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FORMATION AND DEVELOPMENT
OF INFORMATION SOCIETY IN THE CONTEXT
OF ITS IMPACT ON QUALITY OF POPULATION LIFE

Abstract. The aim of the work is to study the issues of the influence of the information society on the quality of life of the population. The goal set in the article was implemented using a systematic approach, methods of scientific abstraction, analysis and synthesis, comparison. The article substantiates the concept of the formation of the information society on the basis of a critical analysis of the most significant works on the issue under study. The study of existing different definitions of the concept of "information society" allowed the authors of the article to highlight the universal characteristics of the information society, recognized by all scientists in a certain measure. Particular attention is paid to the issues of the influence of information technologies on various spheres of human life. There are also nine main trends in the development of the modern information society, which were supported by real examples.

Keywords: quality of life of the population, information society, information and computer technologies, Internet of things.

The work of the Austrian and American economist F. Machlup "The production and distribution of knowledge in the United States" [1] which was published in 1962 has contributed to the formation of the information society concept. In his work, Machlup justifying the role of knowledge in production, first used the term "knowledge industry". As a confirmation of his hypothesis, he cited the fact that in the US knowledge production provides 29% of GNP. Such a significant discovery of Machlup brought fame to his work around the world. In 1969 encouraged by the idea of Machlup, P. Drucker constructed the concept of "knowledge society", and a year later many researchers began to use the term "information society".

Japanese scientists have made a certain contribution to the study of the concept of the information society on an equal basis with American scientists. The most interesting work was presented by I. Masuda ("Information society as a post-industrial society") [2], who described in detail the consequences of the information technology revolution for the economy and society as a whole. According to Masuda, information technology is created with the aim of replacing or strengthening the mental labor of a person. In the future, information technology will become a new production force, and subsequently mass production of information and new technologies will be established. Over time, existing boundaries will blur in such a society, classes will disappear. The main difference between the information society and the industrial society outlined the highest value of time, not goods and anything else.

From the point of view of the influence of information technology on society, the work of M. McLuhan "The Gutenberg Galaxy" [3] is of particular interest. The paper analyzes the consequences of the creation of the print press, which consisted in the emergence of new communication strategies.

The latter, by the way, had an impact on the political, economic, social development of society and its institutions. Further, McLuhan, after studying the impact of television on industrial society, came to

the following conclusion: "... television suppressing the printed culture has become an important element of the global information network and has transformed the world into a " global village ". In our view, this is McLuhan's prediction that is suitable for describing the idea of a global information society.

By the end of the last century, the use of the term "information society" began to go beyond the lexicon of computer science specialists, and politicians, economists, teachers and scientists began to use it more and more often. The latter associated this concept with the possibilities of information and telecommunication technologies, which would make it possible to carry out a new evolutionary leap towards a new type of civil society – the information society.

At present, there are many different approaches, concepts and theories describing the phenomenon of the information society. Thus, in modern social and humanitarian science, the information society is understood as the concept of post-industrial society; the historical phase of civilization development, in which the main products of production are information and knowledge [4].

O.N. Vershinskaya in her work cites a different formulation: "a step in the development of modern civilization, characterized by an increase in the role of information and knowledge in the life of society, an increase in the share of information goods and services in the gross domestic product, the emergence of a global information space that ensures effective interaction of people and access to global information resources and meet public and personal information needs " [5].

Professor J.Martin gave a more detailed formulation of the concept of "information society" for the first time: "this is a society, the most important indicators and prospects of which are directly related to the effective use of information. Standards of quality and living standards, production and consumption systems, education and leisure, social security, management and interaction of the main components of the social structure as a whole in a society of this type are closely dependent on the development of information and cognitive components "[6].

In the book "Virtual New World", prepared for the 1997 Parliamentary Assembly of the Council of Europe, the information society is interpreted as "information-based society". On the basis of this definition, virtually all definitions were built, expanded and refined. As a difficult and complex phenomenon, the information society can not be described in one sentence. In the information society, quantitative indicators of computer and communication technologies do not play a special role, and qualitative indicators lie in the ability to use these technologies in various spheres of life to facilitate, replace and enhance human labor and intelligence. In the information society, information becomes the main economic resource, and time is the main value.

Despite the existence of various definitions of the term "information society", it is possible to identify some universal characteristics that are recognized to a certain extent by all researchers.

First, the foundation of the information society is the accelerated development and dissemination of information and communication technologies in various spheres of human activity and society as a whole. Secondly, in the information society the role of knowledge in obtaining and using information is very great, because knowledge becomes the main competitive advantage in the information society.

Thirdly, the information society has a global character, where the information exchange does not interfere with either temporal or spatial or political barriers. Fourthly, the information society is experiencing the interpenetration of different cultures, as well as new opportunities for self-realization of citizens.

Thus, in brief, the term under study can be defined as follows: information society is a new type of society that functions with the accelerated and all – inclusive development, dissemination and convergence of information and communication technologies in the global environment.

Under the influence of accelerated development and dissemination of information and communication technologies, the economic structure of the mass media, culture, graphic sector is being transformed. This transformation is closely linked to globalization, the main characteristics of which are the liberalization of international trade, the expansion of foreign direct investment and the emergence of massive cross-border financial flows that were caused by the impact of new technologies [7].

The economy is spontaneously transformed into a network, i.e. "continuously current space of flows", gaining the ability to generate continuous up-dates. Nonlinear forms of communication with erased spatial and temporal boundaries arise [8]. Mass online contacts nullify social distances, generating

huge flows of information and a situation of continuous change, often perceived as a tyranny of the moment [9].

Companies in the field of telephony, television, software, traditional publishing, etc. are increasingly forced to develop content in a convergent multimedia environment. There has been an increase in personalized services, such as "narrow broadcasting" over the Internet, paid views, subscriptions, access to newspaper publications and other archival services. There is an integration of the activities of various media. So, increasingly under a single label multi-national conglomerates offer services for the production of cinema, music, print publishing, commercials, etc.

Recently, consumers in many countries have been spending significant amounts of money on gadgets and entertainment based on the use of information technology. At present, there is an almost unlimited choice of digital quality images and sounds for those who can afford access to them. A significant increase in subscriber services for television has increased their revenues from advertising sources. New markets for films, television programmes and additional Internet services continue to be developed.

Despite the huge variety of media and entertainment products, they all have knowledge. Writers, editors, performers, designers, technicians, manufacturers and others create the idea and realize it by investing in it the ingenuity and technological complexity that make each product or service unique. Synergy of creative talents, diverse skills and knowledge of information technologies - together increases the value of printed, broadcast, electronic products, films, disks and Internet services that consumers pay for.

Thus, the mental activity of a person using information technology is especially important in the economic life of society. This point of view was shared by such scientists as D. Bell [10], M. Castells [8], E. Toffler [11], who among other things, studied the epochal significance of the emergence of the information society, the impact of information technology on social and political phenomena, etc.

The development of information technologies and informatization of society affects virtually all spheres of human life. Therefore, the consequences of informatization of society are diverse.

First, as a result of informatization of society, the social structure of society is changing – the number of social groups is increasing and their number is decreasing, their ratios are changing. The number of people engaged in intellectual work is increasing. Information becomes the main subject of work, information services appear.

Secondly, the information advantage that contributes to the redistribution of economic, social and political resources leads not only to information differentiation of society, but also to social and economic imbalance. For this reason, with the introduction of new technologies, the primary objective of the state should be to ensure equal access to them for all citizens.

Information technologies allow socially vulnerable groups of people (people with disabilities, pensioners, single mothers) and people who do not have the opportunity to work outside the home, to continue their work activities. At the same time, the rapid growth and widespread introduction of information technology in almost all spheres of life, requires the mastery of skills to work with them, so that many workers are forced to undergo retraining and training, and in some cases, to change their profession in accordance with the new challenges of the labor market.

With the development of the knowledge economy and the information society, the share of intellectual work in the employment structure of the population is increasing. With an increase in the mental burden on a person, the demands placed on workers in terms of their professional, psychophysiological qualities are tightened every year.

In general, we can highlight the following modern trends in the development of the informatization of society:

1. Turning information into a valuable commodity. Currently, information flows resemble a river in business and private life. Google describes the result of all the information accessible at any time and from any place, like the phenomenon "ZMOT - zero moment of truth". This means that the level of transparency in decision-making about purchasing has increased to a high level due to the fact that complete information is becoming more accessible. Currently, there is a growing influence of start-up companies that bring disruptive innovations, making money on the exchange of information or, more precisely, on the direct connection of suppliers and buyers. Such a scheme is used by such companies as Airbnb, Uber, etc.

2. The development of the Internet of things. The Internet of things is the key technology on which digital information is based. At present, the number of physical objects (household appliances, etc.) increases every day, which can be connected to the Internet, thereby making a virtual copy of these things. A virtual copy can contain the parameters of an object and the characteristics of its environment (this is how information is collected). The data obtained allow to manage a physical object remotely via the Internet. Thus, the Internet of things creates a mass of data that turns into information on modern technologies. This trend is based on the evolution provided by constant analysis. Such continuous development of products can generate innovations. Thus, data collection and processing allow using new ways of attracting value for business and private life. For example, fitness trackers that support a healthier lifestyle can make life easier for many people. Work and research are underway to develop mechanisms that allow things to interact with each other. Such mechanisms will allow to achieve automation of interaction on conveyor lines, in logistics systems, in the field of technical repair and maintenance of equipment, etc. To date, there are already thermostats that allow you to regulate the temperature in the apartment through the smartphone, while being out of the house. There are also entire cities where the "Internet of things" is part of everyday life. For example, Barcelona can be called Smart City.

3. Artificial Intelligence. Thanks to the capabilities of modern technologies, today such services as language translations, speech recognition, algorithms for finding the right solutions - have often been used in everyday life. Progress in this area contributed to the emergence of computers with artificial intelligence. Artificial intelligence already outperforms human in some areas of knowledge. For example, the Watson service from IBM, which plays chess professionally, makes medical diagnoses, and also replaces people in those areas where the use of computers was previously unthinkable [12]. Google, Amazon and Microsoft offer assistants that can turn on and off lights, ventilation or music, report traffic situations, report the latest world news or advise a restaurant nearby on your preference.

4. Matter digitization or 3D modeling. Physical objects are "printed" from raw materials through additive or 3D printing, a process that transforms industrial production, allows the printing of products at home and creates a whole range of opportunities for human health. Today the digitization of matter is carried out by companies in the sphere of service, construction, production of complex technological products, oil production. The possibilities of 3D modeling can be seen from two aspects: building object models; and filling models with data. The second option of 3D-modeling provides an opportunity to optimize management decision-making processes and establish the relationship of product design tools with the means of their production.

5. Augmented reality. This technology allows to add objects to the real world from the virtual world. Although more often used in games with elements of augmented reality, recently it began to use online clothing stores – one can sit in front of the computer and try on clothes, glasses, swimsuits and then to go to the store to buy favorite or order delivery. Augmented reality opens up new opportunities for smartphones - maps filled with interactive data around the world have become a universal tourist tool.

6. Synergy of technologies. The joint application of innovative digital technologies allows not only to change a particular business process, but completely to restructure the industry, having deduced to it a product that was not available before. The most fascinating thing about digital transformation is the changes that are taking place and the possibility of using all these technologies together. Some kinds of technology synergy are so strong that they cause a qualitative change, setting the trajectory of future development [13]. The most productive innovative technologies will be achievable in the symbiosis of technologies of the Internet of things with artificial intelligence. An example is the technology of face recognition and analysis of street cameras.

7. The disappearance and emergence of new professions. The technological changes have contributed to a significant shift in the employment structure in almost all sectors of the economy: in some areas, employment is declining, some professions are on the verge of extinction. New technologies are replacing traditional methods and tools, and skills. As an example, we can consider the impact of The Grid service on the labor market. This service offers to use the services of robot-assistant Molly, who develops sites on different platforms in a very short time without developers and engineers for just one hundred dollars a year. With the advent of similar robots, many companies no longer need to hire website

developers, since a robot is cheaper than a person's work, and works faster. In the new York stock exchange instead of hundreds of clerks work a little more than a dozen giant robots, their work is monitored by only a few engineers. It should be noted that those professions that are associated with monotonous, routine work with a lot of unrelated data are subject to disappearance. According to the research of the consulting company Boston Consulting Group, in the information society, the employment of the population will increase by 6% in the first ten years, in the development of mechanical and engineering solutions - by 10%. Specialists with knowledge in the field of programming and IT technologies will be especially in demand [14]. According to the latest foresight forecasts, a package of new breakthrough technologies in the world industry can emerge in ten years, which creates the need for fundamentally new competencies of workers and consumers [15]. Already, the society lives in conditions of accelerating "inflation of qualifications," when the competencies that are needed now will lose their value in the future, and there will be a need for completely new ones.

8. Blurring the traditional employment model. The global technological and economic trends of recent years have contributed to the erosion of the traditional employment model, which presupposes a specific employer, an indefinite employment contract, full-time employment, clearly defined professional positions and career prospects. Unstable economic environment increases the number of freelancers. According to the research of Upwork and the Union of Freelancers, 55 million Americans worked as freelancers in 2016, representing just over one-third of the American workforce. Large-scale global projects require a flexible workforce. Gradually, the key concepts related to employment in the post-industrial society are replaced by new categories: mobile workplace, flexible schedule, fixed-term employment contract.

9. The predominance of English due to the growing world leadership of the USA in the media and entertainment industry. There is a growing demand for actors, substitutes, journalists with knowledge of English and translators. Today, English has become one of the key requirements for qualified work.

Thus, at present, business and society are faced with serious changes caused by information technologies. As we noted above, informatization will affect people's lives, destroying some old professions and creating many new ones. But the impact of informatization of society on the quality of life of the population is not limited to this and requires more detailed consideration.

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АҚПАРАТТЫҚ ҚОҒАМНЫҢ ТҰРҒЫНДАРДЫҢ ӨМІР СҮРУ САПАСЫНА ӘСЕРІ ТҰРҒЫСЫНАН ҚАЛЫПТАСУЫ МЕН ДАМУЫ

Аннотация. Жұмыстың мақсаты ақпараттық қоғамның тұрғындардың өмір сүру сапасына ықпал ету мәселелерін зерттеу болып табылады. Жұмыста қойылған мақсатқа қол жеткізу үшін жүйелік әдіс, ғылыми абстракциялау, анализ және синтез, салыстыру әдістері қолданылды. Мақалада қарастырылып отырған мәселе бойынша анағұрлым маңызы жоғары жұмыстар талданып, соған сүйене отырып, ақпараттық қоғамның қалыптасуының тұжырымдамасы негізделген. «Ақпараттық қоғам» түсінігінің түрлі дефиницияларын зерттеу арқылы авторлар барлық ғалымдармен нақты бір деңгейде мақұлданып, ақпараттық қоғамның ерекше қасиеттерін бөліп көрсеткен. Жұмыста ақпараттық технологиялардың адамның өмір сүруінің барлық салаларына ықпал ету мәселелеріне аса назар аударылған. Сонымен бірге заманауи ақпараттық қоғамның тоғыз негізгі даму тенденциялары көрсетіліп, нақты шынайы мысалдармен бекітілген.

Түйін сөздер: тұрғындардың өмір сүру сапасы, ақпараттық қоғам, ақпараттық және компьютерлік технологиялар, заттар интернеті.

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ФОРМИРОВАНИЕ И РАЗВИТИЕ ИНФОРМАЦИОННОГО ОБЩЕСТВА В КОНТЕКСТЕ ЕГО ВЛИЯНИЯ НА КАЧЕСТВО ЖИЗНИ НАСЕЛЕНИЯ

Аннотация. Целью работы является исследование вопросов влияния информационного общества на качество жизни населения. Поставленная в статье цель реализовывалась с применением системного подхода, методов научной абстракции, анализа и синтеза, сравнения. В статье обоснована концепция формирования информационного общества на основе критического анализа наиболее значимых работ по исследуемому вопросу. Изучение существующих различных дефиниций понятия «информационное общество» позволило авторам статьи выделить универсальные характеристики информационного общества, признающиеся всеми учёными в определённой мере. Особое внимание в работе уделено вопросам влияния информационных технологий на различные сферы жизнедеятельности людей. Также выделены девять основных тенденций развития современного информационного общества, которые были подкреплены реальными примерами.

Ключевые слова: качество жизни населения, информационное общество, информационные и компьютерные технологии, интернет вещей.

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