DYNAMICS OF E-COMMERCE SERVICE DEVELOPMENT IN SAMARKAND REGION WITHIN UZBEKISTAN'S DIGITAL TRADE TRANSFORMATION

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Abstract

This article examines the recent dynamics of e-commerce service development in Samarkand Region within the broader digital trade transformation of Uzbekistan. The study focuses on e-commerce market volume, platform expansion, retail trade share, digital payments, logistics infrastructure, and regional service-sector conditions. The methodology combines statistical, comparative, dynamic, document-based, and econometric trend analysis. The results show that Uzbekistan's e-commerce sector has moved from a marginal retail segment to a rapidly expanding digital service market, while Samarkand Region has a strong trade and service base for further platform-based development. However, the absence of publicly available regional e-commerce time series limits direct econometric modelling at the regional level and indicates the need for more transparent territorial digital trade statistics.

Keywords: e-commerce services, Samarkand Region, Uzbekistan, digital trade, online platforms, digital payments, logistics infrastructure, econometric trend model.

Introduction

E-commerce services have become one of the most dynamic components of the modern service economy because they combine trade, logistics, digital payments, platform intermediation, consumer analytics and data-based business models in a single economic mechanism. In developing economies, this sector has an additional strategic role: it reduces market-entry barriers for small businesses, expands access to consumers beyond local markets, accelerates cashless payments, and strengthens the formalization of retail transactions.

For Uzbekistan, the development of e-commerce services is no longer a narrow technological issue. It is connected with retail modernization, regional entrepreneurship, digital inclusion, payment infrastructure, warehouse capacity and logistics efficiency. Official national statistics show that e-commerce trade volume increased from 6.0 billion soums in 2016 to 15,211.5 billion soums in 2024, which demonstrates the emergence of a new digital trade segment in less than a decade. In 2025, the number of e-commerce platforms reportedly increased from 36 to 115, while online sales reached 22.7 trillion soums and the share of e-commerce in total retail rose to 4.6 percent.

Samarkand Region is especially relevant for this analysis because it combines a large population base, high tourism activity, growing service-sector demand, and an expanding retail market. According to the National Statistics Committee, in 2025 Samarkand Region's population reached 4,379,791 people as of 1 January 2026, while retail trade turnover grew by 10.3 percent and market services increased by 15.9 percent compared with the previous year. These indicators make the region a promising territorial market for e-commerce services, although open official statistics do not yet provide a separate regional time series for e-commerce trade volume.

The research problem is therefore twofold. On the one hand, Uzbekistan's e-commerce sector is expanding rapidly and requires analytical interpretation beyond simple growth figures. On the other hand, regional measurement remains insufficient, particularly for assessing the specific dynamics of

Samarkand Region. This creates a methodological gap: regional e-commerce development can be discussed through trade, services, infrastructure and digital payment indicators, but direct econometric modelling at the regional level remains limited until official territorial e-commerce datasets are published.

Literature Review

The theoretical foundation of e-commerce service analysis is linked to the platform economy, transaction-cost reduction, digital innovation and consumer adoption models. From the perspective of service innovation, e-commerce is not only the online sale of goods; it is a digitally coordinated service chain where ordering, payment, fulfilment, delivery, customer communication and after-sales support are integrated into one platform-based process. This makes e-commerce a hybrid sector located between retail trade, information technology, financial technology and logistics.

International literature usually explains e-commerce growth through several interrelated factors. Platform theory emphasizes network effects: the value of an online marketplace increases as the number of sellers, buyers and service partners expands. Innovation theory links e-commerce growth to the diffusion of digital technologies, where early adoption is followed by broader market acceptance once infrastructure, trust and convenience improve. Consumer-behaviour studies show that online trade develops faster when payment security, delivery reliability, product variety and return mechanisms are sufficiently developed.

Digital payments are a central part of the literature because online trade cannot scale without reliable settlement infrastructure. In Uzbekistan, this issue has become practically significant because payment cards, terminals and cashless transaction systems have expanded quickly. The Central Bank reported that the number of bank cards in circulation increased from 27.105 million in 2021 to 61.996 million in 2024, while payments processed through 426 thousand payment terminals reached 326.7 trillion soums in 2024. These figures show that e-commerce growth is supported not only by consumer interest but also by the deepening of financial infrastructure.

Logistics is another decisive element. The World Bank notes that Uzbekistan ranked 88th out of 139 economies in the 2023 Logistics Performance Index, while digital connectivity and the use of digital payments still require further strengthening. For e-commerce, such constraints are important because delivery time, tracking, warehouse availability and last-mile service quality directly affect consumer trust. In regional markets such as Samarkand, logistics is not merely a support function; it determines whether local entrepreneurs can compete with capital-based or international platforms.

Uzbekistan-related studies and policy documents increasingly approach e-commerce as part of a broader digital economy strategy. Presidential proposals reviewed in April 2026 emphasized that e-commerce volume had grown twentyfold over eight years, reaching 1.3 billion US dollars, while the number of digital platforms exceeded 120. At the same time, e-commerce accounted for only 4–4.6 percent of retail trade, below the stated global average of 22 percent, and the country was assessed as having potential to raise this share to 9–11 percent. This indicates that Uzbekistan is moving from early-stage market expansion toward a more infrastructure-oriented phase of e-commerce development.

The insufficiently studied aspect is regional measurement. Existing discussions usually focus on national indicators, platform regulation or general digital economy trends. Much less attention is given to how e-commerce services develop in specific regions, how regional retail turnover and service-sector growth translate into online trade potential, and how logistics and payment infrastructure determine territorial competitiveness. This article addresses that gap by linking national e-commerce dynamics with Samarkand Region's trade and service-sector conditions.

Research Methodology

The study uses a mixed analytical methodology based on statistical analysis, dynamic analysis, comparative analysis, document analysis, system approach and a simple econometric trend model. The data sources include official statistics of the National Statistics Committee of Uzbekistan, the Central Bank of Uzbekistan, the official website of the President of Uzbekistan, Lex.uz, the World Bank and recent analytical materials based on information from the National Agency for Perspective Projects.

The main national time-series variable used for the econometric part is annual e-commerce trade volume in Uzbekistan for 2016–2024, measured in billion soums. This dataset is official and published by the National Statistics Committee. The 2025 figure is used for descriptive analysis because it was

reported by the National Agency for Perspective Projects through public media materials; however, it is not included in the econometric model because the official SIAT annual statistical table used for modelling covers 2016–2024.

For Samarkand Region, the analysis uses related official indicators: population, retail trade growth, market services growth, foreign trade growth, trade service volume and communication/informatization service characteristics. These indicators do not replace direct regional e-commerce data; rather, they describe the regional economic environment in which e-commerce services may expand. The absence of open, reliable and separate regional e-commerce volume statistics for Samarkand Region is treated as a methodological limitation and not filled with estimated or invented figures.

Analysis and Results

National e-commerce dynamics as the framework for regional development

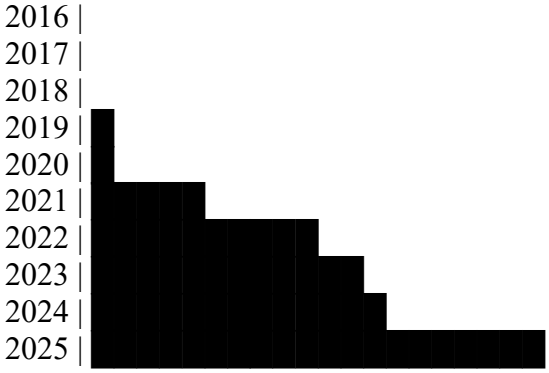
Table 1. Dynamics of e-commerce trade volume in Uzbekistan, 2016–2025[1]

Year	E-commerce trade volume, billion soums	Annual growth, %
2016	6.0	—
2017	12.1	101.7
2018	40.9	238.0
2019	275.3	573.1
2020	1,002.5	264.1
2021	5,978.7	496.4
2022	10,886.8	82.1
2023	13,263.8	21.8
2024	15,211.5	14.7
2025	22,700.0	49.2

The table shows that Uzbekistan's e-commerce sector passed through three different growth phases. The first phase, covering 2016–2019, was characterized by very small initial volumes and extremely high growth rates, which mainly reflected the low statistical base. The second phase, especially 2020–2022, coincided with rapid digitalization, wider online consumer behaviour and stronger platform activity. The third phase, from 2023 onward, shows that e-commerce is moving from explosive early growth toward a more structured market stage where growth increasingly depends on logistics, platform regulation, payment security and regional fulfilment capacity.

Figure 1.

E-commerce trade volume in Uzbekistan, 2016–2025, billion soums[2]



[1] *Source: 2016–2024 data from the National Statistics Committee; 2025 data reported by the National Agency for Perspective Projects through public information materials. Growth rates were calculated by the author on the basis of these figures.*

[2] *Source: compiled by the author based on Table 1.*

The diagram visually confirms that the real structural shift occurred after 2020. Before that year, e-commerce was still a narrow segment of retail trade. By 2021–2022, however, the market had already become large enough to influence payment infrastructure, platform competition and delivery services. The increase to 22.7 trillion soums in 2025 is especially important because it shows that e-commerce growth did not stop after the post-pandemic acceleration; it continued as part of broader retail modernization.

4.2. Platform expansion and retail share

The 2025 data indicate that the number of e-commerce platforms in Uzbekistan increased from 36 to 115, which is a 3.2-fold rise compared with the previous year. In the same period, e-commerce sales reached 22.7 trillion soums and accounted for 4.6 percent of total retail trade. This platform expansion is economically important because it indicates a shift from isolated online sellers to a more diversified digital marketplace environment.

However, the share of e-commerce in retail trade remains relatively modest. Presidential-level policy materials in 2026 stated that Uzbekistan's e-commerce share of retail trade was around 4–4.6 percent, while the global average was presented as 22 percent and the national potential was estimated at 9–11 percent. This means that Uzbekistan is still in a catch-up stage: market growth is fast, but structural penetration into total retail trade remains limited.

For Samarkand Region, this national trend has direct implications. The region has a large consumer base and a growing service economy, but the transformation of traditional trade into online trade depends on whether local enterprises can integrate into platforms, use digital payment systems, organize delivery, and build trust among consumers outside the capital-centered digital ecosystem.

Samarkand Region's trade and service-sector environment

Table 2.

Selected indicators relevant to e-commerce service development in Samarkand Region[3]

Indicator	Period	Official value
Permanent population	1 January 2026	4,379,791 people
Gross regional product growth	2025	+8.0%
Retail trade turnover growth	2025	+10.3%
Market services growth	2025	+15.9%
Foreign trade turnover growth	2025	+33.6%
Trade services volume	January–March 2026	5.6 trillion soums
Share of computer programming services in communication and informatization services	January–October 2025	14.6%
Growth of computer programming services compared with the corresponding period of 2024	January–October 2025	+11.3%

These indicators show that Samarkand Region has a strong economic basis for e-commerce development. Population size creates a broad consumer market, retail trade growth demonstrates demand-side expansion, and market services growth indicates that the regional economy is becoming increasingly service-oriented. The 5.6 trillion soums of trade services recorded in January–March 2026 places Samarkand among the leading regions after Tashkent city, Tashkent Region and Fergana Region in the published list.

The communication and informatization indicator is also relevant. The fact that computer programming services accounted for 14.6 percent of communication and informatization services in Samarkand Region during January–October 2025 suggests that the region is not only a consumer market

[3] *Source: National Statistics Committee and Samarkand Region Statistics Department.*

but also has an emerging digital service component. This matters for e-commerce because platform adaptation, website development, payment integration, customer database management and logistics software require local digital skills.

At the same time, the table also reveals an important limitation. The available official sources describe retail trade, services and digital-related service components, but they do not provide a separate open time series for e-commerce trade volume specifically in Samarkand Region. Therefore, a precise regional e-commerce growth rate cannot be calculated without risking methodological distortion. This is a serious statistical gap because regional policy requires not only national e-commerce indicators but also territorial data on online sales, platform participation, delivery geography, consumer activity and digital payment intensity.

Digital payments as an enabling factor

E-commerce growth depends heavily on payment infrastructure. The Central Bank's 2024 annual reporting shows that payment infrastructure expanded substantially: bank cards in circulation rose from 27.105 million in 2021 to 61.996 million in 2024, and payments processed through payment terminals reached 326.7 trillion soums in 2024. These figures indicate that the technological foundation for digital retail transactions has strengthened.

For Samarkand Region, payment infrastructure is important because consumer trust in online trade depends on the reliability and convenience of payment. If online payment, cashless settlement, refund procedures and platform-linked financial services are weak, consumers remain attached to traditional offline trade. If they are strong, e-commerce becomes not only an alternative sales channel but also a more formal, traceable and scalable model of regional trade.

Logistics and warehouse infrastructure

The next constraint is logistics. The World Bank's assessment that Uzbekistan ranked 88th out of 139 economies in the 2023 Logistics Performance Index suggests that the country has improved but still faces structural logistics challenges. In e-commerce, these challenges are reflected in delivery speed, tracking reliability, regional fulfilment capacity and return logistics.

The 2026 presidential review of e-commerce and bonded warehouse development gives a clearer picture of the infrastructure gap. It stated that Uzbekistan had 634,000 square meters of warehouse space, 72 percent of which was concentrated in Tashkent city and Tashkent Region, while only 34 percent met modern Class A standards; expert estimates indicated that 2.5 million square meters of modern warehouse space would be required over the next five years.

This is highly relevant for Samarkand. If modern fulfilment infrastructure remains concentrated around Tashkent, regional consumers and sellers face longer delivery cycles and higher logistics costs. For Samarkand Region to become an active e-commerce node rather than only a consumption market, it needs local fulfilment centers, warehouse services, digital inventory systems and partnerships between marketplaces, banks and delivery operators.

Econometric Trend Model

Because open regional e-commerce time-series data for Samarkand Region were not found, the econometric model is built on the official national e-commerce trade volume series for 2016–2024. The model is not presented as a regional causal model; it is used to quantify the national trend that shapes the environment for regional e-commerce development.

The selected specification is a log-linear trend model:

ln⁡(ECHt)=β0+β1t+εt\ln(ECH_t)=\beta_0+\beta_1t+\varepsilon_tln(ECHt)=β0 +β1 t+εt

where:

ECHtECH_tECHt

is annual e-commerce trade volume in billion soums;

ttt

is the time index for 2016–2024;

β0\beta_0β0

is the constant term;
β1\beta_1β1
shows the average proportional change in e-commerce volume over time;
εt\varepsilon_tεt
is the random error term.
Using the official 2016–2024 data, the estimated model is:
ln⁡(ECHt)=0.8544+1.1100t\ln(ECH_t)=0.8544+1.1100tln(ECHt)=0.8544+1.1100t

The model diagnostics are:

Indicator	Result
Number of observations	9
R^2	0.9446
t-statistic for β_1	10.93
F-statistic	119.45
Significance level	$p < 0.001$

The high R^2 indicates that the time trend explains a large part of the variation in Uzbekistan's e-commerce trade volume during 2016–2024. The positive and statistically significant coefficient confirms that the sector followed a strong upward trajectory. In log-linear interpretation, the coefficient suggests a very high average multiplicative increase, although this should not be treated as a stable long-term forecast because the early years had an extremely low base and the number of observations is limited.

The model also confirms why regional analysis is necessary. National growth is strong, but it does not automatically reveal which regions benefit most, where delivery infrastructure is weakest, or how platform penetration differs between Tashkent, Samarkand and other regions. Therefore, future modelling should use panel data by region, where the dependent variable is regional e-commerce trade volume and explanatory variables include internet penetration, digital payment usage, logistics capacity, retail trade volume, service-sector development and platform participation.

A possible future model for regional analysis may be written as:

ECHit=β0+β1INTit+β2DTPit+β3LOGit+β4RETit+β5SERVit+εitECH_{it}=\beta_0+\beta_1INT_{it}+\beta_2DTP_{it}+\beta_3LOG_{it}+\beta_4RET_{it}+\beta_5SERV_{it}+\varepsilon_{it}ECHit =β0 +β1 INTit +β2 DTPit +β3 LOGit +β4 RETit +β5 SERVit +εit

where:
ECHitECH_{it}ECHit
is e-commerce service development in region iii and year ttt;
INTitINT_{it}INTit
is internet access or digital connectivity;
DTPitDTP_{it}DTPit
is digital payment volume or cashless transaction intensity;
LOGitLOG_{it}LOGit
is logistics and warehouse capacity;
RETitRET_{it}RETit
is retail trade turnover;
SERVitSERV_{it}SERVit
is market services development.

This model should not be estimated until real regional data become available. Presenting it as a conceptual econometric framework is useful because it shows what type of official data is needed for scientifically reliable regional e-commerce assessment.

Conclusion

The analysis shows that e-commerce services in Uzbekistan have developed at a very high pace during recent years. Official statistics confirm that the market expanded from 6.0 billion soums in 2016 to 15.2 trillion soums in 2024, while 2025 public data indicate further growth to 22.7 trillion soums.

Platform expansion, digital payments and policy attention have turned e-commerce into one of the most important directions of service-sector modernization.

For Samarkand Region, the available evidence indicates strong potential rather than fully measurable regional e-commerce maturity. The region has a large population, growing retail trade, expanding market services, active trade-service volume and an emerging digital service component. These conditions create a favorable base for online trade, but the absence of open regional e-commerce statistics prevents direct measurement of Samarkand's specific online sales dynamics.

The main practical conclusion is that e-commerce development in Samarkand Region should be supported through four priorities: publication of regional digital trade statistics, development of modern fulfilment and warehouse infrastructure, deeper integration of local businesses into national platforms, and expansion of secure digital payments and delivery services. Without these measures, e-commerce growth may remain concentrated around the capital and large national platforms. With them, Samarkand can become a regional digital trade hub connected to tourism, local production, retail modernization and export-oriented small business.

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