

Article

Ways to Develop the Export of ICT Services in the Digital Economy

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Abstract: This article provides a comprehensive analysis of the development of ICT service exports within the digital economy. The theoretical foundations of service export, its impact on economic growth, and global development trends are highlighted. During the study, the current state of ICT service exports in Uzbekistan was assessed, and existing problems in the sector and the main factors limiting it were identified. In particular, economic, technological, human resources, legal, market and infrastructure factors, as well as aspects related to the development of cloud services are analyzed. In addition, artificial intelligence and automation technologies, cross-platform solutions, cloud technologies, fintech services, as well as human resource potential and the importance of the knowledge economy are recognized as modern areas. The economic significance of developing the export of ICT services is also substantiated, and it is emphasized that its growth will have a positive impact on the country's balance of payments, serve to create new jobs and increase public income, strengthen innovative potential, increase the competitiveness of the national economy, and expand its share in the international market. Based on this, practical proposals and recommendations have been developed regarding the main directions for expanding the export of ICT services, its development mechanisms, and state support measures.

Keywords: Export of ICT services, Artificial intelligence, Fintech Services, Economic Factors, Technological Factors, Market Factors, Infrastructure.

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1. Introduction

In the context of the digital economy, the development of the export of information and communication technology (ICT) services is currently becoming one of the important directions of countries' economic strategies. In Uzbekistan, technology is viewed not only as a means of ensuring the convenience of modern life but also as a key driver of economic growth, a factor in increasing competitiveness in the international arena, and a foundation that leads society to a new stage of development. In this context, expanding the export of ICT services is crucial for effectively utilizing the opportunities of the digital economy, creating high added value, and strengthening the country's position in the global IT market. Technological progress and digital transformation processes have been identified as one of the priority areas of Uzbekistan's development strategy, contributing to the emergence of new opportunities in this field.

In order to increase the international competitiveness of local enterprises operating in the field of digital technologies, support their entry into global markets, attract foreign digital services companies to operate within the country, and ensure the implementation of priority tasks defined in the "Uzbekistan - 2030" Strategy by forming institutional and

economic mechanisms that serve to increase export volumes, Resolution of the President of the Republic of Uzbekistan No. PP-87 "On additional measures to develop the export of services in the field of digitalization in our country" was adopted on February 26, 2024 [1].

As part of the implementation of this document, it is aimed at attracting enterprises engaged in the export of ICT services to the regions in order to ensure the socio-economic development of the regions of Uzbekistan and the wide use of the potential of the digital economy.

Literature Review

Foreign scholar M. Najib [2] (Najeeb, M.) notes in his research that the impact of ICT infrastructure is particularly significant in the field of service exports, as the expansion of the Internet and mobile technologies increases the share of services in total exports.

According to M. Rose [3], the application of ICT in the digital economy and its export is an international economic activity carried out on the basis of information and communication technologies. Simply put, it is an economy based on digital technologies. Experts interpret this concept as a complex system without a precise definition, interpreting it using various approaches.

In his research, Richard Baldwin [4] notes that digital technologies have brought the trade of services to a new level. In his opinion, it has become easier to export services abroad thanks to the internet and remote workforce. This creates new economic opportunities in the global market, especially for developing countries.

In his research, Erik van der Marel [5] emphasizes that technology, human capital, and institutions are important factors in the export of services, especially digital and knowledge-based services. According to him, this sector creates great opportunities for developing countries, as it relies not on a lot of infrastructure, but on quality personnel, the internet, and flexible policies.

In *The Technology Trap*, Carl Benedict Frey [6] states that digital technologies and AI are having a major impact on the labor market and service exports. According to him, this process will make it possible to provide services remotely and will provide developing countries with new opportunities to enter the global market. IT, design, translation, and other services are exported digitally, and this is a new growth model.

Another group of our scientists, U.T. Khayitmatov [7] and O.O. Kholikova [8], conducted a theoretical analysis of the development of the service sector in the digital economy, focusing primarily on the development of services in digital formats.

Furthermore, A.O. Ochilov [9] and A.A. Khudoyorov [10], B.Kh. Kuziboev [11] and B.B. Mardonov [12], while conducting research on the development of the ICT services sector, revealing its specific aspects, and ways to develop the ICT services sector in the digital economy, emphasize that the development of services is one of the main characteristics of the country's economy.

2. Materials and Methods

In the course of the study, one of the main goals was defined as an in-depth study of the possibilities for developing the export of information and communication technology (ICT) services, identifying existing priority areas in this field, and developing mechanisms for their effective implementation in the digital economy. In this process, methods such as the logical approach, systematic analysis, analysis and synthesis, as well as induction and deduction, were widely and effectively used. Furthermore, the main factors influencing the development of ICT service exports—the level of development of digital infrastructure, economic conditions, regulatory framework, and technological capabilities—were studied in depth. Based on these factors, ways to optimize export processes, increase the efficiency of digital services, and expand access to international markets were analyzed.

Special attention was also paid to the possibilities of digitalizing service exports, automating processes, and increasing management efficiency through the implementation of electronic management systems. As a result, promising directions for the development of ICT service exports based on modern, innovative, and digital approaches were identified.

3. Results and Discussion

Large-scale reforms are being implemented in our country to develop information and communication technologies and transition to a digital economy. In Uzbekistan, the ICT sector is becoming one of the fastest-growing sectors of the economy. According to 2024 data, about 76% of the population uses the Internet, and there are more than 31 million mobile subscribers. These figures indicate that society's demand for digital services is high.

To develop the export of ICT services, it is primarily important to train qualified IT specialists, expand the activities of IT parks, and develop modern infrastructure. Strengthening international cooperation and establishing outsourcing services will also increase export potential (Table 1).

Table 1. Factors influencing the development of ICT service exports (Author's development).

Nº	Factors	Influencing factors	Commentary
1.	Economic factors	Volume of investments	The availability of IT infrastructure and financial resources for startups will increase exports.
		Exchange rate stability	A stable exchange rate increases competitiveness in the international market.
2.	Technological factors	Development of digital infrastructure	The availability of high-speed internet and data centers will accelerate service exports.
		Innovative technologies	Artificial intelligence and cloud services expand export opportunities.
3.	Personnel factor	Qualified IT specialists	Highly qualified personnel ensure the export of high-quality services.
		IT education system	The quality of universities and courses affects personnel training.
4.	Legal factors	Tax exemptions	Benefits for IT companies stimulate exports.
		Digital legislation	Data protection and e-commerce laws are important.
5.	Market factors	International demand	Increasing global demand for IT services will expand exports.
		Level of competition	Strong competition forces quality and innovation to increase.
6.	Infrastructure	Internet speed and coverage	High-speed internet improves service quality.
		IT Parks and technoparks	It supports startups and export-oriented companies.

A number of systemic barriers are also observed in the process of developing Uzbekistan's service exports based on the digital economy [13]. Specifically:

- Insufficient development of digital infrastructure in some regions, which limits the necessary technological capabilities for the export of services;
- Insufficient digital literacy and modern ict skills in small businesses engaged in export activities;
- Integration into international payment systems and restrictions on their use;
- Incomplete compliance of the provided digital services with international standards and requirements;
- Insufficient formation of the potential of qualified personnel in the field.

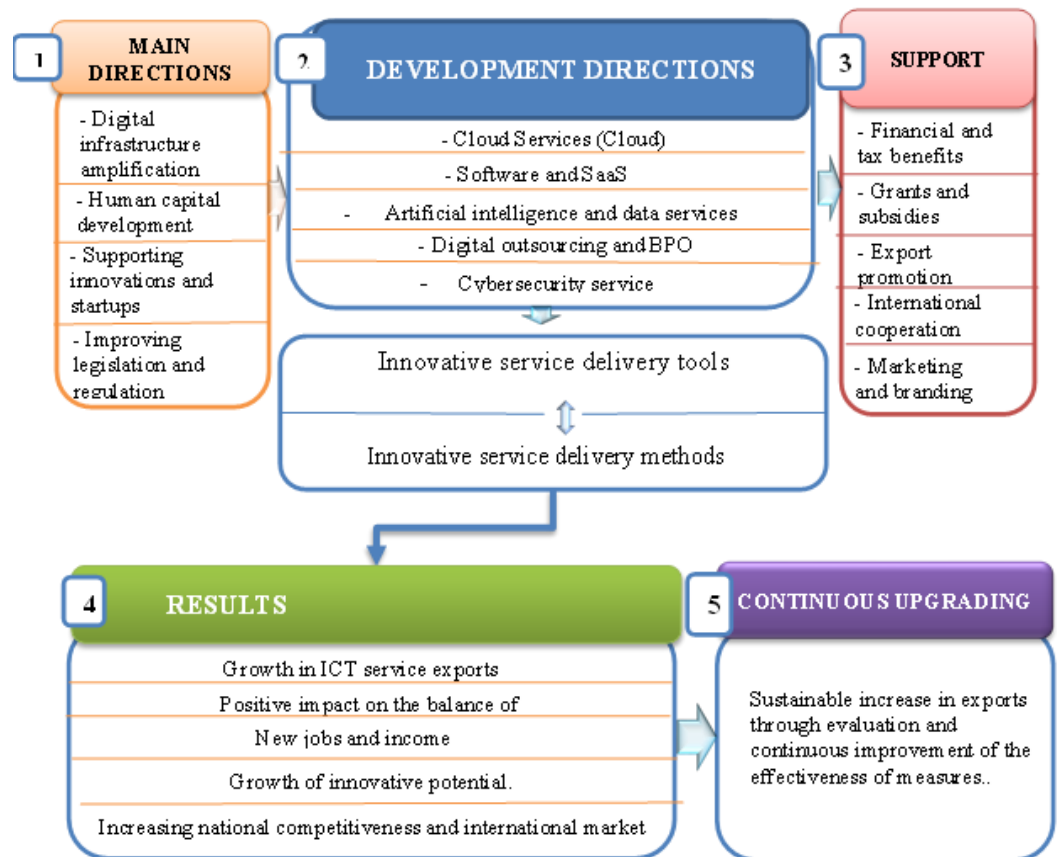


Figure 1. Ways to develop the export of ICT services in the digital economy (Author's development).

To solve these problems, the state needs measures aimed at technological modernization, increasing digital literacy, and strengthening international cooperation [14]. In the future, the following trends will be observed in the development of service exports (Figure 1):

- Artificial intelligence and automation - ICT serves to make services fast, affordable, and high-quality;
- Cross-platform solutions - digital systems that unite several ICT markets will appear;
- Cloud technologies make international cooperation and remote services more convenient;
- Fintech services - simplify cross-border payment systems;
- New ICT service sectors will be formed based on human capital - the economy of human resources and knowledge.

Uzbekistan's exports in the field of ICT are consistently developing through state-implemented reforms, legislative improvements, and the expansion of international cooperation. In the context of the digital economy, this direction is of strategic importance for the country.

One of the key factors in increasing the export of ICT services is the training of qualified personnel and the strengthening of investments in human capital. The development of IT parks and the modernization of digital infrastructure also play an important role.

Table 2. Share of exports of the Republic of Uzbekistan and exports of ICT services (thousand US dollars).

Years	Export	ICT services export
2020	15102281	169511
2021	16662804	180739
2022	19732524	305798
2023	24869488	540381
2024	27270095	640801
2025	33400000	940000

Source: Developed based on data from the National Statistical Committee of the Republic of Uzbekistan

In 2025, Uzbekistan's exports reached \$33.4 billion, increasing by 23% compared to the previous year. The export geography covered 131 countries. The forecast for 2026 is \$40 billion (Table 2).

The growth in export volumes was primarily driven by new destinations. In particular, ICT services reached \$940 million [15], [16].

4. Conclusions and Suggestions

In conclusion, developing the export of ICT services in the digital economy is one of the priorities of Uzbekistan's economic development. The significant growth observed in this sector in recent years indicates that digital transformation processes are being consistently implemented in the country. At the same time, certain problems related to infrastructure, a lack of qualified personnel, and international integration hinder the full utilization of export potential. By eliminating these problems, widely implementing advanced technologies, and increasing investment in human capital, it is possible to further expand the export of ICT services. As a result, Uzbekistan's position in the global digital market will be strengthened, laying the foundation for the sustainable and innovative development of the economy.

1. Further development of digital infrastructure, in particular, expanding high-speed internet coverage and creating modern data centers.
2. Strengthening the training of qualified IT specialists, adapting educational programs to international standards, and developing practical skills.
3. Expansion of tax incentives, grants, and investment programs to support ICT enterprises.
4. Developing international cooperation, expanding outsourcing services, and supporting local companies in entering global markets.
5. Strengthening export potential by improving the quality of digital services and adapting them to international standards.

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