IJPSC
International Journal of Psychology and Strategic Communication
ISSN: 2941-5691 (Online) 2941-5705 (Print) [08]
DOI: 10.61030/IJPSC.25.v01a08

THE ROLE OF DIGITALIZATION IN MODERN SOCIETY

Pavliuk Anna[1], Raisa Hrinchenko[2],

[1]student of Odesa National University of Economics, Odesa
e-mail: anuta.pavliuk1203@gmail.com, phone number: +380958379599
[2]DSc in Economics, head of the Economy of enterprises and business organization Department at Odessa National Economic University

Abstract

It is difficult to find out areas of activity that would not be affected by digitalization. It plays an important role in the life of both the average citizen and the entire state, becoming an integral part of them. Tracking the prerequisites for its development will make it possible to predict possible positive consequences and maximize them, and negative ones and try to avoid them. Determining the advantages and disadvantages will allow a comprehensive approach to the consideration of the question: "Is digitalization not a threat to us?" An important aspect of the work is the study of the digitization of processes in Ukraine, their influence on Ukraine becoming one of the leading states in the introduction of digital technologies into the lives of ordinary citizens. The relevance of the chosen topic is determined by the need to take into account the impact of digitalization on the development of humanity and to regulate this impact.

Keywords and phrases

digitization; digitization of processes; industrial revolutions; Artificial Intelligence; optimization.

Setting the problem and determining the relevance of the chosen topic

Every day, we use the benefits of digitization without even thinking about whether our daily activities in the digital world pose a threat to our security. Digitization, or the introduction of digital technologies into various spheres of life, has become one of the most defining features of our era. And in order to feel safe in it, use all its advantages and minimize the possible negative impact, we suggest investigating the role of digitalization of processes in our lives.

Analysis of recent research and publications

A cohort of scientists was and continues to be engaged in the study of this issue, because currently the question of the role of digitization in the life of society, its impact on lifestyle changes, the formation of the economy, the formation of new cultural features, and changes in the structure of society is one of the most urgent. In order to highlight possible threats and advantages of digitization of processes and project them on the Ukrainian economy, we considered the works of O.Yu. Huseva, O.M. Hrybinenko, M.V. Petkanych, S.Ya. Korol, which helped to compose the views of modern scientists on the issue of digitization.

Presentation of the main material of the research and the obtained results

The main prerequisite for the introduction of digital technologies into the everyday life of an average citizen was the need to exchange, receive, process, and store various types of information. The writing of this work began with receiving requirements through a common messenger in a matter of minutes in a convenient format, continued with the search for a scientific basis among publications on the necessary topics posted in electronic format on the Internet, and ended with the design of the research results in one of the most famous text editors ``Word" `. We are talking about several processes out of a million that we perform every day in the field of education, economics, medicine, transport, communications, etc., which shows that modern society is inseparable from modernized technologies.

Digitization is a process that takes a leading role in determining the comfort of existence of every inhabitant of the era of rapid development of the scientific sphere of human activity. Comfort is primarily speed, mobility and convenience, which are necessary in any sector of activity and are an important condition for competitiveness. Science does not stand still and those who do not have time to implement its latest innovations remain not one step, but two steps behind, and even the slightest delay widens the gap between active users of advanced technologies and those who start using them a little later, without saying about the immeasurable distance between those who ignore the possibilities of development and simplification of activities.

Digitalization has become an another stage of changing the role of a person as someone who interacts with the environment and can determine his influence on it. Digitalization was preceded by 2 industrial revolutions. The first began in England, where the primary source of digitization was the mechanization of production processes. Thanks to the improvement of the loom, it became possible to produce the product twice as fast. That is, the manufacturers who first decided to try to reduce the costs of producing a unit of production were able to do so and obtain a higher profit due to the reduction of the cost per unit of goods, unlike those who continued to use an unimproved machine. Thanks to the "Jenny" spinning machine, manufacturers were able to produce products 18-20 times faster (Gisem O. V. & Martynyuk O. O., 2021).

Human evolution leads to the improvement, simplification and optimization of processes, therefore, manufacturers in the 18th century faced the question of reducing the efforts of the workforce, the share of its cost in the total cost of the product, and increasing the efficiency of the use of available resources, where an innovative solution demonstrates the introduction and improvement of mechanisms that can function semi-autonomous - water and steam engines. One of the modernized models of the steam locomotive, which was the result of the invention of the steam engine, we still use today - the railway transport.

The consequence of the First Industrial Revolution is a change in the class distribution among the population. The leading role is occupied by two new social classes - entrepreneurs and employees. The most significant problem since the beginning of the displacement of manufacturing production by machines has been the mass demonstrations of workers against the mechanization of processes - the "Luddites". They believed that poor working conditions and wages, a decrease in the number of jobs were due only to the introduction of machines into production.

The second industrial revolution was called the technological revolution. There were no gaps in time between the two revolutions, so the technological one is actually the next phase of the launched digitalization mechanism. At this stage, the equipment, techniques, means and production processes that were introduced to transition from manual production to mechanization are being improved.

Due to the fact that the process of mechanization was successfully spread in the territories of other countries, such as Germany, Japan, the USA, it received considerable potential for development, which was reflected in the beginning of the active use of electricity and oil as effective sources of energy. Modification of the steam engine made it possible to connect vast land areas by railways and provide a new type of cargo and passenger transportation. Soon we were able to talk about flying machines, which further modified the logistics system of the world. At the same time, the number of unskilled labor involved in production is decreasing, but the need for educated workers who are ready to work with the latest challenges of rapidly developing science and leaving behind uncompetitive entrepreneurs is increasing. After replacing the main two classes of feudal lords and peasants with new ones - entrepreneurs and hired workers, the possibilities of capital distribution change, profit appears, which becomes a free resource for improving production, occupying new niches. The improvement of the activity processes of a certain enterprise makes it possible to hold under its influence a significant share of the market, it is during this period that the concept of "monopoly" and the possibility of its implementation arise (Roger Morrison, 2021).

During the technological upheaval, prototypes of the benefits of society that are familiar to us - telephones, films and radio - appear, which, in our opinion, becomes the beginning of the era of digitalization of information.

Industrial and technological revolutions contain several significant differences, but they are united by the

sequence of introduction of machines into production, where the first stage is gradually replaced by an even more active second. The result is an increase in production efficiency, acceleration of production processes and provision of services, a decrease in the unit cost of production due to a decrease in the costs of variable capital, and an improvement in working conditions. However, we are faced with negative consequences for workers: these processes lead to an unemployment, increasing requirements for the level of qualifications of workers. However, old professions are being replaced by new ones, there is a demand for a skilled worker; those who really want to work will definitely get a specialization in the desired field and will be able to continue their activities while remaining competitive on the labor market; during the second industrial revolution, manufacturers began to care more about their workers, such methods of labor regulation as Taylorism and Fordism appeared, which aimed to properly organize the working time of the worker, satisfy his needs, and make him a buyer of goods and services that he produces.

Similar questions are raised when considering the third industrial revolution - the information revolution. After the Second World War, new inventions began to be used among the civilian population, for example, computers and the Internet, which became tools of digitization and globalization. This made it possible to share existing information with users around the world, to join forces to achieve new, useful scientific discoveries, to expand communication links, to place large volumes of materials into the world of their electronic ordering, to facilitate processes for which in the past a person spent a disproportionately large amount of time compared to results (Roger Morrison, 2021).

Digitization spreads its influence on almost all spheres of human activity. Accounting at the enterprise and in the household, provision of banking services, communication with the state, consumers, suppliers, facilitation of logistics planning, access to a large volume of information at any time - all these processes are the consequences of the introduction of information technologies into public life. Thanks to the development of science, it becomes possible to extend the life expectancy of the population, significantly change the quality and speed of providing medical services: the opening of opportunities for the treatment of diseases that were previously considered incurable. The effectiveness of the use of soils and the supervision of maintaining their quality is changing: after long-term use of the lands, there came a period of their enrichment with useful substances, which took a lot of time and slowed down production volumes. It is now possible to do this with a significant reduction in time and resources with the help of new instruments that will analyze their quality, predict and advise on their enrichment and directly enrich them with minimal human effort. Previously, we needed to spend a sufficient amount of time to visit a doctor, spending him in queues, now we have the option of online consultations and appointments. Services provided by the public sector are gradually going digital, and a large number of them are already available on the smartphones of citizens of digitized states. The same applies to banking services: obtaining a loan, topping up cards, making payments on the Internet, paying utilities, taxes, and fees have become a regular part of the life of the vast majority of the population.

The obvious advantages of digitization follow from this:

- efficiency and speed of information processing, where electronic equipment processes thousands of requests in a matter of seconds, while a person would spend an incomparably greater amount of time on it. Digital technologies make it possible to analyze, select exactly the information that corresponds to a specific request, discard unnecessary options and focus our attention on what we need, which allows us to make appropriate decisions, spending our resources on creative and more complex tasks.
- Convenience and availability of services for the people. Saving time on receiving any services moved to online platforms and applications makes it possible to receive them remotely, which becomes especially relevant for those who find it difficult to get to the places of their receipt.
- Stimulation of economic development. The implementation of innovative digital technologies in one's own enterprise creates competitiveness in a certain market segment, which will stimulate other entrepreneurs to implement the same or even more effective technologies. This starts a system of motivation for the improvement of one's own enterprise, which leads to changes in the entire sector of the economy and certainly in the economy of the entire country.
- Improving the quality of life of the people. The level of comfort in the everyday life of the population increases when there are opportunities to transfer certain responsibilities to electronic devices and allocate time for more creative activities or tasks that require more effort, for rest.

Taking into account all the advantages and their active use will allow us to get the maximum possible positive effect for us, however, there is a large number of potential threats that can cause a negative impact from the inappropriate use of digital technologies.

Unlike the two previous revolutions, thanks to information, man as a producer of goods and services begins to think about his impact on the environment, questions begin to arise regarding the feasibility of using the

available resources of the planet and their renewability. The development of alternative sources of energy obtained thanks to the sun, water and wind, which has a less harmful impact on the environment, the creation of technologies for the processing and reuse of consumed products, the minimization of waste during production, the correct disposal of garbage for its further fastest and safest decomposition, the reduction of negative impact, damage to the environment in previous years of human activity - positive consequences of society's activities in these years. However, fundamental changes in the climate, mountains of garbage occupying large areas of land, which after a long-term decomposition process will be unusable, the impossibility of the existence of biogeocenoses on polluted areas, the death and disappearance of animal species, an increase in the level of harmful substances in the atmosphere: air, water, soils, which causes a significant negative impact on both the violation of the conditions for the existence of biocenosis and human health, serve as serious nests of human activity in the framework of scientific discoveries.

Transferring a large amount of personal information to electronic media. creates a threat of its incorrect use, its use for criminal purposes, with the aim of taking possession of a person's material or intellectual property. Along with this, hacker attacks, the spread of viruses, phishing and other types of cybercrime, aimed at obtaining illegal benefits, are increasing.

A very important factor of digitization is the provision of means for carrying out digital activities. It is necessary to understand that not all categories of the country's population have access to smartphones, laptops and tablets in order to take advantage of this process. This can create a division of society, their exclusion from general social life. Therefore, digitization of processes should be implemented gradually, providing all participants of this process with the means to be able to use them.

Reducing the number of jobs that do not require employees to constantly improve, acquire new knowledge, increase the level of qualification and specialization, replace a person who could perform simple processes with automated or semi-automated equipment, we would like to attribute to the positive consequences of industrial revolutions. There are new types of activities related to the performance of work remotely, which has both a negative effect on the health of the employee and a positive effect on the effective use of personal time.

In order to explain the interdependence of negative factors to motivate a person to improve in any field, it is necessary to consider the last industrial revolution identified by scientists - the intellectual revolution, in the epoch of which we are currently conducting our activities. It is based on the potential of intellectual capital - as the driving force of all inventions, as a source of unique opportunities for improving science.

Its features are the rapid automation and robotization of processes, the introduction of artificial intelligence into everyday life. What we use every day: Google's search engine, which includes elements of artificial intelligence to recognize human voice commands, visual recognition of the provided information using Google Lens, product recommendations that may interest us after interacting with similar products, the principles of which it works advertising in social networks, YouTube, Netflix, etc. (Petkanych M.V., 2022).

The introduction of artificial intelligence into transport systems made it possible to obtain unmanned cars and aircraft, unmanned train control systems, which greatly facilitates the activities of people in this area, minimizes the risks of disasters, but does not eliminate the possibility of making a mistake in the system.

The question of the feasibility of using artificial intelligence arises when a person begins to realize that it brings benefits, but the period of receiving benefits may not last long. Human-made robots may well exceed our expectations of them. Insufficient control over their development and the opportunities provided will likely cause negative consequences for humanity as a whole.

The number of employed people in fields of activity that do not require a certain level of qualification will definitely decrease. However, as we have already noted, in our opinion, this serves as an impetus for obtaining new knowledge, improving skills in order to meet the modern demands of employers on the labor market.

Reshoring is an interesting trend in developed countries. It is the reverse process of moving production facilities to countries with cheaper labor force, which made it possible to save on production. Currently, it finds the greatest response in companies of countries such as the USA and Germany, where the level of technology implemented in production allows to abandon a significant part of the workers. Due to the increase in the level of automation, the cheapness of labor loses its determining role (O. Lyubovets, 2019).

The negative consequence that awaits us is the simplification of everyday life, however paradoxical it may sound. Reducing the tasks that we have to perform every day leads to a reduction in mental load, placing elementary duties on mechanized products - to simplifying thinking in terms of performing certain tasks, and subsequently to its primitivization.

The use of artificial intelligence systems significantly improves and facilitates human activity, opens up new opportunities, allows you to concentrate on the performance of those functions that are not available to AI, which speeds up the process of global development. Next to the factors that positively manifest themselves in the

use of such systems, there are also negative ones. In our opinion, a person is endowed with an intelligence that many times exceeds the capabilities of an artificial one, due to the presence of an emotional factor.

The experience of the previous three revolutions shows us that old jobs are replaced by new ones, the use of improved technologies can lead to the situation getting out of control, but only thanks to the experiment, we live in such a digitized comfortable world. We emphasize that digitalization can be dangerous for humans, but it is precisely this that serves as an opportunity for scientific progress.

The use of digital technologies is just beginning its way to public use in Ukraine. We have a wide range of services that can be obtained using digital technologies. The system that developed the fastest in Ukraine in 2022 and was the most widespread among its citizens was the state platform in a smartphone - "Diya", which stands for "the state and I". A huge range of services is placed in one mobile application. First of all, this is where the identity documents are placed, and we do not need to carry a physical copy of it with us. Here you can find a student card, a pension card, a driver's license, a tax payer's card, vaccination certificates (Diya, 2023).

Among the services provided by the application are obtaining military bonds, the ability to report property damage during a full-scale invasion and receive compensation from the state, services for IDPs and the unemployed, access to television and radio, the ability to pay taxes, receive the necessary certificates in pdf format and excerpts, track data on the court's own court cases, pass surveys on urgent issues in the state (Diya, 2023).

The level of digitization in the banking sector in Ukraine is at the level of active use. The vast majority of banks serving the highest demand among Ukrainian citizens have an online banking system and have created mobile applications that make it faster and more convenient to manage one's own funds. As an example, a bank that functions only in users' smartphones - monobank - comes to mind. That is, without digital systems it will not exist. Its advantages are that almost all banking transactions require only your gadget and Internet access. Among the services you can use: obtaining loans, deposits, paying fines and utilities, transfers to a card, by phone number (Monobank, 2023).

Digitalization has a significant impact on the education process. We were able to feel the importance of digitalization of education quite vividly during the spread of the corona virus infection and the closure of all educational institutions for face-to-face attendance and during the full-scale invasion, when the aggression of the russian federation made learning in classrooms impossible. First of all, teachers can communicate with students thanks to educational platforms, send materials in messengers, place them on websites, in applications, and finally conduct full-fledged classes through video communication programs.

The possibility of making purchases through the network is a common thing in our lives. One of the advantages of offline stores is the possibility of direct contact with the necessary goods. This issue is usually resolved by returning the goods to the seller at the expense of the buyer. One of the most famous online stores with such a wide range of products is ``Rozetka", which solved this issue by opening physical delivery points where customers can test the quality of the product before paying for it and only then purchase it.

The examples demonstrate only the most common types of implementation of digitization in the lives of Ukrainian citizens, it is quite difficult to imagine existence without the opportunity to use such types of services. Digitalization products begin to play the role of not additional options for increasing the comfort of life, but its integral parts.

Conclusions

Having analyzed the path that humanity has taken to achieve the current level of digital equipment, illustrating with examples of digitization of the lives of ordinary citizens in Ukraine, we can come to a conclusion. The formation of the digital society began in the distant past, it began to develop rapidly after the introduction of mechanization instead of manufacturing, and gradually, due to the processes of globalization, it became a common thing for society. Digitization, of course, facilitates and improves people's daily activities, but as a phenomenon it creates a negative and potentially negative impact on the global population. If a person does not control the effects of industrial revolutions on the environment, it can lead to an ecological disaster. It is necessary to make appropriate use of the acquired knowledge, to carry out detailed calculations of experiments in order to avoid global catastrophes, such as the accident at the Chernobyl nuclear power plant, from which people will suffer first of all, the same applies to the use of artificial intelligence. We do not consider unfounded fears about the possibility of AI reaching such a level of development that it will surpass human. The disappearance of jobs and the appearance of unemployment are inevitable phenomena throughout the entire process of human development, but old professions are always replaced by new ones that require more effort from the employee to achieve the level of qualification that will be competitive in the labor market. Everyone who wants to improve and meet the requirements of scientific progress will have the opportunity to get a job. Currently, the beneficial effects of digitalization outweigh the negative ones, and our task is not only to maintain this level of influence, but also to minimize the existing and potential negative consequences of the use of digital technologies in our lives.

References:

1. Gisem O. V., & Martyniuk O. O. (2021) World history: textbook for the 8th grade of institutions of general secondary education. Kharkiv.
2. 2. Roger Morrison. (2021, September). The second industrial revolution: causes, consequences. [Electronic resource]: Warbletoncouncil online publication. Retrieved from https://uk.warbletoncouncil.org/segunda-revolucion-industrial-9667
3. Roger Morrison. (2021, September). The third industrial revolution: characteristics, causes, consequences. [Electronic resource]: Warbletoncouncil online publication. Retrieved from https://uk.warbletoncouncil.org/tercera-revolucion-industrial-12044
4. Sharavara O.O. (2017). The industrial revolution as a factor in the development of society. Scientific and practical journal, 16, 154-156.
5. Petkanych M.V. (2022). Artificial intelligence in the socio-economic dimension: threats and risks. Materials of the IX International scientific and practical conference "Formation of the mechanism for strengthening the competitive positions of national economic systems in the global, regional and ... .
6. Lyubovets O.(2019, October). Fourth industrial revolution: social challenges / O. Lyubovets // Strategies for Entrepreneurship for Sustainable Development of Small and Medium-Sized Innovative Entrepreneurship: International Conference, 137-143.
7. Information on the activity of the state service "Diya". Retrieved from : https://plan2.diia.gov.ua/
8. Information regarding the activity of the mobile bank "monobank". Retrieved from : https://www.monobank.ua/about
9. Petruchok Yu. (2019). Artificial intelligence: what to expect?: Collection of theses II of the international scientific conference of young scientists and students "Philosophical dimensions of technology", 102-103.
10. Korol S. (2019) Ya. Digitalization of the economy as a factor of professional development. Modern Economics, 18, 67-73.