

*New Economy*

Oleksandr LYUBICH,  
Valentyna PLESKACH

**NEW INFORMATION TECHNOLOGIES  
FOR THE ELECTRONIC  
GOVERNMENT IN UKRAINE**

**Abstract**

The article defines the essence of the task of forming the e-government in Ukraine and provides schemes of electronic governance. The authors examine the approaches to the concept of e-government development by applying new information technologies in Ukraine and conduct a comparative analysis of foreign experience. Finally, the authors determine the objective of e-government formation and its functioning in Ukraine.

**Key Words:**

Electronic democracy, electronic government, electronic voting, governmental portal.

---

© Oleksandr Lyubich, Valentyna Pleskach, 2004.

Lyubich Oleksandr, Candidate of Economic Sciences, Science and Research Institute of Finance at the Ministry of Finance of Ukraine.

Pleskach Valentyna, Candidate of Technical Sciences, Science and Research Institute of Finance at the Ministry of Finance of Ukraine

## Introduction

The Internet and information and communication technologies have essentially amended the scheme of human interaction and cannot but affect the activity of government and its institutions now. The modern state faces a similar task of changing the administration system, as does the modern producer under conditions of information society development. This primarily implies the increase of production efficiency by means of using new managerial models based on application of new information technologies.

Thus, the government begins to use methods similar to those applied by modern companies. For example, it aspires to study the needs of its citizens and to receive maximum information about them in order to realize its constitutional functions in the most effective way.

Today, various network approaches to public administration undergo the stage of development, in particular those related to creation of electronic government. Many researchers conclude that overly centralized structures are unable to react immediately to changes in the modern world, and this is true for both the companies and the governments.

In the e-government, all internal and external relations and processes are supported by information and communication technologies. For that, provided should be the possibility of functional and informational interaction with each person, economic entity, and public organization.

Now, what are the main preconditions to creation of e-government? They are legal, organizational, and technological in the first place.

The essence of the task of forming the e-government in Ukraine consists in the following:

- To create a reliable governmental Internet network and a databank, which would concentrate the information on departments and branches in order to facilitate teamwork;
- To provide the society with various information services, such as Government-to-Citizen or G2C (for example, in Sweden people submit petitions to the parliament in electronic format); Government-to-Business or G2B (in the USA government places calls for tenders and accepts companies' bids through web-sites); Government-to-Government or G2G (for example, in Canada the regional and the central authorities are coordinated through the governmental portal which meets the requirements of officials regarding administration, as well as provides reliable and convenient Internet-access to citizens).

E-government is the actual work of G2C, G2B, and G2G systems. Let us consider them in detail.

G2C – is meant to receive feedback from citizens. The introduction of G2C systems will give people an opportunity to spend much less time standing in lines for standard information, references, and forms. At that, the budget saves money, and people save time.

G2B – is intended to organize relations between state authorities and businesses. This could be the automation of tax payments or conducting electronic tenders for delivery of goods.

G2G – automation of relations and document flows among departments.

G2G is intended to support the following tasks:

- administering state apparatus;
- coordinating the operations of regional administrations and territorial subdivisions;
- internal record keeping.

Let us analyze the concept of e-government that appeared recently in the scientific literature.

What does the term «electronic government» (e-Government) mean? There are many interpretations of this notion, but the authors adhere to the next one: it is such a system of state administration, which extensively uses advanced information and communication technologies.

The Webster's Dictionary defines electronic government as the «established system of political administration, by means of which the state, the region, and other entities are administered», while administration is the instrument of «strengthening the authority of the state and the region».

Electronic administration is the placing and implementation by means of the Internet and information and communication technologies of all possible actions carried out by three branches of power (executive, legislative and judicial) at three levels of administration (national, regional and local).

E-government is a new model of state administration, which is able to transform the relationships between businesses, citizens, and state authorities. It implies interaction of the state, businesses, and citizens by means of information and communication technologies.

Basic principles of e-government creation are the following:

- providing services at any time (e-government operates 24 hours/day);
- maximal simplicity and transparency (it must serve ordinary citizens, not specialists);
- uniform technical standards and inter-operability (certain applications should conform to general principles of authentication, security, and design systems architecture);

- guaranteeing confidentiality and adherence to the rules of information security.

It is important to trace how ICT affects governmental activity, one of the major macroeconomic entities. For example, the US sociologist D. Knoke [1] views political systems as social networks and, accordingly, suggests that structural analysis should be applied to study of the voting process, social movements, roles of political leaders, etc.

Information society primarily contributes to democracy formation and participation of citizens in state administration, when citizens enjoy equal rights, can freely express their own opinion, and directly affect political life of the state.

However, the question of electronic information openness is rather ambiguous. On the one hand, new technologies unite government and citizens with corresponding rights and duties within a single information space. On the other hand, this can give rise to centralization of power and pressure of political elite, with state authorities rigidly controlling the society (Singapore with its rather undemocratic traditions is one example).

In a modern society, there are a number of reasons inducing the government to change the methods of administration. This primarily refers to intensification of globalization processes, which should bring the quality of life in conformity to international standards, improvement of computer literacy, and increasing the number of people who have access to the Internet and prefer to communicate with state authorities using ICT.

Consequently, the development of Internet technologies increases the responsibility of government to society and enables citizens to influence the governmental decision-making processes directly. The Internet also considerably reduces the role of traditional intermediaries in the market and increases the role of direct communication, providing the opportunity to realize it in the real-time mode. Thus, it follows that as long as digital technologies are applied, the democratization of decision-making also intensifies.

For this reason, the Internet is considered as the technological basis for modern structure of democratic society. However, it is necessary to take into account that electronic government does not mean fast achievement of democratic ideals. Technology only changes the forms of regulation, but it does not reform its essence.

The American professor, A. Norman asserts that «as far as the abilities of communication systems diffuse very fast, the degree of direct democracy implementation increases. However, a key question is whether the direct democracy will improve public administration. After all, voters are bounded rational beings, who own limited resources they can invest in the process of choosing among political alternatives. And to the extent that the governmental structure grows more complex, the amount of resources that should be spent by the voters on making their choice, increases as well. Even if complete databases are created, the voters will need more time to analyze them. Like persons who en-

dorse legislative decisions without being competent in the issues beyond their specialty, an average voter will hardly want to get information on the matters that have nothing to do with him. Consequently, direct democracy has little chance of removing the of decision-making bias»[2].

The American expert on post-industrial society, G. Mulgan specifically underscores the possibilities of the Internet's control functions, and thus, the expansion of potential possibilities of realizing democratic procedures under conditions when the activities of governmental authorities are closely controlled by the public. At this, he denotes the scarcity of these opportunities: «Democracy always rests upon the material base providing time and resources for participation in the democratic process. More importantly, such a material base is likely to be of greater significance than the applied technologies» [3].

The majority of subsystems of the integrated distributive system of e-government support in Ukraine are now at the stage of introduction, or rather the matter of discussion. This work will result in an e-government portal.

Global experience demonstrates that, on the one hand, the US public services can annually save about \$110 billion. On the other hand, the large number of ministries and departments deliberately deceives decision-making entities with rather incomplete and outdated information, which is slowly collected and updated with delay [4].

The creation of e-government is a difficult and long-term task. Proceeding from foreign experience, we can assert that an effective system of e-government is introduced in stages:

- the first stage includes the creation of web-sites of various ministries and departments, which would provide information about their mission and activity; the governmental bodies are expected to use the Internet to place public information;
- at the second stage, the communication between officials and citizens should become two-way, meaning that citizens can provide personal information or proposals to officials; here develop early elements of interactivity, when it becomes possible to receive samples of some references and forms;
- at the third stage, the portal should begin to satisfy the multifunctional needs of the officials and citizens (for example, an individual can pay taxes in electronic way or, being at home, vote at the elections by simply pressing the mouse button). Such specification of the work of e-governance demands creation of special sites to support these services not only for central, but also for city, and even regional, state bodies;
- the fourth stage implies creation of the combined portals of different departments and services, by means of which it should be possible to carry out the transactions which earlier could be settled only by being

physically present at public offices. By means of regional portals, there should be possible to register enterprises, make out financial documentation, legalize foreign documents, etc. At this stage should regional portals appear, which would combine both the state services and the services provided by public sector (systems of e-business get connected);

- the fifth stage is characterized by creation of the electronic system of public administration based on uniform standards and the governmental portal that becomes a single access point to all services for citizens and businesses. In this way, all the services provided by the state are integrated and the citizens receive an opportunity to communicate with all governmental departments. E.g. The Canadian electronic governmental system unites 20000 web-sites and 15 million users (<http://www.canada.gc.ca>).

Moreover, e-government gives an opportunity to use transparent ways for carrying out commercial operations with different sub-divisions, as well as provides bilateral consultations and ensures accountability of governmental authorities to voters.

Thus, the idea of electronic government turns gradually into the idea of electronic democracy. Electronic democracy is the form of electronic information interchange at the time of democratic processes realization. More often electronic democracy is understood as on-line voting of the citizens. Two opposite views exist in scientific literature with regard to e-voting.

The first viewpoint relates to active participation of citizens in the on-line voting process and to the increase in a number of voters, especially young people. The opponents of the on-line democracy assert that it will reduce the number of votes of poor people and remove mentally and psychologically disabled people from the voting process.

In addition, electronic democracy provides a possibility of public opinion polls, communication of deputed people with voters, public feedback to bill drafts, election campaigns, and collection of votes.

On-line voting can be ensured in two ways, either by specialized computers installed at polling stations, or via free Internet-access at home, office, library, etc. However, the results are easier to check if voting is arranged so that computers are installed at definite locations, whereas voters prefer to vote at home.

In general, the use of information technologies by state authorities pursues two basic purposes, i.e. the creation of democratic state and the increase in overall performance of state apparatus. At the same time, the realization of the e-government concept entails great expenses.

New information technology opens up new possibilities of electing the President and People's Deputies of Ukraine, as well as holding national refer-

enda and enhancing their effect in political activities of the Ukrainian people. Establishment of public institutions in conformity to principles of democracy is one of the fundamental priorities of Ukraine as an independent state.

Different works [7, 9, 12] elaborated the concept of the system for integrating the web-sites of governmental bodies into a single governmental portal, which can be analyzed at three levels:

- informational;
- advisory;
- collaborative.

Current development of the forms of political power as an instrument of participation of all citizens in public administration calls for new approaches to organizational and legislative forms of direct democracy traditionally realized through free and fair elections. The transition to electronic democracy, the new way of electronic information interchange during democratic processes, is taking place today.

To ensure participation of many citizens in the Internet-forums, it is very important to form the public opinion and public consciousness of the Ukrainians. It is essential for the parties and their leaders to present themselves, their electoral programs, and basic directions of their political activities in the Internet.

The role of the leader is to offer a simple idea and to unite those interested around it [5, 6]. The leader should formulate precise and explicit mission. This mission should be made the foundation for electronic presentations (web-pages, sites, portals, etc.), which would describe in detail the project's ideas, plans and necessary conditions to form and apply new forms of election process democratization. In the first place, it is the ability to hold a nation-wide on-line dialogues and to arrange global forums.

E-mail, teleconferences and chats are the three major Internet-based communication systems that provide an opportunity to hold discussions over a long period of time.

Internet technologies enable to structure the discussion by subject; they help to search for a good company having common concerns; they create conditions for forming queries and suggestions, as well as for placing specific information referring to certain problems in order to facilitate rational decision-making.

It is very important to take into account the processes of globalization and localization, which occur simultaneously. Here, we observe two phenomena. One of them is economic integration of different countries, in other words, the intensification of globalization processes. The other is the people's wish to govern their own countries, which results in consolidation of the localization tendency. Globalization arouses approval due to the opportunities it provides: access to advanced technologies, new market entry, and consequently, increased labour

productivity and living standard. However, it gives rise to criticism, since it causes aggravated competition and foreign capital inflows.

As far as localization is concerned, it promotes active participation of people in the governing processes, which is regarded as a positive phenomenon, on the one hand. On the other hand, it can lead to macroeconomic instability because of a rather irresponsible policy of local authorities, which is considered a negative phenomenon [8].

For new tendencies to be implemented in the most effective way, the governments are to find new methods of talking with people, new ways of distributing responsibilities, and new services to provide to people.

Transforming the system of state apparatus in the electronic format makes it easier for both the people and the enterprises to interact with the government. Finally, this facilitates the development of interrelations among different state bodies.

E-government is described by the following features:

- network technologies eliminate barriers between the governmental bodies and the citizens, since customer-oriented, that is citizen-oriented, providing of public goods is brought as close to the final consumer as possible;
- the government itself undergoes fundamental changes, since the successful implementation of innovations related to application of electronic means of communication requires rational and well-organized governmental structures;
- the mentality of population also changes; consequently, the formal model of democracy transforms into digital, or electronic, democracy.

The new paradigm of state power emerges, according to which the state does not dominate, but serves a society. Table 1 presents a basic characteristics of industrial and post-industrial (information) society at different levels of administration.

Expansion of democratic procedures is stirred up by information interchange, direct participation of citizens in on-line discussions and decision-making.

D. Tapkott and I. Strelets [10, 11] suggest a different approach to industrial and information society from the position of e-government concept realization (Table 2).

The formation of the concept of e-government in Ukraine is in progress. And we can assert that the governments of the states that chose to follow the path of informational transformations must work hard until the state apparatus fundamentally reconsiders the whole idea and specific managerial objectives.



Table 1.

**Comparative Characteristics of Industrial and Post-Industrial Societies**

Subject of Research	Industrial Society	Information Society
Democracy	Representation	Participation
Citizens	Passive participants	Active participants
Policy	Mass culture	Direct dialogue
States	Nation-state, monoculture	Globalization

Table 2.

**Basic Characteristics of State Governance  
(in Industrial and Post-industrial Societies)**

Characteristics	The State in the Industrial Period	The State in the Network Interaction Period
Administration	Bureaucratic, vertical	Customer servicing and transfer of powers to local authorities, horizontal
Administrative functions	Separate administrative functions	Services (Web-services)
Form of service	Paper technologies	Electronic technologies
Reporting	Documentary	Electronic
Time costs	Great	Instant
Form of money transfer	Financial operations manual, partially electronic	Electronic money transfer
System of communication	Separate information facilities	Integrated computer networks
Election of officials	Periodic election of officials	Operative democracy via participation of citizens

One of the principal requirements of e-government formation in Ukraine is the creation of a respective legislative base. Thus, a number of laws and drafts have already been developed, such as the Laws «About Telecommunications», «About Electronic Digital Signature», «About Electronic Documents and Electronic Document Circulation», «About Information Protection in the Automated Systems», «About Protection of Personal Data», «About Uniform Register of Personal Data», «About Activity in the Information Sphere», «About Telecommunications Monitoring», etc. Nevertheless, the legislative base is so far inadequate.

Moreover, there is also the problem of information openness. Two-way information interchange between the government and the citizens supported by e-government can lead to excessive openness of personal information, which will

evoke user concern regarding personal immunity and inviolability of civil freedoms.

Transition to electronic government is a very complicated and multi-stage procedure, which demands time to understand the importance of the problem and powerful and strong-willed decisions of political leaders to implement the idea. Electronic governments, compared to other variants of electronic communication, must be introduced with caution, since political mistakes may turn out destructive.

Some countries introduce special public positions held by the people commissioned to observe over the maintenance of citizens' constitutional right to access information. In the USA, this position is called Chief Information Officer (person responsible for information), in Great Britain it is the e-envoy (electronic empowered person). Sometimes governments have special councils responsible for information technology implementation. The USA and Canada [11] have adopted the laws which regulate the use of the Internet in public institutions.

The US leadership in the area of information society development is ensured by the federal authorities' clear understanding that information technologies play a decisive role in economic and social development. The access of the US citizens to their federal government is provided through the following systems:

1. Comlink, developed by Massachusetts Technological Institute;
2. Open Meeting, realized by the national initiative on strengthening the control over governmental activity.

Both systems contributed to making the government more accessible for communication with the citizens who have access to state documents. Instead, federal authorities obtained the opportunity to observe the state of public opinion.

In Great Britain, the State Information Service provides access to nearly 300 public organizations through electronic channels.

In France, the Interdepartmental Committee on Information Science and Office Equipment coordinates the activity of the state bodies in the information sphere. The electronic government in Singapore develops rather quickly and successfully in terms of efficiency.

The European Commonwealth approved the Sixth Framework Program "Information Society Technologies" (IST, <http://www.cordis.lu>), which stipulates financing for systems and technologies that ensure informational support to democratic processes, creation of multilingual personal service and intellectual multi-purpose systems, interaction between citizens and administration, as well as improvement of statistical systems and services.

The European Social Research Commission supports the development of this program in the area of electronic democracy and electronic business, for

example: Innovative IST Platforms and Services to Support Democratic Regional/Urban Planning Process (AGORA); New Employment through Innovative Tools and Services for an Efficient/Effective European Structural Funds Management (EMPLOY); Three-Dimensional Restitution via Internet of Digital Elevation Networks in Towns (TRIDENT); Advanced Interactive Digital Administrations (AIDA); European System for Local Authorities' Networking Domains (EUSLAND); Single Administrative Message for Postal Enterprises (SAMPLE); Community Empowerment Network through Universal Regional Integration for the 21st Century (CENTURI 21); European Cities Platform for On-line Transaction Services (EURO-CITI); Facilitating Administrative Services for Mobile Europeans (FASME); Public Administration and Electronic Commerce in Europe (PACE); Improving Public Services (IMPULSE); Models for European Digital Islands (MEDIS); Providing Innovative Service Models and Assessment (PRISMA); Digital Economy in South-Eastern Europe (SEED) [13]. The Government On-line project implemented by the EU countries pursues to create conditions for granting on-line public services.

The work on electronic government creation in the advanced countries runs along with ensuring the publicity and transparency of public activity of official bodies and the accountability of the government to the citizens. At that, the accountability is understood rather broadly: it is not limited to informing the citizens about different governmental measures, it provides publicity to indicators of state authorities' work and forms the instruments of monitoring these indicators.

The number of state authorities represented in the Internet increases. However, it is a matter of informational functions rather than Internet public relations or providing any public information services.

## Conclusions

How can the citizens and businesses of Ukraine benefit from e-government? They benefit from:

- reduction of expenses on costly state apparatus because of reformation;
- publicity of state decision-making and transparency of adopted decisions;
- accessibility to all legislative acts;
- an opportunity to take part in state decision-making process;
- information services provided in the interactive mode, etc.

The ICT-related changes give rise to corresponding social and economic effects in the sphere of decision-making both at the micro- and macro- level, in particular:

1) the behaviouristic functions are modified: there is a change in the system of preferences, since the need for information obtains the highest priority;

2) the Internet significantly influences the activity of companies, and consequently, it is necessary to develop new approaches to labour organization in the modern company, i.e. the vertical forms of interaction are basically combined with the horizontal ones, and new network connections are formed;

3) as information technologies diffuse, the nature of social life and the role of the government change: the idea of e-government begins to materialize, and flexible communication between public officials and ordinary citizens becomes possible;

4) the increase in the Internet presence is typical of the Ukrainian state authorities, as well.

Therefore, the basic barriers to electronic democracy development are the problems of financial and adaptive, nature as well as poor legislative base.

### **Bibliography**

1. Knoke D. Political Networks: The Structural Perspective. New York: Cambridge University Press. – 1990. – P. 7–9.
2. Norman A. Information Society: An Economic Theory of Discovery, Invention, and Innovation. Boston: Kluwer Academic publishers. – 1993. – P. 246–247.
3. Mulgan G. Communication and Control: Networks and New Economies of Communication. Oxford: Polity. – 1991. – P. 68.
4. Council of Economic Advisers. Economic Report of the President // Washington D. C. U. S. Government Printing Office. – 2001, January.
5. Who is who in the Supreme Rada of the Ukraine»(IFES). – 1998.
6. Выдрин Д. Политика: История. Технология. Экзистенция / Гл. ред. С. Головкин. – К.: Либідь, 2001. – 425 с.
7. Концепція формування та функціонування інтегрованої інформаційно-аналітичної системи органів державної влади та органів місцевого самоврядування. – Липень. – 2001. Затверджено протоколом Держкомзв'язку та інформатизації.
8. Partnership for Development: the World Bank 2000 // Washington: World Bank: IMF. – 2000. – P. 55.

9. Інтеграція веб-сайтів органів виконавчої влади до Єдиного веб-порталу органів виконавчої влади, [www.softline.kiev.ua](http://www.softline.kiev.ua).
10. Тапскотт Д. Електронно-цифрове общество. – К.: «ІNT-press». – М.: «Релф-бук», 1999. – С. 204.
11. Стрелец И. А. Новая экономика и информационные технологии. – М.: Издательство «Экзамен», 2003. – 256 с.
12. Концепція формування системи національних електронних інформаційних ресурсів. Розроблена Держкомзв'язку та затверджена розпорядженням Кабінету Міністрів України від 5 травня 2003 р. № 259-р.
13. Ouzounis V., Pleskach V. D.3.1: Analysis of surveys for e-commerce environments in South-Eastern Europe. – Deliverable D3.1 of the SEED. – IST / Accompanying Measures IST-1999-29060. – 222 p.

The article was received on June 23, 2004.