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The Challenges of Electronic Voting in Terms of Constitutional Parameters: Case of Estonia and Germany

Ada Güven¹

Abstract

The article discusses the electronic voting concept represents more now the symbol of modernity that intercepts the set of elements that today are at the crossroads of the exercise of popular sovereignty. The issue that appears in this area is how can we on one hand diminish the risk of making the Parliament to become a voting parlor and be dominated by political parties and the other hand preserve the equilibrium of remote electronic voting in aiming to protect democracy and popular sovereignty.

The paper aim to explain the issues related to the constitutional doctrine, by analysing the case of I-voting of Estonia as the most successful application of e-government and any other digital tool used to perform in democratic processes, and on the other hand the case of Germany that has ruled as unconstitutional the use of electronic vote machines.

Key words: electronic voting, e-voting, deliberative electronic voting, constitutionality, transparency

Introduction

The aim of this paper is to discuss the electronic voting concept, that firstly has derived from the distance voting aiming to give citizens a possibility cast their vote in outside the electoral district of origin but within the national territory and later on in an environment outside the

¹ Law Department, Faculty of Human Sciences, Beder University College, Tirana, Albania. E-mail: aguyen@beder.edu.al

national territory and in which there are no persons in charge of control. Electronic voting represents more now the symbol of modernity that intercepts the set of elements that today are at the crossroads of the exercise of popular sovereignty, making it intersected by forms, instruments, institutions of participatory of direct and deliberative democracy. The issue that appears in this area is how can we on one hand diminish the risk of making the Parliament to become a voting parlor and be dominated by political parties and the other hand preserve the equilibrium of remote electronic voting - not in the presence - of the deliberative assemblies in aiming to protect democracy and popular sovereignty.

The electronic voting requires certain international principles and standards to be respected, in order to be considered that meets the criteria of democracy. Today, in the digital era, it is necessary to analyze under a new lens the reasons that citizens are called to participate in the elections act and on how and where to use the vote.

After describing the concept of electronic voting and the issues related to the constitutional doctrine, the paper aims to explain the evolution of electronic voting by analysing the case of I-voting of Estonia as the most successful application of e-government and any other digital tool used to perform in democratic processes, and on the other hand the case of Germany that has ruled as unconstitutional the use of electronic vote machines.

1. E- voting as a useful tool toward enhancing representative democracy

Representative democracies have used distance voting for many decades to guarantee and confirm their nature and their values. Distance voting refers to voting outside the premises where voting generally takes place. In this meaning, we refer to absentee voting, which is a system that allows voters to exercise their vote at a voting location other than at a fixed voting station at which they are registered on the normal voters list. The distance voting is used in different methods such as: postal voting, proxy voting and internet voting. These are ways and forms that serve in fact to protect the representative function that they embody. The opportunity that distance voting tent to give to those whom cannot vote in their electoral district of residence, properly connotes the constitutional state of a democratic-representative

type is decisive to allow the great nations , to respect in an effective manner the essential right of vote for all citizens (Giuliano Amato, Francesco Clementi, 2012, p. 122).

Historically this long experience has brought out at least two different concepts of distance voting that the legal systems have gradually codified: the first voting method, which is characterized by being expressed outside the electoral district of origin but within the national territory, is qualified as remote voting "in a controlled or supervised environment", as for example happens for voting in a polling station out of the office or at an embassy abroad. The second method of voting, which instead is used (The International Institute for Democracy and Electoral Assistance , 2007, p. 1) in an environment outside the national territory and in which there are no persons in charge of control, such as the polling station officials, takes precisely the name of "uncontrolled" voting, whose classic example is the vote by post (or as some call it by mail), used for decades in many legal systems, first of all, as mentioned, for the military stationed abroad.

Also in that content, the development of technology and its interaction with our social reality at all levels has offered - and is increasingly offering democratic systems new ways and solutions of expression of suffrage at a distance, opening inevitably towards new scenarios (Kersting, 2004). On the other hand, for more than twenty-five years, the Council of Europe itself has emphasized the compatibility with the Code, the protocols and standards of good electoral practice defined by the Venice Commission not only of distance voting (both controlled and not controlled) but also of the same distance vote expressed in electronic form (Venice Commission, 2004, p. 15). And more recently, likewise, the European Union - which is evaluating distance voting, of an electronic type, as a plausible way to support, or even replace the paper vote - he underlined, through a European Parliament study of 2011 (Directorate-General for Internal Policies of the Union, 2013, p. 34), all the potential and perspectives that the interaction between technology and law can offer to European democratic systems, also with regard to the expression of the constitutional right to vote (Kerstin Goos, Bernd Beckert, and Ralf Lindner, 2016, pp. 135-185).

2. Transition from the paper ballot to the electronic vote

The transition from the paper ballot to the electronic vote, has put upon a lot of pressure upon the integration process between representative democracy and e-democracy and now seems to be increasingly proceeding (Marisa Abrajano, R. Michael Alvarez, 2008, p. 53). In fact, more and more systems seem willing to allow the controlled electronic voting, and not only at the level of territorial autonomies. Furthermore, electronic voting is spreading progressively, both in very large democracies, as well as in small or medium sized democracies-by size. And certainly, by now, the increase in usage of electronic voting in the orders of pluralist democracy clearly exceeds the first initial aim that many underlined. More exactly its mere simplification function of voting for the elector, that on the other hand poses security problems (Ardita Driza Maurer, Jordi Barrat , 2016, pp. 134-150).

Electronic voting represents more now the symbol of modernity that intercepts the set of elements that today are at the crossroads of the exercise of popular sovereignty. In order to be fully voiced, it sees itself invested with social issues with value, such as to make popular sovereignty increasingly crossed necessarily by forms, instruments, institutions of participatory of direct and deliberative democracy (Donald J. Calista, James Melitsk, Spring-Summer 2007, pp. 87-120). In this sense, it can be useful to present how the electronic voting is effectively technologically guaranteed and at the same time, how this technology in relation to electronic voting has evolved. That is indeed, a very fascinating topic today between algorithms and blockchains. Electronic voting around the progressive consolidation of a unitary classification scheme, which cannot fail to be reconstructed above all around the known stylistic features of publicity voting (Lanchester, 2004, pp. 34-63).

Therefore, even in this situation, there are two types of electronic voting. Both electronic voting, which, can be both remote and non-remote, both supervised and unattended, intercept between companies and institutions, both elements useful to improve the conditions for participation and expression of popular sovereignty, as well as they contribute to strengthening, rationalizing, simplifying the decision-making tools within the institutions themselves of the pluralist democracy systems; thus allowing, thanks to technological

developments, to introduce mechanisms that serve to offer transparency towards the expression of public and public institutional life (Kerstin Goos, Bernd Beckert, and Ralf Lindner, 2016, pp. 3-19).

3. Importance of electronic voting in elective and deliberative assemblies

The doctrine that has been studying electronic voting in the wake of social (and media) dynamics historically has focused its attention primarily on elective electronic voting, mostly leaving aside the experience of voting in the deliberative assemblies. While the latter is the one that has the most interaction, specifically with the whole structure and the political-institutional system, that which gives body and allows popular sovereignty, in the representative continuum between elected and voters, to express itself subsequently, in the election moment. The fact was that, for a long time, there was only one first phase: which concerned only elective electronic voting. This modality has captured the space of the imagination of supporters of democracy and that of the analysis of scholars, before the experiences of the legal systems (Peter Wolf, Ruslidi Nackerdien, Domenico Tuccinardi, 2011, pp. 11-23).

Over the years, elective electronic voting has become a growing element of study because of progressive crisis of representative democracy due to the end of mass-based parties; and accompanied by a series of waves of criticisms toward the existing political parties in almost all the pluralist democratic systems (Delacourt, 2013, pp. 60-78). These phenomena were accompanied also by a progressive but constant dropping participation rates in elections and other forms of traditional civic engagement (Emad Abu-Shanab, Michael Knight, Heba Refai, 2010, pp. 264-274).

Whereby, with distant governments and political representatives who are often considered untouchable in their behavior, the expansion and growth of large-scale technology offered by the technical infrastructure of the Internet has opened up a new channel of potential interaction towards new forms of commitment for many disappointed citizens. (Kristjan Vassil, Till Weber, 2011, pp. 1336-1345).

Indisputably, this has affected all areas of social action, especially in the face of the emergence of new means of communication such as social networks, which have made available to individuals and institutionalized communities in which they live, an impressive range of forms and of communication tools and information exchange, in a multitude of configurations, including multimedia (Jeff Chester, Kathryn C. Montgomery , 2017, pp. 1-20). However, after a first wave of enthusiasm, this first phase of comparative research regarding elective electronic voting has settled down, thus opening a second phase, much more complex and difficult to manage for representative democracies. Which is the one in that we find ourselves today, dominated mostly by deliberative electronic distance voting: a potentially very cutting tool, as it is capable of zeroing with just one click the classical representative democracy as we have known it for centuries (Norris, 2004, pp. 193-225).

4. Issues of electronic voting in terms of Constitutional Parameters

The issue that appears in this area is how can we on one hand diminish the risk of making the Parliament to become a voting parlor and be dominated by political parties and the other hand preserve the equilibrium of remote electronic voting - not in the presence - of the deliberative assemblies in aiming to protect democracy and popular sovereignty.

Obviously, as for electronic voting, in order to be considered that meets the criteria of democracy requires certain international principles and standards to be respected. Today, in the digital era, it is necessary to analyze under a new lens the reasons why we were called to participate in the elections act and on how and where to use the vote. According to the doctrine of constitutional law the elections must be general, meaning that any citizen of that specific country has the right to vote. In this context nobody should be restricted on basis of political, economic or social reasons. The e-voting put a restriction to the vote casting by requiring an internet connection, which can be called part of economic reason because not every voter has the possibility to a connection. Another important principle is that the election should be direct, in other words the decision on who is elected can be traced back directly to the decision of the voter, no interference is allowed. In this context scholars are arguing about the doubt of the availability of the security system, in a way that no vote cast are misread,

changed, or withheld. One of the other principles required to be upheld for a fair election is that of equal election. This principle requires that one voter can cast his vote only once, so the election is equal if every voter has the same number of votes. In electronic voting the system should assure the and safeguard against multiple votes being cast by the same person, but also against any obstacles to the vote being cast by an eligible voter, or his or her vote tampered with (Lilian Mitrou, Sokratis K. Katsikas, Dimitris Gritzalis, Gerald Quirchmayr, 2003, pp. 43-60).

Democratic elections should assure and guarantee the secrecy of the vote. Electronic voting systems need to be able to ensure that no person other than the voter can find out how the individual vote was cast. At the same time elections need to be transparent and public. Meaning that all the process must be explained in a way that all average citizens should understand it and thus be able to check for inconsistencies.

In the second part of this study I analyze two different European experiences regarding e-voting, discovering their strengths and weaknesses. Being aware that technology will play an increasingly cumbersome role in the life of the citizen and that a perfect system in terms of voting does not exist in this world.

5. The Estonian I-voting case

Estonia is the first European country that can be considered at the cutting edge from a technological point of view and has the best functioning technology system used. The Baltic nation has become the most technological European country thanks to the computerization of services, the facilities for start-ups and the affirmation of a true digital citizenship (Priit Vinkel, Robert Krimmer, 2017, pp. 178-191). Launched in 2015, the E-Residency project allows anyone to become an Estonian citizen and be able to open a business in a short time, without even necessarily having to set foot in the country. And for those who have chosen to take virtual residence, a cryptocurrency may also be available for making transactions (Pila Tammpuu, Anu Masso, 2020, pp. 543-560) . In this aspect it is not difficult to imagine and understand how the e-voting concept could easily grow. What is certain, in fact, is that the

adoption of electronic voting in any democratic country requires a preliminary and adequate initial investment, not only in economic but also cultural terms, so that the voter does not undergo the change as an imposition, but as a natural passage. The e-voting Estonian experience has been successful precisely on the gradualness and accuracy and attention of the steps taken. Among the foundation stones we may mention the adoption of the electoral law (Riigikogu Election Act) for the Estonian Parliament in 2002, the establishment of a National Electoral Committee to oversee the creation of an e-voting system, a pilot project in 2003 carried out in Tallin, which paved the way for the first use of electronic voting in the 2005 administrative elections, thus being “*the first country in the world to hold nation-wide elections using this method and in 2007, it made headlines as the first country to use I-voting in parliamentary elections*” (Estonian Government, 2020, p. 2). The National Electoral Committee has adopted a detailed regulation regarding the procedure for the organization of electronic voting and the ascertaining of the results. According to the Estonian government webpage the I-voting system is designed to be a unique solution that simply and conveniently helps to engage people in the governance process and allows voters to cast their ballots from any internet-connected computer anywhere in the world. These preconditions made it possible that one of the smallest countries in Europe has become the avant-garde nation in terms of e-government (Ülle Madise, Priit Vinkel, 2016, pp. 105-127), to the point of being called “E-Stonia”. The I-voting process is not amended in the Estonian Constitution that in Chapter four poses the obligation for free, general, equal and direct elections whilst the voting shall be secret. The I-voting frame is regulated by the electoral law that has foreseen detailed provisions about the procedures. The 2007 elections represented, in fact, a real sounding board for the Estonian republic, bringing to the attention of the general public a little-known reality, which has become an international leader in the field of e-democracy. The I-voting process was improved more over the years and in 2012 with the establishment of a special committee of the parliament a specific and detailed regulation was adopted with the purpose to approve the formation of the electronic voting committee and respective legislation (Ülle Madise, Priit Vinkel, 2016, pp. 105-127). The I-voting legislation presented this type of using the ballot as another possibility for the voter in between this large mix of channels. On the other hand, for the electronic voting to be successful Estonia has approved that all major

principles of traditional voting should be followed, aiming to make the electronic voting concept more acceptable and understandable for the voter. The process of I-voting in appearance it resembles the paper voting, with a few differences. One of them consist in the fact that uses electronic signatures of the voters by using their national , and one of the most important one is that it gives the possibility to the voter to exercise his right to vote unlimited number of times, and only the last vote would be counted. One of the characteristics of I-voting is that the voters are given a seven days period to use their vote by using digital signing. In order to enhance and further secure the electronic voting a verification scheme has been implanted since 2013. This verification system allowed the voter to get information whether the vote was cast as intended and accepted by the central system. From 2015 parliamentary elections this system has been legally binding to be used in order to secure the elections. (Ülle Madise, Priit Vinkel, 2016, pp. 105-127).

Whilst voting is not compulsory in Estonia, the average turn out of the elections ranges from fifty seven to sixty eight per cent Over the years, electronic voting in Estonia has become increasingly evident, as evidenced by the exponential growth in the percentage of voters using the e-vote, which came from 1.9 percent in the 2005 local elections well to 46.7 percent in the 2019 European elections (Robert Krimmer, David Duenas, 2019, pp. 247-262). Estonia has therefore arrived first in Europe at the goal of I-voting, the risk is that it remains alone, also because, for the purpose of a correct examination, they must be underlined two further aspects of the Estonian case that could relegate the success of electronic voting to its national borders: firstly Estonia is a country with a population slightly above one million inhabitants, secondly, despite having found the above success , electronic voting does not seem to have managed to significantly increase the turnout if not slightly.

Still, there are a variety of problems that accompanies the I-voting. One of the problems is related to the privacy of the voters during the voting process, because the authorities cannot assure that the voters are not are not affected in any way while using their vote by other people. So, in this context in cannot be assured that no pressure, or influence of selling of the votes are not applied. Furthermore, voters are not fully convinced of the effectiveness of technological systems of I-voting and are not given an opportunity to verify their vote. While

they are needed to have absolute faith in the accuracy, effectiveness and security of the whole electoral system, for the latter to be successful democracy. On the other hand, another issue presents itself regarding the impossibility of translating technological developments into effective laws for the implementation of the whole process. In this aspect administration and courts will be facing new challenges (Kristjan Vassil, Till Weber, 2011, pp. 1336-1345).

However, the Estonian experience remains extremely important in the world of e-voting and e-democracy, having become a leading case in Europe and overseas and is one of the few countries that has a lot of experience in conducting electronic elections. Still Estonia and faces the challenge of securing in the internet the mandatory privacy in the voting process and the anonymity of the vote.

6. The electronic vote in Germany

The chose the case of Germany, because has been one the leading countries of EU, the one that has been trying endlessly to keep the EU united. Furthermore, it's a topic of interest while Germany has taken over Council presidency, but most interestingly, Germany proving the most important jurisprudential pronouncement in the merits of all electronic voting applications in European territory (Seedorf, 2016, pp. 23-44). The history of e-voting has started as a debate upon the voting used by mail, or absentee-ballot. The Constitutional Court of Germany has had to rule on this shortly after it was introduced in 1961 by sustaining the legality of the vote exercised by mail. The Court has continued to maintain this decision in 1981¹⁴ and more recently in 2013 regarding elections to the European Parliament (Weiler, July 2015, pp. 7-19). The electronic voting has been introduced in Germany as a vote to be casted using some electronic machines using the Dutch company NEDAP in Cologne in 1998. The voters in the computer-screen could see an representing an image of the ballot paper on which they could make their decision of voting. The procedures required the control of the identity of all voters like usual procedures used in paper-based ballot, then voters were shown to a curtained-off table on which the computer stood to cast their vote. At the end of the day, all votes were counted by the system and a final tally was printed. The voters did not show any unsatisfaction with the usage of electronic equipment because mail voting has

always been widespread in Germany and the German voter is not, therefore, mentally tied to the traditional vote. However, was noticed a significant reduction in the number of polling stations and staff assigned to their management. In such an atmosphere, no one had asked themselves the problem of the constitutionality of the use of these machines (Weiler, July 2015, pp. 7-19).

In 2005 after the election, *two citizens, a father and son, challenged the constitutionality of electronic voting before the German Constitutional Court*, after unsuccessfully raising a complaint with the Committee for the Scrutiny of Elections. The case argued that the use of electronic voting machines was unconstitutional and that it was possible to hack the voting machines, thus the results of the 2005 election could not be trusted. The German Constitutional Court upheld the first argument, concurring that the use of the NEDAP voting machines was unconstitutional by not being “*was not compatible with Article 38 in conjunction with Article 20.1 and 20.2 of the Basic Law*”. The Court noted that, under the constitution, elections are required to be public in nature and “*that all essential steps of an election are subject to the possibility of public scrutiny unless other constitutional interests justify an exception . . . The use of voting machines which electronically record the voters’ votes and electronically ascertain the election result only meets the constitutional requirements if the essential steps of the voting and of the ascertainment of the result can be examined reliably and without any specialist knowledge of the subject . . . The very wide-reaching effect of possible errors of the voting machines or of deliberate electoral fraud make special precautions necessary in order to safeguard the principle of the public nature of elections*”. Making it clear that the court’s decision did not rule out the use of voting machines in principle, it stated that: “*The legislature is not prevented from using electronic voting machines in elections if the possibility of a reliable examination of correctness, which is constitutionally prescribed, is safeguarded. A complementary examination by the voter, by the electoral bodies or the general public is possible for example with electronic voting machines in which the votes are recorded in another way beside electronic storage*”. (BVerfG The Federal Consistitutional Court of Germany, 2009, pp. 1-33). This decision by the German Constitutional Court, stressing the need for transparency in the electoral process without specialist technical knowledge, effectively ended Germany’s recent use of electronic

voting. Although the Court decision does not rule out electronic voting machines entirely, no further moves to adopt machines that meet the transparency requirements have been made (National Democratic Institute, 2013, pp. 1-9).

Concluding, e-voting in Germany is possible in principle if certain preconditions are met. Currently, the systems available do not provide the security and/or transparency needed to legally use them for elections, at least on the municipal, state or even federal level. These criteria are even harder to meet in online elections. Thus, Germany will not be able to reach the Estonian model in the near future.

Conclusion

Electronic voting is undoubtedly a multi-faceted theme which, can only be treated in a comparative approach. Each country in which the e-vote has been applied there are many parameters to evaluate because of experiences presented. Indeed, e-voting cannot find the necessary ground for its development in countries where there is no adequate digital culture and, a framework within which the vote electronic does not become an confusion but an efficient technical method of expressing a constitutionally guaranteed right and duty. The choice to resort to e-voting within an evolved democracy should take place within an overall strategy of digitization of the public administration, so that the electronic instrument does not represent a forcing within a traditional system. It is obviously a question of taking a step by step with the gradualness of the case and it does not seem a good strategy to entrench behind the traditional paper voting system which, in truth, if on the one hand it represents the citizen's usual approach to elections on the other, it is clearly exposed to multiple risks and hitches.. The best proposal seems to be to undertake a phased European path, investing in increasingly computerized institutions and the goal is to harmonize the implementation of the principles of democratic elections and referendums when using electronic voting, creating trust in voters with respect to the electoral process and electronic voting.

References

- (1) Ardita Driza Maurer, Jordi Barrat . (2016). *E-Voting Case Law: A Comparative Analysis*. London: Routledge.
- (2) BVerfG The Federal Constitutional Court of Germany. (2009, March 03). *Decisions of the Federal Constitutional Court of Germany*. Retrieved from Judgment of the Second Senate of 03 March 2009 - 2 BvC 3/07 -, paras. 1-166,: http://www.bverfg.de/e/cs20090303_2bvc000307en.html
- (3) Delacourt, S. (2013). *Shopping for Votes: How Politicians Choose Us and We Choose Them*. British Columbia: Douglas and McIntyre.
- (4) Directorate-General for Internal Policies of the Union. (2013). *E-public, e-participation and e-voting in Europe - prospects and challenges*. Brussels: EUROPEAN PARLIAMENT.
- (5) Donald J. Calista, James Melitsk. (Spring-Summer 2007). E-Government and E-Governance: Converging Constructions of Public Sector Information and Communications Technologies. *JSTOR, Public Administration Quarterly*, 87-120.
- (6) Emad Abu-Shanab, Michael Knight, Heba Refai. (2010). E-voting Systems: A tool for e-democracy. *Management Research and Practice*, 264-274.
- (7) Estonian Government. (2020, July 30). *I-voting Government Cloud*. Retrieved from E-governance: <https://e-estonia.com/solutions/e-governance/i-voting/>
- (8) Giuliano Amato, Francesco Clementi. (2012). *Forme di Stato e forme di governo*. Milano: il Mulino.
- (9) Jeff Chester, Kathryn C. Montgomery . (2017). The role of digital marketing in political campaigns. *Internet Policy Review Journal on Internet Regulation, Volume 6, Issue 4*, 1-20.
- (10) Kerstin Goos, Bernd Beckert, and Ralf Lindner. (2016). Electronic, Internet-Based Voting. In G. A. Ralf Lindner, *Electronic Democracy in Europe, Prospects and Challenges of E-Publics, E-Participation and E-Voting* (pp. 135-185). London/New York: Springer International Publishing.
- (11) Kersting, N. (2004). Electronic Voting and Democratic Issues: An Introduction. In N. B. edited by Nibert Kersting, *Electronic Voting and Democracy, A Comparative Analysis, edited by Kersting, N., Baldersheim, H.* (pp. 3-19). London: Palgrave Macmillan.
- (12) Kristjan Vassil, Till Weber. (2011). A bottleneck model of e-voting: Why technology fails to boost turnout. *Sage Journals Volume: 13 issue: 8*, 1336-1354.

- (13) Lanchester, F. (2004). *Gli strumenti della democrazia. Lezioni di diritto costituzionale comparato*. Milano: Giuffrè Editore.
- (14) Lilian Mitrou, Sokratis K. Katsikas, Dimitris Gritzalis, Gerald Quirchmayr. (2003). Electronic Voting: Constitutional and Legal Requirements, and Their Technical Implications. In D. Gritzalis, *Secure Electronic Voting, DOI: 10.1007/978-1-4615-0239-5* (pp. 43-60). New York: Springer.
- (15) Marisa Abrajano, R. Michael Alvarez. (2008). *Electronic Elections: The Perils and Promises of Digital Democracy*. New Jersey: Princeton University Press.
- (16) National Democratic Institute. (2013, December 17). *The Constitutionality of Electronic Voting in Germany*. Retrieved from E-Voting Guide: Legal and Procedural Framework: <https://www.ndi.org/e-voting-guide/legal-and-procedural-framework>
- (17) Norris, P. (2004). Will New Technology Boost Turnout? Evaluating Experiments in UK Local Elections. In B. H. Kersting N., *Electronic Voting and Democracy, https://doi.org/10.1057/9780230523531_12* (pp. 193-225). London: Palgrave Macmillan.
- (18) Peter Wolf, Rushdi Nackerdien, Domenico Tuccinardi. (2011). *Introducing Electronic Voting: Essential Considerations*. Sweden: International Institute for Democracy and Electoral Assistance.
- (19) Pila Tammpuu, Anu Masso. (2020, July 30). Welcome to the virtual state': Estonian e-residency and the digitalised state as a commodity. *Sage, European Journal of Cultural Studies, Volume: 21 issue: 5*, 543-560. Retrieved from <https://e-resident.gov.ee/become-an-e-resident/>
- (20) Priit Vinkel, Robert Krimmer. (2017). The How and Why to Internet Voting an Attempt to Explain E-Stonia. *International Joint Conference on Electronic Voting, E-Vote-ID 2016: Electronic Voting* (pp. 178-191). Bregenz, Austria: Springer, Cham.
- (21) Robert Krimmer, David Duenas. (2019). Contagion effect on the use of electronic voting in Estonia. In M. P.-M. Jordi Barrat Esteve, *The digitization of political parties and the use of electronic voting* (pp. 247-262). Spain: Thomson Reuters.
- (22) Venice Commission. (2004). *Rapporto sulla compatibilità del voto a distanza e il voto elettronico con gli standard del Consiglio d'Europa*. Strasbourg: Council of Europe.
- (23) Schirripa, M. (2020). I voto elettronico nell'esperienza europea tra pregi e criticità. *Federalismi, Rivista Associazione Italiana dei Costituzionalisti*, 1-12.

- (24) Seedorf, S. (2016). Germany: The Public Nature of Elections and its Consequences for E-Voting,. In J. B. Edited by Ardita Driza Maurer, *E-Voting Case Law: A Comparative Analysis* (pp. 23-44). London/ New York: Routledge.
- (25) The International Institute for Democracy and Electoral Assistance . (2007). *Voting from Abroad -The International IDEA Handbook*. Stockholm: IDEA.
- (26) Ülle Madise, Priit Vinkel. (2016). A judicial approach to internet voting in Estonia. In J. B. Ardita Driza Maurer, *E-Voting Case Law: A Comparative Analysis* (pp. 105-127). London/New York: Routledge.
- (27) Weiler, T. (July 2015). Constitutional Parameters for E-Voting in Germany. *KommunalPraxis Wahlen* 8(1), 7-19.