

DEVELOPMENT OF ELECTRONIC COMMERCE AS AN IMPORTANT FACTOR IN FORMING THE DIGITAL ECONOMY

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Annotation: This article examines the impact of digital transformation on e-commerce in Uzbekistan. It analyzes the development of electronic trade, the use of digital technologies in service and goods sectors, and the role of digital platforms in enhancing business efficiency, customer satisfaction, and market competitiveness. The study highlights trends, challenges, and opportunities for companies in the digital economy and provides a basis for predicting the future growth of e-commerce.

Keywords: Digital economy, e-commerce, electronic trade, digital platforms, automation, customer experience, Uzbekistan

Introduction

In recent years, significant changes have been observed in the key directions of information and technological development among economic entities, industries, and regions in the global economy. This process is closely linked to the formation of the digital economy. As a modern phenomenon, the digital economy has become the focus of attention for policymakers and economists, gaining wide recognition worldwide.

Main Body

Many governments have designated the digital economy as a priority direction within their development strategies and have initiated corresponding programs. For example, South Korea, the United States, the United Kingdom, Singapore, and China are among the developed and rapidly developing countries implementing national strategies aimed at achieving new progress by leveraging digital capabilities [1].

Although the term "digital economy" is widely used in both theory and practice, there is still no unified definition. According to a well-known phrase from Stan Kaplan's methodologies for risk analysis, 50% of problems arise when the same words are used to describe different concepts, and the other 50% occur when different words are used to describe the same concept [2].

The formation of the digital economy is one of the pressing issues today. It is closely associated with the increasing volume of social interactions through social networks and the growing efficiency of digital platforms. Digital platforms significantly increase the speed and diversity of exchange processes by applying approaches based on discreteness, programming, and algorithmic technologies. This, in turn, creates new and broader opportunities for economic and social development, along with increasing the efficiency of mass production.

According to experts of the World Economic Forum, the global economic value of digital transformation exceeds 100 trillion US dollars [3]. Many countries consider digital development as a strategic priority and are implementing large-scale measures aimed at digitizing the economy and society. This process not only accelerates economic growth but also contributes to improving the quality of social life.

In the Republic of Uzbekistan as well, several resolutions and decrees have been adopted in the field of the digital economy. Among them, the Presidential Decree "On approval of the 'Digital Uzbekistan – 2030' Strategy and measures for its effective implementation" holds great



significance. This strategy outlines long-term goals in the field of digital technologies and the digital economy. It represents a comprehensive program aimed at strengthening digital transformation, promoting technological progress, and developing innovation. The strategy defines clear goals, action plans, and monitoring mechanisms to ensure the effective development of the country's digital economy.

The term "digital economy" refers to one of the most rapidly developing sectors of the modern era. It encompasses the widespread use of ICT, the penetration of digital technologies into all sectors, and the processes associated with big data analysis. These processes are evolving so quickly that existing definitions sometimes fail to fully reflect ongoing changes. Therefore, it is important to clearly define the concept of digitalization, study its current state, and evaluate its future development prospects.

Key features of digitalization include:

1. **Reducing the cost and improving the reliability of data collection, systematization, transmission, and analysis** – achieved through the use of discrete sensors (such as the Internet of Things) and RFID technologies.
2. **Reducing and simplifying communication costs in the economy and society** – by digitizing content and communication channels.
3. **Developing systems of vertical and horizontal interaction among people and business processes** – this involves creating inter-organizational digital systems that ensure better coordination and integration of business processes.

Digitalization, informatization, and automation are among the most important directions of modern economic development. This trend was first described by the well-known researcher John Naisbitt. According to him, digitalization is a global development trend based on the use of cybernetic approaches, optimization of management processes, analysis of big data, and applications of artificial intelligence technologies [3]. This process not only involves the use of technology but also deeply influences all spheres of society and the economy, adapting them to the digital environment.

Today, digital technologies have become an integral part of the global economy and significantly contribute to the formation of the digital economy. The digital economy integrates various technologies, which are implemented through electronic commerce, mobile applications, artificial intelligence, cloud computing, and other innovative technologies. As these digital technologies continue to evolve, they create new economic opportunities and increase competition in the global market.

Major retail chains such as **Korzinka.uz** are actively adapting to these digital transformations. The integration of digital technologies into the company's production, sales, and inventory management processes has increased efficiency, optimized costs, and significantly improved the quality of customer service. In particular, the rapid development of e-commerce infrastructure is reflected in Korzinka.uz's strategic development plans and financial indicators.

This research examines the main economic indicators of Korzinka.uz for the years **2022–2024** (such as the volume of products produced, organizational turnover, inventory levels, etc.). Through the indicators presented in tabular form, the level of economic efficiency achieved as a result of the company's digital transformation is analyzed (Table 1).

Table
Key Indicators of Economic Activity

Indicators	2022	2023	2024
Value of products (works and services) produced internally (excluding VAT and excise tax)	76,057.6	1,291,908.5	1,625,271.2
Organizational turnover	5,543,024.2	8,028,402.3	10,110,583.2

1.



Indicators	2022	2023	2024
Goods for resale at the beginning of the year	356,323.3	227,619.6	706,090.9
Goods for resale at the end of the year	226,784.6	706,194.9	803,623.2
Production inventories at the beginning of the year	48,254.6	67,704.5	103,106.1
Production inventories at the end of the year	67,790.5	103,896.1	45,239.4

Since the 1990s, with the Internet revolution and the emergence of electronic commerce, the digital economy has rapidly expanded. During the Web 1.0 era, companies began selling goods and services via the Internet, marking the early stage of e-commerce. The widespread adoption of the Internet forced not only trade but the entire economic ecosystem to transition into digital form.

In the 2000s, the development of mobile technologies and cloud computing initiated a new stage in the growth of e-commerce and the digital economy. With the rise of Web 2.0, interactive and social networks emerged, enabling closer communication with customers and the provision of personalized services. During this period, e-commerce reached its peak and became a key component of the global digital economy.

From 2010 to 2020, Industry 4.0 and digitalization deepened the development of the digital economy and further advanced the complexity of e-commerce. In the Web 3.0 era, artificial intelligence, IoT (Internet of Things), digital marketplaces, and automation technologies developed at a rapid pace, bringing revolutionary changes to production, logistics, and customer service. These technologies in e-commerce enabled more accurate and faster services, as well as data-driven decision making.

A **digital trading platform (DTP)** is a software-hardware complex that includes organizational, informational, and technical solutions enabling interactions between sellers and buyers through electronic communication channels.

From theoretical and practical perspectives, digital trading platforms can be divided into two main types:

- Platforms designed for **public procurement**
- Platforms designed for **commercial trade** [6] (Figure 1).

The functional capabilities of digital trading platforms are standardized for all market participants and include:

- Organizing trading processes, offering alternative options, providing complete information, enabling participation in trading without intermediaries, and directly engaging in contract execution;
- Monitoring contract formation stages and resolving disputes between trading participants;
- Conducting financial settlements, generating and analyzing statistical data, and managing applications.



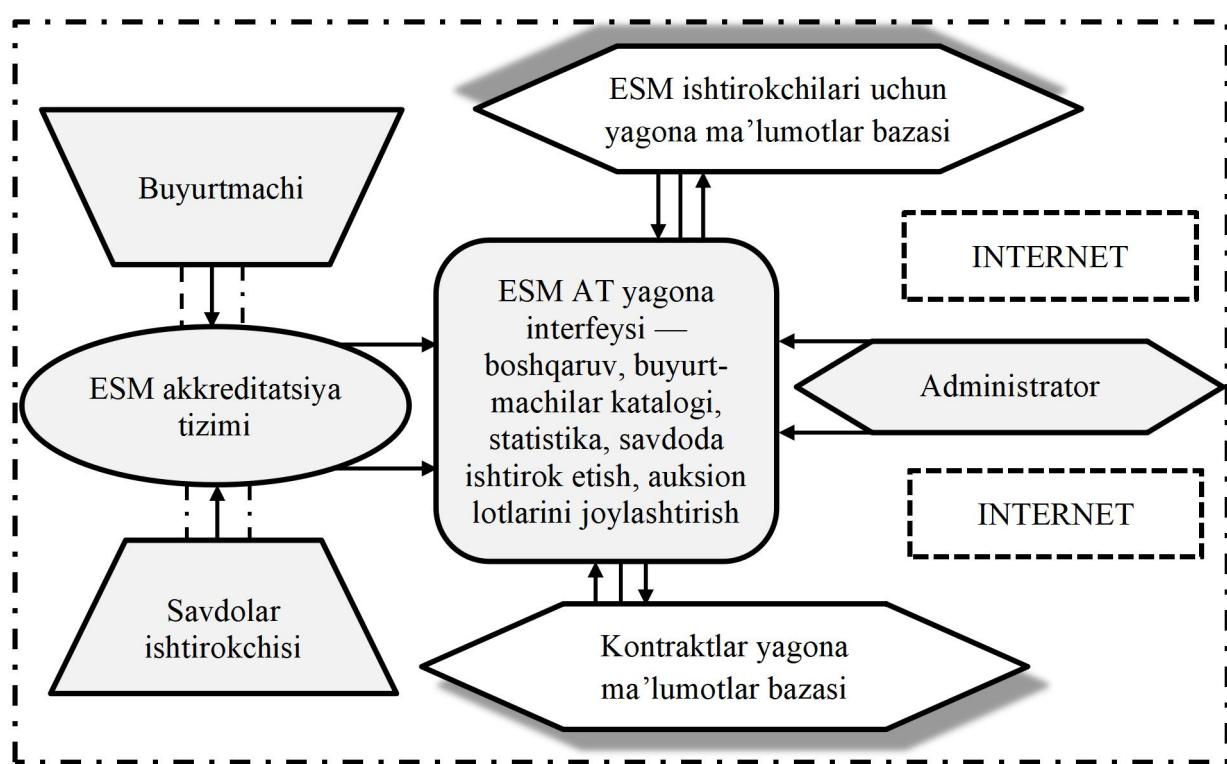


Figure 1. Mechanism of interaction among all stakeholders in the process of conducting electronic trade on a digital trading platform.

The main functional task of the Digital Trading Platform (DTP) is to ensure interaction among multiple interconnected parties within a unified information-trade environment — including producers, suppliers, intermediaries, service providers, and public sector customers.

One of the key outcomes of digitalization is the full utilization of feedback mechanisms in management. These mechanisms make it possible to more clearly determine measures to enhance the stability and efficiency of economic activity in accordance with established plans [4].

Based on these theoretical foundations, digitalization should be viewed not as a final objective but as a tool for achieving broader and more strategic goals. From this perspective, the digital economy should be considered not as an independent system separated from other parts of the economy, but as an integral segment of overall economic activity.

The essence of the digital economy is reflected in the use of digital technologies in the production of goods and services, particularly in sectors linked to the Internet, for the purpose of creating added value. This approach expands the opportunity to increase efficiency in all sectors of the economy, establish new business models, and introduce technological innovations. Therefore, the digital economy not only contributes to economic growth but also forms the foundation for the digital development of society.

The digital economy emerges when digital technologies and infrastructure support interaction across all sectors of the economy and levels of management. This process encourages the emergence of various startups, development of innovations, and the formation of new business models.

Our research shows that the digital economy, based on digitalization, has the following characteristics:

1. **Human-centered value** — In the digital economy, knowledge and individuals possessing that knowledge hold primary importance. Individuals actively participate in



creating and controlling personal digital content, which positively influences the development of knowledge and human capital.

2. **Data as a core asset** — In the digital economy, data take a leading role and, compared to the real sector, often hold greater economic value. Thus, data become the main subject and source of economic value.
3. **Network-based structure** — Economic agents operate primarily within network structures, ensuring more flexible, efficient interactions and collaboration.
4. **Integrated digital platforms** — The digital economy is built on integrated platforms that combine various processes and data, creating new opportunities for business.
5. **Artificial intelligence-based regulation** — AI provides nearly limitless possibilities for regulating production tools and industrial relations, allowing for innovative solutions and process optimization.

The digital economy is becoming an integral part of the modern world. This concept is mainly associated with the rapid development of digital technologies, whose role in economic processes is continuously growing. Uzbekistan has also been actively involved in this process, and between 2018 and 2023 the volume of e-commerce has increased significantly (Table 1).

Table

Share of E-commerce in Gross Added Value (in billion UZS)

№ Indicators	2018	2019	2020	2021	2022	2023
E-commerce (total)	105.2	260.0	591.4	3,907.3	9,694.0	13,918.9
1 Goods	8.5	64.2	247.9	1,393.3	2,404.7	3,195.9
2 Services	96.7	195.8	318.4	362.3	1,324.4	3,981.9
3 Electronic sales of self-produced goods	—	—	25.1	2,151.7	5,964.9	6,741.1

According to the table analysis, the gross added value of e-commerce amounted to **105.2 billion UZS** in 2018, increasing to **13,918.9 billion UZS** by 2023. This growth indicates the increasing significance of the digital economy and confirms that economic processes are increasingly being conducted through digital platforms.

The table also shows that electronic sales of goods rose from **8.5 billion UZS** in 2018 to **3,195.9 billion UZS** in 2023. The digital sale of goods plays a crucial role in the development of the digital economy, helping reduce intermediation between enterprises and consumers and decreasing prices.

Electronic sales of services also grew significantly — from **96.7 billion UZS** in 2018 to **3,981.9 billion UZS** in 2023. This sector expands primarily through the integration of digital technologies into service delivery processes.

Likewise, electronic sales of self-produced goods demonstrate notable growth, explained by enterprises' increasing ability to directly sell their products to consumers via digital platforms.

The impact of the development of the services sector based on digital technologies is manifested in the following aspects:

- **Improvement of service quality.** The introduction of digital technologies increases the speed, accuracy, and convenience of service delivery processes. This enhances customer



satisfaction, strengthens their trust in services, and significantly increases the competitiveness of companies.

- **Expansion of market opportunities for enterprises.** The emergence of opportunities to directly deliver products to consumers through digital platforms creates new sales channels for companies. This allows them to enter new markets, obtain rapid feedback on their products, reduce marketing costs, and consequently increase sales volumes.
- **Growth of international cooperation and export potential.** The simplification of processes for introducing digital services to international markets facilitates greater integration of domestic enterprises into the global market. As a result, the export potential of local companies increases, contributing to strengthening the international competitiveness of the economy.

In recent years, significant growth has been observed in the field of e-commerce in Uzbekistan. E-commerce is gradually becoming an important part of the national economy. Electronic trade, especially in services, goods, and self-produced products, has been growing considerably. The indicators presented in the figure below demonstrate the share of e-commerce in GDP and its growth dynamics.

(2-picture).

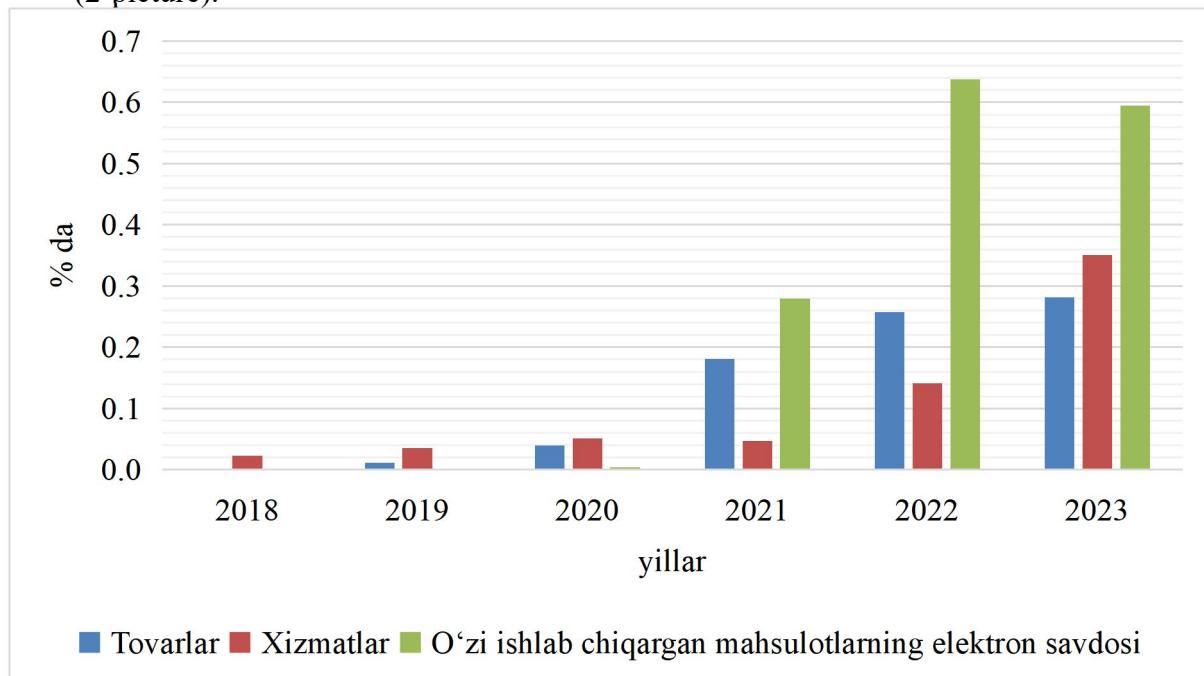


Figure 2. Gross Value Added of E-Commerce (as a % of GDP)

This figure presents statistical data on various indicators of e-commerce in the Republic of Uzbekistan from 2018 to 2023, including e-commerce of goods, services, and self-produced products as a share of GDP. The share of e-commerce in goods in GDP increased from 0.002% in 2018 to 0.28% in 2023. Similarly, the share of e-commerce in services grew from 0.02% in 2018 to 0.35% in 2023, indicating significant growth in the services sector. The e-commerce of self-produced products also showed an upward trend between 2021 and 2023.

Based on the data presented, it is evident that the importance of e-commerce in Uzbekistan's economy is increasing annually, with significant growth in both goods and services sectors. This growth reflects the country's transition to a digital economy and the increasing adoption of modern technologies.



Globally, the e-commerce market is developing faster than the real sector of the economy. This trend is driven by factors such as the growth in the number of internet users, increasing trust in online shopping, improvements in logistics, and the expansion of digital payment systems.

In 2023, the global e-commerce market was estimated at approximately USD 21.1 trillion. According to IMARC Group, this market is expected to reach USD 183.8 trillion by 2032, with an average annual growth rate (CAGR) of 27.16% from 2024 to 2032. The growth of this sector is linked to the widespread implementation of artificial intelligence, expanded international trade opportunities, and innovations in secure digital payment systems. This trend is reflected when comparing the size of the e-commerce market with GDP, which is the most general indicator for measuring the performance of the real sector (Table 2).

Table 2. Share of E-Commerce in Retail Market Relative to GDP

No.	Country	GDP (billion USD)*	Retail E-Commerce (billion USD)**	Revenue E-Commerce	Share in GDP (%)
1	USA	27,360.94	1,065.68		3.89
2	China	17,794.78	1,255.14		7.05
3	Germany	4,456.08	89.71		2.01
4	Japan	4,212.95	151.03		3.58
5	India	3,549.92	50.94		1.43
6	UK	3,340.03	118.26		3.54
7	France	3,030.90	60.59		2.00
8	Italy	2,254.85	51.10		2.27
9	Brazil	2,173.67	185.70		8.54
10	Canada	2,140.09	58.69		2.74

Developed economies with high-income populations tend to exhibit widespread adoption of e-commerce. Countries such as China (7.05%) and Brazil (8.54%) lead in this regard due to their large market size and rapidly growing e-commerce sectors. Meanwhile, countries like Germany (2.01%), France (2%), and Italy (2.27%) have relatively lower shares, indicating that although their e-commerce markets are developing, their impact on GDP remains modest. In developing countries such as India (1.43%), the lower share reflects the early stage of e-commerce and GDP growth. The share of e-commerce in retail markets is closely related to a country's overall economic development, income levels, and technological infrastructure.

With the increasing number of internet users and rapid development of internet technologies, selecting the right online platform becomes a key factor for successful e-commerce management. An internet platform is a system of web pages with a unique address that enables companies to interact with their target audience and effectively utilize digital technologies.

These platforms serve not only as a medium for promoting products and services but also as powerful tools for engaging with consumers, analyzing their needs and preferences, and optimizing sales processes. Therefore, selecting the right platform and managing it efficiently is critical for enhancing competitiveness in e-commerce.

The effectiveness of e-commerce largely depends on the functionality and performance quality of the chosen online platform. At the same time, correctly selecting and effectively using online marketing tools plays a crucial role in promoting goods and services successfully.

Hence, achieving high results in e-commerce requires both the careful selection of a suitable internet platform with its technical capabilities and flexibility, and the development of a comprehensive marketing strategy. This approach enables companies to reach their target audience efficiently, increase competitiveness, and respond quickly to market demands (Table 3).



Table 3. Selection of Network Services and Marketing Tools to Enhance E-Commerce Efficiency

No.	Tool	Features	Advantages
1	Social Networks	Platforms for interaction via posts, Direct engagement with a wide comments, likes, and sharing (e.g., audience, increased customer Facebook, Instagram).	loyalty, brand promotion.
2	Email	Directly sends special offers, news, High level of personalization, and promotional campaigns to retargeting capability, marketing customers.	automation.
3	Chatbots	Software agents interacting with Quick response to inquiries, 24/7 customers via text in real-time (e.g., support, reduces workload on WhatsApp).	support teams.
4	Forums and Communities	Online platforms for discussing products and services between customers and company representatives.	Collect customer feedback, build communities around the brand, improve service quality.
5	Webinars and Live Streams	Educational sessions and live broadcasts for presenting products or services in real-time.	Customer engagement, real-time Q&A, showcasing expertise.
6	Review Platforms	Websites where users share feedback about products and services.	Increase brand trust, attract new customers, improve quality based on reviews.
7	Loyalty Programs	Reward systems for purchases and active participation (e.g., points, enhance customer satisfaction, discounts).	Encourage repeat purchases, build long-term relationships.
8	Video Marketing	Creation of video content to promote products and services (e.g., YouTube, TikTok).	High visual appeal, broad reach, potential for viral marketing.
9	Mobile Applications	Apps providing access to products and services with additional offers, integration with other functionalities.	User convenience, personalized digital services.

Based on the analysis and the table above, the following conclusions can be drawn:

1. Tools such as social networks, email, and video marketing help significantly expand audience reach and improve brand engagement.
2. Chatbots, mobile apps, and loyalty programs enhance customer experience through convenience, personalization, and round-the-clock support.
3. SEO and review platforms contribute to increased visits, enhanced brand trust, and improved product and service quality.

The collective use of these tools enables businesses to expand their operations efficiently, strengthen their market position, and improve interactions with customers.

Currently, one of the key trends among companies engaged in e-commerce is the automation of business processes. In the era of digital transformation, digital technologies increasingly take over tasks that were previously performed by employees [6, p. 7].

To successfully adapt to these prospects, companies involved in e-commerce must actively implement modern technologies and continuously improve their operations. Only in this way can they gain a competitive advantage and remain successful in the e-commerce market.



Digital transformation has a significant impact on our lives, and this effect is particularly noticeable in the e-commerce sector. In recent years, e-commerce has developed rapidly, and digital transformation plays a crucial role in this process. It offers significant opportunities for the future growth and improvement of e-commerce.

At the same time, the growth of digital platforms brings challenges such as cybersecurity, consumer protection, and competition. These issues must be addressed to ensure further development of digital platforms in e-commerce.

In conclusion, the development of the digital economy has opened new opportunities for Uzbekistan's economy. The increasing share of e-commerce in the gross domestic product confirms the gradual digitization of economic processes. To support this process, attention should be given to developing digital infrastructure and business models. This analysis can serve as a basis for predicting further growth of e-commerce and its increasing significance in the economy.

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