

ppi 201502ZU4645

Publicación científica en formato digital

ISSN-Versión Impresa 0798-1406 / ISSN-Versión on line 2542-3185

Depósito legal pp 197402ZU34

# CUESTIONES POLÍTICAS

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de la Facultad de Ciencias Jurídicas y Políticas de la Universidad del Zulia  
Maracaibo, Venezuela



Vol.40

Nº 74

2022

# Legal coverage of will expression by means of information technologies

DOI: <https://doi.org/10.46398/cuestpol.4074.12>

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## Abstract

The purpose of the article was to identify and reveal the main contemporary modern legislative initiatives aimed at ensuring the expression of will by means of information technology. The main methodological tools applied in the study were comparative legal analysis and observational method. The study showed that effective manifestation of will requires further implementation of state-of-the-art systems of electronic petitions, digital resources and electronic voting. Relevant legislative initiatives should serve to increase the capacity for citizen participation and discussion. It is substantiated that the priority directions of changes in legal systems should be: 1) reforms aimed at closing the digital divide in access to information technologies; 2) technical improvement of the electronic voting procedure; 3) increasing the relevant informatization of citizens; 4) ensuring maximum protection of the state digital environment. Special attention should be paid to the legal development of a comprehensive technocratic approach. It is concluded that it is desirable to apply hybrid technology for the people to realize their right to vote and give them more opportunities to participate in the processes of governance and digital governance.

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**Keywords:** innovative technologies; e-democracy; digital transformations; e-voting; e-petition.

## Cobertura jurídica de la manifestación de testamentos por medio de las tecnologías de la información

### Resumen

El propósito del artículo fue identificar y revelar las principales iniciativas legislativas modernas contemporáneas destinadas a asegurar la expresión de la voluntad por medio de la tecnología de la información. Las principales herramientas metodológicas aplicadas en el estudio fueron el análisis jurídico comparado y el método de observación. El estudio mostró que la manifestación efectiva de la voluntad requiere una mayor implementación de los sistemas de última generación de peticiones electrónicas, recursos digitales y voto electrónico. Las iniciativas legislativas pertinentes deben servir para aumentar la capacidad de participación y discusión ciudadana. Se fundamenta que las direcciones prioritarias de los cambios en los ordenamientos jurídicos deben ser: 1) reformas encaminadas a cerrar la brecha digital en materia de acceso a las tecnologías de la información; 2) mejora técnica del procedimiento de voto electrónico; 3) aumentar la informatización relevante de los ciudadanos; 4) garantizar la máxima protección del entorno digital estatal. Debe prestarse especial atención al desarrollo jurídico de un enfoque tecnocrático integral. Se concluye que es conveniente aplicar una tecnología híbrida para que el pueblo haga efectivo su derecho al voto y le dé más oportunidades de participar en los procesos de gobernabilidad y gobernanza digital.

**Palabras clave:** tecnologías innovadoras; democracia electrónica; transformaciones digitales; voto electrónico; petición electrónica.

### Introduction

The concept of free will is crucial for both individual and social life. Freedom of will can be established in terms of the ability to act otherwise, to have alternatives. To obtain freedom of will, the decision-making process should be exercised by a person without the interference of any people or mechanisms in the procedure. The said decisions cannot possibly be free if they arise as a result of random selection. Virtually every decision must be rationally motivated (List, 2019). In this light, the major negative impact of

traditional political culture is that in the minds of citizens a patriarchal idea of the implementation of the will is still retained, being deeply rooted in the impossibility of affecting the public policy.

However, the participation of citizens in the implementation of public policy as well as relevant initiative is not solely the right of citizens, but also their duty (Xiaodong *et al.*, 2019). Citizens should be able to participate in collective decision-making and have actual influence on them. The degree of influence can vary from exercising a direct authority over decision-making (mandatory referendums) to an advisory role (government response to petitions, municipal polls or hearings) (Berg *et al.*, 2021).

In the times of rapid globalization, deepening our understanding of digital technologies and their significance for politics becomes extremely relevant (Chen and Volpe Martinkus, 2022). Artificial intelligence, cloud computing, blockchain, and big data are fundamentally transforming the ways governments design and implement public policies and programs, and how they interact with the public. Information technology is increasingly needed as a technical platform, which mostly facilitates the direct transfer of information to citizens. Moreover, it also ensures that information is transferred from citizens to the government and avoids or reduces the likelihood of its distortion. That said, participation in the implementation of public policy in big data age requires a mechanism capable of interacting with the state in both directions. At the same time, the implementation of the “bottom up” public policy model, as well as maximizing the public interest and needs of citizens contribute to the adaptation and improvement of will expression.

The advent of the big data age provides an effective tool for citizens that can promote more active participation in the process of public policy implementation (Xiaodong *et al.*, 2019). Innovations such as e-democracy, which refers to the use of information technology in political debates, decision-making processes by supplementing or opposing traditional means of communication, have begun to emerge (Aziz and Hasna, 2020).

The method of electronic voting, when citizens participate in elections using electronic devices is viewed as one of the important aspects of electronic participation (Darmawan, 2021). Unlike the conventional voting method, the electronic version increases the reliability of elections, efficiency and integrity of the process (Hang and Kim, 2019).

E-voting is extensively used in variegated forms of decision-making due to its flexibility, ease of use and low cost as compared to general elections, which are based, *inter alia*, on the results of electronic petitions (Chang *et al.*, 2020). During the COVID-19 pandemic, which changed not only human activity, mobility, but also political processes, in particular elections, the relevance of applying information technology has considerably increased (Muñoz, 2022).

Notably, the relevant enforcement procedure should be as accessible and adaptable as possible for different categories of citizens. As compared to younger users of technologies that can easily switch between off-line and on-line activities, the elderly people and marginalized groups find it much harder to adapt to new technologies, such as online banking, QR-based registration, online shopping and virtual meetings (Yap *et al.*, 2022).

With the view of adapting to new challenges, the organization's existing processes and procedures need to be revised to convey the new reality. All government initiatives, including the electoral process, need to undergo a rapid digital transformation aimed at ensuring safety, health and utmost degree of voters' participation in democratic activities.

Governments also need to develop policies, programs and projects to help people learn to use information technology. Transforming the electoral process into a digital age requires appropriate decision-making, as a result of which countries and the international community develop legislation, taking into account the new realities of the information environment (Son, 2021).

Given the above, the purpose of the article is to consider the main areas of legal support for the expression of will through information technology. The outlined goal puts forth the following research objectives:

1. to highlight the essential normative legal acts that promote the citizen's will expression with the help of information technologies on the example of the European Union and Ukraine;
2. to reveal the current state of implementation of the will expression with the help of information technology in European countries, to outline the leading vectors of future legislative and practical innovations in the field.

### **1. Literature Review**

The chosen research topic correlates with modern vectors of scientific research carried out by representatives of the doctrine in various countries. The principal tool and basis for the article was the work of Keramidis and Charalabidis (2021). Decisive factors for the success or failure of e-democracy initiatives in the information era. In their groundbreaking research, the scholars have outlined the grounds for defining the concept of e-democracy.

Additionally, the author's position on the subject was profoundly influenced by the study conducted by Xiaodong *et al.* (2019: 4) "Research on Citizen Participation in the Implementation of Public Policy in Big

Data Age”. The scholarly findings made it possible to outline the vector of research on the legal coverage of will expression with the help of information technology. In turn, the article by Lomzhets *et al.* (2021) specified for the author the legal essence of electronic (online) voting in Ukraine, as well as a number of relevant realities and prospects.

In the course of conducting the current study, due regard was taken to the works of Kneuer and Datts (2020) in terms of revising the democratic promises of the Internet when it comes to the spatial dimension and e-democracy. Special attention should be paid to the studies of Son (2021) regarding certain aspects of transforming the electoral law in the digital age as well as the insights of Darmawan (2021) on the introduction of electronic voting in a number of countries worldwide.

In the scientific work of Pereira (2021), cited in the article, the scholar emphasizes the importance of voting technology in the Estonian online voting system. It was precisely the above work that helped to track the priorities of the relevant activities and the problematic components. The study draws on the research of Chen and Volpe Martinkus (2022) and Jafar *et al.* (2021), who outline such relevant vectors as innovation (novelty), objectivity, subjectivity, purposefulness, demand, implementation in practice, the effectiveness of the potential of new digital technologies for electronic voting.

The authors’ insights into the prospects of using the blockchain technology during electronic voting deserves special attention. Furthermore, the works of Vogiatzis (2021) on the historical aspect and the future right to petition the European Parliament were given a close scrutiny for the effect of the current study.

Careful research on this issue confirms the fact that the process of improving the legal support of free will expression through information technology helps to increase the political participation of citizens. Therefore, there is a pressing necessity it is urgent to conduct research on the new criteria of scientific inquiry in the context of updated and dynamic phenomena of legal environment.

## 2. Methods

The theoretical basis of scientific research were the works of leading Europe lawyers, authentic texts of regulations, statistical and analytical reports. In total, forty sources were examined in the study on the subject of research. Initially, the qualitative review of the sample allowed to structure the sequence of methodological tools approbation within the architectonics of the study in a clear and unambiguous way, as presented in Figure 1.

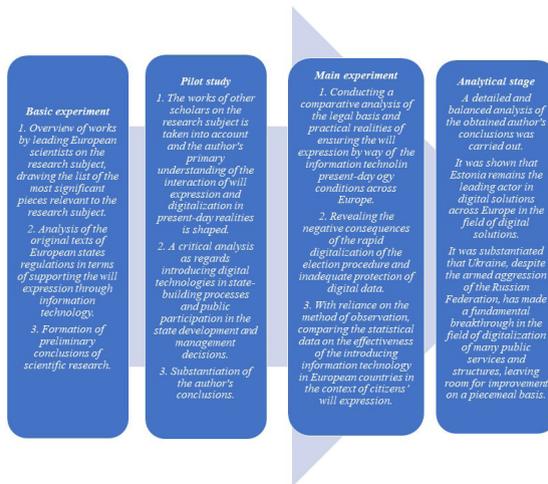


Figure 1. Step-by-step research structure on the article subject

To obtain balanced conclusions and address the tasks outlined in the article, a set of general scientific and special methods was used.

The leading practical method was the method of comparative legal analysis, which made it possible not only to compare the authentic regulatory texts of the studied states, but also to juxtapose them with the realities and mechanisms of practical implementation. Using this method, the statistics of analytical reports of the European Union was also compared with the legal consequences of the expression of freedom through information technology in the territory of the EU Member States.

The findings of such a comparative analysis were qualitatively structured using the method of observation and presented in the copyright legal positions revealed in the article.

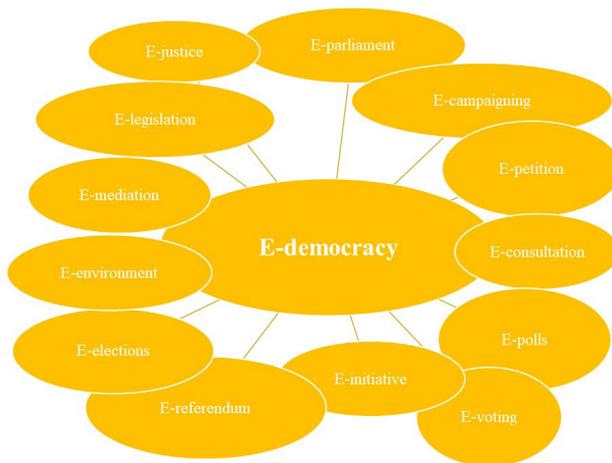
The method of theoretical generalization was used to identify the legal basis features for the will expression in the framework of electronic services' balanced development. The method was also useful for a comprehensive description of the transformation processes of territorial and economic systems and the digitization of voting processes.

To substantiate the principles of building a system of legal regulation of electronic public space, the abstract-logical method was used, also aimed at examining the conceptual and methodological approaches to strategic management of public participation procedures in state decision-making using digital technologies.

The method of statistical, graphical analysis, grouping was used to evaluate the status and results of the introduction of innovative information technologies in the field of public services and to assess the characteristics of the innovative impact on the expression of will by citizens. The historical and legal method has been used to study the genesis of the development of legislation, which regulates the foundations of effective implementation of information technology in the process of expressing the will of citizens of European countries. The formal-logical method made it possible to identify gaps in the current national legislation of European countries in the area under study. With the help of dogmatic method, the conclusions were formulated in accordance with the purpose of the study.

### 3. Results

E-democracy is usually seen as a tool for the transition from a state representative system to a system with more direct citizen participation. The main goals of e-democracy include transparency, accountability, efficiency, participation, discussion, inclusiveness, accessibility, subsidiarity, trust in democracy, relevant institutions and processes, as well as social cohesion (Council of Europe Committee of Ministers, 2009). The components of e-democracy are shown in Figure 2. At the same time, electronic participation, discussions and forums are applied in e-democracy.



**Figure 2. Components of e-democracy in the context of digital innovations intensification (clustered by the author).**

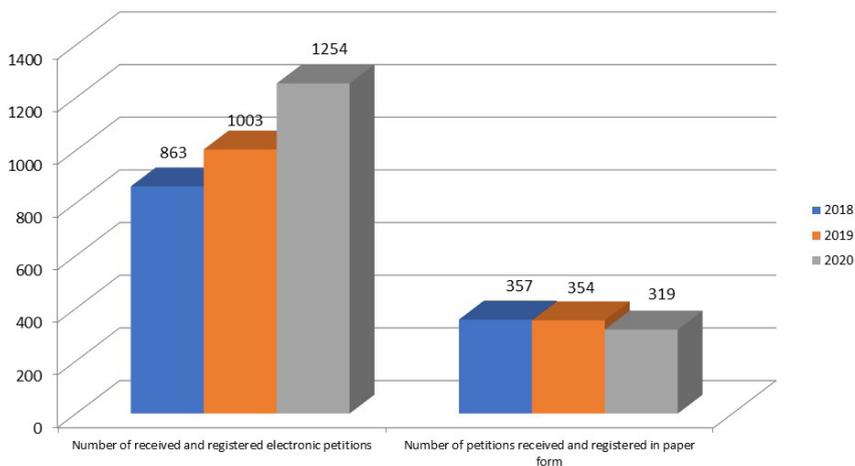
The main requirement for the existence and sustainability of e-democracy is the availability of appropriate technical infrastructure, that is access to digital media and the Internet. In this light, it is crucial to find whether filtering and blocking by an independent agency or regulatory body is in place or whether it is absent. Regarding electronic participation, it is necessary to distinguish between two dimensions: “top down” and “bottom up”. Unlike e-participation, e-government is limited by top-down mechanisms that offer online tools to citizens with a focus on providing effective public services. In the context of expressing the will, e-government can be seen as a tool to support and discuss the principles of good governance.

The experience of the European Union in the vector of digitalization of public participation in EU activities is noteworthy. In this sense, after the Maastricht Treaty has come into effect, EU citizens and residents can submit petitions to the European Parliament, and their content falls within the scope of the European Union.

Petitions are considered by a special parliamentary committee on petitions. The applicable procedure is based on the articles of the Treaty on the Functioning of the European Union (TFEU) and the Charter of Fundamental Rights of the European Union. Besides, petitions can also be considered by the European Ombudsman. In addition, an important component of the review process is the European Citizens’ Initiatives (ECI).

In 2020, almost 80% of petitions were submitted through the petition’s web portal and 20% of petitions were sent by mail (Committee on Petitions, 2021). As of 2020, the number of petitions submitted through the petitions web portal increased by 25% as compared to 2019. It also increased by 45.3% compared to 2018, when 863 petitions were submitted through the portal.

Thus, it can be said that the petitions web portal has become the most frequently used channel for petitions of citizens to the European Parliament. Overall, the most popular topics of petitions in 2020 concerned fundamental rights, health, environment, justice, education and culture, internal market issues, transport, employment, social issues, as well as property and restitution. Trends in the growing interest in submitting electronic petitions as compared to conventional mail are presented in Figure 3.



**Figure 3. The gaining demand for e-petitions in the EU for the period of 2018-2020 (summarized by the authors based on statistics).**

What should be stressed here is that *e-voting* is an electronic system that allows users to make joint decisions or cast their votes for candidates in elections. This process includes voter registration, entry and encryption of votes, transfer of ballots to the server, storage and counting of votes, tabulation of election results.

The electronic voting system is basically used in punch cards, smart cards, direct recording electronic voting systems (DRE), optical scanning systems and computers connected to the Internet. Such a system aims to obtain more accurate results of various votes, faster counting, maximum elimination of human errors. Undeniably, an essential important component of these tasks is the intention to create maximum comfort for people with disabilities.

Challenges include assuring a sustainable and cost-effective use of technology, relatively high costs for machine maintenance, software upgrades. Different approaches include e-voting based on a mixed network, blind signature, blockchain, homomorphic, post-quantum and hybrid e-voting.

As of 2022, according to the International Institute for Democracy and Election Assistance (International IDEA, 2022), 35 out of 178 countries use electronic voting in elections. Percentage broken down by 178 countries: e-voting is not currently used - 143 countries (80.3%), used in politically compulsory national elections (e.g., public office elections or

direct democracy initiatives) - 28 (15.7%)), in politically compulsory local elections (e.g., elections to regional legislative or executive bodies, etc.) - 17 (9.6%), in other elections (e.g., elections of trade union leaders, non-compulsory referendums) - 4 (2,2%). Globally, this process is characterized by the opposite phenomena: some countries (the United Kingdom, the Netherlands and Norway) have abandoned electronic voting, whereas Jordan, the Philippines and India have begun to use it during elections.

A number of countries have faced great difficulties due to the introduction of relevant information technologies. These include the difficulty of planning election cycles, the impact of potential failures of digital decisions on the fairness of elections. What is more, due to increased election costs, the number of contracts with private sector firms, including international ones, is on the increase. We maintain that this situation entails possible dependence on private sector decisions.

Of the 27 countries that are members of the European Union, electronic voting appears to be the case at the legislative level in Belgium, Bulgaria, France and Estonia (Table 1).

**Table 1. Sectoral implementation of electronic voting in the territory of EU member states (clustered by authors)**

	The use of electronic voting during politically compulsory national elections (elections to public office or direct democracy initiatives)	The use of electronic voting during politically compulsory local elections (elections to regional legislatures or executive bodies, etc.)	The use of electronic voting during other elections (elections of trade union leaders, non-obligatory referendums)	Electronic voting is not used in the country
Austria	-	-	-	+
Belgium	+	+	-	-
Bulgaria	+	+	-	-
Hungary	-	-	-	+
Germany	-	-	-	+
Greece	-	-	-	+
Denmark	-	-	-	+
Ireland	-	-	-	+
Spain	-	-	-	+
Italy	-	-	-	+
Cyprus	-	-	-	+
Latvia	-	-	-	+
Lithuania	-	-	-	+
Luxembourg	-	-	-	+
Malta	-	-	-	+
Netherlands	-	-	-	+
Poland	-	-	-	+
Portugal	-	-	-	+
Romania	-	-	-	+
Slovakia	-	-	-	+
Slovenia	-	-	-	+
Finland	-	-	-	+

France	+	-	+	-
Croatia	-	-	-	+
Czech Republic	-	-	-	+
Sweden	-	-	-	+
Estonia	+	+	-	-

The legal problems of e-voting in the EU are related to the fact that this process should be conceptualized in the broader framework of European electoral law and national legislation (Council of Europe Committee of Ministers, 2004). Council of Europe Recommendation CM/Rec (2017)5 dated 2017 (Council of Europe Committee of Ministers, 2017) and the corresponding Explanatory Memorandum concern the most essential part of electoral technology for electronic voting and include systems such as electronic direct voting machines (DRE), ballot scanners, digital pens and online voting systems. With all the mentioned aspects, it cannot be denied that currently the optimal solution is a decentralized approach, in which EU Member States operate within the restrictive framework of comprehensive European law.

In this sense, an example illustrating the successful use of e-voting is Estonia (Riigi Teataja, 2002), where relevant information technologies are permitted in politically compulsory national elections (elections to public office or direct democratic initiatives) as well as in politically obligatory local elections (elections to regional legislative or executive bodies, etc.). The Estonian government launched a project called Tiigrihüpe (Tiger Leap) in 1997, which aimed to develop and expand Internet networks and computer literacy.

Within a year of its launch, almost all (97%) Estonian schools had access to the Internet. Estonia's e-government initiatives are frequently maintained to set an example to be followed in other countries. The country's society has undergone a major digitalization, which includes taxation, health care and other public services.

In 2012, Estonia became the first country to use blockchain distribution technology to control cyberattacks. The use of blockchain technology also gives Estonians the edge of filling in a great number of various forms with the same personal information when gaining access to public services. In Estonia, citizens enter their personal information only once: the blockchain system allows them to immediately access the relevant data in the applicable department. It can be noted that Estonian digital identity model saves the country about two percent of its annual GDP (Biometric Update, 2022).

In this light, it is safe to mention that at the heart of the Estonian online i-Voting system is an e-government policy. In fact, the goal of i-Voting to some extent was to increase public participation in the political process.

At that, the emphasis was on attracting young people. The country introduced online voting in the 2005 local elections, and shortly thereafter, in 2007, electronic voting was introduced in the national parliamentary elections. Likewise, as with personal voting or mail, Estonia has an online identification method.

The appeal of i-Voting to the population in Estonia owes much to its simplicity and convenience, as voters simply need a computer with an Internet connection and an ID card. It should be stressed here that 91.6% of Estonian adults regularly use the Internet, and 98% have an ID card. That said, the ability to vote online does not replace the more traditional paper version of voting, but rather provides an additional opportunity.

Since gaining its independence in August 1991, Estonia has held in total 19 local, national or European elections. Of these, in 11 elections, citizens could cast a legally binding vote by electronic voting. Thus, the share of e-voters in the first elections with e-support in 2005 was 1.9%, in the elections to the European Parliament in 2019 - 46.7% of votes were cast online (Valimised, 2019). With the above mentioned aspects, the availability of innovative platforms for online political participation has led to greater use of online voting in the last five elections, with statistics clustered in Table 2 (Table 2).

**Table 2. Step-by-step growth trends in the demand for online voting in Estonia (summarized by the authors)**

	The total number of voters who participated (went to the polls)	I-voters who participated in the election	% of I-voters from the total number of voters who participated (went to the polls)
European Parliament elections in 2019	332859	155521	46.7
Parliamentary elections in 2019	565045	247232	43.8
Local elections in 2017	586519	186034	31.7
Parliamentary elections in 2015	577910	176491	30.5
European Parliament elections in 2014	329766	103151	31.3
Local elections in 2013	630050	133808	21.2
Parliamentary elections in 2011	580264	140846	24.3
Local elections in 2009	662813	104413	15.8
European Parliament elections in 2009	399181	58669	14.7

Parliamentary elections in 2007	555463	30275	5.5
Local elections in 2005	502504	9317	1.9

In turn, in Ukraine the issues of e-democracy and e-voting implementation are still under discussion, the relevant concept of e-voting has been developing since 2011 (Liga:zakon, 2011). Later, the concept of 2017 (Cabinet of Ministers of Ukraine, 2017) provided for the foundations to establish various forms of e-democracy in Ukraine in two stages. By 2018, it was necessary to introduce an appropriate regulatory framework, to create tools of e-democracy accessible to all citizens.

Particular attention should be paid to creating a legal mechanism for electronic appeals of citizens, electronic election process, electronic referendums and plebiscites, as well as relevant identification of natural persons and legal entities. The second stage (2019–2020) provided for the introduction of appropriate network services in the field of e-democracy and the creation of conditions for their proper provision (Cabinet of Ministers of Ukraine, 2019c).

The introduction of e-democracy tools such as e-petitions, consultations and appeals is very important in Ukraine, and each of these tools is used at both the local and national levels. The legal mechanism, for example, the implementation of electronic petitions is reflected in such regulations as follows: Decree of the President of Ukraine “On the Procedure for consideration of electronic petitions addressed to the President of Ukraine”, Resolution of the Cabinet of Ministers of Ukraine “On approval of the Procedure for consideration of electronic petitions addressed to the Cabinet of Ministers of Ukraine”. Relevant petitions should be considered if at least 25,000 signatures have been collected in three months.

Currently, the work with petitions addressed to the Parliament is regulated by the order of the Chairman of the Verkhovna Rada of Ukraine “On some issues of ensuring document circulation in the Verkhovna Rada of Ukraine in electronic and paper forms”. During 2021, citizens in the system “Electronic Petitions” on the official website of the Verkhovna Rada of Ukraine initiated 783 electronic messages (Office for Citizens’ Appeals of the Verkhovna Rada of Ukraine, 2022a).

Thus, it can be said that 236 e-mails met the requirements of Ukrainian legislation. However, none of these petitions received the required number of votes in support in due time, they were considered by the committees of the Verkhovna Rada of Ukraine as electronic appeals. Largely, these were issues of ensuring the rule of law and protection of law and order, realization of the rights and freedoms of citizens, prevention of discrimination, social policy and social protection, financial, tax, customs policy.

The legal mechanism for the implementation of electronic appeals is provided through the adoption of appropriate amendments to the legislation (Verkhovna Rada of Ukraine, 2015). For example, in 2021, the Office for Citizens' Appeals of the Verkhovna Rada of Ukraine received 242,308 thousand appeals, which is 2.5 times more than in 2020. Overall, 117,727 thousand proposals, applications and complaints were received by electronic means, which is 2.4 times more than in 2020 (Office for Citizens' Appeals of the Verkhovna Rada of Ukraine, 2022b).

To ensure the observance of law and protection of law and order, realization of rights and freedoms of citizens, prevention of discrimination, 76,679 thousand appeals were received, and 55,686 thousand appeals related to health care. Furthermore, issues of social policy, social protection of the population were the most pressing, comprising 9,124 thousand.

In percentage terms, electronic appeals were received as follows: ensuring observance of law and protection of law and order, realization of rights and freedoms of citizens, prevention of discrimination - 34.7%; health care - 25.2%; social policy, social protection of the population - 4.1%; activity of central executive bodies - 3.3%; activity of enterprises and institutions - 2.7%; activity of the Verkhovna Rada of Ukraine, the President of Ukraine and the Cabinet of Ministers of Ukraine - 2.6%; utilities - 2.4%; financial, tax, customs policy - 2.3%; agricultural policy and land relations - 2.3%; state building, administrative and territorial structure - 2.1%; defense capability, sovereignty, interstate and interethnic relations - 1.9%; activity of local self-government bodies - 1.9%; activity of local executive bodies - 1.8%; housing policy - 1.6%.

With all the mentioned aspects, it cannot be denied that partly one of the positive results of the action plan was the introduction of the Action Portal (Cabinet of Ministers of Ukraine, 2019a) as a service through which the idea of "country in a smartphone" is showcased. In this light, particular attention is paid to the introduction of electronic services and applications. The Action portal is also used as a digital wallet, where users carry digital versions of their official identity documents, such as passports and driving licenses.

The application also allows users to change their registered address, which is an important feature in view of the millions of internally displaced persons during the period of Russian military aggression. Also, important was the normative introduction in Ukraine of the functioning of the electronic identification system (Cabinet of Ministers of Ukraine, 2019b), the legal development of the principles of cybersecurity of Ukraine (Verkhovna Rada of Ukraine, 2017). The process of forming electronic voting was also influenced by the adoption in 2019 of the Electoral Code of Ukraine (Verkhovna Rada of Ukraine, 2019), which made it possible to decide on the introduction of innovative technologies, hardware and

software in organizing and conducting elections in the form of experiment or pilot project.

Yet, insufficient development of security tools, including the storage of information on servers, made it impossible to implement the above plan to the full extent. In Ukraine, there is still significant distrust on part of the voters as well as politicians in online voting. This mistrust can jeopardize the public's willingness to accept election results through this system, especially if those who lose the election accuse the system of fraud or manipulation.

This suggests that security, as well as the perception of security, should be a key factor preceding the introduction of online voting. There is a high risk of compromising e-voting technology (International Foundation for Electoral Systems, 2020), particularly given the ongoing military conflict between Ukraine and Russia. This study shows a high level of actualizing innovative technologies to ensure the current implementation of will expression in European countries.

#### **4. Discussion**

The legal definition of the e-democracy model, the type of application, the technological specification and the precise objectives of the proposed system are fundamental aspects of the success of e-democracy. Academia, government, the private sector and citizens involved in e-democracy must collaborate in order to lead society to future progress in terms of decision-making, as well as public awareness and participation (Keramidis and Charalabidis, 2021). By giving citizens the opportunity to express their will through direct interaction with public authorities, policies can be better adapted to their needs.

The rethinking of government as a digital platform is aimed at achieving horizontal forms of civic cooperation for the undistorted realization of the common good (Berg and Hoffmann, 2021). Citizens are no longer perceived as voters or observers of democratic governance. Researchers emphasize that instead, citizens should take an active part in consultations as well as in decision-making processes.

Distance is important when it comes to e-democracy, and the level at which it is concentrated must be taken into account (Kneuer and Datts, 2020). E-democracy projects at the local level, as opposed to projects at the national or transnational level, are more likely to mobilize a relatively higher proportion of citizens. Moreover, local governments are more open to citizen participation than at the regional and national levels.

Legitimacy, simplicity, speed, convenience, affordability, security of citizens act as an advantage towards electronic voting, without which it is difficult to imagine the process of expression of will in the near future (Hrynov and Zakomorna, 2021). Muñoz maintains that a holistic technocratic approach should be used, utilizing the hybrid technology to exercise people's voting rights and giving them more opportunities to participate in governance (Muñoz, 2022).

The availability of powerful equipment and a well-developed IT industry is arguably not a sufficient factor for conducting electronic voting. Proper design should not only guarantee the fairness and confidentiality of voting; it is also important in order to gain the trust of users in this area, which is not at the proper level (Tejedor-Romero *et al.*, 2021). Confidence in e-voting results will increase if they coincide with election results using traditional paper technologies (Hratsiotova *et al.*, 2020).

Existing methods of electronic voting are associated with the danger of excessive authority and manipulation of details, which limits the fundamental justice, confidentiality, secrecy, anonymity and transparency of the voting process (Jafar *et al.*, 2021). The study explored that the majority of procedures are currently centralized, licensed by a relevant body, monitored and measured in an electronic voting system, which in itself is a challenge for a transparent voting process.

The situation probably requires more caution regarding the security features that are declared for voting systems, in particular when they are offered for use in public elections (Pereira, 2021). According to the scholar, proper safety definitions, evidence and scrutiny remain the best strategy for Estonia.

It cannot be denied that the creation of a web portal for petitions in the European Parliament was an important and necessary event, which became the major method of submitting petitions. There are broader institutional reasons that prevent the Committee on Petitions from making a greater contribution to the EU's decision-making process and gaining the trust of citizens as an effective means of participation (Vogiatzis, 2021).

The Committee on Petitions of the European Parliament should focus on areas that are not covered by either the European Ombudsman or the initiative of European citizens. According to the scholar, the Committee's focus should be gradually shifted to the implementation of EU legislation by member states and to broader policy areas at the EU level, which do not necessarily entail specific legislative actions.

Weak development of the basic elements of e-democracy, such as the e-government system, e-parliament, as well as the statement of the presence of technological risks slow down the process of implementation of e-voting in Ukraine (Son, 2021). Another important topic concerning e-voting is

that it is essential to clarify the issue of fundamental legal regulation of the introducing in Ukraine of the electoral mechanism of electronic online voting and the means of protection (Lomzhets *et al.*, 2021). What should be stressed here, with the aim of enhancing digital awareness of all categories of society, it is critically important to implement relevant informatization measures.

## Conclusions

It can be concluded that direct communication between government and citizens through the components of e-democracy, drawing on their social experience and knowledge, can lead to improved policies and legislation. The new type of communication relies on the study and exchange of ideas, generalization and assessment of public confidence in democratic institutions and government legitimacy.

Many countries around the world currently have a digital divide in terms of accessibility, as well as in terms of geographic areas, Internet access, health, social status, policy innovation, software applications and operating systems. The technological backwardness and insufficient implementation of the current process of citizens' will expression is due to the presence of obstacles to access the system successfully.

The introduction of e-petition systems and citizens' initiatives in the European Union helps to enhance the potential for citizens' participation and discussion. In the European Union, the implementation of electronic voting in elections requires further legal and technical improvement due to difficulties in planning election cycles, potential downsides of digital solutions. It is becoming increasingly clear that due to the need to conclude a number of technical contracts, there is a problem of probable dependence on private sector decisions related to information technology.

The most important result of the current study, emphasized by the vast majority of researchers is that in Ukraine, significant progress has been made over the last decade in improving the procedure for implementing expression of will through information technology.

By way of providing an example of this can be the activity of the web portal "Diia (Action)" and the current state of implementing the procedure for submitting and receiving citizens' electronic appeals and electronic petitions. At the legislative level, considerable progress has also been achieved in the area of elections management in Ukraine and safeguarding their fairness.

Further thorough legal and technical training in the implementation of online voting in Ukraine will help to avoid wrong steps in this area and

mitigate the situation, which could potentially question the foundations of democracy in Ukraine and jeopardize the progress attained.

The success of the implementation of the expression of citizens' will through e-voting is largely determined by the digital infrastructure, high level of citizens' access to the Internet, which is clearly demonstrated by Estonia at the current stage of information technology development and Ukraine is presented only occasionally. Estonia's experience in the field of realizing the expression of will by way of information technologies can be realistically implemented in legal initiatives of Ukraine and will become a promising perspective of scientific research.

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# CUESTIONES POLÍTICAS

Vol.40 N° 74

*Esta revista fue editada en formato digital y publicada en octubre de 2022, por el **Fondo Editorial Serbiluz**, Universidad del Zulia. Maracaibo-Venezuela*

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