

USE AND ROLE OF INFORMATION TECHNOLOGIES IN THE MODERN WORLD

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Abstract. Nowadays it is very difficult, even almost impossible to imagine your life without various modern technologies, gadgets, and electronic devices. They have become an integral part of people's lives and are used in various human activities, in all spheres of human life, such as economic, political, social. Technological progress continues to develop, and every day one can observe novelties and improvements in electronic technology, new discoveries in the information sphere, and the great influence of information and Internet technologies in people's lives. Information technologies represent all the accumulated experience of mankind in a universal form suitable for practical use. They are used in science, business, education, work, even industry and materials production, medicine, architecture, modeling, and many other areas of human activity.

Keywords: information technologies, convergence, innovative developments, information services market.

In today's world, everything is changing very quickly, fundamental transformations are taking place in all spheres of human life without exception, the main goal of which is to significantly increase the quality and level of his life, to achieve social well-being and well-being. In this context, today we are witnessing a rapid increase in the role of information in our lives, an exponential increase in the volume of its consumption, and the dominance of its importance over other resources when making management decisions, regardless of the level of management. Indeed, timely acquisition of important information provides significant competitive advantages to any business entity, allows it to be one step ahead of its competitors. However, not only business today needs objective information, as it is impossible to present a sphere of activity within the economy, the effectiveness of which would not depend on the consumption of the latest knowledge, operational data, technologies, and other forms of information resources. That is why any research in the field of specifying the influence of information on the possibilities of economic recovery is potentially relevant, especially for Ukraine in its current state. At the same time, it

should be noted that the usefulness, intensity and efficiency of the use of information and the latest knowledge increases due to the use of certain information technologies. Without a doubt, information technology today plays a crucial role in the modern world²⁴⁰. They occupy a unique position in our society and not only influence its economic and social institutions, but are also the engine of global economic growth, penetrating into all areas of production activity and making it possible to build effective management systems. Thus, there is an increase in the volume of work performed, a reduction in design time and an increase in the quality of design work.

This topic is now more relevant than ever, since the information society involves the widespread use of various information technologies in all areas of our activity. For example, at the moment in our society systems of distribution, storage and processing of information, which are based on the work of computers, play a huge role. More and more inter-regional and international relations are being formed, which makes it possible to exchange information over long distances in the shortest possible time. In addition, the number of people professionally involved in the collection, storage and processing of information is growing every day.

IT technologies are innovative technologies that are the driving force of modern civilization. Information technology is a class of areas of activity related to technologies for managing and processing a huge flow of information using computer technology²⁴¹. The role of information technologies in the development of society is to increase the processes of obtaining, disseminating, and using the acquired knowledge by society. Information is one of the main, decisive factors that determines the development of technology and resources in general. In this regard, it is very important to understand not only the relationship between the development of the information industry, computerization, information technology and the informatization process, but also to determine the level and degree of influence of the informatization process on the sphere of management and intellectual activity of a person.

Information technologies make it possible to activate and effectively use the information resources of society, which today are the most important strategic factor in its development. In recent years, information processes have taken an increasing place in the life of human society. Information technology allows you to optimize and, in many cases, automate information processes that are important elements of other, more complex production or social processes. Modern society is at a stage of development when almost all spheres of public life and state activity depend on the quality and security of information technologies and resources. The use of unified world information systems ensures the introduction of information technologies into education: a single educational space is being formed, a person's need for communication and access to common intangible resources is increasing.

²⁴⁰ Asaul A. et al. (2019). The Latest Information Systems in the Enterprise Management and Trends in their Development, p. 409-412.

²⁴¹ Haustova V.E. et al. (2022). Promising directions of development of the IT sphere in the world, p.3-19.

Now, information technologies are widely used to improve the quality of education and medical care, as well as to develop the information and telecommunications structure. Even now, Western companies can combine all industries into one system and manage it with the help of modern information technologies. Many Western experts believe that the one who owns the information owns the whole world. That is why they focus on information management. Now, there are several trends that characterize the state of information technology:

- the presence of a large number of databases containing information on almost all types of activities of the company;
- creation of technologies that provide an interactive access for an ordinary user to these information resources;
- increase in functionality and creation of local, multifunctional problem-oriented information systems for various purposes based on powerful personal computers and local area networks;
- inclusion in information systems of various technological tools and specialized user interfaces for interaction with expert systems.

Modern information technologies, with their rapidly growing potential and rapidly declining costs, open great opportunities for new forms of labor organization and employment within both individual corporations and society as a whole ²⁴². The range of such opportunities is expanding significantly – innovations affect all spheres of people's lives, family, education, work, geographical boundaries of human communities.

Today, information technology can make a decisive contribution to strengthening the relationship between the growth of labor productivity, output, investment, and employment. The ability to apply modern information technologies in their activities is becoming one of the main components of the professional training of any specialist. Thanks to information technology, the successful activities of many companies are carried out. The more modern information technologies are used in professional activities, the more efficient and productive the labor process. Software products and information technologies make it possible to ensure reliable and safe operation of both computer equipment and the employee's information system. They allow you to process, sort and store the necessary information and data, help facilitate the functions of the employee by automating certain labor processes efficiently and quickly. The number of automated workplaces is increasing every day, as automated processes allow professional activities to be carried out more accurately, clearly, and quickly.

Modern workstations allow not only to process and store data, but also perform several auxiliary professional functions that form a certain service²⁴³. The service maintains databases and performs automated copying, restoration, archiving, import / export of data, work that is directly related to professional activities, such as

²⁴² Mandych O.V., Naumenko I.V., Romaniuk I.A. (2019). Formation of the policy of product distribution in integrated structures, p. 83-87.

²⁴³ Urban O.A., Dzyamulych M.I., Matviyuk V.V. (2019). Theoretical foundations of the development of IT services in the conditions of globalization, p.137-144.

preparing correspondence using a text editor, creating electronic databases and spreadsheets, sending mail via electronic channels. A specific information technology is determined because of compilation and synthesis of basic technological operations, specialized technologies and means of implementation. A society with a high level of development and use of information technologies, developed infrastructures that provide the production of information resources and the ability to access information is called the information society. For modern society, the information industry is becoming the most important economic factor. This industry is based on basic information technologies that use the achievements of various areas of the economy.

Today, basic information technologies have an independent scientific and applied value, providing ample opportunities for extracting, formalizing, modeling, systematizing, integrating, transporting, processing, and applying information and knowledge. The field of information technologies, including basic ones, has become an important area of production activity, which has all the features of industrial production with a stable growth dynamic²⁴⁴. Multimedia technologies, geoinformation technologies, information security technologies, CASE technologies, telecommunication technologies, artificial intelligence technologies are considered in the context of the fundamental principles and methods of their creation, illustrated by reviews of samples existing on the market.

Now, there are 5 main trends in the development of information technology:

1) the complication of information products and services. An information product in the form of software and hardware, databases and data storages are constantly evolving and becoming more complex. Just yesterday it was impossible to imagine most of the services offered today for personal computers, television, and security systems. Along with this, the information technology interface, with all the complexity of the tasks being solved, is constantly being simplified, thereby making the interactive interaction between the user and the system more and more comfortable;

2) the ability to interact. With the growing importance of an information product, the ability to carry out an optimal exchange of this product between a computer and a person or between information systems acquires the status of a leading technological problem. Also, this problem concerns the compatibility of hardware and software, processing, transmission, and formation of the required information. Modern software and hardware and data exchange protocols make it possible to solve them in an increasing volume;

3) elimination of intermediate links. The development of interoperability unambiguously leads to simplification of the delivery of an information product to the consumer. Intermediaries become unnecessary if it is possible to place orders and receive what is needed directly with the help of information technology;

4) globalization. Various companies can now, with the help of information technology, conduct business on the world market, that is, anywhere, immediately receiving comprehensive and all the necessary information. Therefore, the possibilities of the information market become limitless. There is an

²⁴⁴ Babko N.M. et al. (2020). Consumer behavior: education. manual.

internationalization of software and information product market. The globalization of the information product market aims to gain as much benefit as possible by distributing fixed and semi-permanent information costs over a wider geographical area. This becomes a necessary element of strategy for most companies;

5) convergence. Differences between industrial products and services, information products and means of obtaining them, their use in everyday life and for business or professional purposes disappear. The transmission and reception of audio, digital and video signals are combined in the same devices and systems. It is this trend that leads to the emergence of more and more promising and useful products for the user.

Information technologies are constantly evolving, opening fundamentally new opportunities for us in various fields of activity (be it enterprise management, management decision support, medicine, or education). The main incentives for their development are the socio-economic needs of society. Now interregional and international communication systems are actively developing, a global network community is beginning to form, and at the same time, a market for information services is being formed.

Whether promoting social progress or commercial leadership, to unlock the economic growth that digitalization promises, companies and governments must act quickly, decisively, and strategically along three important dimensions.

First, a properly developed strategy that clearly defines the main competitive priorities of the enterprise based on the introduction of information technologies is a critically important aspect. The most successful enterprises clearly understand their purpose and place in a changing market environment, realizing how they create added value²⁴⁵. As a result, they remain true to their unique characteristics, can introduce innovative developments to build up their own capacities, which, at the same time, are rethinking and are able to find directions for diversification of production (providing services) to thrive in today's digital world. A properly formed strategy should be bold in terms of planning the profitability of the enterprise, but at the same time, based on a practical component, determining the possibility of real transformations, and stimulating the implementation of sustainable and inclusive growth.

Second, it is important that governments put the user of information systems and technology at the center by providing the necessary access to the Internet. It is necessary to understand the behavior, needs and problems of users of information systems and technologies to create better technological solutions, solve pressing problems and achieve significant socio-economic changes. Continuous listening to mass feedback and recommendations of users and implementation of strategies and solutions based on a deep observational understanding of the needs of citizens and consumers will contribute to the introduction of effective innovations and greater economic success.

²⁴⁵ Zakharova O.V., Kalashnyk O.V. (2019). Features of the selection of IT specialists: the latest approaches, p. 64-73.

Third, digital leadership requires quick action and prompt response to the challenges of a changing market environment. Organizations and businesses that quickly create or acquire the necessary capabilities to be "first and fast" will have the best competitive advantages in the future to ensure efficient business operations in an increasingly information technology-driven marketplace. It should be noted that ensuring the mobilization of rapid management decisions and actions can be particularly difficult for most governments and state-owned enterprises, but many established, historically successful business structures also face such a problem.

Implementation and observance of the specified dimensions determines the strategic directions for significant socio-economic growth²⁴⁶. Governments and business leaders have enormous economic opportunities by fully utilizing the potential of digital technologies. Information and communication technologies undoubtedly have a huge impact on the development of not only enterprises, but also the economy in general, because of the significant expansion of the sphere of activity dealing with issues of generation and design of communication and information technologies. There is an increase in investments in the sector of information and communication technologies, which improves the level and quality of their products, lowering the price policy, as well as the popularization of the Internet and the development of electronic commerce. At the same time, an effective management process, as a complex task, requires optimal interaction of various types of resources. Considering the current trends of globalization in the development of the economy, information resources play a key role in the activities of any subject of the market economy, ensuring the automation of the enterprise's business processes and clearer and more flexible management²⁴⁷. The introduction of information technologies into the process of enterprise management can ensure its competitiveness, and therefore the opportunity to take the most advantageous position in the marketing environment, which is constantly changing and being formed under the influence of various external and internal factors.

During the war in Ukraine, another source of public-private investments in the development of the information environment was quite actively used, namely the provision of free educational services for the intensive training of IT specialists in various professions. For Ukrainians today, there is a whole range of such courses and projects, the most powerful and highlighted in mass media are: grant project "eRobota"; innovative charity pilot project "IT Generations"; an educational project from the Projector Institute; the IT-Sprout project; a training program from the Skillsetter educational platform, etc. Each of the listed projects is aimed at overcoming the shortage of a certain profession in the IT sphere and simultaneously reducing the unemployment rate of the population, which is caused by both the consequences of the war and the trends of the penetration of the principles of

²⁴⁶ Romaniuk I. et al. (2020). Analysis and forecast of marketing strategies and PR in the conditions of the coronavirus pandemic, p. 101-108.

²⁴⁷ Korolev D.V. (2020). Trends and problems of the development of information technologies in Ukraine: personnel aspects, p. 121-126.

digitalization into all areas of the regional economy, the general unsatisfactory socio-economic situation, and the unsatisfactory standard of living people.

Thus, as a result of the need for simultaneous processing of a large amount of operational and analytical data characterizing real financial and production-economic processes, there is a need to use automated information systems and technologies to accelerate management decision-making²⁴⁸. Their introduction leads to a change in the forms and methods of enterprise management, providing a more voluminous and operational organizational structure of management and gaining more and more importance as the most important tool of scientific, technical, and socio-economic development of society.

The current state of functioning of the Ukrainian economy takes place under the influence of a significant number of limiting and negative factors, the main of which is the war. The period of the war clearly showed that to preserve the economy and create opportunities for its further reproduction, it is not enough to focus on the use of traditional methods only, it is necessary to look for new approaches that will allow to obtain the expected result, but with less expenditure of time and resources. One of such tools is information technology, the application of which can allow to fundamentally change the production and economic system of the economy by adding to it such characteristics as greater economic efficiency, rationality, stability, endurance and insurance against undesirable conditions and influences. In order to achieve these features in practice, a mechanism for meeting the needs of a sufficient number of motivated and experienced IT specialists must be created in the country. It is possible to solve this problem by reforming the educational system, creating a stable demand for information technologies in the country's business environment, providing sufficient investment resources and building a network of effective employment of specialists of various professional levels within the Ukrainian IT sphere. Only on such a basis will it be possible to achieve noticeable results in the matter of recovery and recovery of the economy of Ukraine in the post-war period. Therefore, it is necessary to start now, so that by the time Ukraine wins the war at the level of the regions of the country, their own experience in this important issue has already been gained.

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