THE INFORMATION SOCIETY: INFORMATION AND INFORMATIZATION

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https://doi.org/10.5281/zenodo.17192138

Annotation. The article provides a scientific analysis of the information society and its development, as well as the processes of informatization. The level of addressing problems in society's infrastructure was analyzed alongside the establishment of a digital society and economy. The research utilized methods of literature analysis, comparative analysis, and a systematic approach. The results indicate that countries with high levels of informatization exhibit rapid economic growth rates, high efficiency in social governance, and a highly developed intellectual potential among their populations.

Keywords. information, informatization, digital transformation, innovation, society, information and communication technologies, infrastructure, economic potential, digital production, industry.

Introduction. In modern times, information has become a key factor of social, economic, political, and cultural development. The concept of the information society refers to a stage of human civilization in which the creation, distribution, and utilization of information become the primary driving forces of progress. Information technologies and digital innovations have fundamentally changed the way people live, work, communicate, and learn. In the current era, the development of information and communication technologies (ICT) is becoming the primary indicator determining countries' positions on the global stage. For instance, according to international statistical data, countries with a high share of digital economy in their gross domestic product are experiencing notably accelerated economic growth rates. The development experiences of nations such as the United States, Japan, South Korea, and Germany demonstrate that the digital transformation of the economy not only enhances production efficiency but also serves to create new job opportunities, improve the quality of social services, and strengthen scientific and technological potential. Due to the development of information technologies, the process of "informatization" has become an integral part of human development on a global scale. Therefore, this article thoroughly explores the concept of information, its types, its role in society, and the essence of the informatization process.

Research Methodology. The following scientific methods were employed in this research:

1. Literature analysis - existing scientific sources, international reports, and statistical data were studied.

2. A systematic approach - informatization was comprehensively examined in terms of its impact on the economic, political, social, and cultural spheres of society.

3. Comparative analysis - The processes of informatization in developed countries (USA, Japan) and developing countries (using Uzbekistan as an example) were compared.

Literature analysis. One of the earliest and most influential theories of the information society was presented by Daniel Bell in his book The Coming of Post-Industrial Society (1973)[1]. Bell argued that societies were shifting from an industrial mode of production, where manufacturing and physical labor dominated, to a post-industrial society driven by services, knowledge, and information. Bell emphasized that theoretical knowledge and intellectual labor would become central resources. He predicted that decision-making in government and business would increasingly depend on data analysis and information systems. His work laid the foundation for understanding the information society as a new historical stage of human development. Another key contribution comes from Manuel Castells, whose three-volume work The Information Age: Economy, Society and Culture (1996–1998)[2] shaped modern sociology. In the first volume, The Rise of the Network Society, Castells explained how information technologies created a global networked economy. Castells introduced the concept of the network society, where social structures and activities are organized around networks enabled by digital technologies. He argued that power, communication, and culture increasingly operate through global information flows rather than traditional hierarchical systems. Another scientist who supported a new idea is Frank Webstar. In his influential book Theories of the Information Society (2002)[3], **Frank Webster** critically examined various approaches to defining the information society. His analysis helps to frame the debate on whether the information society is truly revolutionary or simply an extension of industrial society with new tools. Various aspects of the informatization process have also been studied in local scientific literature. For example, Professor A. Abduqodirov [4] conducted an in-depth analysis of the role of informatization in Uzbekistan's education system and developed the theoretical and practical foundations for implementing

innovative educational technologies. In their research, N. Muslimov, M. Usmonboyeva, D. Sayfurov, and A. To'rayev shed light on methods of organizing pedagogical processes based on information technologies [5]. Their studies analyze the advantages of applying ICT in education, management, and production.

Analysis and Results. This section extensively discusses the impact of the informatization process on societal development, drawing upon scientific evidence. Informatization is leading to fundamental reforms in economic processes. What is an information society, information and informatization? Information is a collection of knowledge about events, phenomena, objects, and processes in the external world, obtained through people, technical means, or natural signs. In simple terms, information is new knowledge that does not already exist in the human mind. Informatization is the process of developing society's information resources, facilitating their widespread utilization, and implementing modern information and communication technologies (ICT). The primary objective of the informatization process is to expand opportunities for creating, storing, transmitting, and utilizing the information necessary for the effective organization of society's social, economic, and cultural life. An information society is a type of society in which the majority of economic, political, and social activities are based on the production, storage, processing, and exchange of information. Unlike the industrial society of the 19th and 20th centuries, where material goods and physical labor were central, in an information society knowledge, data, and digital resources form the core of social and economic life. An information society is a type of society in which the majority of economic, political, and social activities are based on the production, storage, processing, and exchange of information. Unlike the industrial society of the 19th and 20th centuries, where material goods and physical labor were central, in an information society knowledge, data, and digital resources form the core of social and economic life. Currently, a significant portion of the gross domestic product (GDP) of the world's developed countries is attributed to the digital economy. For example, according to data from the Organization for Economic Co-operation and Development (OECD), the share of the digital economy in GDP exceeds ≈12 percent in the United States, while in Japan this figure is over 16 percent. Currently in Japan, the contribution of digital skills to GDP is around ≈16%, but this is not the figure for the "full size of the digital economy," rather it represents the economic benefit achieved through digital skills.

Based on the studied information, the analysis results were condensed and developed in the form of a table below. The table illustrates the share of informatization in industry.

Statistical table: Share of informatization in industry

State	Implementation Level (Latest Data)	Key indicators of digital technology adoption in industry
USA	- "Information industry" is expected to account for approximately 5.40% of GDP by 2025 - The adoption of AI/IoT technologies among small and medium-sized manufacturers is low: only about 5% of companies are actively using AI technologies, while approximately 52% are in the experimental stage, and about 29% plan to implement them in the near future.	Strong infrastructure and the service sector play a significant role; digital transformation in manufacturing is experiencing slower adoption in terms of AI, robotization, and Internet of Things (IoT).
Japan	- In terms of ICT revenue in industry ("enterprise ICT"), the manufacturing sector in 2023 is estimated at approximately 38 billion USD, and this sector is expected to grow in the coming years with a Compound Annual Growth Rate (CAGR) of around 6-7%. - According to GlobalData, within the framework of the "Society 5.0" initiative, the manufacturing sector will become a major user in the ICT market, meaning the	High level of automation and robotics: In 2021, approximately 631 robots were operating for every 10,000 workers in Japanese industry. The number of DX (Digital Transformation) and smart factory projects is increasing.

	share of the manufacturing sector in the ICT market will be significant.	
Germany	The manufacturing sector is expected to hold a ≈ 30.2% share in the Digital Transformation market in 2024 - Cloud computing: nearly 90% of companies are using cloud services, and the remaining ones are planning to do so - According to a Bitkom survey, in 2021, 62% of large manufacturing enterprises were already implementing "Industry 4.0" technologies; 83% of companies are either already implementing or planning to implement these technologies.	Germany's industry is strong: it is a leader in mechanical engineering, automotive manufacturing, robotics, IoT, and automation. There is support for digital transformation through government policies and industrial platforms - for example, "Industrie 4.0."

Statistical analyses show that, according to the UN Digital Development Report, countries with high digital readiness experience an average economic growth rate of 6-7%, while in countries with low readiness, this indicator does not exceed 2-3%. Thus, the level of informatization directly influences the pace of economic development. For instance, in 2024, the global IT services market reached 1.4 trillion US dollars (according to Statista data). The volume of e-commerce amounted to 6.3 trillion dollars, encompassing more than 20 percent of global retail trade. The value of the distance learning market is projected to reach 400 billion dollars by 2025. These figures demonstrate that informatization plays a decisive role not only in social processes but also in global economic processes.

In the context of our country, the Republic of Uzbekistan is also placing great emphasis on implementing Industry 4.0 elements through the "Digital Uzbekistan - 2030" strategy [8]. The development of e-government, e-healthcare, and e-education systems is elevating society to a qualitatively new stage. Digital culture (internet, social networks, electronic libraries) is accelerating the exchange between national and global cultures. Informatization processes are fundamentally transforming citizens' lifestyles, social connections,

and attitudes towards management systems. The processes of informatization are radically changing citizens' way of life, their social relationships, and their attitudes towards management systems. In the education system, opportunities for learning have expanded due to distance education and electronic resources. The development of the e-government system enables citizens to receive public services quickly and conveniently. Estonia's experience serves as a vivid example: there, 99% of public services are provided online. In Uzbekistan, more than 300 services are also offered electronically through the "my.gov.uz" portal. Social justice and transparency in the country are beginning to take a positive turn, with digitalization becoming an effective tool in the fight against corruption. Digital systems ensure data openness, which strengthens trust in society. For example, processes such as paying taxes online, registering businesses, managing utility bills, and other administrative tasks are now being conducted remotely. As a result, bureaucratic barriers have significantly decreased, the transparency of government bodies has improved, and effective anti-corruption mechanisms have been established. From a scientific perspective, this process is ensuring the practical implementation of "good governance" principles. One of the key directions of reforms implemented in the Republic of Uzbekistan in recent years is the comprehensive digitalization of society and the integration of digital technologies into public administration, the economy, education, healthcare, and all other spheres. This process holds a special place in the country's long-term development strategy and has been designated as one of the priority directions of state policy. In 2018, the "Concept for the Development of the Digital Economy" was formulated, and in 2020, the Decree of the President of the Republic of Uzbekistan "On Approving the Strategy 'Digital Uzbekistan - 2030'" was adopted. Along with the process of informatization, cybersecurity issues remain urgent. Therefore, in 2022, the "Cybersecurity Concept" [9] was approved in Uzbekistan. This concept envisions:

- protecting the national information infrastructure;
- implementing security protocols in the public and commercial sectors;
- creating mechanisms for rapid response to information attacks.

The experience of Uzbekistan demonstrates that informatization is becoming a foundational factor in the strategic development of the state. If the consistent implementation of the established plans is ensured, the country has the potential to become one of the leading centers of the digital economy not only in the region but also on a global scale.

Conclusion. Based on international experience and Uzbekistan's practice, it can be stated that countries with high levels of informatization achieve faster rates of economic and social development. Uzbekistan's "Digital Uzbekistan - 2030" strategy has the potential to transform the country into a regional digital center. Over the next 5-10 years, the expansion of IT service exports, e-government, e-learning, and e-commerce is expected to bring society to a qualitatively new stage. As evident from the above analysis, informatization has become a strategic factor in societal development. It enhances economic efficiency, ensures social justice and transparency in governance, accelerates the progress of culture and spirituality, develops human capital, and strengthens global competitiveness. Thus, the role of informatization in the development of society holds fundamental importance not only from a technological standpoint but also from socio-philosophical, economic, and political perspectives. In the 21st century, the pace and quality of societal progress largely depend on a country's ability to adapt to digital transformation. Statistical analyses indicate that the share of the digital economy in GDP has been consistently growing in recent years, and digital transformation has become the primary driver determining the international competitiveness of countries. In short, the role of informatization in the development of society is invaluable. It enhances economic efficiency, modernizes science and education, facilitates social life, and ensures competitiveness in the global arena. Thus, the information society is the society of the future, with digital development remaining its main strategic direction. Based on the results of this analysis, we can conclude that the role of informatization in societal development is not limited to technological renewal, but also defines a new civilizational stage of human progress.

References

1.Daniel Bell (1973) – The Coming of Post-Industrial Society
2.Manuel Castells (1996) – The Rise of the Network Society
3.Frank Webster (2002) – Theories of the Information Society
4. Abdukodirov A.A., Pardayev A.X. "Theory and Practice of Distance Learning" Tashkent, Fan 2009.
5.N. Muslimov, M. Usmonboyeva, D. Sayfurov, A. To'rayev. "Innovative Educational Technologies" Tashkent 2015
6.OECD. Digital Economy Outlook. Paris: OECD Publishing, 2022.
7.UNESCO. ICT in Education: Policy, Infrastructure and OER. Paris, 2021.
8.Decree of the President of the Republic of Uzbekistan on Approval of the "Digital Uzbekistan - 2030" Strategy. 2020.
9.Law of the Republic of Uzbekistan "On Cybersecurity" 2022