FORMATION OF ELECTRONIC GOVERNMENT IN UKRAINE PROBLEMS AND PROSPECTS OF DEVELOPMENT

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MONOGRAPH

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The monograph considers various approaches to understanding the essence of the concept of *electronic management* based on which the author's definition is formulated. The main problems of the development of E-governance related to the lack of a clear gradation of electronic administrative services and the lack of effective elements of E-governance in the field of customs, public procurement and taxation are identified. Several promising areas for improving E-governance in Ukraine are proposed, taking into account the existing problems and challenges caused by the coronavirus pandemic.

The monograph provides a theoretical generalization and a new solution to the scientific problem, which consists in determining the conceptual foundations and identifying promising directions for the development of E-governance in Ukraine, its development and creation of an attractive investment climate and state support (motivation) for the development of E-governance and the formation of its basis for ensuring the effective operation of public administration, public service.

The monograph will be of interest to practitioners of public administration, public administration, scientists, students, postgraduates, teachers, and anyone interested in the development of scientific thought.

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INTRODUCTION

The relevance of the topic of E-governance is justified by the fact that in the context of the development of the Global Information Society, the state's performance of its constitutional duties and provision of services to citizens is accompanied by an expansion of the use of information and communication technologies (hereinafter referred to as ICTs). The most effective means of interaction between the state and society on the internet today is electronic governance, the use of which ensures productive interaction of all branches of government both among themselves and with society and significantly simplifies the procedures for obtaining services. Recently, national programs for adapting public administration to the conditions of the information society have been implemented in the leading countries of the world, providing for the introduction of E-governance as a new form of interaction between the authorities and society.

The monograph examines the basics and strategies for the development of E-governance in Ukraine. In the context of the euro integration vector of Ukraine, the introduction of European norms and standards for the implementation of State Information Policy, the use of foreign experience in the implementation of E-governance are of particular importance. These processes are united by the fact that they are focused on the development of a new organization of socio-political activities, in particular, the public administration system, through the widespread use of the latest ICTs. The work aims is to analyze the effectiveness of implementing E-governance in Ukraine, taking into account the need to simplify the receipt of State Administrative Services by the population and businesses and the prospects for its development in overcoming the consequences of the coronavirus pandemic. Methods of comparison and generalization were used in the study of scientific approaches to understanding the essence of the concept of *E-governance*, an empirical method in the study of the problems of the formation of E-governance and a systematic approach in the development of proposals for the prospects for improving E-governance in Ukraine.

The author's definition of the concept of *electronic management* is formulated. Three main problems of the development of E-governance in Ukraine are identified: the lack of a clear gradation of electronic administrative services of the state; the lack of opportunities for broad public access to electronic services of the Cabinet of Ministers of Ukraine; the lack of effective E-governance in areas that fill the state budget of Ukraine and ensure the legal functioning of the economy, in particular in such areas as customs, public procurement and taxation. Measures are proposed to improve E-governance in medicine, customs, the tax system, education, and administrative services by creating new special Internet portals, mobile applications, and attracting blockchain technologies.

Section 1. Theoretical and methodological foundations and development of E-governance.

1.1. Trends in the development of ICT as a factor of influence on E-governance.

The twenty-first century is a century of rapid development of the latest ICTs; easy access to information is changing our way of life, work and entertainment. ICTs in modern conditions of rapid technological development of mankind are becoming a catalyst for radical changes in the life of society, changing traditional ideas about political and cultural values. As a result of these global changes, there is a gradual transition to the future of the information society, where information and knowledge play an important role.

As noted by modern proponents of the use of ICT in various spheres of life, we consider access to knowledge to be one of the civil rights of citizens, information gives people the opportunity to learn, create, and fulfill their dreams. 1 This highlights the growing role of ICTs in the economy, public administration, and society as a whole. In turn, ICTs are transforming the current political reality and management process by changing their roles and functions.

Technological progress has significantly reduced the cost of accumulating, processing and transmitting information on a planetary scale, which has affected economic growth indicators. So, if according to the definition of one of the ideologists of the information society D. Bell, industrial society was characterized by a redistribution of labor in favor of production and production, then in the modern world this redistribution is shifting to the field of Information Services. The main resources are information and knowledge. According to another equally well-known researcher, E. Toffler, information is the most versatile and fundamental tool of power, since it allows its owner to avoid responding to the challenges that he finds himself facing, and can be used as a means of forcing others to behave in such a way as not to violate the personal interests of the owner of knowledge.

Knowledge (information) provides its owner with the most effective power. ICTs have become an integral part of the functioning of modern society, on which not only the development of science and technology but also democracy depends. In turn, one of the necessary prerequisites for sustainable democratic development is a transparent and open government. The openness of government bodies is the key to implementing effective policies that can create real civil control, ensure human and civil rights, and strengthen citizens' confidence in the authorities.

One of these tools for government openness is electronic governance, which provides new forms of communication between citizens, businesses and the Government, unhindered access to public information and promotes citizens' participation in the development and implementation of state policy, providing better services. The theoretical foundation for the concept of E-governance is the

theories of the Information Society, which have been developed since the second half of the 20 century. [100]

These theories justified the dominant role of information and information resources for the development and existence of society at the present stage. In addition, information will determine the development of civilization in the future, will become the main criterion for social stratification, the main resource for the accelerated development of some countries and, at the same time, a source of inequality.

In the scientific and expert community, there are different definitions of the concept of E-government. But even more, definitions are given to the concept of *electronic governance*. This is due to the lack of consistency in the interpretation of the concepts of *E-government* and *E-governance* in various official documents in different countries of the world. The very concept of *E-government* (from the English E-government) began to be actively used in the 90s of the 20 century. it was at this time that a new paradigm of using ICT to improve the efficiency of public administration appeared. In the Organization for Economic Cooperation and Development (OECD), the concept of *E-government* focuses on the use of new ICTs by the government which are applied to the full range of managerial functions. The starting point of E-government is the belief that E-government is potentially the main source of adaptation of best management practices. [100]

Experts from the European Commission define E-government as the use of ICT in public administration in combination with organizational changes and new skills of civil servants to improve the quality of public services and democratic processes, strengthen support for state policy. So, in the modern sense, the English-language term *E-government* is interpreted not only as E-government, but as electronic government that is, the use of modern technologies in public administration bodies, including Internet technologies. And if we are already talking about electronic management as a certain technology, then a new concept of *electronic management* arises. According to recommendation Rec (2004) 15 of the Committee of Ministers of the Council of Europe *On E-governance*, E-governance includes e-democracy and the supply of e-public services. [100] Publication of information by electronic means as a type of activity refers to e-services. Recommendation Rec (2004) 15 of the Committee of Ministers of the Council of Europe *On E-governance*, in particular, sets out the following steps for the development of E-governance in the signatory states:

- review the policy of implementing E-management technologies, legislation and practice of its application in this area;
- involve relevant foreign and national experts in cooperation to develop a common strategy for the implementation and development of E-governance;
- develop an E-governance strategy that: fully complies with the principles of the National Organization of democratic governance; contributes to the positive development of democratic processes, etc. In our country, a generalized definition of E-governance was proposed in the concept of E-governance development in Ukraine (2010)7:

Electronic governance is a form of Public Administration organization that contributes to improving the efficiency, openness and transparency of the activities of state authorities and local self-government bodies using information and telecommunications technologies to form a new type of state focused on meeting the needs of citizens.

In the strategy of Public Administration reform of Ukraine for 2016-2020, the term *E-governance* was defined as the use of ICT to improve the efficiency of the public administration system, its transparency and convenience, in particular the operational component that ensures the activities of state bodies.

In the scientific literature on E-governance, experts point out that the very concept of E-governance is already a concept of interaction and a new form of cooperation between the state and citizens in the information society. Based on this, there are even several classifications of interactions that occur in E-governance. Different researchers call these classifications differently. Some consider them types of interactions, while others consider their sectors. There are several main types (sectors) of interaction: G2C (government – citizens); G2G (government – government); G2B (government – business). Some researchers add a fourth type (sector) of interaction G2E (government – civil servants). Others also add a separate fifth type (sector) of interaction C2G (citizens – government), focusing on this type of interaction with the government. [100]

In general, South Korea has developed a concept of interaction between the authorities and citizens, which at first glance visually almost does not differ from the G2C, but, in fact, only in its English language abbreviation G4C (government for citizens), there is a conceptual difference in E-government for citizens.

So, although E-governance encompasses many different activities and many participants, there are three clearly defined sectors of interaction: between public administration (G2G), between state and business (G2B), and between state and citizens (G2C)10.

It should be noted that with the introduction of ICT in all spheres of modern life, a new form of interaction arises in the context of the formation of the information society – electronic interaction. The uniqueness of this form of interaction is that it combines all the above classifications. If we talk about the sectors of electronic interaction, then the above-mentioned three sectors (state, business, society) can also be attributed to the space of electronic interaction.

Moreover, the emergence of electronic interaction has led to the fact that new concepts of the Information Society, E-government (E-governance) and e-business (e-commerce) have emerged within the framework of the space of interaction between these sectors.

E-governance involves automating interaction in the G2B, G2G, and G2C sectors. Let's take a closer look at the prospects for implementing E-governance in these sectors. The G2B (government to business) interaction sector is a sector of interaction between government bodies and business representatives in E-

government. This is an online interaction between authorities and business entities to support and develop business through ICT13. interaction in the G2B sector is carried out in the areas of information support for entrepreneurship and creating conditions for the development of e-commerce.

Initiatives in the G2B sector are attracting a lot of attention due to the significant enthusiasm of the private sector and opportunities to reduce costs by improving the E-public procurement process and increasing competition. The G2B sector includes the sale of business surpluses-goods owned by the state, as well as the purchase of goods and services by the state from entrepreneurs. The main motivating factor that increases interest in the G2B sector is the growing demand to reduce costs and improve procurement efficiency. [100]

Just as the interest in cost-effectiveness contributes to the development of initiatives in the G2G sector, the support provided to many initiatives in the G2B sector is due to their potential to streamline and increase the sustainability of multi-employee operations. Examples of such operations include renewal of permits and licenses, registration of benefits for doing business. At the G2B level, the introduction of E-governance will reduce the costs of public authorities through the optimal use of outsourcing technologies and create a more transparent public procurement system.

For business organizations that spend too much time reporting, electronic management in the G2B sector allows them to transfer the following operations online: - payment of taxes and payment to social insurance funds for employees; - registration of new companies; - provision of information to statistical authorities; - submission of customs declarations. The G2B sector requires considerable attention, partly due to the high enthusiasm of the business sector and the potential cost reduction of implementing improved ways of providing services and increasing competition. The G2G (government to government) interaction sector is a sector of interaction between authorities in E-government. In many ways, the G2G sector is the backbone of E-government. G2G includes the organization of electronic document management between subjects of exercise of power and data exchange between power electronic registers according to the principles of unification, interchangeability and compatibility (the so-called principles of interoperability).

This refers to both interdepartmental interactions within and between state authorities, as well as the interaction between both state authorities at all levels and local self-government bodies. 15 One of them is the interest of the authorities themselves in improving the efficiency of management processes related to both internal and external document management. One of the expected benefits of investing in ICT is the reduction of costs achieved by optimizing management processes, reducing the number of employees required to complete tasks. Equally important is to increase the consistency of the results obtained. Simultaneously with the increased focus on reducing budget growth, interest in using ICTs to streamline processes and reduce costs has also increased.

The main areas of work of the G2G sector are taxation, customs, financial management, data collection for Statistics and census, elections, Development Planning, Health, Education and Social Security, Social Insurance and agriculture. There are areas related to the activities of law enforcement agencies, national security and defense, as well as scientific institutions. The G2G sector allows ICT to establish internal and external links between state bodies, as well as: – improve interaction by creating a single protected space of information resources and document flow between public authorities; – improve planning and control; – form more effective interaction and cooperation with state bodies of foreign countries and international non-governmental organizations; - significantly reduce the level of bureaucracy and corruption. [100]

Interaction at the G2G level is carried out in electronic form between various authorities and institutions. The G2C (government to citizens) interaction sector is a sector of interaction between authorities and citizens in E-government. Initiatives in the G2C sector are those designed to facilitate the interaction of citizens with the authorities. Initiators can be both parties. The purpose of these initiatives is to reduce the time required to implement the procedure for providing management services by authorities, as well as simplify these processes using the Internet.

Interest in initiatives in the G2C sector is due to:

1) the needs of citizens, especially those who are used to using electronic operations in other areas of life (for example, in the field of banking services);

2) lack of time; reduces the time spent waiting and due to red tape.

Main areas of work of the G2C sector:

- orientation to the citizen as a consumer of State electronic services; provision of State electronic services to citizens;

- ensuring transparency of the provision of these services for citizens.

Activities aimed at implementing these areas are carried out at the following levels:

informing citizens about the activities of government bodies;

provision of State electronic services, online consultations;

involvement of citizens in decision-making by the authorities;

civil control over the activities of government bodies.

The development of the G2C sector allows us to move to a qualitatively new level of communication between the state and citizens, improve the service of the latter in the field of meeting the needs for management services and, as a result, move to new forms of communication with the state (in particular, E-democracy).

In the G2C sector, citizens are provided with the following opportunities [100]:

- create an interface for communication between a citizen and public authorities;

- reduce the time to apply for services and the time to provide services.

Citizens will be able to access state portals and fill out forms, make an appointment, obtain licenses and permits, submit tax returns and applications for social benefits, search for work through employment services, issue personal

documents (passport, driver's license), register vehicles, certificates (birth, marriage), apply for admission to higher education institutions, inform about changes in place of residence, etc.;

- it will be possible to use comprehensive services thanks to the more effective interaction of various government organizations. Citizens will not need to carry certificates from one department to another

- an online appeal will be enough, during which all further exchange of documents and information will take place within a certain time frame directly between the authorities;

- the population will be able to get more complete information about laws, regulations, public policies and services. Access to a variety of documentation will be simplified: draft laws, materials of committee hearings, budget documents, and so on.

- E-government implements the concept of transparent government, provides free access to objective and reliable information about the activities of public authorities and their decisions;

- possibility of obtaining education through distance learning;

- the opportunity to take an active part in the socio-political life of the country. G2E interaction sector (government to civil servants)

- the sector of interaction between the authorities and the civil servants themselves or local government officials in E-government. [100]

This is online interaction through instant means of communication between government bodies and their employees (civil servants or employees of local self-government bodies). In addition, interaction in the G2E sector is an effective tool for providing e-learning for employees, their effective communication and knowledge exchange between them. Interaction in the G2E sector also provides employees with access to information about compensation policies and social benefits, training or professional development opportunities, access to legislation, and so on.

1.2. Information society as a knowledgeable society.

The information society is a theoretical concept of a post-industrial society, a historical phase of the possible evolutionary development of civilization, in which information and knowledge are produced in a single information space. The main products of the information society's production should be information and knowledge. Characteristic features of the information society are [63; 76; 83]:

- increasing the role of information and knowledge in the life of society;

- expanding the circle of people engaged in Information Technology (hereinafter referred to as IT), communications and production of information products and services, increasing their share in the gross domestic product (GDP);

- growth of informatization and the role of it in public and economic relations;

- creation of a global information space that ensures effective information interaction of people, their access to global information resources and meeting their needs for information products and services.

One of the most interesting and thorough philosophical concepts of the information society belongs to the Japanese scientist I. Masudi. The basic principles of the composition of the future society, given in his book *Information Society as a post-industrial society* (1983), are as follows [1]:

- the basis of the new society will be computer technology with its fundamental function to replace or strengthen human mental work;
- the information revolution will quickly turn into a new productive force and make it possible to mass-produce cognitive, systematized information, technologies and knowledge;
- the potential market will be *the border of the known*, the possibility of solving problems and developing cooperation will increase;
- the leading branch of the economy will be intellectual production, the products of which will be accumulated, and the accumulated information will be distributed through synergistic production and shared use;
- in the new information society, the main subject of social activity will be the *free community*, and the political system should be *the democracy of Participation* [100];
- the main goal in the new society will be to realize the *value of time*.

D. Bell's book *The Social framework of the information society* (1980) presents a variant of the convergence of the ideas of post-industrialism and the information society. Bell's expression *information society* is a new name for a post, industrial society, which emphasizes not its position in the sequence of stages of social development after an industrial society but the basis for defining its social structure-information. Information society, in the interpretation of D. Bella, has all the main characteristics of post-industrial society (service economics, the defining role of theoretical knowledge, future orientation and technology management due to it, the development of new intellectual technology). Bell considers knowledge and information not only an *agent of transformation of a post-industrial society* but also a *strategic resource* of such a society.

In his work *shift of power* (1990), A. Toffler defines the information society as a society in which the factor of knowledge and the sphere of knowledge play a crucial role in social development. Presenting society as a system that distributes its power between three bases (power, money, and information), Toffler builds a kind of periodization of history: the pre-industrial era is based on power; the industrial era is based on money; and the modern society is based on knowledge. A new stage in the study of socio-political and economic features of the information society is associated with the name of M. Castels.

The starting point of its construction is the global economy and international financial markets. Adhering to the opinion that the very nature of information allows it to easily overcome any obstacles and boundaries, M. Castels characterizes the information era as an era of globalization.

M. McLuhan is considered one of the classics in the field of Mass Communication Theory. M. McLuhan introduces the concept of *electronic society* as a leading one, hence his desire to study the development of modern culture, primarily in its place of means of e-communication, as well as communication processes. Attention. McLuhan was not focused on television, but he acted as a representative of the entire global e-reality speaking about the influence of television, he sought to identify trends characteristic of all media.

M. McLuhan shows that in the modern era, not only television perception but also the entire life of modern society has become more and more carried out following the principle of Mosaic resonance: with the help of telecommunications, mass media and computers. It should be noted that most American and European researchers, since the second half of the 80s of the last century, focus on the role and meaning of knowledge rather than information, which led to the definition of the future of society as a knowledge society. Russian scientists were also engaged in the study of the information society.

At the first stage, the Communication Society of the 80s − early 90s of the twentieth century was characterized by the transformation of important information for people into digital form, the creation of archives for its preservation, its transmission over long distances using new technology, and the beginning of the development of the global computer network Internet.

The second stage is called The Information Society. Since the second half of the 90s of the twentieth century, information has been used as a commodity that can be bought and sold.

The stage of transition to the information society, the problems of further at the stage of transition to the information society, the problems of further technicalization of society are no longer brought to the fore, as it was believed a few years ago, but the problems of its intellectualization, creation and implementation of new social technologies based on the effective use of the main strategic resource of society – knowledge. In the works of economists of recent years, it is noted that the transformation of information into the most important production resource changes the paradigm of the evolution of society, reduces the dependence of economic growth in a given country on the availability of natural resources, the size of fixed capital, the number of the working-age population and other extensive factors that are characterized by the greatest entropy, that is, chaotic dispersion.

The basis for the development of the information society is not traditional material, but information and intellectual resources: knowledge, science, organization, abilities of people, their initiative, the formation of structures and mechanisms of qualitatively new social intelligence. This shows that in the above definition there is no particular difference between the concepts of *Information Society* and *knowledge society*.

However, the practice of public life makes some adjustments. The difference in approaches to these definitions is particularly evident in the activities

of international organizations. For example, the UN World Summit on the information society (the first in 2003 was held in Geneva, the second in 2005 in Tunisia) considered the problem of a comprehensive expansion of the use of ICTs in all countries of the world.

The use of ICT is considered as the basis for the sustainable development of almost all elements of social infrastructure, namely: E-governance, e-commerce, e-learning, e-health, e-employment, e-Environmental Protection, e-agriculture, e-science many others. Following the summit, UNESCO presented the document *from the information society to the knowledge society*. It is based on the statement that today we should talk not so much about the spread of information flows, but about the possibility of their qualitative assimilation as the basis for new knowledge, the foundation of a dynamically developing society.

Following its position, UNESCO identifies the following principles, compliance with which is a prerequisite for the development of just societies of knowledge: cultural diversity; equal access to education; universal access to information in the public domain; freedom of expression.

The information society is a functional block of the knowledge society. This can be explained by the fact that the concept of the information society is connected with the idea of technical innovation, while the knowledge society covers social, cultural, economic, political and other aspects of social transformation, as well as a broader and multifaceted view of the development of the Society of the future. Because of this, the concept of a knowledge society better reflects the complexity and dynamism of changes in society than the concept of an information society. Taking this approach into account, we can say that the information society contains the initial forms of an unformed knowledge society.

So, understanding the essence of the information revolution in the field of economics should be reduced to the realization that it is not the types of activities that are changing, but their technological ability to use new knowledge as a direct productive force. Such changes in the structure of the modern economy are considered today as a global structural shift, which marked the transition from a material to an intellectual economy based on knowledge (knowledge-based economy) [1].

The concept of *knowledge-based economy*, or intellectual economy, which has become widespread in the World Economic Literature in recent years, reflects the recognition that scientific knowledge and specialized unique skills of their carriers are becoming the main source and key factor in the development of material and non-material production, ensuring sustainable economic development. Researchers D. S. Chereshkin and G. L. Smolyan refer to the main features of the information society:

- creation of a global information space that ensures effective information interaction of people, their access to World Information Resources and satisfaction of their social and personal needs in information products and services;

- formation and further dominance in the economy of new technological ways based on the mass use of network it and leading to the emergence of new forms of social and economic activity (distance education, telework, telemedicine, e-trade, e-democracy, etc.);

- creation and development of the market of information and knowledge as factors of production in addition to the markets of natural resources, labor and capital, the transition of information resources of society to real resources of socio-economic development and the transformation of information into a commodity;

- increasing role of infrastructure (telecommunications, transport, organizational) in the system of social production and strengthening trends towards joint functioning of information and cash flows in the economy;

- actual satisfaction of society's needs for information products and services;

- improving the level of education by expanding the capabilities of information exchange systems at the international, national and regional levels and, accordingly, improving the role of qualifications, professionalism and creative abilities as the most important characteristics of labor services;

- creation of an effective system for ensuring the rights of citizens and social institutions to freely receive, disseminate and use information is the most important condition for democratic development, improving the interaction of the population with the authorities.

The transition to an information society is accompanied by a shift of the center of gravity in the economy from direct material production to the provision of services, including information. Moreover, informatization has also changed the nature of labor in traditional branches of material production. The emergence of robotic systems, the widespread introduction of elements of microprocessor technology is the main reason for this phenomenon. The economy of the information society corresponds to new forms of production organization. Information technologies have made possible the so-called flexible production facilities, which can be reconfigured in a short time to produce modified products. Since such systems allow you to respond much faster than traditional ones to changes in market demand, they are more cost-effective. A real analysis of changes in the employment structure of the population in developed countries, which are most advanced on the path to the information society, leads to the following results [1]:

- the share of the population engaged in agricultural and traditional industrial labor continues to decrease;

- the share of the population employed in the service sector is increasing, and the variety of activities in this area is increasing;

- the number of managerial and technical jobs is growing rapidly;

- the share of employees with average professional qualifications decreases with its simultaneous growth at the upper and lower levels of qualification;

- the share of employment requiring a high level of education is growing faster than the same share for the low-level category. The differences in these

indicators are significant in different developed countries, but the impact of mass IT implementation on each of them is undeniable. The formation of the information society forced to reconsider the priorities of the state information policy of the leading countries of the world, develop and implement state programs aimed at promoting the formation and development of the information society or its components: the use of the Internet, the introduction of distance education, E-government, the development of e-commerce, e-medicine and virtual community.

An analysis of international experience shows that there is no single successful program for the development of the information society. Each strategic program or plan should be individual and take into account the specific characteristics of each country or region. There are various strategies for the development of the Information Society, which differ from each other even in developed countries. The theoretical justification for such development lags far behind the practical needs that are developing at a fairly rapid pace in the world. It is advisable to consider such a development from the theoretical side to approach a systematic awareness of these processes. At the same time, many modern theoretical, methodological and applied studies do not sufficiently substantiate the strategies and programs for forming the state policy for the development of the information society [59].

1.3. Strategies and programs for the development of the information society.

The global trend is the transformation of post-industrial society, which occurs in the context of increasing globalization processes, the growth of the service sector and intangible production based on the development of scientific and technological progress, including large-scale, deep and dynamic penetration of ICT into all spheres of life of the individual, society, business entities and the state. Rational consideration of the impact of a complex of these and other different vector factors, as well as the peculiarities of the state and development of the country, requires a separate state policy for the development of the information society and the knowledge society, which requires combining the efforts of the state, business and civil society. Therefore, for most countries, the development of the information society is one of the national priorities and is considered a national task. Information and communication technologies are assigned the role of a necessary tool for socio-economic progress, one of the main factors of innovative economic development. International experience, in particular the European Policy *Digital Agenda for Europe until 2020*, shows that digital technologies have already become a driving force for socio-economic development, economic recovery in many countries of the world and lay the foundations for Sustainable Development for the future.

The most developed countries of the world have set themselves the goal of accelerating the transition to a new stage of human development – the information society.

The information society allows you to use it most efficiently and in a short time:

- increase national competitiveness through human development, primarily in highly intelligent areas of work;

- improve the quality of life of citizens through economic growth, providing equal quality access to information, education, services of health care institutions and administrative services of state and local authorities, creating new jobs and expanding employment opportunities for the population, improving social protection of vulnerable segments of the population (in particular, people in need of social assistance and rehabilitation) through the widespread use of ICTs;

- promote the formation of an open democratic society that guarantees compliance with the constitutional rights of citizens to participate in public life, making appropriate decisions by state authorities and local self-government bodies (MHI).

The World Summit on the information society was dedicated to the development of the information society – the summit in two stages: the first stage-Geneva, 10-12 December 2003 – ended with the adoption of the Geneva Declaration of principles *building an Information Society, a global challenge in the new millennium* and the Geneva Plan of action; the second stage – Tunisia, 16-18 November 2005-the adoption of the Tunisian commitment and the Tunisian program for the information society. The Geneva Declaration of principles calls on the world community to build an information society *people-oriented, open to all, in which everyone can create information and knowledge, have access to it, use it and share it,* and obliges the countries of the world to *transform the digital technology gap into digital opportunities for all* and ensure universal, universal, fair and affordable access to ICT infrastructure and services.

The analysis of the basic documents of the World Summit and the state of their implementation around the world gives grounds to identify the main positive aspects of this summit:

1. The summit was originally planned as multi-level cooperation of all stakeholders, in which the private sector, civil society and international organizations will work together with governments to turn declarations into actions.

2. During the first stage of the summit, government leaders set themselves ten priorities to expand access to ICT, including providing connectivity to the global network of localities of all types, universities, colleges, secondary and primary schools, hospitals, libraries, etc., which should be achieved by 2015.

3. The Summit was uniquely organized as a meeting of two stages at the highest level. This meant that the vision of problems and how to solve them formed in Geneva could be developed and supplemented in Tunisia. In particular, the Tunisian stage of the summit identified a mechanism for the implementation of the tasks set out in the Geneva Plan of action, based on the list of mediators/lead organizations to be involved. In addition, a methodology was agreed to assess the magnitude of the digital divide, both nationally and internationally.

At the same time, between the first and second stages of the summit at the highest level, in 2003-2005, quite a lot was done to achieve the outlined goal and implement monitoring:

- the partnership has formed the main set of indicators for measuring the development of the information society;

- several different composite indexes have been developed, two of which are noted in the Tunisian program for the information society, the ICT capability index and the digital capability index (these indexes will be discussed below);

- collected and published in the Golden Book report in February 2006, more than 380 new projects presented at the Tunis summit and used with the support of the International Telecommunication Union as an example of successful ICT implementation.

Given Ukraine's external course towards rapprochement with Europe, focusing on the European experience of measuring the information society is a strategically important task. However, when forming a national system of indicators, there is an objective need to rely primarily on the capabilities of National Statistics, which is still far from European standards.

Gradually, the system of indicators of state statistics, in particular related to ICT, will be brought to international standards. Now the Government of Ukraine, with the support of the International Bank for reconstruction and development (World Bank), has launched a project to develop the state statistics system for monitoring socio-economic transformations, the main goal of which is to create a sustainable system of state statistics of Ukraine through its comprehensive and systematic reform.

The EU's programs are quite ambitious and are aimed at overcoming the "digital inequality" between the EU countries and their international competitors. They consist of sections on e-government, e-health, e-education and e-business to provide online public services, and are focused on the development of broadband networks and access tools, as broadband technology transforms the Internet and opens up new opportunities for interactive multimedia services, the use of which is possible only if the information is transmitted at very high speed.

In line with the objectives of the World Summit on the information society, many nations are developing strategies and programs to create an information society and enhance the role of ICTs in their social and economic development, taking into account the specific needs and circumstances of each country. To assess the results of building an information society, the International Telecommunication Union developed a single e-index of digital opportunity in 2006, based exclusively on internationally agreed ICT indicators.

This makes it a valuable tool for measuring the information society. The methodology and results of measuring the index are described in detail in the report of the International Telecommunication Union *World Information Society*. This report can be seen as a direct response to the call of the World Summit on the information society to *monitor global progress in the use of ICTs to achieve*

internationally agreed development goals and objectives. The analysis of socio-economic factors shows their influence on the importance of indicators for the development of the information society.

Only those indices and indicators that showed the greatest statistical significance were left in the correlation matrix. A rather significant inverse statistical dependence of indicators of the development of the Information Society on indicators that characterize the business climate in countries was revealed. In particular, the more barriers to starting or liquidating a business, as well as barriers to the licensing system, the lower the value of the digital capacity index for a given country will be.

In addition, the global dependence of the development of the Information Society on the main indicators of economic development of the country, such as GDP per capita and income level, should be considered unquestionable (the indicator *share of the poor population* was used to construct the Matrix). It should be noted that in most Western countries, the development of the information society has reached a fairly high level – the governments of these countries have put ICT as the basis for socio-economic development, and their monitoring systems monitor the impact of ICT on the value of socio-economic indicators. In Ukraine and its regions, where we are talking only about the initial stage of transition to the information society, primarily the development of ICT infrastructure and access, there is an objective need to study the inverse relationship is to determine the factors that affect the value of indicators for the development of the information society.

An example of such a relationship is a regression model calculated based on National Statistics, which shows an increase in the line of dependence of income of communication services on the level of average monthly wages in the Region [7].

During this time, the main legal bases for building an information society have been formed: many normative legal acts have been adopted, which, in particular, regulate public relations for promoting the development of civil society, creating information e-resources, protecting intellectual property rights to these resources, guarantees and mechanisms for access to public information, developing E-governance and Open Government, E-Document Management, Information Security, etc. Businesses have accelerated the introduction of new modern ICTs and solutions for creating information resources and implementing e-technologies to increase their competitiveness.

Work is being stepped up to introduce the latest ICTs in the public sector, in particular in education, science, healthcare, culture, etc. Public authorities and compulsory health insurance have introduced a significant number of e-management tools that can be attributed to the best practices of a high world level. The population is actively involved in the global processes of creating and using global information resources.

These and other prerequisites give grounds to believe that the domestic information sphere is in a state of active formation, harmonious inclusion in the global information space and is becoming the basis for the development of the

information society in Ukraine. At the same time, the degree of development of the information society in Ukraine is insufficient and does not correspond to the potential and capabilities of Ukraine, since:

- there is no National Action Program for the development of the information society in Ukraine;
- the introduction of e-democracy, E-Justice, E-parliamentarism and representation tools is carried out without proper coordination of the actions of all interested parties in these relations;
- the institutional mechanism for forming, coordinating and monitoring the implementation of tasks for the development of the information society is imperfect;
- interactive mechanisms of e-interaction through information representations of public authorities are not sufficiently developed;
- there are no systematic state solutions aimed at creating national innovation structures (centers, scientific and technological parks) for the development of competitive domestic ICTs;
- the regulatory impact on the development of the ICT sector is increasing, which creates unfavorable conditions for the most innovative sector of the economy;
- mechanisms for effective public participation and public control of the information society development processes have not been formed;
- there is no systematic approach to the implementation of e-document management systems, which should interact in integrated information and analytical system of public authorities, designed primarily to ensure interdepartmental information interaction;
- the level of computer literacy of public servants remains low due to the lack of a system for retraining them in the field of E-governance;
- there are no effective mechanisms for monitoring and using the personal data of citizens, which poses a threat of violation of citizens ' rights.

The problems that hinder the development of the information society in Ukraine to improve the quality of life of citizens, ensure the competitiveness of Ukraine, as well as the development of the economic, socio-political, cultural and spiritual spheres of society, improve the system of making state managerial decisions, have a complex interdepartmental character and cannot be solved at the level of individual public authorities and regions. Their elimination requires significant resources, coordinated implementation of organizational changes and ensuring consistency of actions of all public authorities.

Section 2. Development of Information and Telecommunications Infrastructure and State E-governance.

2.1. Development of the Company's Information and Telecommunications Infrastructure as an Effective State Development.

Effective development of the country, its competitiveness is possible now only in the presence of a developed information and communication infrastructure, a set of geographically distributed information and information and telecommunications systems, telecommunications networks, postal communication networks, as well as organizational structures, legal and regulatory mechanisms that ensure the management of infrastructure, its effective functioning and the provision of information and communication services to consumers (users). It is can also be defined as a system of Information Technology and technologies, e-communication, information services that provide information activities in society. Itis includes: geographically distributed state and corporate computer networks, telecommunications networks, special-purpose and general-use systems, data transmission networks and channels, e-communication and information flow management tools. Itis is an integral part of the Information Society, which is a structural and institutional understanding, some kind of society, is a set of individuals living in a certain territory and connected by Relations established and regulated by institutions, markets and organizations. These regulators as elements of the information society are directly related to the research, design, production, sale and operation of Information process automation tools, as well as to the development of informatization projects and their application in various industries and spheres of society's activity. 1.3. Development of the information and telecommunications infrastructure of the ITIs society the macrostructure of the ITIs sphere consists of many groups of interacting elements: institutions regulating the development, production and use of ITIs tools; organizations (producers and consumers of it, informatization projects); markets for ITIs tools, components and related services; informatization projects and models. Here, markets arise mainly as mechanisms for transferring property rights. By this feature, they can be easily distinguished from institutions, which are a set of rules that determine this exchange, and from organizations characterized by corporate activities of individuals aimed at achieving a common goal. Organizations arise not only as producers and consumers of it and informatization processes but also as a means of increasing the ability of individuals to perceive information, increasing the rationality of their work. Based on the goals of the Information Society research, when systematizing itis, the following main elements are distinguished that are subject to classification:

1) manufacturers of ITIs tools and their components, which include: manufacturers of computers and peripheral equipment; developers of system and application software, system integrators, etc.; developers of mobile

communications, Internet, telecommunications equipment; researchers and designers of informatization processes;

2) consumers of ITIs funds, which include the population, authorities and organizations;

3) ITIs tools, i.e. information products, services and technologies, informatization projects, their components.

This includes computers, peripheral equipment, components, system and application software (creation and maintenance); means of various types of communication and Internet; telecommunications equipment; information technology, scientific, design and organizational support for automation of Information Processes.

Itis tools can be structured and systematized according to three characteristics (criteria): functional orientation of the tools; design and technological features of the device (structure); use and purpose of the tools.

Accordingly, the classification is divided into three categories: classes (functional orientation), genera (design and technological feature of the device), types (use for its intended purpose). All classes, genera, and species are fairly constant and natural, meaning they exist in reality and are not a figment of the imagination. Therefore, they cannot be arbitrarily divided or combined. This classification makes it possible to develop a considerable set of indicators that allow us to systematically assess the consumer properties (quality, price, reliability, performance, functionality, novelty, etc.) of ITIs tools in their relationship.

This, in turn, characterizes the level of development of the information component of society. So, the considered characteristics of the ITIs structure as a basic component of the Information Society, on which its formation, existence and further development are based, make it possible to conduct its research on a single consistent basis, taking into account the special National features of certain states and regions. The world has already accumulated sufficient experience in building a modern information society and analyzing its impact on various spheres of State Life. This experience is very important for the development of the information society in Ukraine. Sustainable development of ITIs is the most important prerequisite for increasing the competitiveness of the economy and integration of Ukraine into the global information society, allows expanding human opportunities to access national and global information resources, improve conditions and quality of life.

In the near term, the state and dynamics of the telecommunications services market will largely depend on the state of affairs in the mobile communications sector, because it is in this sector that dynamic innovation is being implemented for a limited period of time.

However, the mobile communications market in Ukraine is already saturated with the presence of operators and services. In other words, it is difficult for mobile operators to further increase their subscriber base, so the strategy for effective development should be to increase revenues from the provision of services by expanding their range and focusing on innovative technologies. In

particular, the provision of broadband internet access services is a promising direction for the development of the mobile market.

High competition among telecommunications operators makes it necessary to reduce prices for services and, consequently, low profitability, which in the future will contribute to changing their development strategies in the direction of activating innovation activities.

At the present stage of scientific and technological progress, the development of the high-tech telecommunications industry depends on the level of formation and implementation of innovative resources. However, today the latest telecommunications technologies have not yet become full participants in the economic turnover of Ukrainian operators.

To do this, it is necessary to note the main directions of scientific and technical support for the innovative development of the telecommunications operator, namely:

- improving the efficiency of using innovations in the activities of a telecommunications operator, taking into account the limited resources that can be used for their development;

- introduction of multiservice packet networks as the transport basis of telecommunications, in particular, internet traffic exchange networks, development of the latest radio technologies, formation and provision of a large number of new services, development of fiber-optic network and its interaction with radio and satellite communication systems, the introduction of digital television and radio broadcasting, creation of a unified national satellite communication system, further development of audiovisual systems and services;

- creation of regulatory, technical and regulatory documents that fully regulate issues related to the functioning of telecommunications networks and the activities of telecommunications operators. E-communications are becoming a leading factor in transforming and optimizing the activities of government agencies and government organizations around the world. Their implementation allows not only to increase the labor productivity of a particular public employee at their workplace but also to qualitatively change the order of interaction between the state body and the population, significantly simplifying and speeding up the procedures for applying for telecommunications services. Telecommunications have become one of the key sectors of the global economy that make a significant contribution to GDP growth and determine the level of competitiveness of countries.

The development of the industry is closely linked to the deepening of the process of globalization. On the one hand, the development of telecommunications technologies has become an important factor in globalization, and on the other hand, the integration of global commodity and financial markets has contributed to a significant increase in demand for communication services and contributed to the inflow of financial resources to the industry. Telecommunications in Ukraine is one of the most developed and most innovation-oriented sectors of the economy, the main

goal of which is to ensure the interests of every consumer and Ukrainian society as a whole through the creation of a highly developed itis. This trend of market development is a consequence of the fact that the main efforts of its participants are aimed at introducing new, modern telecommunications technologies and services.

The scientific and technical direction of the country's development and the compliance of its innovation policy with the key positions of the general economic policy of the state is the strategic guidelines that should now ensure the economic recovery of the state. The main content of public management of innovative development should be precisely the coordination of well-coordinated work of all parts of the economic mechanism. The result of this should be a significant acceleration of the country's economic growth and the competitiveness of its economy.

Innovation policy measures should be aimed at creating an effective innovation management system since the effectiveness of public policy in the scientific and technical sphere will determine the competitiveness of the domestic economy. Currently, in economically developed countries, about 90% of GDP growth is provided precisely through the introduction of the latest technologies and developments that make it possible to create efficient production facilities, minimize resource costs, and so on. The experience of these countries shows that the role of state authorities in organizing and regulating innovation processes is much more significant than in regulating ordinary economic activity.

According to Article 3 of the Law of Ukraine *On innovation activity,* the main goal of the state innovation policy is to create socio-economic, organizational and legal conditions for the effective reproduction, development and use of the scientific and technical potential of the country, ensuring the introduction of modern environmentally friendly, safe, energy and resource-saving technologies, production and sale of new types of competitive products.

2.2. E-governance Implementation Results.

According to the results of a comprehensive assessment of the development of e-governance from the United Nations, Ukraine ranked 62nd among 193 countries that participated in the assessment in 2016. Compared to the 2014 rating *United Nations E-government Survey 2014. E-government for the future we Want* 23 (held every two years), Ukraine managed to rise in the 2016 rating by 25 positions. This was due to a significant improvement in Ukraine's performance in the online services index.

At the same time, the dynamics of our country's participation in the E-government Development Index, on which the UN report on countries' readiness for E-governance is based, indicate certain systemic problems in many areas of E-governance implementation in Ukraine.

Dynamics of Ukraine's readiness for E-governance according to various UN *E-government Survey* ratings for 2003-2016 main expectations for the introduction of E-governance. Thus, in the political sphere, this means transforming internal and external relations and optimizing the work of the state administrative apparatus based on the use of ICTs.

The main expectation is openness and transparency in the activities of government bodies to make them more flexible, less hierarchical and regulated. Increasing the level of involvement of citizens in the analysis and adoption of state decisions will help to increase the effectiveness and efficiency of Public Administration.

In particular, as a result of the introduction of E-governance, there will be a transformation of control, which is carried out using information technologies. Also, the organization of information interaction between state authorities at all levels will allow creating a centralized database and introducing full-fledged electronic document management using an electronic digital signature, creating unified information and analytical system for the activities of state and local authorities.

In the social sphere, the main task is to increase the level of satisfaction of citizens with public services. This will help expand opportunities for self-service of citizens, simplify and speed up administrative procedures, practically eliminate duplication of different types of work, increase opportunities for education (distance learning), increase technological awareness and qualifications of citizens, and trust in the authorities. However, the implementation of these expectations is hindered by digital inequality (not all citizens have equal opportunities to access the internet due to technological or geographical problems, or due to insufficient material support or physical disabilities), the level of education, privacy problems, traditions, and so on.

The main direction of work is the development of telecommunications systems and networks in small towns and villages, improving the level of computer literacy among the population, introducing various types of incentives and conducting general educational campaigns to gradually familiarize citizens with ICT. In the technological sphere, expectations from the introduction of E-governance technologies are the creation of a high-quality modern market for intellectual services, the development of telecommunications infrastructure and successful work in a competitive environment using the most modern achievements of science and technology. All this will be possible only if the obstacles associated with the unification and standardization of technologies and data structures are overcome since the heterogeneity of technological solutions makes it difficult for different authorities and organizations to share them.

ICT opportunities to support the economic activities of business entities, which have long been used in business, are rapidly being introduced into the public sector. The state realized that it is impossible to integrate into the national and global economic space, establish interaction and cooperation with state bodies of foreign countries and international organizations without using E-governance technologies.

In the economic sphere, changes will occur, first of all, in reducing the number of government expenditures and expenses of citizens and business structures, since the reduction in time spent on obtaining service and the number of requests is directly proportional to the reduction in material resources for obtaining it. As a result, ICT will become a factor in improving the efficiency of various sectors of the economy and, thus, will act as a driving force for overall economic growth and adaptation of the state economic system to new economic conditions.

We can highlight the following consequences of the introduction of E-governance:

- openness and transparency of Government Activities;
- significant improvement in the quality of administrative services provided;
- ensuring citizens ' access to government information through modern information technologies;
- saving time and material resources of governments, citizens, and businesses;
- freeing employees from routine work;
- depersonification of relations between citizens and business representatives in relations with government officials;
- creation of a single *point of contact* of citizens with state structures;
- possibility of receiving administrative services around the clock;
- increasing the level of democratization of society.

The use of E-governance tools will contribute to solving many problems of public governance in Ukraine, in particular:

- opacity of mechanisms of functioning and decision-making, departmental closeness;
- corruption;
- low efficiency of administrative procedures;
- non-compliance of the quality of services provided to the population and businesses with European standards;
- lack of democratic control and participation of citizens in the development and implementation of state policy;
- low level of trust of citizens in the institutions of public power.

Consequently, the introduction of E-governance is inevitably accompanied by serious changes in almost all spheres of society. But to get the most out of these technologies, you need to implement the basic principle that E-governance should be available anytime, anywhere, and to everyone.

ICTs have become an integral part of the functioning of modern society, on which not only the development of science and technology but also democracy depends. In turn, one of the necessary prerequisites for sustainable democratic development is a transparent and open government. The openness of government bodies is the key to implementing effective policies that can create real civil control, ensure human and civil rights, and strengthen citizens' confidence in the authorities. One of these tools for government openness is electronic governance, which provides

new forms of communication between citizens, businesses and the Government, unhindered access to public information and promotes citizens' participation in the development and implementation of state policy, providing better services.

With the introduction of ICT in all spheres of modern life, a new form of interaction arises in the context of the formation of the information society – electronic interaction. The uniqueness of this form of interaction is that it combines all known classifications of interaction. If we talk about the sectors of electronic interaction, then three sectors (state, business, society) can also be attributed to the space of electronic interaction. Moreover, the emergence of electronic interaction has led to the emergence of new concepts of the Information Society, E-government (E-governance) and e-business (e-commerce) within these sectors. So, although E-governance encompasses many different activities and many participants, there are three distinct sectors of interaction: between public administration (G2G), between state and business (G2B), and between state and citizens (G2C).

Among the main expectations in the implementation of E-governance, it is necessary to highlight the transformation of internal and external relations and optimization of the state administrative apparatus based on the use of ICTs. In other words, it is the openness and transparency of the activities of government bodies to make them more flexible, less hierarchical and regulated using modern ICTs.

2.3. E-governance Reforms and Development Programs.

The legislation of Ukraine related to the introduction and development of the national E-governance system includes several dozen regulatory legal acts. It should be noted right away that E-governance is generally considered not as a separate sphere, but as a component of the sphere of informatization and development of the information society. In addition, there are many regulatory legal acts of various levels-from the laws of Ukraine to departmental acts that indirectly affect E-governance.

Despite this, the development of the national E-governance system can be achieved only within the framework of reforming the entire system of Public Power. This requires modernization, first of all, of the entire system of Public Administration and administration, and effective administrative reform. The very same task of developing the national E-governance system in Ukraine is large-scale, requiring considerable time and resources since a significant problem of the Ukrainian authorities has always been a certain haphazardness, uncertainty and lack of regulation of its relations with end-users of Public Management Services.

It should be noted that the regulatory framework for E-governance has significantly expanded in recent years. Today, the main regulatory documents related to electronic governance can be classified according to their legal status and type of document: laws of Ukraine; decrees of the president of Ukraine; resolutions of the

Cabinet of Ministers of Ukraine; orders of the Cabinet of Ministers of Ukraine; orders of the Central Executive Committee.

Back in the early 90s, the idea of a common systematic approach to solving the problem of creating an information society, defining the state policy of informatization, and creating an information infrastructure was born in Ukraine. Thus, the task was set to develop the main directions of the National Informatization program of Ukraine. The conceptual foundations of the state policy in the field of informatization, development of the information society and E-governance are defined primarily in many such acts as the laws of Ukraine *On information*, *On the concept of the National Informatization program*, *On the National Informatization program*, *On the basic principles of the development of the information society in Ukraine for 2007-2015*, *On access to public information*, *On personal data protection*, *On administrative services*, *On information protection in information and telecommunications systems*, *On electronic documents and electronic document management*, *On electronic digital signature*, concepts for the development of electronic governance in Ukraine, strategies for the development of the information society, etc.

In addition, E-governance corresponds to the directions of the public policy defined in the Sustainable Development Strategy *Ukraine-2020*, the government's program of activities, the association agreement of Ukraine and the EU and other regulatory legal acts, where among the main priorities are the decentralization and deconcentration of power, the fight against corruption, the reform of the civil service, the judicial system, open principles of Public Administration, transparency, accountability and efficiency of power, including the transition to E-governance as one of the tools for achieving these goals. These and other regulatory legal acts define the main goal, principles, main tasks, ways to solve problems, tasks and functions of government bodies, mechanisms of their interaction with each other and society, citizens and businesses, and so on. Concept of E-governance development in Ukraine.

It should be noted that in our country, from 2010 to 2015, one of the most important regulatory documents on the development of E-governance was the concept of E-governance development in Ukraine. The purpose of this concept was to define the principles and create conditions for achieving European standards of service quality, openness and transparency of the activities of state and local government bodies, as well as the implementation of the main provisions.

Economic reform programs for 2010-2014 *rich society, competitive economy, efficient government.*

The concept noted that the introduction of E-governance provides for the creation of qualitatively new forms of organizing the activities of state authorities and local self-government bodies, their interaction with citizens and business entities by providing access to state information resources, the ability to receive electronic administrative services, apply to state authorities and local self-government bodies using the Internet.

In the concept, almost for the first time in regulatory documents, the definition of E-governance was also given and the main tasks for ensuring the development of E-governance in Ukraine until 2015 were defined.

Unfortunately, most of the tasks of the concept were never implemented for various reasons. The action plan for the implementation of the concept has not been updated for several years. Currently, the issue of developing a new concept for the development of E-governance until 2020 is acute. Sustainable development strategy *Ukraine–2020*. Among the latest global strategic documents of our country that mention E-governance, it is worth highlighting, in terms of its significance, the Sustainable Development Strategy *Ukraine-2020*, which was approved by Presidential Decree No. 5/2015 28 of January 12, 2015. Moreover, the E-governance Program was included in the list of priority reforms and programs that should be implemented. Thus, within the framework of priority programs for decentralization and Public Administration reform, the strategy states that the goal of Public Administration reform is to build a transparent public administration system, create a Professional Institute of Public Service, and ensure its effectiveness.

The implementation of the reform should result in the creation of an effective, transparent, open and flexible public administration structure using the latest ICT (E-governance) which can develop and implement a holistic state policy aimed at public sustainable development and adequate response to internal and external challenges. The Strategy of Public Administration reform of Ukraine for 2016-2020.

Among the significant regulatory documents, we should mention the strategy for reforming the public administration of Ukraine for 2016-2020. This strategy is consistent with the provisions of the Sustainable Development Strategy *Ukraine–2020*, in particular, the section *roadmap and priority priorities for implementing the strategy*. In the strategy of Public Administration reform of Ukraine for 2016-2020, several very important theses are devoted to the development of the national E-governance system. Thus, in the section *goal of the strategy*, it is indicated that among the areas of reform is the provision of Administrative Services (Standards of provision and guarantees for administrative procedures, quality of administrative services, E-governance). The result of the reform should be the creation of an effective, transparent, open and flexible public administration structure using the latest ICTs (E-governance) to ensure the development and implementation of a holistic public policy aimed at public sustainable development and adequate response to internal and external challenges.

We can find the same thing in the Sustainable Development Strategy *Ukraine–2020*. The state agency for E-governance of Ukraine and the Ministry of economic development and trade of Ukraine have been identified as state bodies responsible for the direction of E-governance reform. To coordinate the implementation of the strategy, a Coordination Council has been set up, which will involve representatives of the relevant central executive authorities. The Coordination Council is headed by the Deputy Prime Minister for European and Euro-Atlantic integration of Ukraine, who will coordinate the work of the involved

Central Executive authorities responsible for various areas of Public Administration reform, including administrative services and E-governance.

The main task of E-governance is to create (improve) data registers of citizens, legal entities, land plots and real estate, taxes, Social Insurance, ensure functional compatibility of systems and exchange data at the operational level instead of submitting certificates and other documents.

Functional compatibility of the systems will facilitate data exchange between registries (each data item will be reported and entered into the registry once) and institutions. The registers will be open for use by public administration bodies with guaranteed protection of personal data, which will help simplify the procedure for providing administrative services by public administration bodies to citizens and legal entities to confirm facts and information contained in official state registers, in particular in electronic form through web services.

The success of implementing E-governance tasks will be assessed by determining the number of central executive authorities that are connected to the electronic interaction system and requests processed electronically through this system. The effectiveness of implementing real-time services will be evaluated by determining the number of services implemented following the following basic levels: Level 1 and 2 mean providing information and uploading an application in electronic form; Level 3 means submitting an application and paying for the service in real-time; Level 4 means fully integrated service.

The strategy stipulates that administrative services in 2016 should be introduced at Level 1 and 2, by the end of 2020 at least 80 services at Level 3 and at least 40 services at Level 4. The share of users receiving services electronically should increase to 30 percent by the end of 2020. The share of users who are satisfied with the quality of real-time services provided should gradually increase to 60 percent by the end of 2020.

These administrative services, following the requirements of the legislation, should be integrated into the unified state portal of Administrative Services, the test operation of which has begun. The unified state portal of administrative services should ensure the creation of favorable conditions for providing citizens and legal entities with affordable, transparent, safe and convenient administrative services on the principle of a single-window (*one-stop-shop*).

A separate point in the strategy states that to ensure the openness and transparency of public administration, as well as the use of information and data collected by public administration bodies, it is necessary to improve the Open Data System. The number of open data sets on the unified state open data portal should increase from 300 to 20 thousand by 2020. At the same time, the share of published data sets with a quality of at least three stars (according to the International Five-Star methodology for assessing the quality of open data) should increase from 20 to 50 percent.

Section 3. Problems of E-governance Development and Prospects for Its Development.

3.1. Problems and Prospects of E-governance Development in Ukraine.

Improving the effectiveness of Public Administration in developing countries is one of the main aspects of the economic strategy aimed at ensuring sustainable development of the state. One of the elements of the economic strategy of developing countries is the development of E-governance based on the full implementation of information and communication technologies in public administration practices to simplify the procedures for obtaining public authorities' services.

The relevance of the issue of developing E-governance is significantly increasing in the context of the coronavirus pandemic because the introduction of quarantine measures limits the ability of the population and businesses to receive the necessary public services due to logistics violations and other related problems. In addition, the development of E-governance will be even more important in the post-quarantine period, because the state will require filling the state budget and stimulating business development, and therefore, at this stage, it is quite important to minimize the corruption component at all levels of Public Administration, and especially in areas related to Customs, Public Procurement and taxation.

However, the main emphasis in E-governance Research is placed on simplifying those types of public services that cause a large loss of time for the population and businesses in the process of obtaining them, but little attention is paid to those areas of state activity that have a corruption component or lead to unjustified business expenses.

The problem of E-governance becomes relevant with the development of information technologies and the Internet since the mid-90s of the last century. During this time, certain theoretical approaches to explaining the essence of E-governance have been formed in the scientific literature. Due to the different research goals and conditions for implementing E-governance concepts, we note that there is no single approach to explaining the essence of E-governance in the professional literature. However, analyzing the works of domestic and foreign scientists, we note a comprehensive approach to studying the specifics of E-governance reflected in the works of American Scientists Finger M. and Peko J., which distinguish three main approaches to understanding the essence of the concept of *electronic governance*. Thus, according to the first approach, E-governance is interpreted is mechanism for meeting the needs of the population and businesses by providing services via the Internet. This approach describes the initial stages of the development of E-governance in developing countries, which are aimed at simplifying bureaucratic procedures for obtaining many certificates or other administrative services that are not very important for both the population and business, as well as for the state. The second approach treats E-governance as a

specific form of cooperation between citizens, the private sector and the state in both policy-making and service delivery. In other words, this approach focuses on the fact that E-governance is based on creating conditions for mutual exchange of information between the provider of Administrative Services (the state) and their consumers (the population, businesses). The third approach defines E-governance as a set of specific tools for democratizing society, which is quite broad, and therefore uncertain.

A fairly broad definition of E-governance is given in the book *E-governance in Ukraine-effective power for residents* where E-governance is understood not as a partial technological solution but as a completely new concept of state management, which is a necessary element of a large-scale information transformation of society. The new ideology (philosophy) and technology of formation and implementation of regulatory policy, development and implementation of regulatory acts, redistribution of competence of state and public structures, compliance with the value paradigms of society – all this, together with many other components of society's life, is the basis for the engineering of Public Administration, for the creation and functioning of the Information Society. In our opinion, this definition describes the general concept of Public Administration in the context of the development of internet technologies and information and computer technologies, which blurs the essence of the basic concept of electronic management, which involves the use of information and communication technologies to solve specific tasks of state power aimed at ensuring the effective performance of the state's functions.

The personification of scientific developments in the field of E-governance in Ukraine is the concept of the development of E-governance in Ukraine (hereinafter referred to as the concept), where E-governance is understood as a form of Public Administration organization that contributes to improving the efficiency, openness and transparency of the activities of state authorities and local self-government bodies using information and telecommunications technologies to form a new type of state focused on meeting the needs of citizens [8]. Unlike many definitions of E-governance, the definition given in the concept focuses on such important components of E-governance as improving the efficiency, openness and transparency of the activities of state and local government bodies, but despite this, in our opinion, it still does not fully disclose the content of E-governance.

So, based on the analysis of scientific literature and practice of Public Administration in Ukraine in the context of the introduction of elements of E-governance, when determining the essence of this concept, it is necessary to pay attention to the request of society, where the main emphasis is not to reduce bureaucratic procedures and reduce the time for receiving administrative services, but to reduce the corruption component of Public Administration, which is the best indicator of the effectiveness of the state. Thus, in our opinion, E-governance should include four key components: 1) maximizing the capabilities of computer

technologies and the Internet to simplify bureaucratic procedures for providing administrative services to the population and businesses; 2) simplifying communication between all public administration and local self-government bodies by maximizing the reduction of the number of paper documents and management decision-making procedures; 3) increasing transparency and openness of state authorities not only in the field of decision-making and publication of various departmental documents in the public domain, but also in the field of the process of providing administrative services, for example, passing customs control, conducting tax audits, passing qualification exams for candidates for positions in state and local government bodies, and others; 4) maximum involvement of the population in solving problems of state functioning by submitting proposals, amendments to draft laws, organizing discussions and creating electronic platforms for voting for state and local government projects, such as voting for participating budget projects.

Thus, based on the above, we can conclude that E-governance is an innovative mechanism for making and implementing managerial decisions by state authorities and local self-government by using the capabilities of computer technologies and the Internet in the field of simplifying bureaucratic procedures of management processes, providing administrative services to the population and businesses, involving the population in state governance, as well as creating conditions for ensuring the rule of law in society.

The introduction of E-governance in Ukraine began in the mid-2000s, in particular, the starting point can be called the adoption of the law of Ukraine *On the basic principles of the development of the information society in Ukraine for 2007-2015* [9], which was adopted to improve public administration, relations between the state and citizens, the formation of electronic forms of interaction between state authorities and local self-government bodies and individuals and legal entities. After that, many other legislative and regulatory acts were adopted, such as the law of Ukraine *On electronic digital signature* [10], the law of Ukraine *On access to public information* [11] order of the Cabinet of Ministers of Ukraine of September 20, 2017, No. 649-R *On approval of the concept for the development of E-governance in Ukraine* [8], etc.

The implementation of these legislative and regulatory acts has led to the creation of opportunities for electronic provision of more than 120 types of administrative services to the population and businesses by developing a special Internet page on the web portal of the Cabinet of Ministers of Ukraine https://www.kmu.gov.ua/services filter, however, despite such measures, Ukraine is outside the top 50 countries in the international rankings for the development of E-governance. One of the main such ratings is that of the United Nations, which has been preparing a special report on the development of E-governance in countries around the world since 2001.

To assess and monitor the current state of implementation of E-governance, compare different countries use the electronic Readiness Index (E-government

Readiness Index), which covers the index of the state of web resources, first of all, the availability of an available up-to-date official government web portal, websites of public authorities through which information and other services are provided in electronic form (the Web Measure Index); telecommunications infrastructure index, a relative number of internet users, the number of personal computers, telephone lines, etc. (Telecommunications Infrastructure Index); the index of education, scientific and cultural levels of citizens (Human Capital Index). These indicators are calculated at intervals of 2 years and published on the United Nations website (Table 1).

Table 1. Rating of some countries in the world by indicator E-government Development Index in 2018

Rating	EGDI Country	EGDI	Online service component (OSI)	ICT component (TII)	Human capital component (HCI)
1.	Denmark	0.9150	1	0.7978	0.9472
2.	Australia	0.9053	0.9722	0.7436	1
3.	Republic Of Korea	0.9010	0.9792	0.8496	0.8743
4.	United Kingdom of Great Britain and Ireland	0.8999	0.9792	0.8004	0.9200
5.	Sweden	0.8882	0.9444	0.7835	0.9366
…	…	…	…	…	…
32.	Russian Federation	0.7969	0.9167	0.6219	0.8522
33.	Poland	0.7926	0.9306	0.5805	0.8668
38.	Belarus	0.7641	0.7361	0.6881	0.8681
45.	Hungary	0.7265	0.7361	0.6071	0.8364
49.	Slovakia	0.7155	0.7361	0.5964	0.8141
67.	Romania	0.6671	0.6597	0.5471	0.7944
69.	Republic Of Moldova	0.6590	0.7708	0.4787	0.7274
…	…	…	…	…	…
81.	Uzbekistan	0.6207	0.7917	0.3307	0.7396
82.	Ukraine	0.6165	0.5694	0.4364	0.8436
83.	Seychelles	0.6163	0.6181	0.5008	0.7299

* Built by the Author according to the UN [12]

Although the Cabinet of Ministers of Ukraine offers many administrative services online on its website, Ukraine ranks 82nd in the world in the EU-government Readiness Index ranking, located next to such countries as the Seychelles and Uzbekistan. In addition, Ukraine is significantly inferior to all neighboring countries, even the Republic of Moldova, which ranks lower in other economic or political ratings than our state. This state of affairs, in our opinion, is

associated with such components of the rating as online service and the ICT component, that is, the number of internet subscribers. So, although the Cabinet of Ministers of Ukraine has formed a large list of services on its website, a significant number of such services cannot be considered services in the traditional sense, because many tabs contain only information about services or places where you can get such a service. For example, medical services on the CMU website contain the following tabs: medical institutions: electronic map of places where primary health care is provided; electronic health: checking a medical certificate. That is, such information refers to an Information Service, and not to services in the field of Medicine. Thus, today, in the context of quarantine measures related to the coronavirus (COVID-19) pandemic, E-governance is not involved. Similar comments can be made to other so-called online services implemented on the website of the Cabinet of Ministers of Ukraine.

On the other hand, in the relatively low rating of Ukraine according to the E-government Readiness Index, there is also a subjective side that reflects the number of internet subscribers, because on the one hand, according to the State Statistics Service, as of January 1, 2019, the number of internet subscribers in Ukraine is 26.067 million. 75.8% of the total population over the age of 18 (i.e., the population that has the right to receive state administrative services). However, given that there are 52 million people in Ukraine. mobile subscribers [13], the share of mobile internet users may be higher than the share of Network Internet subscribers, which means that with a high probability we can say that the reserves of coverage of online services in our country are significantly higher than reflected in the calculation of the E-government Readiness Index.

Understanding the growth trends of mobile internet users and the growing number of smartphone owners, the Ukrainian authorities proposed a concept for the development of E-governance called the state in a smartphone. Following this concept, the government has developed a special mobile application called *Diya* and a special Internet portal, through which many administrative services are implemented, which are reflected in Table 2.

The implementation of the concept of E-governance *State in a smartphone* through the mobile application and the government portal called Diya is certainly a positive step for the development of E-governance in Ukraine, in the field of simplifying business, because entrepreneurs get the opportunity to register an enterprise without leaving home, as well as submit almost all types of reports through the taxpayer's electronic cabinet.

However, the situation that has developed in the world and Ukraine related to the COVID-19 virus pandemic and quarantine measures require a revision of all concepts of E-governance in our country because it is important not only to organize the work of all services and the state as a whole in quarantine but also to ensure a quick way out of the economic crisis, which already exists and will be aggravated by the consequences of coronavirus.

**Table 2. Functional set of the mobile application *Diya* and the government portal called *Diya* as part of the implementation of the concept of E-governance
State in a smartphone***

App	Portal	Digital education	Internet
Digital driver's license	yeMalyatko	Launching an educational platform	Licenses for mobile operators
Digital vehicle registration certificate	Driver's license verification	Launching digital education in libraries	Speed measurement methods
BankID	Verification of the vehicle registration certificate	Trainers for trainers	Processing speed test data
Digital car insurance policy	Determining the appropriate vehicle user		
Digital Student Account	Replacing your driver's license		
Digital passport	Electronic cabinet		
Digital passport	PIE registration		
Car fines	LLC registration		
Digital tax number	Registration of a child online		
Your data from the registries	Passport together with tin		

*Built by the Author according to the data of the Internet portal Diya. Digital State [14]

Let's consider some promising aspects of improving E-governance in Ukraine in the context of the COVID-19 pandemic, taking into account international experience and national realities.

It is worth noting that the full implementation of E-governance in the healthcare system will be possible by creating an electronic database of all patients, starting from the creation of electronic medical records and ending with the digitization of medical history and analysis results because today data on 90% of patients are on paper in hospital archives. Such a database is very important, in particular, during the COVID-19 pandemic, because receiving departments of various hospitals could instantly find the history of other human diseases, identify pathologies, significantly reducing the search time in paper media and without waiting for delivery, for example, from a district hospital to a regional one. Of course, skeptics will point out the lack of money and human resources to carry out work on digitizing data, which is hard to disagree with. However, although in Ukraine in almost every region there are large higher educational institutions that train specialists in the field of IT

technologies, the organization of special practice for such students will allow digitizing hospital archives with minimal costs and in a short time.

Another promising direction for improving E-governance in the field of Medicine is to create opportunities for forming an online queue for a particular doctor through a special mobile application, which will increase the convenience for patients, in particular parents of small children. At the same time, in quarantine conditions, it is quite appropriate to create a special application for receiving online consultations from professional doctors. Such an application has already been created by volunteers under the name *Doctor online*, but this step needs to be implemented on a national scale to reach the general population, including elderly people, for which it is necessary to organize a special contact center.

The proper place should be given to the organization of medical logistics, starting with ambulance traffic management and ending with online accounting of reserves and warehouses with medical equipment and medicines. As disappointing practice shows, in the absence of transparency, since the beginning of 2020, strategic stocks of medical masks and other equipment necessary to combat COVID-19 have been removed from Ukraine without control and with impunity [15].

At the same time, it is worth paying attention to the already used experience of China, Israel, and Italy in tracking citizens' compliance with quarantine by using data on the *movement* of smartphones, data from mobile operators on movement, and data from video surveillance cameras on city streets. The same countries are developing technologies for global monitoring of the nation's health using technologies for remote measurement of pulse and blood pressure through special gadgets and fitness bracelets.

Taking into account the achievements of scientific thought and the development of the latest accounting technologies and data registers, it is worth paying attention to the role of blockchain in the economy and process management, including at the state level. Blockchain is a multifunctional and multi-level information technology designed for reliable and secure accounting of various assets. Blockchain technology was created during the development of the bitcoin cryptocurrency (we will not go into explaining the essence of this digital phenomenon, there are a large number of well-founded opinions on this issue in the scientific and popular science literature) in 2009 by an unknown person or group of people under the pseudonym Satoshi Nakamoto. The concept and details of how Bitcoin works are described in the concise and easy-to-read technical document *Bitcoin: a peer-to-Peer Electronic Cash System*. Payments in a decentralized virtual currency are recorded in a public ledger, which is stored on many, possibly all, computers of bitcoin users and is constantly available for viewing on the Internet. Each computer connected to the Bitcoin network via a client that checks and transfers transactions stores a copy of the blockchain, which is automatically downloaded when the user connects to the Bitcoin network. The register stores complete information about all addresses and balances, starting from the genesis

block, that is, the very first block of transactions, to the last added block [16, p. 21]. That is, based on the above, we can conclude that the blockchain allows you to ensure fully transparent use of any assets, and this, in turn, makes it one of the real mechanisms for achieving openness and transparency of E-governance in particular, and public administration in general.

Already today, the scientific and popular science literature considers elements of the concept of blockchain medicine, which provides for the formation of electronic medical records, medical records, storage of other medical data in the blockchain, virus banks, medical contracts, and so on. Such technologies will make it possible to conduct various medical scientific studies using the necessary data in electronic form, as well as significantly simplify the treatment of patients themselves by having access to both their medical history and the virus bank. However, the most important role of blockchain in medicine is to ensure transparency in the purchase of medicines, set prices in pharmacies, preserve drug reserves, and so on.

Despite the availability of advanced technologies in the field of medicine, the effective functioning of the health system requires a strong economy, which will suffer significant losses as a result of the pandemic. This situation will require immediate measures to increase business activity and overcome the state budget deficit formed as a result of the negative consequences of quarantine.

In this context, in our opinion, the most important measures to improve E-governance will be those measures that, on the one hand, facilitate doing business, and on the other, significantly reduce the level of the shadow economy and the smuggling of goods.

To facilitate doing business, the Cabinet of Ministers of Ukraine has created the portal called Diya, which allows you to register enterprises online, and also contains a special Internet page called Diya. Business which serves as a reference book on entrepreneurship allows you to get this or that advice, and so on.

However, in the field of reducing smuggling and reducing the shadow economy, to date, virtually nothing has been implemented through the use of electronic management tools, especially for customs, border control points, customs posts. As the successful experience of Georgia shows, which for one reason or another could not be implemented in Ukraine, the use of electronic management tools and electronic open databases at customs minimizes the human factor in the process of processing customs documents and making customs payments. In addition, it is important to reduce the number of paper documents required for customs clearance of goods by creating appropriate electronic services, which will reduce the time for customs clearance of all groups of goods, especially for the submission of electronic customs declarations. In other words, it is proposed to limit the maximum contact between the customs inspector and the exporter/importer or customs broker to prevent corruption actions. Specifying measures to improve the efficiency of E-governance at customs, we note the following: introduction of full automation in the process of registering an

electronic customs declaration using a special service without the need for downloading pdf-files by the customs inspector, which will make it impossible to deliberately delay such loading to obtain illegal benefits; send the declarant a full list of procedures assigned by customs during customs clearance of goods, as well as information on the progress of the customs document processing process; integration of payment programs and tools with the software of declarants to simplify non-cash payment of all customs payments, etc.

Improving the work of customs by fully implementing the concept of *electronic customs* will allow our state to minimize financial losses during customs clearance of goods, and this, in turn, will significantly increase revenues to the state budget from customs payments. After all, although according to experts, the volume of smuggling of goods to Ukraine ranges from 8-12 billion USD attracting at least part of this amount to the state budget will help accumulate the necessary financial resources to overcome the consequences of the COVID-19 pandemic, the economic crisis and the development of the state of Ukraine as a whole.

A promising direction for the development of E-governance in Ukraine, in our opinion, can be the provision of an electronic signature when receiving an ID card by citizens of Ukraine, as well as when issuing foreign visas, which on the one hand will significantly reduce the burden on the system of authorities that provide administrative services, and on the other, this measure will increase the number of residents who will be able to sign any documents related to state administrative services or various transactions without leaving home.

Education is an important area of the development of E-governance. The unprepared transition to the concept of *a new Ukrainian school* and distance learning in quarantine conditions highlighted many shortcomings in the education organization system, the main one of which, in our opinion, is the inability of time management either on the part of teachers or parents. Unfortunately, education in Ukraine in recent years is funded on a residual basis, and as a socially necessary process, it has generally faded into the background, which has reduced attention to the problems of teachers who are not respected today due to the general level of degradation of society. The actual organization of teachers' work for 12-15 hours a day in quarantine and distance learning is an abnormal phenomenon that violates the norms of the Labor Code of Ukraine, because the lack of organization of distance learning on the part of the state leads to endless questions from parents or students in the means of communication (Viber, Facebook, etc.), including after the end of the working day. Therefore, the formation of a nationwide online education portal can become one of the directions for solving the quality of distance education and time management problems.

After all, such a portal should have the functions of creating online schools with the ability to open classrooms; allow you to describe homework in detail and get answers to them at a clearly defined time without the ability to contact the teacher after certain hours when such communication is possible in-person; to

reduce questions to the teacher that take up his time, the created portal should allow daily consultations with the teacher during one academic hour at a certain time, and so on. In other words, online education should allow you to study 24 hours a day, but communication with the teacher or teacher should be strictly at certain hours, as well as passing homework and checking them at certain hours. Otherwise, the educational process will be chaotic with an overload of both teachers and students, which will reduce its effectiveness.

However, it should be noted that the effectiveness of the development of E-governance should be measured not only by simplifying the procedures for obtaining a particular certificate by the population, but also by the dynamics of funds received to the state budget due to the introduction of various electronic services. Taking into account the level of law in the country and the quality of the judicial and law enforcement system, one of the main effects of the introduction of E-governance is also to ensure transparency of state power and local self-government, which will help reduce abuse, theft of medical reserves and other state property. Accelerating the implementation of the concept of E-governance in Ukraine is possible thanks to the introduction of blockchain technology in the public administration system to effectively preserve any assets, in particular a variety of important data, documents and finances. Promising directions for the development of E-governance are the development of online education based on time management in the field of organizing the educational process.

3.2. E-governance as an Innovation of Public Administration.

In the current conditions of development of Ukraine and Ukrainian society, when, in addition to internal socio-economic and geopolitical problems, a new unprecedented destructive factor of influence has appeared, the COVID-19 pandemic and the introduction of quarantine measures in this regard, the leading place in the formation and implementation of public administration should be given to creating conditions for innovative development of this sphere to meet information needs and realize the rights of citizens, public organizations, entrepreneurs, state institutions, non-governmental organizations based on the formation and use of modern information and communication technologies. Thus, the world experience in the development of E-governance shows its effectiveness, efficiency and productivity both in ensuring a qualitatively new standard of living for the population, and the development of democratization of society as a whole, which is the basis for the formation of a country's competitiveness at the international level.

Today in Ukraine, reforms are taking place in almost all socio-economic sectors, however, it is E-governance, thanks to its principles, functions and tools, that can ensure the implementation of citizens' rights by effectively, openly and transparently providing public administration services on an innovative basis, which is a factor in increasing justified confidence in the government. In addition, taking

into account the European integration processes in the country, E-governance in Ukraine is part of the development of the digital economy and the digital market and a condition for harmonious entry into the EU Digital Single Market Strategy.

However, according to the UN study on the development of E-governance, Government Development Index [1], in 2020, Ukraine ranked 69th among 193 countries, improving its position compared to 2018 by 13 points, however, losing 6 points compared to 2016, which indicates the need to update the development of this issue, taking into account the innovative features of E-governance as a tool for Public Administration.

The works of S. A. Kvitka, I. V. Klimenko, P. S. Klimushin, D. V. Spasibov, I. E. Pogrebnyak, Yu. Solomko, A. A. Sokolovskaya and other scientists are devoted to the study of theoretical and practical provisions of the development of electronic governance. Taking into account the significant contribution of the scientific community to the study of the basics of E-governance as a mechanism for implementing public administration, the issue of deepening research on the theoretical and practical definition of E-governance as an innovation of public administration for the sustainable development of Ukraine and Ukrainian society is being updated.

One of the fundamental factors for ensuring a high level of competitiveness of the country and successful reform of its socio-economic spheres of activity is the high compliance of development with the conditions of today, namely, the industry trend 4.0. *The Fourth Industrial Revolution.* A characteristic feature of Industry 4.0. there is a cybernetic intellectualization of business operations, that is, a combination of material processes with virtual ones to create cyber-physical complexes integrated into one digital system, including such a system is recognized in the world of electronic management as a long-term innovative digital foundation for communication between authorities, the population and business.

The dynamic nature of changes and innovation development focuses on the permanent search for new principles, methods and technologies for organizing information support for the provision of Administrative Services. In Ukraine, E-governance as a convergent tool of Public Administration has been actively developed in the context of fulfilling the terms of the association agreement with the European Union, in particular with the adoption of the Sustainable Development Strategy Ukraine-2020 [2] and the draft strategy for sustainable development of Ukraine until 2030 developed on its basis [3]. Thus, strategic goal 7 is designed to ensure security and access to justice, create accountable and inclusive institutions by improving the effectiveness of government activities based on large-scale digitalization of management decision-making processes, administrative services through the gradual introduction of an E-governance complex at all levels of management.

The change in the guidelines of socio-economic globalization has become the basis for the transformation of public management with the definition of the priority of long-term planning, therefore in 2017, the concept of E-governance

development in Ukraine was implemented, which defines that E-governance is a form of public administration organization that contributes to improving the efficiency, openness and transparency of the activities of state authorities and local self-government bodies using information and telecommunications technologies to form a new type of state focused on meeting the needs of citizens [4].

The concept of E-governance is considered by domestic and foreign scientists from different positions. Thus, S. A. Kvitka and A. A. Sokolovskaya define the category *electronic governance* as *an interaction of state and municipal structures with business structures and civil society organizations through ICT*, [5, p. 27-28], however, in our opinion, this definition is incomplete, since it does not contain the category of the population as the actual recipient of services, but only its representative in the form of organizations.

I. E. Pogrebnyak [6] states that electronic management acts as a means of organizing state power, while the author also focuses on the use of ICT, namely, local information internet networks and segments of the Global Information Network, noting the simplicity and accessibility of such an organization of work of civil servants in real-time in daily communication of citizens with public authorities.

Institutional changes for the creation and functioning of E-government as an innovation of public administration are emphasized by I. V. Klimenko, namely, *modification of the regulatory framework, educational accents, principles of budget formation and expenditure, redistribution of zones of priority competence of state and public structures, renewal and expansion of value paradigms of society* [8, p. 78]. From this point of view, E-governance is the concept of a large-scale transformation of the social structure, which requires a certain strategy and set of actions, which undoubtedly requires time and material costs.

1. P. S. Klimushin, D. V. Spasibov see in the concept of E-governance the process of *creating a government that combines organizational innovations with new ICTs to perform basic government functions in a constantly changing environment* [9, p.24]. Consequently, the analysis of scientific opinion on the interpretation of the essence of the category *electronic governance* allows us to assert that there are several approaches to researchers' understanding of this definition:

2. Modification of public administration services through the use of information and communication technologies. This approach is based on the implementation of digitalized management tools that are widely used in business, in the public sector. The introduction of digital technologies in the field of providing public authorities with services will make it possible to qualitatively improve the level of Service and reduce state budget expenditures. In other words, this approach considers E-governance as an element of providing public administration services.

3. Interpretation of E-government as a component of the function of public administration based on technological innovation, considering the need to form the activities of public authorities from the point of view of a high-tech organization

using innovative digital tools. In other words, this approach defines a promising transformational direction for the development of public administration services following the requirements of current digital reality.

4. Definition of E-government as a qualitatively new model of state governance that meets the requirements of the information society. This approach is a combination of the first two approaches, forming an innovative basis for the concept of public information administration.

The innovativeness of E-governance lies in a qualitatively new way of interaction between officials and citizens to increase the efficiency of public services, this method is not a supplement or analog of classical government, taking into account innovative principles and methods of its implementation, since we see in the innovativeness of E-governance not only the use of automated ICTs but also innovative approaches to management (fig. 1).

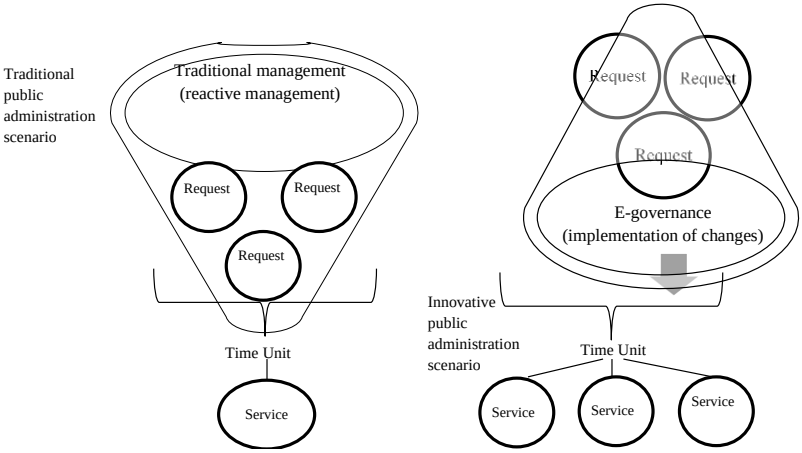

Fig. 1. Comparative model of public traditional and innovative public administration

The figure demonstrates the innovativeness of the public administration development scenario when implementing changes through the development of E-governance, the use of innovative technologies reduces costs (time, money, physical effort) and significantly increases the expectations of interested parties.

In this context, we propose to define the definition of *electronic governance* as a way of organizing public administration through the provision of a range of public services and information services to citizens, business organizations, public organizations, other branches of state power, which provides for minimizing direct personal contact of government representatives with applicants based on full-scale use of innovative information and communication technologies of automation and management methods that are part of the digital age.

At the same time, the foundation for institutional transformations in the organization and implementation of public administration functions is the motivation of the population to apply the products of innovative development of society, understanding their advantages in using directly to improve the quality of their life, business, research work, in this case, the rapid development of E-governance should be initiated by three vectors: the population, business and the state. In this aspect, the organization of E-governance should solve many interrelated and interdependent tasks of public administration, which can only be solved by applying an innovative both physical and mental approach:

optimization and provision of a more efficient, affordable and convenient provision of a full range of public administration services to all categories of citizens with the possibility of not taking into account space-time restrictive factors;

on the formation of channels of Information Communication of subjects of state power, the construction of centralized databases (systematization of Big Data, Cloud technologies) with distributed data processing technologies (formation of artificial neural networks) to organize work and implement electronic document management on all branches of government and structural divisions of the government;

implementation of the principles of E-governance in the fundamental socio-economic sectors of the country through the introduction of information and telecommunications systems to support management decision-making and informatization of administrative processes (including the use of geoinformation technologies, the Internet of Things (Internet of Things, IoT), the technologies of which allow you to form a network of physical objects and interact with the external environment, transmit information about your condition and receive data from outside; blockchain technologies that can be extended to any interconnected information blocks);

active and sustainable growth of the quality standard of living of the population as a result of improving the system of social services, the health care system, reliable provision of legal and personal security, increasing opportunities for education, energy and environmental security;

development and expansion of self-service opportunities for citizens, support for the growth of public qualifications and awareness in the use of information and communication technologies;

to increase the degree of interest and participation of citizens in the management and management of socio-economic and political processes in the country;

the transformation of relations between society and the government of the country towards e-democracy, which provides a transparent dialogue and trust in the relationship: citizen-state; business sector-state; public organizations, analytical centers, research institutes, i.e. state; state-state, while the client-oriented approach becomes of primary importance and is initiated;

to expand investment opportunities and improve the investment climate of the country, develop the electronic market of goods as a concomitant economic development.

E-governance is based on the *human-centrism* announced by the Government of Ukraine, that is, the focus of public institutions on consumers of administrative services and maximizing the satisfaction of their needs. Bringing the government closer to citizens and entrepreneurs is the main goal of modern civilized states and the new content of E-governance. E-governance contributes to the growth of efficiency of functions of public administration bodies and the formation of a modern European style of governance, the principles of which are the classic and innovative features of democracy are openness, trust, accessibility, transparency, inclusion, innovation. In addition, this public administration tool is designed to minimize corruption risks in the process of exercising power by employees, and, as a result, to qualitatively increase the investment attractiveness of Ukraine, its competitiveness and business climate, as well as to contribute to the development of the country's socio-economic potential.

Considering the essence and tasks of electronic regulation as an innovation of Public Administration, it is advisable to determine its conceptual components through an organizational prism to form promising areas of development and assess threats to its effective, effective and productive implementation (fig. 2).

Thus, the main areas of E-governance were chosen: modernization of public services and development of interaction between the government, citizens and businesses through ICT; modernization of Public Administration using ICT; management of the development of E-governance.

In this context, the fundamental concept of E-governance is laid down by its main specific principles, which are defined as:

1. Digital default-ensuring any activity of government bodies (including the provision of public services, ensuring interdepartmental interaction, interaction with individuals and legal entities, information and analytical activities) provides for an electronic form of implementation as a priority, and planning and implementation of any reform, project or task-using information and communication technologies [4];

2. One-time input of information-implementation of an approach in which individuals and legal entities submit information to the authorities only once, and in the future this information is reused by the authorities to provide public services and perform other powers in compliance with the requirements of information and personal data protection [4];

3. Compatibility by default, i.e. implementation of the design and operation of information and telecommunications systems in government bodies following common open requirements and standards to ensure their further compatibility and electronic interaction and reuse [4].

In addition, the principles of accessibility and increased public participation; transparency and openness of the system; trust and security in the use of services are added to the formation of the essence of E-governance.

In our opinion, the list of these principles is incomplete, moreover, it lacks one of the fundamental innovative principles of a democratic society, inclusion, which has become strategic goal No. 1 *promoting inclusive balanced low-carbon economic growth and sustainable infrastructure* following the Sustainable Development

Strategy of Ukraine until 2030 [3]. Indeed, the concept of E-governance specifies the item *accessibility*, however, accessibility and inclusion are not interpreted as synonyms, since accessibility is an architectural and technical-technological construction of a route to public services (including automated ones), but the concept of inclusion is broader and more important: it is the process of real involvement of a small mobile population in the act of public life. In another language, it is not enough to simply provide a citizen with the opportunity to use the online information service of electronic management, it is necessary to create conditions under which a person will initiate a second appeal to this format. In other words, the main goal of E-governance of Public Administration in modern civilized states is to bring the government closer to citizens and businesses. This opinion is confirmed by the author [6, p. 29] *without structural reform of the government system, the development of a conceptually new approach to the organization of Administrative Services, the introduction of ICT will not lead to an increase in work efficiency.*

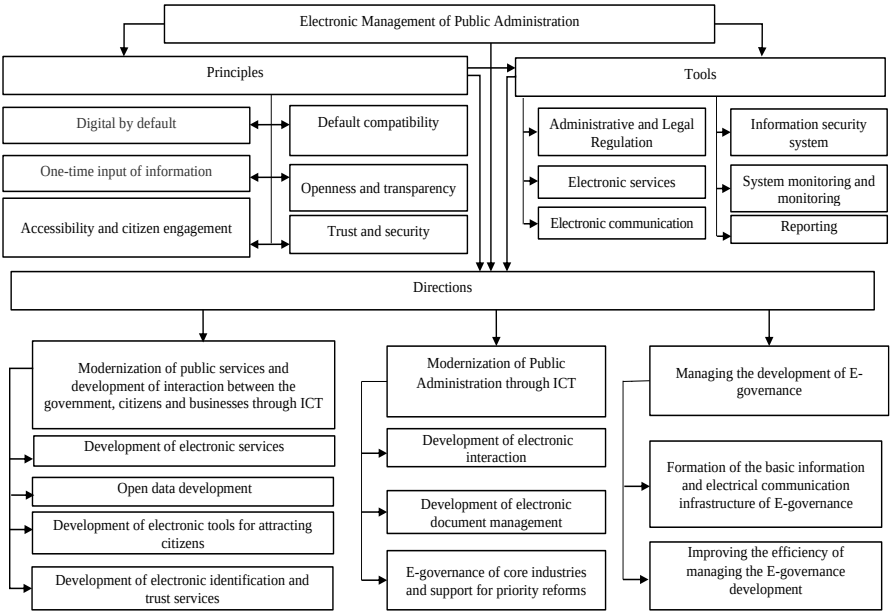

Fig. 2. Infological model of E-governance Public Administration
Systematized by the author on the basis [4]

In addition, the real problem of non-compliance with the principle of inclusion, and therefore the failure of full-scale integration of the principles of E-governance, is a fairly high share of the rural population of Ukraine (30.7% according to the state statistics service of Ukraine [10]), in addition, 24% is the share of residents of Ukraine

over 60 years old, that is, these segments of the population may have certain resource (physical, mental, technological) problems in the process of applying interactive technologies within E-governance. In part, the solution of this issue was initiated at the state level following the government's course to reduce the digital nihilism of the Ukrainian population due to the insufficient basic level of digital skills of the country's citizens. At the same time, it is worth noting that for 10 years now, the UN has declared free access to the Internet as a fundamental digital human right. We believe that to effectively develop and implement E-governance projects, it is necessary to step up activities to ensure inclusive access to it at the state level (state programs; attracting material and technical assistance; private investment).

The implementation of the principles of public administration in the process of formation of E-governance is a lever for solving social, economic and political problems with the maximum involvement of citizens to participate in their discussion and management decision-making, which as a result significantly increases the democratization of society, so the principles of formation and implementation of the conceptual foundations of E-governance should also include traditional and innovative principles of democratic governance: innovation, creativity, synergy or the principle of *win-win*, AGILE management, benchmarking, controlling, interactive feedback and monitoring.

Therefore, the principles of E-governance directly from its base of tools: administrative and Legal Regulation; register of electronic services; providing communication (including initiation by public administration bodies of its reverse part by developing a survey on the quality of service); organizing a powerful information security system; monitoring and diagnostics of activities; generating reports.

The main body in the system of central executive authorities that ensures the formation and implementation of state policy in the field of E-governance (provision of electronic and administrative services, electronic trust services) is the Ministry of digital transformation of Ukraine (Mincifri), established in 2019, which formulated an ambitious goal to ensure the availability of 100% of public services to citizens and businesses online by 2024. Today, the key results of the E-governance reform are:

1. Creation and activation of the unified state web portal of electronic services *Diya* portal (diia.gov.ua), which can also be accessed from the official website of the Ministry of Digital Development. The Diya portal has created a register of electronic services divided into two blocks: for citizens and businesses, but it is also advisable to allocate a block for other interested parties, such as state institutions, non-governmental organizations, public organizations, etc.

2. Activation of the mobile app *Diya* citizens' access to digital documents;

3. Implementation of the E-system in the construction sector, which aims to maximize automation, transparency of all processes in the industry and, as a result, minimize the risks of corruption.

One of the main issues of the functioning of E-governance is ensuring cybernetic protection of information in the system. In this context, we share the opinion

of R. V. Amelin that the implementation of a digital information system in the field of public administration causes many specific problems, among which the main ones are:

1) The problem of mass leakage of personal data from personalized accounting systems [100, p. 30];

2) Modification of data stored in the information system (intentionally or as a result of an error) - can be critical if based on these data or the results of their automated processing, management decisions are made that affect the rights and legitimate interests of persons (in particular, those whose information has been changed) [100, p. 30];

3) Automation involves a rigidly deterministic algorithm, capable of processing only pre-defined situations, while in real life there are constantly non-standard cases that system developers could not foresee, if the interaction of a citizen (entrepreneur, economic entity, non-governmental organization) and the state becomes possible only through the mediation of an information system (and officials play the role of operators of this system), then in non-standard situations their rights and legitimate interests can also be violated [100, p. 30].

However, these problems are essentially the result of an inefficient organization of the cybersecurity system of the E-government system, so for the effective implementation of Public Administration in an innovative digital network, it is necessary to: ensure that the state's electronic communications infrastructure, its level of development and security meet modern international requirements; step up the development of cyber defense technologies by initiating relevant projects with stakeholders (business, research centers, educational institutions, the public, non – governmental organizations, partners-enterprises that provide digital infrastructure), including the implementation of the best international practices and international standards on cybersecurity and cyber defense; the formation of qualified personnel of the appropriate specialization; the development of digital literacy of the population of Ukraine and a culture of safe behavior in cyberspace, in particular when receiving administrative services.

In this aspect, it is necessary to create an independent system for monitoring and monitoring the state of public administration services, as well as information protection, and form an independent information security audit system.

Thus, Today E-governance is being transformed from a technological project into a large-scale mechanism of Public Administration, which is a pattern, since Ukraine has chosen the path of European integration and development. At the same time, at a time when the country is facing global political and environmental challenges, E-governance is part of the strategy of innovative state transformation, which will allow implementing complex tasks at the state level. However, the formation and implementation of E-governance require a qualitatively new approach, both organizational and practical, so the subject of further research should be the best World practices of E-governance, in particular in terms of the information and personal data protection system.

3.3. Components of the information infrastructure of specially authorized entities in the field of corruption prevention.

As shown above, ICTs in the modern world do play a significant role as a catalyst for the fight against corruption. This is evidenced by international studies that have confirmed a reduction in the number of facts of corruption in the presence of E-governance.

The Verkhovna Rada Committee on preventing and combating corruption was established based on the resolution of the Verkhovna Rada of Ukraine No. 22-8 as of December 4, 2014, and carries out legislative work in the areas of combating corruption. The National Council for anti-corruption policy (consultative and advisory body under the president of Ukraine) was established by Presidential Decree No. 808/2014 of October 14, 2014, to prepare and submit to the president of Ukraine proposals for defining, updating and improving the anti-corruption strategy, implementing a systematic analysis of the state of preventing and combating corruption in Ukraine, assessing the state and promoting the implementation of recommendations of the group of states against corruption (GRECO), etc.

The Council of the business ombudsman, as an advisory body under the Cabinet of Ministers of Ukraine 33 for improving the business environment. For the first time in the history of independent Ukraine, the Business Ombudsman Council represents and protects the interests of business in public authorities.

To ensure the inevitability of responsibility for corruption offenses in Ukraine, relevant state institutions have been formed (the National Anti-Corruption Bureau of Ukraine (NABU) and the Specialized Anti-Corruption Prosecutor's Office (SAPO), the agency for the search and return of stolen assets and the State Bureau of Investigation (GBR), which must ensure the inevitability of punishment for corruption through the performance of their functions. Each of these entities has created, maintained, and developed appropriate web resources. NABU 35 is a state law enforcement agency whose main task is to prevent, detect, stop, investigate and disclose corruption offenses under its jurisdiction, as well as to prevent the commission of new ones 36.

NABU's information resources are available both on its official website and on its Facebook page, Twitter microblog, and Youtube channel.

The NABU website contains information about the bureau (management, legislative framework, content and principles of activity, history of formation, work reports, International Cooperation, declarations of property, income, expenses and financial obligations, etc.), work in NABU (list of vacancies, announcements and news, a procedure for holding an open competition, testing procedure, etc.), news and publications (official statements, calendar of events, investigation, etc.), public Control Council, etc. In the field of transparency and accountability (corruption prevention), the main preventive anti-corruption body of Ukraine is the National Agency for the Prevention of Corruption (NAPC).

The NACP belongs to the central executive authorities (central executive authorities) with a special status that ensures the formation and implementation of anti-corruption policies. For the normal functioning of the NACP, Electronic Declaration systems, financing of political parties, etc., should be launched. At the time of writing this tutorial, the NAPC's official website has not yet been created. The Government Commissioner for anti-corruption policy is responsible for performing tasks related to the formation and implementation of the state anti-corruption policy in the executive authorities.

The competence of the Government Commissioner for the anti-corruption policy includes a range of issues related to the elimination of corruption risks, preventive anti-corruption measures and the formation of a worldview on the perception of corruption, and public involvement in the implementation of anti-corruption measures. It is the Office of the Government Commissioner that provides coverage on the page of the anti-corruption section of the portal of the Cabinet of Ministers of Ukraine to familiarize the public with the current regulatory legal acts on state anti-corruption policy. The Business Ombudsman Council protects the interests of Ukrainian business in state bodies and is an independent consultative and advisory body of the Cabinet of Ministers of Ukraine.

One of the tasks of the council is to actively promote the improvement of the business climate and the fight against corruption and other illegal actions on the part of state bodies. The council accepts complaints (online, by e-mail, or in-person), conducts a preliminary assessment, then reviews them and makes a decision. Thus, the subjects of anti-corruption policy implementation form their information infrastructure, which generally ensures an appropriate degree of public awareness about their activities.

The information infrastructure of the public sector in the field of corruption prevention consists of the section *anti-corruption activities* of the government portal, the corresponding sections of official portals (websites) of ministries, central executive authorities, regional state administrations and other organizations and institutions of the public sector.

Each ministry and other central administrative divisions have an authorized division for the prevention and detection of corruption. Among the tasks of these divisions, among other things, it is provided:

- improving the efficiency of the direct telephone hotline, electronic communication facilities, and the section *preventing and combating corruption* of the website;
- ensuring the implementation of electronic public procurement and publication in the media and on official websites, developing integrated transparent offices-centers for providing administrative services, monitoring media reports and the internet space about corruption in the institution, etc.;
- analyze the availability of public information containing socially important information, submit proposals for data disclosure, taking into account the requirements of the legislation on personal data protection.

For example, within the framework of the Ministry of Internal Affairs (MIA) of Ukraine, an independent structural division has been created, the Department for the Prevention of corruption and lustration. The National Guard of Ukraine, the Central Security Service, whose activities are directed and coordinated by the Cabinet of Ministers of Ukraine through the Minister of internal affairs, has also established appropriate authorized units for the prevention and detection of corruption. The Ministry of internal affairs has developed an anti-corruption program and information on the results of its implementation is published on the official website in the form of quarterly reports on the state of anti-corruption. [40]

Reports include information on administrative corruption offenses, persons who have committed criminal corruption offenses, the movement of criminal proceedings with signs of corruption and material losses, their compensation and seizure of objects of criminal activity for corruption offenses (on completed investigations of criminal proceedings). [40]

On the official portals (websites) of regional state administrations (RSA), the headings *prevention of corruption* have been created, which cover regulatory legal acts in the field of corruption prevention, methodological recommendations, the schedule of direct telephone lines, the work plan of the Department for the prevention and detection of corruption, explanations on the submission of declarations of property, income, expenses and financial obligations by subjects of declaration, etc.

In the work plans of the relevant structural divisions, support of information relations with citizens on the activities of public authorities in the fight against corruption (direct telephone lines on the topic *society against corruption*, *helpline*, *legal consultation*, *hotline*, etc.), ensuring unconditional compliance with the requirements of the law of Ukraine *On access to public information* in terms of unhindered public access to familiarization with draft normative legal acts by posting these projects on the website and web pages of executive authorities and local self-government of the region, publication in regional print media and on the official website of the regional state administration of explanations on amendments and additions to the law of Ukraine *On prevention of corruption* and other regulatory legal acts in this area, replenishment and systematic updating of anti-corruption materials, etc.

On the pages of the category of the official website of the regional state administration, information is published on the results of measures taken to implement the state policy in the field of preventing corruption and countering it by local executive authorities of the region over the past year. For example, with the support of the Ivano-Frankivsk and Poltava regional state administrations, the projects *stop corruption in the Ivano-Frankivsk region* and *stop corruption in the Poltava region* are being implemented. As part of the project, messages from citizens about corruption are collected via a hotline, email, or feedback form.

The information collected creates a real picture of abuse and helps to develop an effective plan to combat corruption in the region and prevent the emergence of prerequisites for abuse and bribery by civil servants and officials.

The electronic public procurement system called ProZorro was developed following the law of Ukraine *On public procurement* of December 25, 2015, No. 922-8 starting from August 1, 2016, all public procurement is carried out within the framework of the ProZorro system.

The electronic public procurement system called ProZorro consists of a single database and a single centralized system of electronic auctions, which is accessed through separate commercial platforms.

Currently, the following electronic trading platforms are connected to the ProZorro system: SmartTender.biz, Public Procurement.online, e-tender, zakupki.prom.ua, Public bid, NEWTEND.

Additionally, the ProZorro system provides access to the knowledge base, standard specifications and questions and answers, reports on all purchases made, and standard specifications for bidding announcements. On May 18, 2016, Ukraine officially joined the World Trade Organization agreement on public procurement (GPA), as a result of which Ukrainian companies were granted the right to participate in public procurement in 45 countries participating in the GPA agreement, including EU countries, Japan, USA, Korea, Taiwan, Singapore, Hong Kong and Canada. The total volume of the WTO public procurement market is estimated at 1.7 trillion annually.

The unified state open data web portal was created at the request of the law of Ukraine *On access to public information* and resolution of the Cabinet of Ministers of Ukraine No. 835 of October 21, 2015, *On approval of the regulation on data sets to be published in the form of open data*.

The portal is designed to provide access to public information in the form of open data and provides access to the information of information managers with the possibility of its subsequent use. The unified web portal for the use of public funds was created to publish information following the law of Ukraine *On the openness of the use of public funds*.

The portal provides access to information on the use of public funds by managers and recipients of state and local budget funds, business entities of state and municipal ownership, and mandatory state social insurance funds. The portal provides not only transparency in public finances but also analyzes the effectiveness of using public funds.

The second part of the portal – the analytical system *transparent budget*, provides opportunities for effective management of public finances and management of their liquidity.

At the All-Ukrainian forum *E-governance 2016: how to make government agencies innovative* government officials and activists have identified open data as one of the most interesting, effective and effective areas in the field of corruption prevention. The disclosure of government data, in particular, contributes to: strengthening public participation and control, preventing corruption, providing services and ensuring innovation, strengthening the rule of law and the rule of law, and so on.

CONCLUSIONS

Summing up the above, it is worth noting that the monograph examines the basics and strategies for e-governance development in Ukraine. In the context of the euro integration vector of Ukraine, the introduction of European norms and standards for the implementation of State Information Policy, the use of foreign experience in e-governance implementation are of particular importance. These processes are both focused on the socio-political activities of new organization development, in particular, the public administration system, through the widespread use of the latest ICTs. The work aims to analyze the effectiveness of implementing e-governance in Ukraine, considering the need to simplify the receipt of State Administrative Services by the population and businesses and the prospects for its development in overcoming the consequences of the coronavirus pandemic. Methods of comparison and generalization were used in the study of scientific approaches to understanding the essence of the concept of e-Governance, an empirical method in the study of the problems of the formation of e-governance, and a systematic approach in the development of proposals for the prospects for improving e-governance in Ukraine.

The author's definition of the concept of *electronic management* is formulated. Three main problems of the development of e-governance in Ukraine are identified: the lack of a clear gradation of electronic administrative services of the state; the lack of opportunities for broad public access to electronic services of the Cabinet of Ministers of Ukraine; the lack of effective e-governance in areas that fill the state budget of Ukraine and ensure the legal functioning of the economy, in particular in such areas as Customs, Public Procurement, and taxation. Measures are proposed to improve e-governance in medicine, customs, the tax system, education, and administrative services by creating new Internet portals, mobile applications, and attracting blockchain technologies.

Therefore, the principles of e-governance directly from its base of tools: administrative and Legal Regulation; register of electronic services; providing communication (including initiation by public administration bodies of its reverse part by developing a survey on the quality of Service); organizing a powerful information security system; monitoring and diagnostics of activities; generating reports.

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Thus, today e-governance is being transformed from a technological project into a large-scale mechanism of Public Administration, which is a pattern, since Ukraine has chosen the path of European integration and development. At the same time when the country is facing global political and environmental challenges, e-governance is part of the strategy of innovative state transformation, which will allow implementing complex tasks at the state level. However, the formation and implementation of e-governance require a qualitatively new approach, both organizational and practical, so the subject of further research should be the best world practices of e-governance, in particular in terms of the information and personal data protection system.

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