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CONDITIONS OF ESTABLISHING AND STRATEGIES OF DEVELOPMENT OF MODERN INFORMATION SOCIETY

УМОВИ СТАНОВЛЕННЯ І СТРАТЕГІЇ РОЗВИТКУ СУЧАСНОГО ІНФОРМАЦІЙНОГО СУСПІЛЬСТВА

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The article considers the main criteria for the entry of a society into the post-industrial, information period of development. It is stated that Ukrainian society is significantly influenced by global information priorities in all spheres of human activity. It is noted that in the system of world division of labor there is a process of socio-economic, political and spiritual-cultural segregation. The result is a global concentration of all or almost all of the intellectual industry in developed societies. The author refers to the research in the context of globalization of mass media, considered in the works of domestic and foreign scientists. The definition of terms of the information society is given.

The criteria of society's entry into the information age and regularities arising from the informatization of society are analyzed. In particular, the essence and content of the process of informatization are considered, as well as approaches to the analysis of the real state and prospects of development of the processes of formation of the information society.

It is emphasized that the process of informatization should include three dialectically interdependent processes: mediatization – the process of improving the means of collecting, storing and disseminating information; computerization – the process of improving the means of searching and processing information; as well as intellectualization – the process of developing people's ability to perceive and generate information (knowledge), that is the process of increasing the intellectual potential of society, including the use of artificial intelligence. In the course of the analysis it is noted that the informatization of society should be interpreted as development, qualitative improvement, radical strengthening with the help of modern information and technological means of cognitive social structures and processes. Informatization should be "merged" with the processes of social intellectualization, which significantly increases the creative potential of the individual.

The tasks and principles for Ukrainian society with the view to achieving the status of information society are defined.

Key words: information society, computerization, information dissemination, development strategy, mass media, intellectual potential, information retrieval.

У представленій статті розглянуто основні критерії вступу суспільства в постіндустріальний, інформаційний період розвитку. Вказано, що українське суспільство зазнає суттєвих впливів глобальних інформаційних пріоритетів в усіх сферах людської діяльності. Зазначено, що в системі світового поділу праці відбувається процес соціально-економічної, політичної та духовно-культурної сегрегації. Внаслідок утворюється глобальна концентрація всієї чи майже всієї інтелектуальної індустрії в розвинутих суспільствах. Автор посилається на дослідження в умовах глобалізації засобів масової комунікації, розглянутих у працях вітчизняних і закордонних науковців, наводить визначення термінів інформаційного суспільства, аналізує критерії вступу суспільства до інформаційної ери та закономірності, що витікають з інформатизації суспільства. Зокрема, розглянуто суть і зміст процесу інформатизації, а також підходи до аналізу реального стану і перспектив розвитку процесів становлення інформаційного суспільства. Наголошено, що процес інформатизації має містити в собі три діалектично взаємозалежних процеси: медіатизацію – процес удосконалювання засобів збору, збереження і поширення інформації; комп'ютеризацію – процес удосконалювання засобів пошуку й обробки інформації; а також інтелектуалізацію – процес розвитку здібностей людей до сприйняття і породження інформації, тобто процес підвищення інтелектуального потенціалу суспільства, включаючи використання засобів штучного інтелекту. Під час аналізу з'ясовано, що інформатизацію суспільства в принципі необхідно трактувати як розвиток, якісне вдосконалення, радикальне посилення за допомогою сучасних інформаційно-технологічних засобів когнітивних соціальних структур і процесів. Інформатизація має бути «злита» з процесами соціальної інтелектуалізації, що істотно підвищує творчий потенціал особистості.

Визначено завдання та принципи для України суспільства з метою досягнення рівня інформаційного суспільства.

Ключові слова: інформаційне суспільство, комп'ютеризація, поширення інформації, стратегія розвитку, засоби масової інформації, інтелектуальний потенціал, пошук інформації.

Introduction. In the context of total globalization through global informatization of almost all spheres of a society, the problems of transformation of such phenomena and concepts as information, information society, globalization, information policy of the state are of vital importance. Transformation of the state governance form has led to a vision and understanding not only of the informational essence of the process itself, but also to state expansion, which allows us to consider the struggle for power both within the state and for spheres of influence outside the state. Current society is characterized as a transition from “industrial society” to “information society”, where concepts such as “information”, “information society”, “globalization”, “information policy of the state” are increasingly used in reference to methods of production and worldview of people, technologies of public administration, the place and role played by non-governmental organizations, transnational corporations and illegitimate criminal structures, opportunities, role and importance of mass media (WMC) of civilization, bases and principles of formation of the system of information policy of the state.

Problem stating. Significant crisis processes taking place in modern Ukrainian society coincide with the rapid growth of the role and volume of information and knowledge, information economy and changes in the economic status of information and information technology, thus, processes that are already beginning to radically change the lives of people around the world.

In the modern world, information has already become a system and a goal of full-fledged life and acquired distinctive features of a real power, which is closely braided in all spheres of a society and all other types of power. Humanity, therefore, is constantly moving towards a new era of its development – an era where the highest values are information and knowledge [1, p. 192]. This process is already well observed, but it takes place in each country in its own style. This article is dedicated to the consideration of theories of the information society, the main features of the stream of global information development of the world, prospects and obstacles to the formation of information democracy, particularly in Ukraine.

Analysis of the research and publications. The study of this issue, including the identification of the format and methodology of research in the context of globalization of the media, is presented in the scientific works of domestic and foreign researchers. Hence, in Ukraine the works of V. Gorbulin, O. Bodruk, V. Domaryov, E. Makarenko, G. Perepelytsia, G. Pocheptsov, O. Sosnin and others are dedicated to the study of this topic.

In the Western science – the works of N. Wiener, M. McLuhan, D. Robertson, B. Buddy, K. Shannon,

I. Masuda, A. Bentley, I. Wallerstein, S. Huntington, E. Toffler, D. Bell, B. J. Nay and W. Owens, T. Parsons, R.-J. Schwarzenberg.

At the same time, it was not conceivable to find research on the phenomenon of information in Ukraine, the national system of formation, provision and maintenance of information policy in Ukrainian political thought.

The main goal of the article, given the lack of thorough investigation in domestic science on this point, is to analyze the background, the process of formation and development strategy of information policy in Ukraine.

The method of research is based on the general principles of systems theory and structural-functional analysis using the methodological pattern of systemic analysis.

The novelty of the study is to create a system of techniques and information policy of the state that would identify, model and predict the ways and technologies of the state in the context of globalization.

The main part. The 20th century became a period of decline of industrial civilization, the crisis of the scientific paradigm generated by it, and at the same time a period of evolution of a fundamentally new, post-industrial paradigm, the dominance of which will most likely occur by the middle of the 21st century [2, p. 352].

The last quarter of the 20th century was characterized by the second wave, the phase of the post-industrial scientific model formation. This was prompted by a series of global crises, abrupt catastrophes, non-confirmation of forecasts based on previous paradigms, radical changes in the world civilization space, etc. Scientists of many countries in search of answers to new challenges back to the ideas of the first-wave-scientists – A. Kondratyev, J. Schumpeter, P. Sorokin, etc. Scientific thought has intensified, a large number of strong hypotheses have appeared – at the same time the decline in the prestige of science in society, disappointment in the idea of a progress and its carrier – science. The global crisis of science has been observed, which is a forerunner and probably, the starting point of another scientific revolution [3, c. 3]. consequently, the formation and development of the information society is expected to take place.

It should be noted that there is a variety of definitions of the information society, so it makes sense to consider them in the most general terms and separating the most interesting interpretations.

Thus, according to J. Fahlquist, a society is deemed informational if any individual, group of persons, enterprise or organization in any part of the country and at any time may receive for a respective fee or free of charge an automated access to communication systems for any information and knowledge necessary for solving their personal and socially vital problems.

Accordingly, if in a society modern information technology is produced, functions and is accessible to any individual, group or organization [4, p. 114].

Among other prerequisites for such definitions are developed infrastructures that assure the creation of national information resources to the extent necessary to support scientific and technological and socio-historical progress, which is constantly advancing. Furthermore, the process of accelerated automation and robotics of all spheres and branches of production and management should take place; radical changes in social structures, resulting in the expansion of information activities and services, should occur [1, p. 202].

The term “information society” has taken a strong position in the lexicon of foreign politicians at various levels. Many leaders connect the future of their countries with it. This is most evident in the activities of the US Presidential Administration (National Information Infrastructure), the Council of Europe (Information Society), Canada, the UK (Information Highways). Other countries of the European Community and Asia are not straggling behind in the development of relevant programs and concepts for the development of information and telecommunication technologies (ITT).

The current large-scale transformations, related to the foundation of ITT in almost all spheres of life, should be controlled and directed in the interests of the whole society. This can be done by the state in association with all stakeholders, especially the private sector. Although Ukraine lags behind in this process, it allows us to understand the role of state influence in the purposeful formation of the foundations of the information society on the example of other countries [5, p. 42].

Information society differs from the society, dominated by traditional industry and services by the fact that information, knowledge, information services and all areas related to their production (telecommunications, computer, TV, etc.), are growing at a faster pace, and is also a source of new jobs, becoming dominant in economic development [6, p. 24].

It should be noted that the post-industrial society can turn into informational one, due to the founders of the concept, where and when the progress of a society ceases to be associated with episodic achievements of experimental science and is based on the development of theoretical knowledge [7, p. 28].

Structural shifts in productive spheres, experienced by the world economy in the 70³–80³'s, because of the transition to new technologies, caused the emergence of a fundamentally new type of social relations – information, which leads to the emergence of a new type of society – the information one. There is a new paradigm of the production process, the main feature of which is not just information,

but a new category – information resource. The pace of scientific, technical and economic development of the country depends on the ways of using this type of resources. The basis of their production and use are the intellectual and spiritual potential of the state, in fact, a major factor that will determine the level and dynamics of the country's development.

The information resource is produced in the information sphere of society, which includes science, education, management system, communication, as well as a machine information network. Nowadays the information sphere of developed countries consumes more than 60% of labor resources. In the USA about 80% of all employed are involved in this area, about 20 % are in traditional industries, and less than 3% – in agriculture. The same pattern is observed in most developed countries of Western Europe, where the information sector contains 70–75% of specialists [8, p. 5]. The information sphere, therefore, becomes one of the decisive factors in the further movement on the way to the intellectualization of social production.

Such state of affairs radically changes the social structure of a society. According to A. Toffler, creating a new social structure, the basis of which is not the proportion of forms of ownership, but an intellectual qualification, engagement in intellectual technology. He calls this stratum of the population as “cognitariat” and predicts the role of structural determinant in the future [9, p. 3]. There is even a so-called concept of datacracy, according to which the functions of social management in political, economic, public life should in the future be taken over by highly skilled information professionals.

Moreover, the concept in the production system is changing. This decade, up to 20 % of employed Americans will perform their duties in the sphere of services and production without leaving their homes, and at the beginning of the next, according to the forecasts, – up to per cent [10, p. 8].

The analysis proves that two qualitatively new circumstances have appeared in the world production process: first, the transformation of the information sphere into the leading sector of the economy in terms of product basics, number of employees, impact on the production process, etc., and secondly, objectification of information value, like the importance of self-control of leading products.

The information sphere is gradually turning into a fundamental basis for all types of economic activity – from financial and credit operations to industrial and agricultural production, as it performs a vital function – information support of economic activity and its administration. Hence, the decisive factor that ensures the real existence and essential functions of a modern developed society is information.

Such radical changes allow us to claim the establishing of a “new economy” in the world.

A clear definition of the latter has not been suggested, however, most researchers agree that the heart and driving force of the “new economy” is information technology [11, p. 64].

Mankind is rapidly enrolling in the information era. The impact of the information economy is constantly growing and its share, estimated in total labour time, for developed countries today is already 40–60% and it is expected to grow by 10–15% [9, p. 4].

One of the criteria for the transition of a society to the post-industrial and further to the information stage of development can be the percentage of the population employed in the service sector: more than 50% of the population employed in the service sector witnesses post-industrial phase of its evolution. Respectively, more than 50% of the population employed in the field of information and intelligence services defines that society has become informational [2, p. 359].

A number of publications state that according to this criterion, the United States entered the post-industrial period of its development in 1956 (the state of California crossed this line in 1910). The status of the information society was obtained by the USA in 1974 [1, p. 203].

The criterion of society’s entry into the information era is also the law of exponential knowledge growth. Due to scientists, since the beginning of our era it has taken 1750 years to double the knowledge, the second doubling occurred in 1900, and the third – until 1950, that is within 50 years, in the case of an increase in the amount of information for these half-centuries in 8–10 times [12, p. 67]. This phenomenon, called the “information boom”, is among the symptoms that indicate the beginning of the information age and include: rapid reduction of the time for doubling the amount of accumulated scientific knowledge; exceeding the level of material costs for storage, transmission and processing of information at the level of similar energy costs; the opportunity for the first time to examine humanity from space [11, p. 67].

The information services themselves naturally follow from the informatization of the society. What is the essence and content of the informatization process? Approaches to the analysis of the real state and prospects of development of the processes of the information society formation significantly depend on the answer to this question.

According to the Law of Ukraine of February 4, 1998 No 4/98-VR “On the National Informatization Program” [13, p. 4], informatization is a set of interconnected organizational, legal, political, socio-economic, scientific and technical, production processes aimed at creating conditions for satisfying information needs, realization of the rights of citizens and society based on creation, development and use of information systems, networks, resources and information technologies, based on the application

of modern computer and communication devices [14, p. 11].

On a general social schedule, informatization is the transition of society to a qualitatively new status, access to new historical frontiers, which are called the information society. Hence, the information society is an objectively emerging stage of social development during the historical process [15, p. 92].

It is important to consider informatization as a “systemic activity process of acquiring information as a resource for management and development with the help of informatics tools in order to create an information society and, on this basis, to further continue the progress of civilization” [16, p. 4].

According to many researchers, the informatization process should include three dialectically interdependent processes. The first is mediatization – the process of improving the means of collecting, storing and disseminating information. The second – computerization, which includes improving means of searching and processing information. The third one is intellectualization, providing developing people’s abilities to perceive and generate information, that is, the process of increasing the intellectual potential of a society, including the use of artificial intelligence. While mass informatization of a society is impossible without an electronic computer with an intelligent namely, human-friendly, interface, experts claim that, unfortunately, social informatization is often judged only as the development of information and communication processes in a society on the basis of a modern computer and telecommunication technology [2, p. 357]. In fact, the informatization of a society should be interpreted as development, qualitative improvement, radical strengthening with the help of modern information technology tools of cognitive social structures and processes.

Informatization should be “merged” with the processes of social intellectualization, significantly increasing the creative potential of the individual.

The global process of establishing and development of the information society is of an objective character and cannot but relate to our country “from outside”, but rather weak democratization successes of our society lead to the lack of a serious social order “from inside” to improve the information environment.

All in all, today scientists distinguish two main theoretical and methodological approaches to the concept of informatization of a society: technocratic – when information technologies are considered a means of increasing labor productivity and their use is limited mainly to the spheres of production and management; humanitarian – when information technology is regarded as an important part of human life, which is important not only for production, but also for the social sphere [1, p. 192].

We also note that informatization is inevitably linked with the environmentally friendly, sustainable

development of society. The basis of the information economy is knowledge or an intellectual information resource. Knowledge has undeniable advantages in comparison with material resources that are strictly subject to the laws of conservation. If people use the nature resources excessively, environmental problems become aggravated, and if they try to withdraw something from their neighbours, conflicts and wars are generated [6, p. 138]. The socio-economic structure of a society based on the information economy inherently avoids the most socio-economic and environmental problems and, in perspective, presumes an exponential development of a society in its main parameters (“knowledge generates knowledge”).

We are going through a historical period of rapid technological changes that raises two main topics. The first one is related to the problem of employment: whether people will adapt to these changes, and whether information and telecommunication technologies create new jobs or destroy already formed ones? The second one concerns democracy and equality: will the complexity and high cost of modern technologies increase the gap between industrialized and less developed countries, young and older generations, those who know how to work with them and those who don't?

The spread of ICT (information and communications technology) is characterized by the pervasive nature and implementation in all sectors – in industry, service sphere, public administration, education and so on. At the same time, they have a significant impact on people's daily lives.

Nevertheless, with regard to our country, one cannot but take into account the fact that as a result of negative social experience and economic miscalculations, the lack of reform processes, there is a threat of weakening social energy and loss of social dynamics. Consequently, a large-scale socio-economic strategy development is required, which will give a clear understanding of the processes taking place and form the public consciousness and confidence in the future [5, p. 44].

Ideally, the development of these new ICT contributes to the following: empowering citizens by providing instant access to a variety of information; increasing the ability of people to participate in political decision-making and follow the actions of governments; providing the ability to actively produce information, not only consume it; providing privacy protection and anonymity of personal messages and communications.

It is worth realizing that the price for convenience, speed of transferring and receiving information, various information services – is considered as a loss of anonymity. All steps along the information flow can be traced and entered into ever-growing databases. This, in turn, sharply increases the possibility

of committing computer or information crimes against a person, which are defined as socially dangerous actions that encroach on the order of information relations established in a society and, accordingly, committed using electronic computers [15, p. 92]. Thus, the information is the main resource of the information society that becomes the object of encroachment.

Furthermore, it is worth adding that technological change can also deepen existing geographic and social differences. On the other hand, people's lives can be improved through much more convenient access to information and communication services.

To achieve this, such principles should apply in relation to access to public information: information should be open to everyone; basic information should be free; a reasonable price should be charged if additional processing is required; continuity: information must be provided continuously and must be of the equal quality [17, p. 12].

Notwithstanding, the reason for failures in the implementation of projects for the implementation of ICT, both at the level of relations between individuals and at the level of the state, is the inability to combine technological innovations with organizational ones. Here we can observe the experience of the modern solutions to these problems, and specific measures that are in Europe and the world, especially since these programs and concepts are also associated with our state, which seeks to become European and join the relevant international structures.

Since 1994, the European Community has set the task of building the information society as a priority. Significant successes have been achieved in the implementation of the Action Plan that defined the strategy of Europe's movement towards the information society, namely: liberalization of the telecommunications sector has been successfully launched; efforts have been launched to ensure the social orientation of the information society, support regional initiatives to achieve coordinated development; the educational action plan has been formulated [18, p. 4]. Moreover, the European manufacturing industry is being supported, which is expected to create an additional 1 million jobs over the next 10 years and the program of scientific information development has been successfully implemented [18, p. 5].

Results. Hence, the European Commission has become an important tool for establishing common rules that are necessary for the transition to a global information society.

Taking into account what has already been achieved, European countries and Ukraine, in particular, should meet the new requirements as follows: improve environment for business through effective and coordinated liberalization of telecommunications, and to create the necessary

conditions for the introduction of e-commerce. Not less significant is transition to a lifelong learning concept. The initiative “Education in the information society” works in this direction [4, p. 120].

Conclusions. Today, the importance of global cooperation, the establishment

of rules for creating an information society, is obvious. They relate to intellectual property rights, data protection and privacy, problems of dissemination of information of harmful and illegal content, information security issues. Understanding the proper prerequisites for the development of the information society presupposes an analysis of the process of its formation in different areas: impact on the economy

and employment; basic social and democratic values in the “virtual community”; impact on public, government services; education, training for a new profession, education in the information society; cultural dimension and future media; sustainable development, technology and infrastructure.

For Ukraine, the strategy for the development of such a society is, in particular, accelerating the entry of educational institutions into the information society by providing them with new means of communication, encouraging the widespread dissemination of multimedia in pedagogical practice, forming a critical mass of users, strengthening European education with the means inherent in the information society, expanding the cultural and linguistic diversity.

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