Information Technologies and Their Role in Society

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A B S T R A C T

This article discusses the role of information technology in society. The article analyzes the ethical rules and norms to be followed in the field of information technology.

INTRODUCTION

The role of information technology in the development of society is to accelerate the processes of obtaining, disseminating and using new knowledge by society.

In the history of the development of civilization, there have been several information revolutions, when cardinal changes in the field of information processing have led to the transformation of social relations, the acquisition of a new quality by human society.

Scientific research on understanding the role and significance of information on the prospects for the development of society has also intensified.

During these years, the concept of the information society was formulated. The invention of the term "information society" itself is attributed to Yu Hayashi, a professor at the Tokyo Institute of Technology, who headed a research group set up by the Japanese government to develop prospects for the country's economy. In the presented report, the information society was defined as one where the process of computerization will give people access to reliable sources of information, relieve them of routine work, and provide a high level of production automation. At the same time, the production itself will also change - its product will become more "information-intensive", which means an increase in the share of innovation, design and marketing in its value. The Japanese version of the concept of the information society was developed, first of all, to solve the problems of economic development in

Japan, which led to its limited and applied nature, but the concept turned out to be so fruitful that its practical implementation was later called the "Japanese economic miracle".

In those same years, the analysis of trends in scientific and technological progress and the rapid development of new technologies in the United States led to the emergence of two ideologies - the information society and post-industrialism. The idea of a post-industrial society was put forward by the American sociologist D. Bell in his book "The advance of post-industrial society. The experience of social forecasting", published in 1973, in which he divided the history of human society into three stages - agrarian, industrial and post-industrial. Developing Bell's ideas, another American philosopher, E. Toffler (book "The Third Wave", 1980) considers the history of human civilization in the form of successive waves. The first wave – "agricultural civilization" and its symbol "hoe", is replaced by 'industrial civilization", the symbol of which is the conveyor, and it is being replaced by the third wave – "information civilization", the symbol of which is the computer. The driving force of the first wave is agricultural products and mineral resources, the conveyor belt provides cheap labor and mass production, and the driving force of the third wave is the creation and exploitation of knowledge.

Today, the information society is understood as a society in which information is a key component of economic and social life.

Information society is a society in which most of the workers are engaged in the production, storage, processing and sale of information, especially its highest form - knowledge.

The production of an information product, and not a material product, serves as a driving force for the development of society. Information has acquired the status of a commodity and has become equal in importance to society with other material resources.

Informatization is an organized socio-economic, scientific and technical process of creating optimal conditions for meeting information needs and realizing the rights of citizens, government bodies, local governments, organizations, public associations based on the formation and use of information resources.

Information resources - individual documents and separate arrays of documents, documents and arrays of documents in information systems (libraries, archives, funds, databanks, other information systems).

What is associated with the acquisition of new knowledge about the world around us, previously unknown to mankind, is called science, and what is associated with the implementation of this knowledge in the process of creating and using material and spiritual values is called technology.

Information technology (IT) is a process that uses a set of methods and software and hardware for collecting, processing, storing, transmitting and presenting information in order to obtain information of a new quality, reduce labor intensity and increase the efficiency of the processes of using information resources.

Information processes are the processes of collecting, processing, accumulating, searching, and disseminating information. When working with information, there is always a source and a consumer. The paths and processes that ensure the transfer of information from the source to the consumer are called communication channels or information communications.

Telecommunications - remote data transmission based on computer networks and modern communication facilities.

Information culture - the ability to purposefully work with information and use it to receive, process and transmit computer information technology, modern technical means and methods.

Achievements and development trends in the field of information technology and information systems. Currently, we are witnessing the rapid growth of information systems in various areas of

human activity. This is due, on the one hand, to changes in the economy, and on the other hand, to the new possibilities of information technology.

Let's note the most significant achievements in the field of information technology.

Expanding the use of the Internet. Since the inception of the personal computer, nothing has shaken the computing world more than the widespread use of the Internet and the World Wide Web. New technologies have brought sound, video and animation to the monotonous world of text. Although the network itself can hardly be called something revolutionary (it has existed for more than 30 years), in recent years, not only the intensity of its use has grown, but also the number of services provided.

The first code of computer ethics was developed and adopted at the Institute of Electrical and Electronics Engineers (IEEE) in 1979. The adoption of the code was dictated by the understanding that engineers, scientists and technologists by the results of their activities determine the quality and living conditions of all people in the information society. Therefore, the preamble to the code emphasizes the vital need to comply with all ethical standards in the development and operation of information technology tools.

Later, codes of ethics were developed and adopted by the Computer Technology Developers Association (ACM), the Information Technology Managers Association (DRMA), the Information Technology Users Association in the United States (ITAA), and the Certified Computer Professionals Association (ICCP). In 1987, a code of computer ethics was developed and adopted for teachers in higher and secondary schools. The codes served as the basis for the creation of special courses that are now taught in all schools and most universities.

Based on the ethical standards used in the listed codes, the International Federation for Information Technology (IFIP) has recommended the adoption of codes of computer ethics by national organizations in other countries, taking into account local cultural and ethical traditions.

All codes are based on the Ten Commandments (similar to the Biblical Mount on the Mount of Jesus Christ, which also contains ten moral tenets).

1. You will not use your computer to harm other people.

2. You will not interfere with or interfere with the work of other users of computer networks.

3. You will not poke your nose into files that are not intended for free use.

4. You will not use your computer to steal.

5. You will not use your computer to spread false information.

6. You will not use stolen software.

7. You will not use computer equipment or network resources without permission or appropriate compensation.

8. You will not misappropriate someone else's intellectual property.

9. You will be thinking about the possible social implications of the programs you write or the systems you develop.

10. You will be using a computer with self-restraints that show your consideration and respect for other people.

All codes, along with the listed commandments and universal moral standards (honest performance of their duties, professional and social responsibility, professional development, racial equality, etc.) contain norms based on the observance of four main moral principles: privacy (secret of private life) , accuracy "akjerasi" (accuracy), property "sing" (private property) and accessibility "accessibility" (accessibility). The model of computer ethics based on these principles was named PAPA after the first letters of the words that make up the essence of the model.

Privacy. The principle of "privacy" carries an important semantic load. It expresses the human right to autonomy and freedom in private life, the right to be protected from invasion by the authorities

and other people. Compliance with this principle is especially important in connection with the creation of numerous automated data banks containing various information about an individual. Therefore, one of the main moral norms of the creators and users of information systems should be the obligation to maintain the confidentiality of trusted information.

Accuracy. Accurate adherence to the instructions for operating systems and information processing, honest and socially responsible attitude to their duties presuppose norms based on the principle of "accuracy".

Property. The principle "property" means the inviolability of private property and is the basis of the property order in the economy. Following this principle means respecting the ownership of information and copyright regulations.

Accessibility. The principle of "accessibility" to information, one of the main principles of the information society, defines the right of citizens to information and presupposes the availability of every subject of society to information technologies and to any information necessary for him, permitted for access, at any time and in any place.

The listed principles are reflected in the "National Code of Activities in the Field of Informatics and Telecommunications", developed by the Chamber of Commerce and Industry of the Russian Federation. The Code applies to all types of activities - production, sale, use of information technology and telecommunications. The Code specifies that these activities must be lawful, decent, honest and truthful.

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