The Prospects of Digitalization in the Post-pandemic World

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Abstract: This scientific article is devoted to the problems of digital transformation in the post-pandemic world. Digital transformation has become one of the key factors in the development of modern society and business. However, the COVID-19 pandemic has revealed a number of problems and challenges associated with this process. This paper analyzes such problems as lack of access to digital technologies, digital inequality, cybersecurity and constantly changing market requirements.

1 INTRODUCTION

Digital transformation has a huge potential to increase business efficiency, improve people's quality of life and ensure sustainable development of society. However, the COVID-19 pandemic has revealed a number of problems and challenges faced by various sectors of the economy and society as a whole. The availability of digital technologies, digital inequality, cybersecurity and changing market demands have become serious obstacles to digital transformation. This paper analyzes these problems and suggests ways to solve them.

2 MANUSCRIPT PREPARATION

2.1 Research methods

To achieve the objectives of this study, methods of analysis of scientific literature, statistical data, methods of quantitative and qualitative data processing, monitoring of conditions and the process of results were used.

2.2 The results of the study

The analysis showed that one of the main problems is the lack of access to digital technologies. Many people and organizations are unable to use digital tools due to a lack of infrastructure or the necessary skills. In addition, digital inequality has become a serious problem, given that the availability and use of digital technologies are unevenly distributed among different segments of the population. Cybersecurity and market demands also require special attention as they become more complex and volatile.

2.3 Discussion of the study

The study confirms the need to develop and implement effective strategies to overcome the problems of digital transformation. To do this, it is necessary to focus efforts on ensuring the availability of digital technologies, reducing digital inequality, improving cybersecurity and flexibility in responding to changing market requirements. Only through the joint efforts of various stakeholders can a successful digital transformation be achieved in the post-pandemic world.

The COVID-19 pandemic has had a huge impact on society and business. The electronic format has become an integral part of many companies, and many business processes have moved online (Samokhina A.A., 2021).

Moreover, the pandemic has accelerated the trends of digital transformation and the transfer of business to the digital environment. Companies realized that for successful development they need to adapt to new conditions and join the digital ecosystem. This requires the development of one's

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own ecosystems within the company, becoming part of the ecosystems of other companies, or even making a decision to cease operations.

One of the important tasks in the process of digital transformation is building trust in artificial intelligence and using it as a business partner. Artificial intelligence has a huge potential for automating and optimizing business processes, but its successful application requires the trust of companies and users.

Titanic efforts are being made to develop artificial intelligence systems and algorithms that will achieve greater accuracy, efficiency and reliability. It is also important to ensure transparency and explainability of decisions made by artificial intelligence, so that users and companies can understand their logic and trust them.

Companies are increasingly focusing on metaverses, moving to a new level after the success of virtual events that have become popular in the last two years. The metaverse is a collective virtual space where the physical and digital worlds connect and expand with the help of virtual reality. Gartner forecasts indicate that by 2026, 25% of people will spend at least one hour a day in metaverses (Buevich A.P., 2019).

This development is not limited only to the product of Meta (which is currently recognized as an extremist organization and banned in Russia), but also includes other companies such as Apple, Microsoft, Amazon and even Disney, which also express interest and intentions in this direction. All these companies strive to create metaverses in order to provide more opportunities for organizing interaction and to present unique virtual worlds to users.

It is predicted that by 2027, 30% of enterprises' investments in metaverse technologies will be directed to the development of fully virtual workspaces. In this regard, the office experience will undergo significant changes. In response to employees' desire for more flexible work scenarios, metaverses will provide virtual workspaces to support new immersive experiences. Virtual workspaces are computer-generated environments where groups of employees can gather using personal avatars or holograms. They provide savings in financial resources and time, similar to videoconferencing, but increase engagement and quality of interaction (Kamneva V.V., 2020).

The conclusion is that providers of existing meeting solutions must integrate into the metaverse and offer metaverse and virtual workspace technologies to customers, otherwise they risk losing their positions in the market.

The use of virtual spaces provides significant opportunities for optimizing the interaction and collaboration of employees, as well as solving various business tasks. This is especially true if it is impossible or impractical to create a company's own infrastructure.

Metaverses, which are a type of virtual spaces, allow for effective meetings and collaboration remotely. However, their application potential is not limited to meetings only. They also offer a wide range of opportunities to improve customer service with the help of avatars and chatbots, the use of gamification in the learning process, as well as for the implementation of purchases in augmented reality.

Optimizing customer service using avatars and chatbots will allow companies to provide a more personalized approach to customers, provide recommendations and support at an intuitive level. This, in turn, will increase the degree of customer satisfaction and the overall level of services provided (Guzhina G.N., 2021).

Virtual worlds also provide opportunities for gamification of the learning process. Creating interactive training scenarios in a virtual environment can significantly increase the effectiveness of training, interest and motivate employees. At the same time, virtual worlds can simulate realistic situations and tasks, which contributes to a deeper assimilation and application of the acquired knowledge.

There is an assumption that it is possible for metaverses to develop their own economic system based on digital currencies and tokenized assets. This is due to the potential to create and exchange unique digital assets within a virtual environment.

Digital currencies, including cryptocurrencies, can serve as a means of exchange and preservation of value in metaverses. Thanks to the use of blockchain technologies that ensure the reliability and security of transactions, digital currencies are a trusted tool for implementing economic transactions in a virtual environment (Malysheva G.A., 2022).

Tokenized assets, in turn, are digital representations of real or virtual objects capable of buying, selling and exchanging in metaverses. Examples of such assets are unique garments, virtual real estate, works of art, as well as various types of virtual services. Tokens associated with these assets have an integrated value and can be used as instruments for investment and savings.

In the economic system of metaverses, it is possible to apply a model in which participants are rewarded for their active participation in processes and the creation of new values in a virtual environment. For example, users can be rewarded for creating and selling virtual goods, participating in competitions or completing tasks. This mechanism provides an incentive for active interaction and development of economic activity within the metaverses (Ovechkina A.I., 2021).

In the face of dramatic changes in customer behavior during the pandemic, anticipating the mood of people has become a very urgent task for many organizations. Those who have already dealt with similar problems, faced the need to rethink their methods. One of the effective approaches to solving this problem is to create a digital double for each client, which allows not only to simulate his behavior, but also to predict possible consequences.

A digital double is a digital reflection of a real person, created on the basis of available data about his preferences, behavior and emotional state. At the same time, various methods and technologies are used, including data analysis, machine learning and artificial intelligence.

However, it should be noted that the creation and use of a digital double involves some ethical and legal issues. The principles of confidentiality and security must be observed when collecting and processing customer data. It is also important to take into account that predictions based on digital doubles are not absolutely accurate and may be influenced by various factors.

The introduction of artificial intelligence into various spheres of public life meets serious obstacles associated with a reduced level of trust on the part of citizens in the results of algorithms and the principles of using data about themselves. This arises largely due to the risks associated with privacy violations, as well as subjective or biased decisions made by artificial intelligent systems (Smirnov N., 2022).

However, the consciousness of the importance of ethics in the application of artificial intelligence is increasingly strengthened in society. In this regard, analogues of the Russian Alliance in the field of artificial Intelligence are appearing in a number of countries, which are developing their own codes of conduct and principles of work. These codes cover aspects such as methods of data collection, protection and processing, as well as rules for the use and further analysis of the results obtained.

In order to ensure the ethical and responsible use of artificial intelligence, the codes pay special attention to the principles of transparency and explicability of decisions, as well as compliance with the principles of confidentiality and data security. In addition, these codes are focused on preventing discrimination and bias in the use of artificial intelligence algorithms.

Scientific discussion and development of such codes are of great importance in the development of ethics and principles of the use of artificial intelligence. They become fundamental tools that contribute to achieving a balance between innovative opportunities and ensuring the rights and freedoms of the individual, as well as contribute to the formation of a stable foundation for public confidence in artificial intelligence.

Digital transformation in modern society faces a number of significant obstacles that make it difficult to implement and can have negative consequences for various social groups and industries. In this analysis, we will look at some of the main problems related to the availability of digital technologies, digital inequality, cybersecurity and the requirements of the modern market, as well as suggest ways to solve them.

One of the key problems is the availability of digital technologies. Despite continued progress in this area, there is a discrete distribution of opportunities between different social groups and regions. This creates digital inequality, which can hinder equality of chances and development in society. To solve this problem, active attention from the Government, the business community and civil society is needed. Key activities may include support programs that provide access to digital technologies and education, especially for low-income excluded groups, as well as the development of communication network infrastructure.

Another major problem is cybersecurity. With an increase in the volume of digital data and an increase in the level of connectivity of various information systems, threats from cybercriminals are becoming more serious. Identity theft, hacker attacks and other types of cyber crimes can cause significant damage to both individuals and organizations. Therefore, it is necessary to develop and implement effective cybersecurity measures, which include user training, installation of modern security tools and cooperation between government and non-profit organizations.

The third problem to consider is the changing market requirements. The development of digital technologies provides new opportunities and causes changes in the economic sphere. However, many companies and industries face challenges related to the need to adapt to new technologies and change their business model. For successful digital transformation, it is necessary to develop and implement flexible strategies that ensure the effective use of digital resources and innovative approaches.

To solve these problems, it is necessary to actively cooperate in an interdisciplinary manner and apply the most effective practices and tools. It is important to regularly monitor the development of technologies, follow the trends of digital development and adapt to them. In addition, it is necessary to strengthen international cooperation and exchange of experience in order to shift the focus to the creation of a global public network of researchers, developers and practitioners working to solve these problems. The use of various methods of artificial intelligence, computer vision and natural language processing can play an important role in data analysis and forecasting the effects of digital transformation.

4 CONCLUSIONS

Thus, digital transformation belongs to the future, but on the way to its implementation it is important to take into account the problems of accessibility, cybersecurity and market requirements. Through active interaction and joint work of government agencies, the business sector and the scientific community, it is possible to achieve balanced and responsible development in the field of digital technologies and ensure the well-being and prosperity of all participants in society.

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