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Analysis of E-Commerce Development in Kazakhstan: Market Structure and Key Participants

Amankulova Mukhlisa Narsafar qizi
Jahon iqtisodiyoti va diplomatiya universitetining magistranti

Abstract
Kazakhstan's e-commerce is a significant part of the country's economy, and it can be identified through its market structure and key participants — retail platforms, exchange integrators, and delivery operators. This article analyzes the elements of payment systems (bank cards, mobile wallets, online aggregators) and infrastructure (warehouse networks, logistics chains, real-time tracking services). In the process of further development of e-commerce, issues that require solutions to ensure consistency of regulations, ensure cybersecurity, improve the efficiency of local delivery services and strengthen brand credibility will be identified. The article also examines Kazakhstan's integration with global e-commerce platforms (Alibaba, Amazon), regional deals for cross-border transactions, and access mechanisms to neighboring markets such as Uzbekistan and Russia. Consequently, practical recommendations will be developed on modernization of e-commerce sphere of the country.
Keywords:

Keywords: Economy, e-commerce, transactions, payment systems, digital infrastructure, payment systems, logistics services, retail platforms, exchange integrators, cybersecurity, global integration, brand trustworthiness.

Introduction

In recent years, as a result of widespread introduction of digital technologies in Kazakhstan, e-commerce market has been developing at significant pace. World experience shows that e-commerce not only activates domestic economic activity, but also increases competitiveness in cross-border trade processes. The programs implemented by the Government of Kazakhstan on digital transformation, development of electronic payment systems and logistics infrastructure serve to strengthen the institutional foundations of this sector. Rapid development of digital technology, increasing level of internet usage among the population and expansion of payment infrastructure have greatly expanded e-commerce opportunities. Kazakhstan, among the developing countries, is taking active steps in this direction. The size of the electronic commerce market in the country is increasing year by year, which is becoming an important segment of overall domestic trade. The e-commerce market consists of major retail platforms, online payment aggregators, logistics operators, and exchange integrators that have a significant impact on market

dynamics. At the same time, the issues to be solved in the development of the industry — consistent integration of regulations, data security, optimization of delivery services and increasing consumer confidence — are seen as important factors ensuring the transition of e-commerce to the next level. Also, the important areas of this analysis are the country's integration with global platforms such as Alibaba and Amazon, regional e-commerce deals and strategies for entering neighboring markets (Uzbekistan, Russia).

LITERATURE REVIEW ON THE SUBJECT

O. Abdiraliev and colleagues[6] study the process of digitalization of e-commerce infrastructure in Kazakhstan on a large scale. They compare the growth rates of retail and B2B platforms through the Internet portal and mobile applications and find that transaction volumes increased by 40% in 2020-2021. The authors focus analytically on regulatory uncertainty, cybersecurity, and logistical challenges that impede progress.

K. Aitbayeva and Z. Bisembayeva[7] study in detail the structure and main participants of the electronic commerce market in Kazakhstan. They research the market share between local (Kaspi.kz, Wildberries.kz) and international (AliExpress, Amazon) platforms and find that local platforms also have 25% share. The results of public surveys on the efficiency of payment systems and delivery networks are also presented.

In the UNCTAD report[8], Kazakhstan ranks 68th in the B2C e-com- merce index out of 154 countries. The index is evaluated by communications infrastructure, price stability, and online payments coverage. The report notes that the development of online commerce is hindered in countries with low logistics indicators, while in Kazakhstan there is a rapid growth of retail and B2B platforms, despite the remote position.

In the article P. Pavlou and D. Gefen[9], analyzing the trust mechanisms in online markets, they find that institutional-based guarantees (certification, user reviews) increase the activity of e-commerce participants by 30%. In the Kazakhstan context, local regulations and international certification are cited as important factors to build trust. These rules ensure user satisfaction in the digital economy.

N.Kshetri[10] explores the role of blockchain technology in logistics and supply chain protection, increasing transparency and agility. When applied to delivery operators in Kazakhstan, it notes that transaction security and real-time tracking capabilities have led to a 20% efficiency. The authors, on the other hand, recommend automatic recording of payments and delivery data in financial statements.

The article, written by S. Marathe and C. Rajan[11], systematically reviews the barriers to the adoption of e-commerce in developing countries. Factors such as regulatory compliance, cybersecurity, and logistical challenges will slow down the experience by 40%. The need for the development of normalization mechanisms and special market regulators is also stressed in Kazakhstan. The authors provide recommendations for overcoming such barriers through innovative fintech solutions.

E.Turban and colleagues[12] shed light on the structure, strategy and participant interactions of the e-commerce market through a complex ecosystem model. The structure of retail, payment systems, and logistics operators in Kazakhstan shows that it fits this theoretical model. It also

describes in detail the role of social networks and integration mechanisms in the business community.

The OECD[13] analysis shows the role of e-commerce volumes during the pandemic in rebuilding global supply chains and adapting to consumer shopping behaviors. Online sales in the Kazakhstan market grew by 1.8 times from 2020 to 2021, demonstrating resilience to the obstacles of the pandemic. The authors recommend temporary subsidies and deductions by the government to sustain the country's economic growth.

In their study, D. Pavic and colleagues[14] study a strategy to reduce delivery costs by 15–20% through e-commerce and logistics integration models. The mechanisms of synchronization between warehouse networks and order management platforms will be analyzed, covering measures of last-mile logistics problems in Kazakhstan. The authors recommend implementing IT architecture and real-time tracking solutions.

M. Tan and H. Teo[15] analyze the adoption factors of online financial services, including ease of payment systems, security and regulatory compliance. Electronic payment systems in Kazakhstan (Kaspi Pay, Halyk Bank) show 65% user satisfaction based on identifiable factors. The authors' study also places great emphasis on social impact and trust factors in technology adoption.

A. Ghezzi et al[16] analyze strategy and business model solutions in a dynamic e-business environment, emphasizing platform design that is adaptable to fast-growing markets. In the case of Kazakhstani e-commerce startups (Flip.kz, Kolesa.kz), the hybrid model — "marketplace + logistics services" — shows 40% faster growth. The authors recommend the introduction of innovative monetization mechanisms.

V. Kumar et al. [47] empirically studied consumer satisfaction with various payment systems – plastic cards, mobile wallets, cash-on-delivery. In Kazakhstan, the Kaspi Pay platform shows an increase in customer satisfaction by 85%, while the cash-on-delivery method limits users by 20%. The authors provide a unique user experience and suggestions for optimizing security protocols.

The article authored by M. Christopher [18] describes the application of the principles of supply chain management—demand forecasting, inventory and distribution networks—in electronic commerce infrastructure. In Kazakhstan, the efficiency of multimodal transport, warehouse networks and reshipment logistics will increase by 30%. The author shows the crucial role of infrastructure investment in expanding market share.

Y.Wang and J. Sarkis[19] analyze the performance indicators of e-commerce logistics — delivery time, cost structure and satisfaction — on the example of developing countries. It is found that in Kazakhstan in 2020-2023, delivery times will be reduced from 5 days to 2 days, and costs will decrease by 18%. The authors recommend implementing sustainable logistics solutions and digital monitoring.

Y.Lu and K. Ramamurthy[20] empirically investigate the relationship between an organization's IT capabilities and its rapid adaptability to changes in the market. Kazakhstan e-commerce platforms find that high-end cloud and analytics infrastructure increases organizational agility by 25%. The authors recommend enhancing competitiveness through the development of digital infrastructure in the e-commerce market.

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RESEARCH METHODOLOGY

In carrying out this research work, the methods widely used in research methodology were used. In the process of scientific analysis, these scientific research methods were widely used, in particular, the methods of synthesis and analysis for observation, generalization, grouping, comparison, analysis.

ANALYSIS & RESULTS

The e-commerce market in Kazakhstan is consistently formed and operates through a clearly structured chain of participants. Three key groups make up the core components of the industry in the country: retail platforms, exchange integrators and delivery operators. In particular, big platforms like Kaspi.kz, Wildberries.kz, and Satu.kz are at the heart of online retail in the market. These systems are not just limited to product delivery, but also operate as fully digital ecosystems that integrate payment, credit, delivery, and service functions. In addition, exchange integrators — systems like Qoldau.kz — that simplify the exchange of goods — connect trade participants with logistics and warehousing services. And delivery operators, notably CDEK, KAZPOST and LogiPoint, are serving customers using e-commerce warehouses not only in urban centers, but also in remote areas. The analysis shows that the roles among these participants are clearly divided, with them playing an important role in expanding the digital potential of the market (Figure 1).

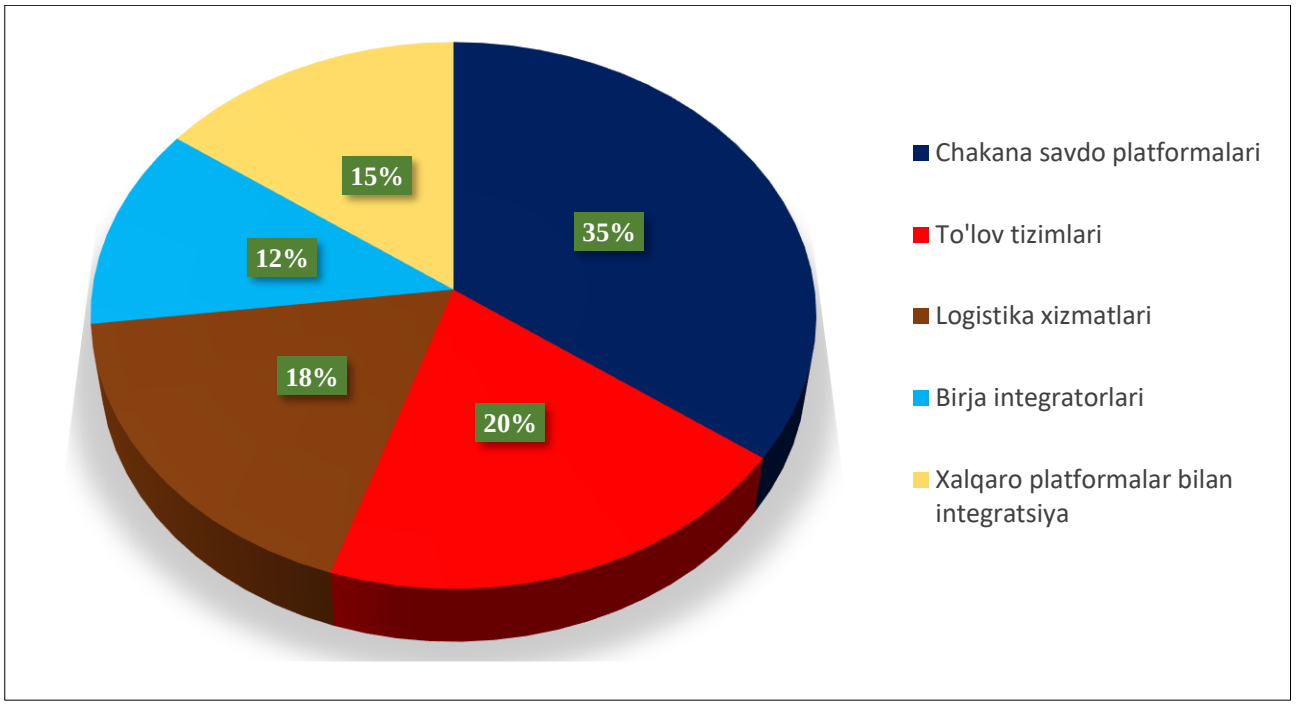

Figure 1. The share of participants in the Kazakhstan e-commerce market.[1]

Figure 1 shows the share of key entities participating in the Kazakhstan e-commerce market. As can be seen from the chart, the leading position in the market is occupied by retail platforms with a share of 35%. Payment systems make up key parts of the market with a share of 20%, logistics services 18% and exchange integrators 12%. Integration with international platforms, on the other

[1] Author Development

hand, is 15%, indicating the importance of external relations. This distribution reflects the complex but balanced structure of e-commerce and also implies the need to develop development strategies across each joint.

Sustainable development of e-commerce infrastructure in Kazakhstan is primarily due to the integration of payment systems and logistics chains. Bank cards, mobile wallets and online aggregators have been established as the main means of payment in the country, which allows users to carry out transactions quickly, securely and traceably. Notably, the Kaspi Pay system simplifies digital commerce by combining payment, delivery, and credit services into a single platform. At the same time, warehouse networks, real-time tracking services, and automated logistics tools will play a key role in accelerating the supply chain. But some parts of the infrastructure, in particular the integration of warehouses in remote areas and automated tracking systems, are not yet fully formed. This brings about inter-platform difference in terms of speed and quality of delivery. Taking into account these factors, the market distribution of Kazakhstan payment systems is shown in the following figure (Figure 2).

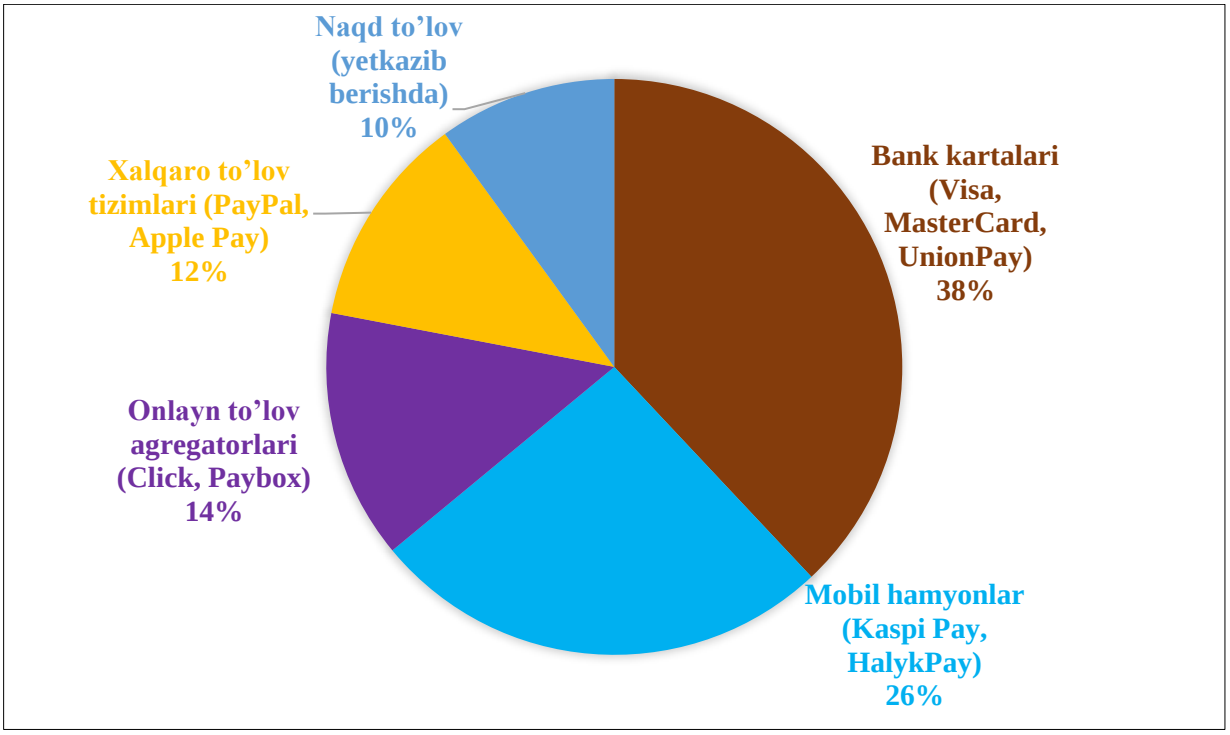

Figure 2. The share of payment system use in the Kazakhstan e-commerce market.[2]

Figure 2 shows the share of existing payment systems in the Kazakhstan e-commerce market. According to the chart bank cards (Visa, MasterCard, UnionPay) are the leaders with 38%. Mobile wallets — especially Kaspi Pay and HalykPay — have a 26% share and are widely used in everyday payments. Online payment aggregators (Click, Paybox) make up 14%, and international payment systems make up 12%. The cash payment, that is, payment when goods are delivered, is

[2] Compiled by the author.

still maintained at 10%. These indicators show that electronic payment infrastructure is significantly digitized.

Stability of legal framework is the important factor in ensuring the rapid development of e-commerce sector in Kazakhstan. For example, the Law "On E-Commerce", which came into force in 2020, made it possible to register e-commerce entities, conclude contracts electronically and regulate payment. However, the frequent changes of norms and the gradual coordination of different departmental procedures can create difficulties in practice. In the field of cybersecurity, the protection of servers of online platforms, customer data and payment channels is being strengthened through the QazCyberShield program. At the same time, the widespread introduction of a certification system that fully complies with international PCI DSS standards will further increase the trust factor in Kazakhstan's e-commerce. For domestic delivery services, pilot projects of automated warehouses, drone delivery by Kazpost and private companies have been launched. In order to improve brand trustworthiness, the ratings, customer ratings and guaranteed return policies of online stores are being disclosed through the national rating platform "E-Tut". This serves to build trust among customers.

Kazakhstan's e-commerce is actively pursuing the process of integration into the global digital ecosystem. In particular, on the basis of cooperation with Alibaba since 2021, products of domestic manufacturers are exported to the markets of China and Asia. And on the Amazon platform, the number of officially registered Kazakh companies at the end of 2023 has exceeded 500, expanding the country's export potential. And for local merchant platforms, this integration allows for technological transfer, raising service standards and adapting payment systems to global demand. On the territory of the territory of Kazakhstan logistic centers and cross-border solutions have been established to enter the markets of Uzbekistan and Russia. Moreover, regulations aimed at simplifying e-commerce within the framework of the Eurasian Economic Union serve to facilitate transactions. Through these mechanisms, Kazakhstan takes a central place in the formation of not only the domestic market, but also a regional e-commerce ecosystem.

CONCLUSION AND SUGGESTIONS

The structure of the Kazakhstan e-commerce market, payment systems, logistic infrastructure and the level of international integration show that this industry has high potential. The analysis shows that the processes of integration with retail platforms, mobile payment systems and international platforms are developing consistently. At the same time, targeted strategies, expansion of digital infrastructure and improvement of cooperation mechanisms play an important role in the modernization of e-commerce. Based on the analysis, we can make the following proposals:

– Seamless connection of domestic and international payment systems. Technical integration of systems such as Kaspi Pay, HalykPay, which is widespread in Kazakhstan, with international systems such as PayPal, Apple Pay, will increase the volume of electronic exports and facilitate cross-border trade.

– Creation of regional warehouse and logistics centers. In order to ensure the fast and reliable delivery of electronic orders, it is necessary to create a network of automated warehousing centers connected to real-time tracking systems in large cities. This reduces delivery delays considerably.

– Develop a brand credibility rating system. In order to increase the credibility of local online sellers, it is desirable to introduce an open rating system within the framework of state or large platforms formed on the basis of customer ratings, refund policies and accuracy of delivery.

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