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INTERNATIONAL EXPERIENCE OF APPLYING OF THE ELECTRONIC IDENTIFICATION OF CITIZENS AS A TECHNOLOGICAL BASIS OF ELECTRONIC PETITIONS: ORGANIZATIONAL AND LEGAL ASPECTS

Abstract. In many countries, widely used modern form of collective appeal — electronic petition filed by citizens to the authorities through the use of information and communication technologies. The article deals with the concept of “e-petition”, analyzes the international experience of application and offer recommendations to improve the system of electronic identification of citizens as the technological basis of electronic petitions.

Keywords: E-democracy, e-government, e-petition, information society, civil society, appeal, petition, e-identification.

МІЖНАРОДНИЙ ДОСВІД ЗАСТОСУВАННЯ СИСТЕМИ ЕЛЕКТРОННОЇ ІДЕНТИФІКАЦІЇ ГРОМАДЯН ЯК ТЕХНОЛОГІЧНОЇ ОСНОВИ ЕЛЕКТРОННИХ ПЕТИЦІЙ: ОРГАНІЗАЦІЙНО-ПРАВОВІ АСПЕКТИ

Анотація. У багатьох країнах світу широко застосовується новітня форма колективного звернення — електронна петиція, яка подається громадянами до органів влади шляхом використання інформаційно-комунікаційних технологій. У статті розглядається поняття “електронна петиція”, аналізується міжнародний досвід застосування та пропонуються рекомендації щодо удосконалення системи електронної ідентифікації громадян як технологічної основи електронних петицій.

Ключові слова: електронна демократія, електронне урядування, електронна петиція, інформаційне суспільство, громадянське суспільство, звернення, петиція, електронна ідентифікація.

МЕЖДУНАРОДНЫЙ ОПЫТ ПРИМЕНЕНИЯ СИСТЕМЫ ЭЛЕКТРОННОЙ ИДЕНТИФИКАЦИИ ГРАЖДАН КАК ТЕХНОЛОГИЧЕСКОЙ ОСНОВЫ ЭЛЕКТРОННЫХ ПЕТИЦИЙ: ОРГАНИЗАЦИОННО-ПРАВОВЫЕ АСПЕКТЫ

Аннотация. Во многих странах мира широко применяется новейшая форма коллективного обращения — электронная петиция, которая подается гражданами в органы власти путем использования информационно-коммуникационных технологий. В статье рассматривается понятие “электронная петиция”, анализируется международный опыт применения и предлагаются рекомендации по совершенствованию системы электронной идентификации граждан как технологической основы электронных петиций.

Ключевые слова: электронная демократия, электронное управление, электронная петиция, информационное общество, гражданское общество, обращение, петиция, электронная идентификация.

Target setting. With the development of the information society, the issue of improvement of communication lines between government and citizens, in particular such new form of citizens' appeals to authorities as an electronic petition, is becoming more relevant. According to the Recommendations of the Europe Council, an electronic petition is defined as a recommendation or comment to the democratic institution, which is delivered through electronic way. Today, this tool of interaction between the society and government is being used by more than 70 countries in the world, including Ukraine.

According to the Law of Ukraine d. d. 2 of October 1996 "On appeals of citizens" (with amendments) [2], the possibility of submitting of electronic petitions to the government and authorities of local self-government is determined, but it is necessary to identify details and to specify mechanisms for electronic identification of citizens and implementation of these standards. That is why the formation and implementation of appropriate mechanisms at the state authorities and authorities of local self-government are relevant issues.

Analysis of recent research and publications. The works of foreign researchers K. Deutsch, P. Lazarsfeld, U. Lippmann, Ukrainian researchers A. Semenchenko, I. Klimenko, H. Pochepstov, V. Tsybalyuk, E. Romanenko, Yu. Kozlov are devoted to the communication between the citi-

zens and government within the frame of the development of the information society.

The article is aimed at summarizing of the international experience of application of electronic identification of citizens, improvement of mechanisms for the electronic identification of citizens in Ukraine.

The purpose of the article is to substantiate the definition "electronic identification", to generalize the international experience of the leading countries of the world concerning approaches to electronic identification, to assess the state of implementation of this instrument in Ukraine, to offer the ways of improvement of mechanisms of functioning of electronic identification in Ukraine.

The statement of basic materials. The information development of the society requires the improvement of methods and forms of communication with public authorities and authorities of local self-government. In particular, such form of collective appeal as the e-petition is widely used in the world, it is submitted using the latest telecommunications means and prescribes a specific procedure for recipient to respond and confirms its effectiveness as a mechanism of systematic public dialogue.

The appeal of citizens is a sensitive indicator of the state of society, its problems, conflicts, people's attitude towards authorities, their ability to solve relevant issues, level of hope,

expectations and demands, which are formed in the public mind under the influence of events in the state, statements of political leaders.

The electronic identification of physical and legal persons is made through issuance of special personal electronic identification means (e-cards, passports, digital signatures and other means, i. e. electronic identifiers associated with a particular person) to them in the prescribed manner and on the basis of the established scheme. The main requirement to eID is ensuring the technological possibility of the implementation of the authentication (conformity of authenticity) of the owner of the electronic ID during performance of any electronic transactions [3].

The main regulatory legal acts affecting the implementation and development of electronic identification of citizens in Ukraine should be considered: – Tax Code of Ukraine [4]; – Civil Code of Ukraine [5]; – Law of Ukraine “On State Register of Voters” [6]; – Law of Ukraine “On state registration

of civil status acts” [7]; – Law of Ukraine “On state registration of legal persons and physical persons – entrepreneurs” [8]; – Law of Ukraine “On electronic digital signature” [9]; – Law of Ukraine “On Unified State Demographic Register and documents, which confirm citizenship of Ukraine, certify the identity or his/her special status” [10]; – Law of Ukraine “On information protection in information and telecommunication systems” [11]; – Law of Ukraine “On protection of personal data” [12] – Law of Ukraine “On compulsory state pension insurance” [13], Law of Ukraine “On banks and banking activity” [14].

The significant problem is the absence of systematized normative definition of “electronic identification”. For example, the regulatory acts of different levels use different approaches and provide different understanding of the term “identification”. The regulatory and legal acts only partially establish the specific line between the terms and the procedures corresponding to them (see Table).

The classification of approaches to the definition of term “Identification”

Regulatory legal acts	Definition
1	2
Law of Ukraine “On banks and banking activity” [14]	Person identification is identification of the person, who is conducting the transaction, based on the document, which confirms the identity of the owner and fixation of the name and surname, date of birth and address in writing, as well as the name, number and date of issue of the presented document, name of the institution that issued it
Law of Ukraine “On Unified State Demographic Register and documents, which confirm citizenship of Ukraine, certify the identity or his/her special status” [10]	Identification is establishing of the conformity of the person with the whole information about him/her with the help of the basic (compulsory) and additional (optional) biometric data, parameters

1	2
Law of Ukraine “On information protection in information and telecommunication systems” [11]	The user of the information in the system is a physical or legal person, who has the right to access the information in the system in accordance with legislation”
Law of Ukraine “On electronic digital signature” [9]	The signer is the person, which legally owns personal key and on his/her own behalf or on behalf of the person, whom he/she represents, affixes digital signature during execution of electronic document
The rules of ensuring of information protection in information, telecommunication, information and telecommunication systems. Approved by the resolution of the Cabinet of Ministers of Ukraine d. d.29 of March 2006 № 373 [15]	Identification is the procedure of recognition of the user in the system, typically using pre-defined name (identifier) or other priori information, which is can be processed by the system
The Order of the Ministry of Economy of Ukraine “On approval of the Procedure of planning, formation, establishment, operation, maintenance, systematization of electronic information resources of the Ministry of Economy of Ukraine and access to them” d. d. 16.07.2010 № 854 [16]	“User identification” is the procedure of assignment of a personal details set (usually it is a pair — username and password) to the user or provision of a special electronic key to him/her for his/her exclusive use
The Order of the State Nuclear Regulation Committee “On approval of Rules of physical protection of nuclear installations and nuclear materials” d. d. 04.08.2006 № 116 [17]	“Identification” is the determination of conformity of the identifying features of the person, which are listed in the documents or database, the actual characteristics of the person him-/herself

Source: results of own research

Therefore, there is no doubt concerning the relevance of regulation of the conceptual and categorical apparatus in the electronic identification sphere.

The electronic identification is the procedure of determination of the user in the system using basic and additional parameters with the help of information and communication technologies.

Today, the regulatory and legal acts of the state determine the following basic and most commonly used identification data of physical persons: — surname; — name; — patronymic; — date of birth; — date of death; — gender; — place of birth; — residence; — citizenship; — series and number of iden-

tity document, his/her family or social status; — the registration number of record card of taxpayer-physical person; — unique number of record in the Unified State Demographic Register.

Analyzing the international experience in electronic identification, in the Proposals to development of the state policy concerning electronic identity in Ukraine, Yu. Koslov and D. Chernikov drew the attention to the percentage of the use of certain technologies of electronic identification in EU countries, which is as follows [18]:

- Electronic identification schemes based on mechanisms of the use of a pair — “login-password” — 9 %;

- Electronic identification schemes that are based on mechanisms of use of one-time passwords on the basis of lists – 6 %;
- Electronic identification schemes that are based on mechanisms of use of one-time passwords on the basis of short text messages – 5 %;
- Electronic identification schemes that are based on mechanisms of use of special hardware and software password generators (OTP-tokens) – 7 %;
- Electronic identification schemes that are based on mechanisms of use of cryptographic transformation in the authentication process (software) – 13 %;
- Electronic identification schemes that are based on mechanisms of use of cryptographic transformation in the authentication process (hardware token) – 13 %;
- Electronic identification schemes that are based on mechanisms of use of cryptographic transformation in the authentication process (hardware token – smart cards) – 16 %;
- Electronic identification schemes that are based on mechanisms of use of cryptographic transformation in the authentication process (hardware token – SIM-cards) – 5 %.

Currently, the site of the petition to the President of Ukraine uses a range of tools for electronic identification, namely: bank ID, registration number of record card of taxpayer-physical person, EDS.

Based on research of concepts of development of petition sites and the

ways of the identification on them, we note the following. Today there are three ways to implement the e-petition in Ukraine:

1) Own (unique) development of the organ of state or executive power (e. g., a petition to the President of Ukraine, petitions to the Cabinet of Ministers of Ukraine, petitions to the Kyiv City State Administration). It is characterized by sufficiently high reliability of electronic identification of citizens (Bank ID, Oshadbank ID, EDS) on one hand and by the large costs of development and support on the other. Thus, as the largest number of Internet traffic accounts for users of mobile phones and tablets, the possibility of adaptability of this sources for mobile devices is very important. The sites of this group have adaptive layout and it is convenient for mobile users to use them.

2) Unified site of petitions “Unified system of local petitions”, which was created within the program “e-Government for accountability and participation” (EGAP), funded by the Swiss Confederation and implemented by the East Europe Foundation Innova Bridge in partnership with the State Agency for e-governance. Currently, this resource was used by more than 80 cities of Ukraine. It is characterized by sufficiently high reliability of electronic identification of citizens (Bank ID, Oshadbank ID, EDS), on the one hand and possibility of free use, which is a big plus in a difficult economic situation. The sites of this group have adaptive layout and it is convenient for mobile users to use them.

3) Own (unique) development of an organ of state, the executive power or

local government. It is characterized by sufficiently low reliability of electronic identification of citizens (e-mail) on the one hand and the high cost of development and support on the other. The sites of that group have no adaptive layout and these resources are not designed for mobile use.

Each of these tools has both strengths and weaknesses. An alternative way of electronic identification for ordinary citizens in the absence of national e-passports could be bank ID, and eID token can be a common bank card. Thus, the initial registration of users of electronic banking and payment services is made in accordance with the rules, which provide identification during personal contact. However, authentication procedures involve different mechanisms, which vary in range from the use of a pair of "login / password" to the means of cryptography.

So in the short term perspective, the government can resolve the issues on electronic identification of citizens quickly enough using resource of the largest banks of Ukraine.

An alternative for banking ID may be the electronic identification of citizens through citizen identification number. The integration on secure channel between the database of the Internal Revenue Service and e-petition service must be created for the implementation of this identification. Today there is integration between the database of the Internal Revenue Service and service of e-petition to the President of Ukraine, so it is needed to make of integration between the database of the Internal Revenue Service and services of electronic petitions to state and local authorities taking into

account this successful experience. For the identification the user will need to enter not only the name, surname and patronymic name, email address, but also his/her identification code. The search will take place in the database of the Internal Revenue Service, and only at the conformity with the main parameters of name, surname and patronymic and his/her identification code, the user will receive e-identification and be able to create an e-petition and to vote etc.

Today this mechanism works only partially and requires both additional automation and regulatory and legal strengthening.

The legislation of Ukraine provides the right of individuals to refuse to accept the registration number of the taxpayer's registration card because of their religious beliefs. According to the State Fiscal Service of Ukraine, at the beginning of 2015 about 200 thousand citizens of Ukraine have used this right. Therefore, this method of electronic identification cannot cover all citizens.

Many experts think that mobile ID can be used for the implementation of electronic identification. Mobile ID is a service that allows subscriber to use his/her mobile phone with SIM-card installed in it as a means for secure electronic identification. With Mobile ID you can access secure electronic documents and put your digital signature on them. Currently the demo version of the service can be used on the portal of administrative services of Lviv city.

This method of electronic identification requires regulatory and legal strengthening. Also, there is a great caution of giving of the vast array of

personal data of citizens to commercial establishments. For the implementation of this approach the citizens will be required to appear at least once at the nearest division of communications provider for identification.

Another issue that needs organizational and legal solutions is the risk of voting of the same person from different email addresses that will distort the representativeness of the data of collecting of signatures for e-petition. There is the possibility of unauthorized influence on the voting by so-called “bots”. This is especially significant issue for local authorities. During analyze of means of electronic identification for registration of citizens, the name, surname, patronymic name and email address, to which the user receives a link to confirm registration on the site, must be specified. The security level of online resources of local authorities is much lower than the corresponding resources of central authorities. To resolve this problem, changes and additions to the Law of Ukraine “On citizens appeals” must be made, firstly: limit the creation and signing of petitions for solely citizens of Ukraine, and secondly: authorization of citizens must be conducted with existing and confirmed databases, such as users of “Card of Kyiv resident”(the imperfection of this system is that only Kyiv residents can use such authorization, but locally for Kyiv, this solution is sufficiently effective, it can be used to provide citizens with an additional impact on local authorities), register of voters of Ukraine is one of the latest and biggest data bases of citizens of Ukraine, using this database citizens with no

identification number of the taxpayer can have the possibility of electronic identification, with a bank-ID (the imperfection of this system is that not all citizens are users of the Oshadbank and Privatbank) and directly on the site via SMS verification (confirmation in the form of SMS with the code is sent to cell phone of citizen. The disadvantage of this system is that the SMS sending service is a paid service. The implementation of this approach is the additional financial burden for citizens). The unified digital signature is also used for identification of citizens. The disadvantage of this tool is a paid registration, and as a result a limited number of users. For the most part, the unified digital signature is used by the entrepreneurs and employees. All of these authorization methods have both benefits and disadvantages. Therefore, only the combination of all possible authorization methods can allow more citizens to use the electronic petition.

For today, it is necessary to consider some positive experience of e-petition implementation shown by the Machinery of the Verkhovna Rada of Ukraine. Although right after the launch of the tool of e-appeals of citizens to the Verkhovna Rada of Ukraine, the website had obscure interface and the understanding of how to initiate or sign the petition was beyond the power of average citizens. In March 2016, the website was modernized and now the service “E-petitions” functions successfully. The appearance of the petition is implemented within the priority-oriented measures for creation of the E-Parliament in the Verkhovna Rada. The management of computer-aided sys-

tems of the Verkhovna Rada of Ukraine, which is determined by the technical administrator of the “E-petition” system, takes measures on its software and technical assistance, verification, registration, support of petition and will perform other actions on compliance of standards with the requirements of the legislation. The website of the Parliament contains the list of spheres and sectors of the state activities concerning which the user can send the e-appeal, so that the citizen can decide, whether it is necessary to create new petition or it already exists and it is necessary to vote for it. Here with, the user should fill the corresponding form on the web portal for authorization. There are sections “signature collection continues”, “is under consideration”, “responses to petitions”, “expired”, “create the petition”. The search of petitions can also be performed by branch directions. The “E-protocol” service is introduced on the web portal of the Parliament; it contains statistical data on voting of deputies, top leaders and anti leaders of voting, verbatim transcript of the plenary session, corresponding audio and video information; “Stop Absentee!” resource; the inquiries of deputies also are published in it; the measures on ensuring the video and audio transmission of the session of all parliamentary committees are carried out; the work on creation of the electronic workplace of the parliamentarian is performed; the movement towards the consideration of legislative drafts in second reading in the electronic for, etc. is carried out.

We hope that within the “E-Parliament” project the transfer of the single legislative body on the electronic system will become a reality.

Taking into account this experience, each state authority should create the website for petitions, therefore, it is necessary to unify the approaches to creation of e-petition service by using the template of this service based on the web-site of the Unified system of local petitions. The main benefits of this resource are: unification of resources for petition collection, high level of certainty of the person identification, adjusted layout, free use. Thus, the state could save considerable resources that are spent on the development of the website and its future integration with databases for identification of citizens.

Conclusions. The article reveals the essence of the concept, the categorical and conceptual framework on issues of electronic identification is improved, the status of implementation of this tool in Ukraine is assessed, the ways to improve the functioning mechanisms of the electronic identification in Ukraine are proposed, namely the adjustment of interaction of the electronic identification system with the State Register of Voters of Ukraine, Unified State Demographic Register of Citizens. It is proposed the local government authorities and executive authorities to use the successful experience of the electronic identification of citizens in the service of the Unified system of local petitions by improving the regulatory framework, namely to amend the Law of Ukraine “On appeals of citizens”, which provides the methods of electronic identification and obliges to use them. In particular, the imposition of sanctions for possible turning of votes, reducing their number, etc. requires additional study of legal issues.

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