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USING DIGITAL TECHNOLOGIES IN ENTERPRISES

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Annotation

The implementation of digitalization in a company is essential for enhancing its operational efficiency and long-term viability by introducing significant improvements in management quality. This includes utilizing modern production methods and leveraging information regarding the status and projected changes of managed elements and subsystems. The digitalization process encompasses technological advancements and decision-making procedures at all management levels, aiming to optimize the functioning of the enterprise and ensure its sustainability. In order to devise a digital transformation strategy for an enterprise, it is vital to create a classification system for digital technologies based on their accessibility and suitability for implementation within the company.

Key words

digital economy, small enterprises, digital organization, digital transformation, digital business.

Introduction.

The adoption of digital technologies has experienced a rapid and widespread growth, becoming a global phenomenon. The widespread availability of smartphones has played a significant role in enabling constant connectivity, making it accessible to a large portion of the global population. As a result, people now have easy access to information, social networks, and various forms of audiovisual entertainment. Additionally, the effective functioning of organizations, particularly those in the real sector of the economy, relies heavily on the utilization of contemporary computer and information systems. This stands as the most crucial requirement for their success in the digital economy.

The digitalization of an enterprise is essential for enhancing efficiency and sustainability by introducing significant improvements in management quality across technological processes and decision-making at all management levels. This involves adopting modern production methods and leveraging information about the status and potential changes in managed elements and subsystems. However,

there is currently a lack of comprehensive understanding and research regarding the concepts of "digitalization" and "digital transformation." Furthermore, there is a need for the development of effective assessment mechanisms to evaluate the feasibility and effectiveness of implementing financial digital technologies within the operations of enterprises and organizations. Recognizing the valuable contributions and research outcomes of scientists and experts in this domain, the methodology surrounding the digital transformation of enterprises remains a topic of ongoing scientific investigation. Further research is crucial in order to facilitate the achievement of sustainable development for economic entities at various levels. Consequently, the key digital technologies can be categorized into three groups: foundational technologies, which are indispensable for the digital transformation of the enterprise (such as cloud technologies, wireless technologies, and paperless solutions); critical technologies, which enable a comprehensive digital transformation (including big data, cloud computing, and unmanned technologies);and breakthrough technologies, which facilitate the transition from an "analog" to a digital enterprise (such as artificial intelligence, neural networks, distributed data registries, and machine learning).

Literature analysis and methodology

Upon examining contemporary research on digital technologies, it becomes evident that there is a lack of consensus among authors regarding the precise definitions of fundamental concepts such as "digitalization," "digital transformation," and "digital organization."

For instance, Plotnikov V.A. defines digitalization as "the modern stage in the progression of informatization, characterized by the predominant utilization of digital technologies for generating, processing, transmitting, storing, and visualizing information. This is made possible by the emergence and widespread adoption (including increased economic and physical accessibility) of new hardware and software solutions". Furthermore, the author outlines a series of advantages that, in their perspective, enterprises can derive from the use of digital technologies. The utilization of digital technologies in production offers several benefits, including enhanced flexibility through rapid reconfiguration and dynamic adjustments in the production process. This flexibility provides a competitive advantage and the potential for increased profitability. Additionally, digitalization enables the integration of information across the entire product life cycle, from development to disposal. This integration allows for efficient and comprehensive problem-solving, addressing not only production optimization but also quality, environmental safety, and the creation of new business opportunities.

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Ananyin V.I., Zimin K.V., Lugachev M.I., Gimranov R.D., and K.G. Skripkin define digitalization within an organization as "its transformation, where the driving force for change is the integration of complementary assets of computer capital. This includes information systems as a source of data, systems for data processing, transmission, and storage, practices and processes for working with these systems, and the data that generate information systems."

The most advanced stage of enterprise digital transformation results in the establishment of a digital organization. According to Ananyin V.I., Zimin K.V., Lugachev M.I., Gimranov R.D., and Skripkin K.G., a digital organization refers to an entity where computer capital assets serve as the most dynamic and essential complementary asset within the organization.

Furthermore, the following characteristics are identified as indicators of a digital organization:

1.Digital Products: The transformation involves a shift from physical to digital forms of products. While the physical form still exists, the use of the product becomes reliant on its digital representation. This digital representation, often referred to as a "digital double," represents the real object. For instance, in the engineering field, the electronic model of a product becomes more valuable than the physical product itself or its documentation. This electronic model enables production, servicing, and restoration of the product. Additionally, the digital representation of the product is enriched with various services that also become digital products.

2.Digital Business Models: The availability of the "digital double" of complex equipment, coupled with continuous monitoring of its components and processes, gives rise to new business models. For example, companies that manufacture sophisticated equipment transition from a traditional delivery-based model to a service-oriented one. Rather than selling the equipment and its technical support, they offer guaranteed trouble-free operation or readiness for use, such as flight hours or specific volumes of output. Digital business models require comprehensive digitization of internal value chains, including design, production, logistics, technical support, and product maintenance. These models also emphasize the need for close partnerships between businesses and their counterparts. Central to these partnerships is the creation of an integrated information and communication space. The integration of this space can be achieved through shared digital representations of products and coordinated order movement along the value chain. Furthermore, routine interactions among chain participants can be transformed into digital services provided by third-party

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organizations, such as analytics, references, applications, offers, contests, and call centers.

3.Digital value chain management. The digital organization specializes in and integrates deeply with a collaborative network consisting of its counterparts and customers. Within this network, the organization becomes embedded in market value chains. Consequently, business management becomes essential not only at the organizational level but also across the entire value chain in the market. Let's consider a value chain example in mechanical engineering: a management company, a general contractor, an experimental design bureau, component manufacturers, head serial production, customers, and after-sales service centers. Each organization operates independently but participates in multiple chains, requiring coordination of operational activities and interactions with all participants in each chain. In recent times, many global companies have begun developing business platforms. A business platform represents a company's business model that enables counterparties to quickly establish their value chains, attracting new participants. Simultaneously, the company gains a mechanism for managing these chains.

4. Digital business processes are also a crucial aspect of a digital organization. The processes involved in operating a digital product themselves become digitized. This is particularly evident when considering documents that have transitioned to a digital format. Users can only work with digital documents using specialized applications, and coordinating the actions of these users also necessitates dedicated applications and data.

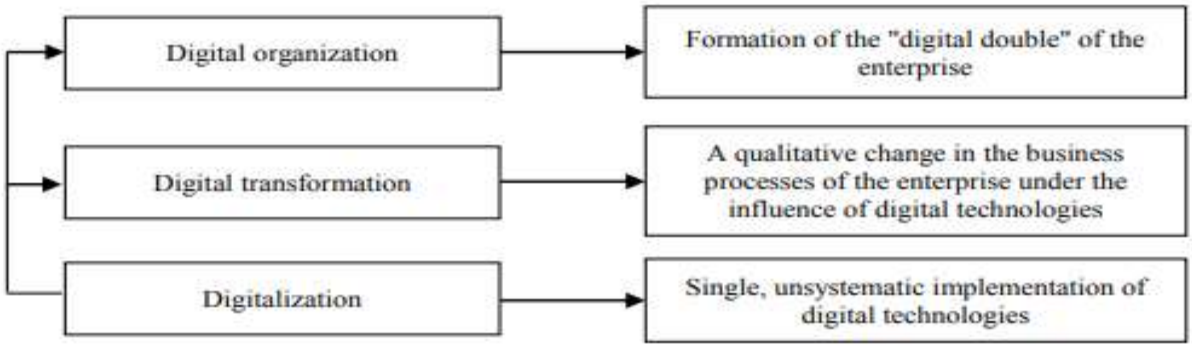

Fig.1. Stages of the introduction of digital technology in the enterprise[6]

In our perspective, the primary objective of enterprise digital transformation is to enhance its competitiveness and create an environment conducive to improved

[6] Anna Obukhova, Ekaterina Merzlyakova, Irina Ershova, Kristina Karakulina "Introduction of digital technologies in the enterprise" Southwest State University, 50 let Oktyabrya, 94, 305040 Kursk, Russia

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economic efficiency in production activities. Based on this transformation goal, enterprises can be defined as follows:

- Ensuring the production of competitive products.
- Achieving a high level of efficiency and adaptability in production and organizational processes.
- Enhancing the investment appeal of the enterprise.
- Increasing the flexibility and transparency of the management system, there by guaranteeing the economic efficiency of the enterprise.

Digital technologies have a pervasive influence on various aspects of economic and social endeavors, restructuring them in significant ways. Their implementation can disrupt existing activities in certain instances, while in others, they have a more gradual impact, complementing and enhancing existing practices. Our Republic is implementing comprehensive measures to actively develop the digital economy, as well as the widespread introduction of modern information and communication technologies in all industries and areas, primarily in public administration, education, healthcare and agriculture. **The Decree of the President of the Republic of Uzbekistan, dated October 05, 2020 No. UP-6079 "On the approval of the strategy "Digital Uzbekistan-2030" and measures for its effective implementation"[7]**was approved, which aimed at the development of the information society, the formation of a national digital economy.

Based on the identified technical and technological trends outlined by The Eurasian Economic Commission, experts have identified a set of fundamental digital technologies that show promise for implementation in enterprises. These technologies include:

- Industrial Internet of Things (IIoT)
- Artificial Intelligence (AI)
- Big Data
- Robotics
- Fog Computing
- Paperless Technology
- Mathematical Modeling
- Cyber-Physical Systems
- Additive Manufacturing
- Unmanned Systems
- Mobile Technologies

[7] https://lex.uz/docs/-5030957

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- Biometric Technologies
- Quantum Technologies
- Supercomputing
- End-to-end Technologies
- Identification Technologies
- Blockchain Technology
- Open Production Technologies

These digital technologies are considered essential and hold potential for transformative impact within enterprises.

To facilitate the design of an enterprise's digital transformation, it is crucial to establish a classification of digital technologies based on their accessibility and suitability for implementation. This classification categorizes key digital technologies into three groups:

- Basic technologies: These are indispensable technologies that are essential for the digital transformation of an enterprise. Examples include cloud technologies, wireless communication technologies, and paperless technologies.
- Critical technologies: These technologies play a pivotal role in enabling a comprehensive digital transformation of the enterprise. They include technologies such as big data, cloud computing, and unmanned technologies.
- Breakthrough technologies: These technologies facilitate the shift from an analog enterprise to a digital one. Examples encompass artificial intelligence, neural networks, distributed data registers, and machine learning.

By organizing digital technologies into these distinct groups, enterprises can prioritize their implementation and effectively plan their digital transformation journey.

Discussion and results.

According to a large-scale research on digitalization conducted in 246 countries of the world, based on the data of 2019, the trend of the development indicators of the digital economy in different countries is different.

Development indicators
of digital economy in a number of countries[8]

Table 1

Indicators	Mobile subscribers, %	Internet users	Active users of social media	Mobile ijt. media users

[8] Deloittes.2019 Global Blockchain Survey. https:// www. deloitte.com/content/dam/Deloitte/se/Documents/risk/ DI.2019.

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	of total population							
	Mln.	%	Mln.	%	Mln.	%	Mln.	%
The world	8842	115	4388	57	3484	45	3256	42
Afghanistan	28.82	78	9.7	26	3.8	10	3.6	9.8
China	1543	109	802	57	1007	71	1007	71
Germany	107.8	131	79.13	96	38	46	30	36
India	1190	87	560	41	310	23	290	21
Iran	123.7	150	72.94	89	47	57	41	50
Japan	186.3	147	118.9	94	78	61	78	61
Kazakhstan	25.69	139	14,14	69	7.3	39	3.6	19
Kyrgyzstan	9.38	152	2.49	40	1.8	29	0.96	16
Mongolia	4.19	133	2.2	70	2.2	70	2.1	67
Russia	248.2	172	109.6	76	70	49	57.75	40
Tajikistan	9.9	108	3.01	33	0.44	4.8	0.24	2.6
Turkmenistan	4.48	76	1.06	18	0.042	0.7	0.021	0.4
UAE	19,23	200	9.52	99	9.52	99	8.8	92
Great Britain	71.76	107	63.43	96	45	67	39	58
USA	347.4	106	312.3	95	230	70	200	61
Syria	13.61	74	6.03	33	6.8	37	6.49	35
Uzbekistan	24.84	76	15.45	47	2.0	6.1	1.0	3.1

The results of analysis show that Uzbekistan has lower place than the other developed and developing countries according to the indicators of developing digital economy and, of course, it means that the country are carrying about digitalization of enterprises step by step and increasing the efficiency, trying not to be behind global trends of the pace of digital transformation of Uzbek enterprises.

Conclusion.

Currently, digitalization is regarded as a crucial strategic focus in numerous countries. In Uzbekistan, the digitalization of the economy holds a prominent position as an objective in state development programs and strategies. However, Uzbekistan continues to face a considerable gap compared to leading nations like Singapore, Finland, Sweden, Norway, and the USA in terms of the international network readiness index. Although there has been positive growth in the utilization of the Internet and computer networks by Uzbek organizations, their current level remains inadequate to fully realize the goals and aspirations of transitioning towards a digital economy.

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4.https://www.deloitte.com/content/dam/Deloitte/se/Documents/risk/ DI .2019