00%		50.00%	100.00%
	Technical college	21.43%		42.86%	28.57%	7.14%	100.00%
	Vocational		50.00%	50.00%			100.00%
	Higher education, Bachelor's degree	21.52%	21.52%	20.25%	32.91%	3.80%	100.00%
	Higher education, Master's degree	21.18%	3.53%	29.41%	36.47%	9.41%	100.00%

13. Please indicate the level of your agreement or disagreement with the statements below (Total Agreement, Partial Agreement, Partial Disagreement, Total Disagreement, I don't know /answer)

It would be useful to vote online because I could vote anywhere.							
		Partial agree-ment	Total agree-ment	Partial disagree-ment	Total dis-agreement	I don't know / answer	Grand Total
Age group	> 65		50.00%			50.00%	100.00%
	18–24	11.76%	88.24%				100.00%
	25–34	11.65%	81.55%	2.91%	2.91%	0.97%	100.00%
	35–44	5.41%	89.19%	2.70%	2.70%		100.00%
	45–54	10.00%	90.00%				100.00%
	55–64	14.29%	85.71%				100.00%
Level of education	Doctoral, post-doctoral	22.22%	77.78%				100.00%
	Secondary school	50.00%	50.00%				100.00%
	High school		100.00%				100.00%
	Technical college		100.00%				100.00%
	Vocational		100.00%				100.00%
	Higher education, Bachelor's degree	10.13%	84.81%	1.27%	3.80%		100.00%
	Higher education, Master's degree	10.59%	82.35%	3.53%	1.18%	2.35%	100.00%

I would trust the correctness of e-voting and vote counting.							
		Partial agree-ment	Total agree-ment	Partial disagree-ment	Total dis-agreement	I don't know / answer	Grand Total
Age group	> 65	50.00%				50.00%	100.00%
	18–24	35.29%	44.12%	11.76%	5.88%	2.94%	100.00%
	25–34	42.72%	29.13%	16.50%	9.71%	1.94%	100.00%
	35–44	37.84%	51.35%	8.11%	2.70%		100.00%
	45–54	30.00%	50.00%	20.00%			100.00%
	55–64	28.57%	71.43%				100.00%
Level of education	Doctoral, post-doctoral	44.44%	33.33%	22.22%			100.00%
	Secondary school		100.00%				100.00%
	High school	50.00%	50.00%				100.00%
	Technical college	35.71%	57.14%		7.14%		100.00%
	Vocational		100.00%				100.00%
	Higher education, Bachelor's degree	39.24%	40.51%	11.39%	6.33%	2.53%	100.00%
	Higher education, Master's degree	41.18%	30.59%	17.65%	8.24%	2.35%	100.00%

It will not be difficult for me to vote online							
		Partial agree-ment	Total agree-ment	Partial disagree-ment	Total dis-agreement	I don't know / answer	Grand Total
Age group	> 65	50.00%				50.00%	100.00%
	18–24	8.82%	91.18%				100.00%
	25–34	4.85%	91.26%	1.94%	0.97%	0.97%	100.00%
	35–44		89.19%	5.41%	2.70%	2.70%	100.00%
	45–54	10.00%	90.00%				100.00%
	55–64	14.29%	85.71%				100.00%
Level of education	Doctoral, post-doctoral	11.11%	77.78%	11.11%			100.00%
	Secondary school		100.00%				100.00%
	High school		100.00%				100.00%
	Technical college	7.14%	92.86%				100.00%
	Vocational		100.00%				100.00%
	Higher education, Bachelor's degree	5.06%	93.67%		1.27%		100.00%
	Higher education, Master's degree	5.88%	85.88%	3.53%	1.18%	3.53%	100.00%

14. If e-voting is introduced, will you use this way of voting in the national elections in Moldova?

		Yes	No	I don't know / answer	Total
Age group	> 65	50.00%		50.00%	100.00%
	18–24	79.41%	5.88%	14.71%	100.00%
	25–34	87.38%	4.85%	7.77%	100.00%
	35–44	86.49%	5.41%	8.11%	100.00%
	45–54	90.00%		10.00%	100.00%
	55–64	100.00%			100.00%
Level of education	Doctoral, post-doctoral	88.89%	11.11%		100.00%
	Secondary school	100.00%			100.00%
	High school	100.00%			100.00%
	Technical college	100.00%			100.00%
	Vocational	100.00%			100.00%
	Higher education, Bachelor's degree	86.08%	6.33%	7.59%	100.00%
	Higher education, Master's degree	82.35%	3.53%	14.12%	100.00%

15. Write down your own reflections on the implementation of Internet voting in the Republic of Moldova.

I believe that it is premature for the Republic of Moldova to introduce this instrument, as the citizens' level of trust in state institutions is low.
It must be done through blockchain)
The biggest issue will be data security, as well as the voting procedure. The question is how will votes be authenticated? How will data be introduced?
Being one of the countries with the highest Internet speed, measures should be taken to ensure that servers don't fail during e-voting implementation
I agree with e-voting, but it has to be secure. I know that many Moldovans do not even have an email box. I think this barrier can be overcome through explanatory videos and volunteers explaining to people in a face-to-face discussion.
E-voting will debase the citizen's vote and we risk installing a dictatorship of a single group.
It would simplify the voting procedure, but the possibility of electoral fraud is practically the same. In the event of implementation, after the first 2 hours, the system will give up because of a big influx of data as it happened with the pre-election registration.
It would be good to demonstrate that e-voting is encrypted and that no one has access to it but the person, who votes.
Watch a video on the issue of Computerphile: https://www.youtube.com/watch?v=w3_0x6oaDmI
If online voting system is implemented using blockchain, then I will be 100% secure and the elections will not be defrauded, the votes will reach the destination.
I think we are not digitized enough to vote online. Many young people even cannot use their email address or do not have it at all. In addition, we are easily influenced, and I think, online voting will be a good way to facilitate frauds. Unfortunately, we still have much to catch up with.
Everything depends on the implementation.
The greatest concern is the execution of the formative system and the possibility of developing backdoors, by which the authorities could manipulate the elections.
It would be useful, but we have a lot to work for it.
genius idea, it is worth implementing
There is still a lot to be done to get a safe online voting
It is a very good idea, but data security is an issue, who can access and change it. Obviously the legislation counts as much, vote validation is not done, if the law does not allow for it and in the RM the law is promiscuous.
Pro-
It would reduce fraud and save the funds intended for elections.
I believe that e-voting should be implemented in parallel with classical voting, at least for the first few years, because there is an extended category of population that is not ready for e-voting. At the same time, e-voting will be very welcome for modern people, who are tech savvy.
I believe that a secure system that guarantees fairness and anonymity can be implemented, but I also know that many people in the government could use to their advantage a vicious system.
In villages, how would all citizens be informed?
Agree!

This option would bring many benefits for people, who know how to use online services, as well as for the diaspora, but there are many elderly people, who do not handle IT tools and would be influenced by others (that is, at the time of ticking). Another concern would be the authentication of the person who votes. It would be done with the help of the Personal Identification Code (to identify if the person is alive) and another criterion that would confirm that the person who is voting is with the presentation of the PIC (e.g. The fingerprint, the retina of the eye – scie-fi stuff for MD). So, in general terms, it was a bit difficult to answer the questions because they mostly referred to trust in Internet security… but it is quite different from online voting. It is not clear how authentication would take place, which gives me doubts about the online voting system. For now, I see many opportunities for frauds – but maybe I'm wrong. The implementation method is not clear…
I think it's time to keep abreast of development and reality, but the government is afraid of introducing e-voting
It's a very good idea, but unfortunately, I do not trust the institutions of Moldova. We have reached a high level of corruption in the country so it's hard to trust that this will happen correctly.
The service will need to be promoted in various ways (including tutorials for different user categories, on-line assistance, including voiced assistance for visually impaired, it should be promoted within computer science courses for 17–18 year-olds, who will acquire the right to vote), promotion should be done in an accessible way for all the categories of the population.
I consider that trying to implement e-voting will avoid the electoral fraud.
Confidentiality and uniqueness of e-voting is still a problem, the paradigm that cannot be solved with 100% safety
It would be a good option for those who travel often or are outside the country
I think everything can be scammed in MD!
The general conclusion after all these questions: I use the internet, but I do not trust it! I hope something changes in the RM, preferable for the better! Yours sincerely: ME!
I personally don't find it difficult at all to go to the polling station to do my DUTY for the homeland! It would rather be an opportunity for those who went abroad, it would be an advantage for them. Trust in Internet voting? Where from? So many miraculous "surprises" happen each time when votes are counted, that I doubt it will not happen "accidentally" by a mistake of "system"…
I would like this method, only on condition that the leadership that we have now is not involved in this organization.
something useful
I don't trust the CEC. It would be good if the CEC were controlled by some elected members of the civil society, including during the elections.
Risks: ensuring data security, it is important that you manage the entire process. (Confidentiality) Attacks and handling of collected data.
I believe that it is not possible to switch to e-voting exclusively. And there is uncertainty about being monitored by the Big Brother with reference to electoral behavior.
I could not answer some questions because I don't know how the system is / will be implemented. In case of a defect system, frauds will be possible, access to voter data and other unwanted things. However, I sincerely hope that the Internet voting system will be introduced.
It would be convenient, useful and simple, but equally corrupt, unconfidential, the results could be modified in the same way as it happens with ballot papers.
Any software can be scammed, but that's not a reason to give up online services, including Internet voting. I believe that electronic voting is inevitable. It must be introduced and gradually Moldovan voters will learn and use it. Nothing changes overnight!

the system itself would be great, but given the corruption in our country, it could be easily defrauded
I would not resort to this method as long as the Democratic Party is in power, which has tripled its MPs through bribery and intimidation, or the Socialist Party, financed from off-shore zones. I don't trust that these parties would be able to implement safe electronic voting.
To prevent electronic vote being fraudulent, the system should be built on the blockchain platform. This would not allow administrators to defraud elections, at the order of some parties. It is similar to the national currency and the crypto-currency. At any time, the National Bank can turn the money in our pockets into dust, printing billions of lei and introducing them into the economy. But no one can create crypto-coins out of the blue.
As long as ordinary citizens cannot properly understand and appreciate the proposed cryptographic solutions to secure electronic voting, electronic voting could totally undermine confidence in a process that must be perceived as fair so that elected governors can successfully govern.
It would be awesome! I would not have to drive 4 hours to Washington, DC to vote.
I think there is the possibility of massive fraud of the results.
At the moment, electronic voting proved to be distrustful in countries with both higher technical and democratic development than the Republic of Moldova. Handling frauds and technical problems. I ALREADY VOTED ONLINE in NL once and decided that the classic method is more efficient.
I think it would be very easy to defraud election in an e-voting system, and that is why I doubt I would vote electronically. I prefer to register in the town where I am and to go to vote in person, vote using ballot paper. In addition, it's the environment, you meet with people, it's a celebration, new hopes…
The credibility of this voting method will entirely depend on who will implement it.
Internet voting involves many confidentiality issues (the IP address of the computer can be used to find out the voting results). Likewise, databases with voting information can be accessed/modified/deleted. There is the issue of validating electronic voting, i.e. it cannot be demonstrated that the person voted in a given way and not as indicated in the database.
I hope that e-voting is introduced as soon as possible.
It will be easy to buy votes especially from people who do not know how to use a PC
I think it's ok, but there are ways to cheat
I think e-voting is the future for our electoral system, but I think there is not enough political will to make this process transparent
The practice of other more advanced countries shows that digital voting is vulnerable from the point of view of security. Digital voting has more disadvantages than classical voting, and the benefits it offers are far less important than its disadvantages. Digital voting is extremely difficult or almost impossible to implement correctly. Especially implemented by corrupt government, security issues are exacerbated.
Anyway, there will be methods of defrauding the elections, sad, but true!
Great idea!
That always depends on who will administer it, in our country we fear that information will be defrauded
It is necessary to educate the population in order to implement it and to gain confidence in this way of voting.
I believe that the security of voting should be a system similar to digital signatures. It will take time to teach all the citizens to use technology. So this way of voting excludes people without financial possibilities

Yes, voting, Internet
Elderly people will not have access to e-voting because very few people use technology
My comment on the above questions is that I do not trust the state institutions in general, and the possibility of fraud is big in both cases, in voting using ballot papers and in e-voting. I am not sufficiently informed about the securitization of information systems, but I think there must be systems that are sufficiently secure (as in other countries) but I don't not think our authorities would provide this security. Trust is higher when involving international organizations (because some people do not trust the involvement of foreign forces, it would be good to make a mixture of different organizations to ensure neutrality)
I would only agree e-voting being implemented, if this voting site were strictly controlled by a European commission. I don't trust the current government and I am firmly convinced that if e-voting is to be controlled by an institution in the MD, then the elections will be defrauded.
Moldova is too poor and corrupt for this voting system.
I really like the idea of internet voting, but knowing our current government, I cannot trust that my vote will really be attributed to the person/party I voted for!
E-voting is great, but not for the Republic of Moldova. Why not for RM? Because it is most likely to be developed by the State Register, and the engineers are all thumbs. In our country it's all just talk and nothing is being developed. Open any .gov portal and see how it works there. Otherwise… everything is OK with electronic voting, but not for MD. Maybe in another life… I hope I will not be in MD
It will be a big step forward in everyone's education, in my case, it would give me the chance to vote
I think this type of voting will allow our corrupt system to falsify even more the election
eVoting is a must have feature for every country in the 21st century. For a country with an electronic signature, smart ID, mobile ID (mSign) and one third of its citizens abroad, it's vital having it in place.
About trust: I will trust only fully open central systems, which can be used to check the way we voted (so-called anonymity and privacy)
It's not entirely clear how voter authentication will be made in online voting. If this is done by a digital signature, not everyone has it and people will not bother to get it.

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