

AZERBAIJAN REPUBLIC

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ABSTRACT

of the dissertation for the degree of Doctor of Philosophy

RESEARCHING THE ROLE OF THE E-COMMERCE SYSTEM IN AZERBAIJAN'S FOREIGN ECONOMIC ACTIVITY

Speciality: 5310.01 - The World Economy

Field of science: 53 - Economic science

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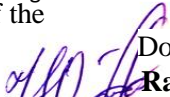
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INTRODUCTION

Relevance of the Topic and Degree of Research Development: It is well known that each country possesses different types and quantities of resources. As a result, they often face difficulties in meeting their needs solely through domestic resources. This is due to significant differences in both the quantity and quality of resources among countries. Such disparities necessitate the establishment of economic, social, political, and other forms of relations between nations. Among these, the development of economic relations is of particular importance, with the trade of goods and services being one of the most essential forms of international economic interaction.

Countries or companies gain the opportunity to utilize their domestic resources more efficiently, meet their national needs at lower costs, and enhance their competitiveness in global markets by exporting goods and services to foreign markets or importing them from abroad.

At present, the expansion of foreign trade is considered one of the most crucial issues for many countries. Enterprises that plan to engage in import and export activities must thoroughly examine a range of critical factors, including competing producers in the region, geographical conditions, delivery methods, government regulations, pricing, payment terms, advertising expenses, the country's economic and political stability, the competitive environment and conditions, technical standards and regulations, trade channels, trade barriers, product shelf life, product quality, and insurance requirements.

Similar to other countries around the world, Azerbaijan's foreign economic relations are also developing. A review of statistical data from 2015 to 2023 clearly demonstrates this progress. During the mentioned period, Azerbaijan's foreign trade turnover doubled, reaching 51.2 billion USD. Exports increased by a factor of 2.7, while imports rose 1.9 times. The consistent annual growth in Azerbaijan's exports is particularly significant. Notably, the increasing share of the non-oil sector in total exports in recent years is a positive development. For instance, from 2019 to 2023, non-oil exports grew 1.7 times, reaching 3.3 billion USD in 2023.

In the modern era, with the rapid advancement of information technology (IT), these technologies are utilized in virtually all sectors.

Nowadays, people use various electronic services via internet resources without the need to physically go anywhere, thereby saving significant time. The development of IT in the 20th century undoubtedly influenced trade as well; by the end of the century, a new form of trade—electronic commerce—emerged and gradually expanded its scope. Over time, many countries began to show increasing interest in this mode of trade. The share of electronic commerce (e-commerce) within foreign economic activity is notably high in the growth of global e-commerce volumes. It should be noted that the proportion of e-commerce in total retail trade is significantly higher in developed countries, whereas it remains substantially lower in developing countries. The main reasons for this disparity include weak internet infrastructure, online stores not meeting modern standards, unresolved security issues, and limited public awareness, all of which negatively impact the development of e-commerce.

Similar to other countries around the world, electronic commerce is also developing in Azerbaijan. It is important to note that e-commerce was established in Azerbaijan in 2005, and development began shortly thereafter. However, despite the emergence of e-commerce in 2005, it was not possible to fully engage in e-commerce activities during that year. To conduct e-commerce, several essential elements must be in place, including courier services for product delivery to customers, devices supporting modern technologies, online stores, payment systems, payment cards, high-speed internet, and other related components. Furthermore, for the successful development of this sector, it is crucial to introduce amendments and improvements to the existing legislation to better regulate and support e-commerce activities.

The share of electronic commerce within Azerbaijan's total retail trade is below the global average. However, thanks to government support in this sector, e-commerce has significantly developed over the past five years.

The expansion of e-commerce coverage worldwide plays a significant role in increasing the foreign trade turnover of countries. Developing Azerbaijan's economic relations with foreign countries, especially neighboring states, is one of the key priorities. Azerbaijan's geographical location is highly advantageous. Internationally important

trade routes, particularly those facilitating north-south and west-east cargo transportation across Eurasia, pass through Azerbaijan's territory. Recently, Central Asian countries have expressed intentions to export their products to the European market via Azerbaijan, crossing the Caspian Sea. As a result, Azerbaijan is now considered a vital regional partner. Therefore, products purchased through e-commerce are often delivered to other countries through Azerbaijan. This indicates that the growth of global e-commerce turnover is highly significant for Azerbaijan. Although the share of e-commerce in the country's foreign trade turnover is currently small, it is expected that, over time, electronic exports will increase in line with the growth of non-oil sector exports.

International trade has a long history. In the Middle Ages, the most significant trade route was the Silk Road. However, following geographical discoveries, trade routes changed considerably. The discovery of America, Australia, and the islands of the Pacific Ocean is regarded as a major event on a global scale.

Over time, foreign trade became an increasingly relevant topic, leading to the emergence of foreign trade theories. The theoretical foundations of foreign trade were developed through the concepts of absolute advantage by Adam Smith, comparative advantage by David Ricardo, and protective tariffs by Friedrich List, among other theories. The benefits of specialization and exchange for countries were justified by Karl Marx, a representative of the classical political economy school.

At the end of the 16th century, mercantilism emerged in Europe as a dominant trade ideology. As a result, trade was subject to strong state controls and restrictive barriers.

At the beginning of the 18th century, mercantilism was replaced by classical liberalism. The Industrial Revolution rooted liberalism, and with the application of steam power to industry, large-scale production began.

In the 20th century, a distinction became apparent between developed and underdeveloped countries in the global economy. Approximately 80% of the world's population lived in underdeveloped countries, which did not receive a fair share in the distribution of global income. Naturally, it was difficult for these underdeveloped countries to develop independently. During this century, increasing trends in commercial and financial globalization, economic and political

integration movements, and the emergence of goods and markets adapted to changing demand conditions allowed countries to expand their foreign trade volumes.

Rapid advances in transportation, communication, and technology significantly increased trade opportunities and facilitated the inclusion of goods and services previously not traded internationally into the scope of foreign trade. Consequently, an increase was observed in the number of goods, services, and countries participating in the foreign trade process.

Regional economic unions established among countries have played a significant role in the development of the world economy. Notable examples include the European Union (EU), the North American Free Trade Agreement (NAFTA) formed by the United States, Canada, and Mexico, as well as the Asia-Pacific Economic Cooperation (APEC), established by several East Asian and Pacific countries.

In this dissertation, the views of several local researchers specializing in world economy, foreign economic activity, and e-commerce have been comparatively analyzed. These include A.M.Maharramov, H.B.Rustambayov, H.H.Aslanov, I.K.Musayev, M.N.Alizade, A.B.Mahmudov, M.G.Akberov, N.A.Guliyev, E.M.Hajizade, Ch.M.Abbasov, A.K.Aleskerov, X.Sh.Karimov, F.A.Ganbarov, S.H.Abasova, A.A.Eyvazov, G.Kh.Samedova, A.B.Sariyev, A.M.Badalov, A.M.Aghayev, S.J.Taghizade, R.I.Khasbulatov, K.Kh.Abdullayev and G.S.Huseynov. Similarly, the opinions of foreign researchers such as N.S.Medjibovskaya, L.P.Qavrilov, O.D.Daşkovskaya, V.V.Dik, M.Q.Lujeçkiy, A.E.Rodionov, M.L.Kalujskiy, Y.V.Krutin, A.L.Denisova, N.V.Molotkova, M.A.Blyum, T.M.Ulyakhin, A.V.Quskov, I.A.Çmır, O.Y.Voloqjanin, V.V.Ilin, L.S.Qalkina, T.Cura, C.Gürbüz, E.Öztürk, E.Tokatlı, M.Kara, S.Çelik, M.Kütz, among others, have been comparatively reviewed and analyzed.

Object and Subject of the Research: The object of the research is Azerbaijan's foreign economic activity. The subject of the research is the investigation of the role of electronic commerce in the expansion and development of Azerbaijan's foreign economic activity.

Research Aim and Objectives: The aim of this dissertation is to identify the development directions of electronic commerce in Azerbaijan based on the analysis of the experiences of the United States, the

European Union, and other international economic organizations (IEOs), and to provide recommendations for enhancing the role of electronic commerce in foreign economic activity. In line with this aim, the following research objectives have been established:

- To highlight the factors influencing the development of electronic commerce in Azerbaijan;
- To emphasize the necessity of applying the existing requirements and recommendations of international organizations in this field to improve the electronic commerce system in Azerbaijan;
- To present the innovative aspects of electronic commerce;
- To analyze the current state of the electronic commerce system in Azerbaijan;
- To investigate the role of electronic commerce in the development of Azerbaijan's foreign economic relations;
- To underscore the importance of utilizing the experiences of other countries in increasing the significance of electronic commerce in Azerbaijan's foreign economic activity;
- To demonstrate the impact of the electronic commerce system on enhancing the competitiveness of export products;
- To identify alternative options for improving the electronic commerce system in Azerbaijan;
- To determine ways to improve tax mechanisms within Azerbaijan's electronic commerce system;
- To assess the impact of electronic commerce on Azerbaijan's foreign economic activity.

Research Methods: The theoretical foundations of the research are based on the insights of Azerbaijani and international economists. During the research process, primarily the methods of scientific abstraction, analysis and synthesis, induction and deduction, as well as time series analysis tools, were employed.

Key Statements Submitted for Defense:

1. The impact of electronic retail trade turnover on Azerbaijan's exports of goods and services has been assessed. Based on the obtained results, assuming other factors remain constant, a 1% increase in electronic retail trade turnover leads to an average 0.1% increase in the country's exports of goods and services with a one-year lag.

2. The elasticity coefficient of the impact of electronic retail trade turnover growth on Azerbaijan's foreign trade turnover was determined. The findings show that, holding other factors constant, a 1% increase in electronic retail trade turnover results in an average 0.11% increase in Azerbaijan's foreign trade turnover.

3. To evaluate factors affecting the development of electronic retail trade turnover in Azerbaijan, an econometric assessment was conducted. It was found that the use of the internet by enterprises, the share of internet users in the total population, and the Human Development Index have a positive impact. Assuming other factors remain constant, a 1% increase in the number of enterprises using the internet leads to a 2.58% increase in electronic retail trade turnover with a one-year lag; a 1% increase in the population's internet usage level results in a 16.8% increase; and a 1% increase in the Human Development Index causes a 32.8% increase in electronic retail trade turnover.

4. An econometric panel data analysis was conducted on the impact of the share of e-commerce in GDP on the exports of goods and services in 27 European countries. The results indicate that, assuming other factors are constant, a 1% increase in the share of e-commerce in GDP in these countries leads to an average 0.13% increase in exports of goods and services with a one-year lag.

5. Using statistical data from 18 European countries, the elasticity coefficient of the impact of e-commerce sales volume on exports of goods and services was determined. The results show that, with other factors held constant, a 1% increase in e-commerce sales volume leads to an average 0.14% increase in exports of goods and services with a two-year lag.

6. The effect of e-commerce sales volume on the foreign trade turnover of 18 European countries was assessed. According to the model, assuming other factors remain constant, a 1% increase in e-commerce sales volume results in an average 0.15% increase in foreign trade turnover with a one-year lag in these countries.

Scientific Novelty of the Research: This study is the first research dedicated to examining the role of electronic commerce in Azerbaijan's foreign economic activity. The scientific novelty of the research includes the following aspects:

1. For the first time, the role and impacts of electronic commerce in Azerbaijan's foreign economic activity have been investigated.
2. The elasticity coefficient of the impact of electronic retail trade turnover on Azerbaijan's exports of goods and services has been determined.
3. The elasticity coefficient measuring the effect of electronic retail trade turnover on Azerbaijan's foreign trade turnover has been calculated.
4. Through econometric evaluation, the elasticity coefficients of factors influencing the growth of electronic retail trade turnover in Azerbaijan have been identified.
5. Using statistical data from 27 European countries, the impact of the share of e-commerce in GDP on the exports of goods and services was econometrically assessed and its elasticity coefficient determined.
6. For 18 European countries, the coefficient representing the effect of e-commerce turnover on the growth of exports of goods and services was calculated.
7. The elasticity coefficient of the impact of e-commerce turnover on foreign trade turnover in 18 European countries was determined.
8. Priority directions for researching Azerbaijan's electronic commerce market have been identified.
9. The operations of delivery companies active in Azerbaijan were extensively studied, their tariffs comparatively analyzed, and substantiated recommendations were made to improve the quality of their services.
10. Mechanisms for developing the electronic commerce market in Azerbaijan, especially in the field of e-tourism, were proposed.

Theoretical and Practical Significance of the Research:

The theoretical propositions of this study can be utilized in future scientific works related to the digital economy. Additionally, the findings obtained by the author may play an important role in increasing electronic exports within Azerbaijan's foreign economic activity.

Approval and Application. The scientific research conducted in the dissertation has been reflected in 10 scientific works. Among these, 3 were presented at internationally significant conferences held in

Azerbaijan and Turkey, while 7 were published in local and international indexed journals recommended by the Supreme Attestation Commission of the Republic of Azerbaijan.

Name of the Institution Where the Dissertation Was Conducted: The research work was carried out at Odlar Yurdu University.

The total volume of the dissertation in characters, including the volume of each structural section separately. The dissertation consists of an introduction (12,759 characters), three chapters (Chapter I – 60,211 characters, Chapter II – 118,219 characters, Chapter III – 56,855 characters), a conclusion (13,277 characters), and a list of 240 references. Excluding tables, charts, and the bibliography, the total character count of the dissertation is 260,176.

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MAIN CONTENT OF THE DISSERTATION

In the **Introduction**, the relevance of the research topic is justified, the degree of scientific development is reviewed, and the research objectives and tasks, scientific novelty, and key statements submitted for defense are outlined. The theoretical and methodological foundations of the study are described, its theoretical and practical significance is highlighted, and its approval and application are presented.

The **first chapter** of the dissertation is titled “**The Electronic Commerce System in Foreign Economic Activity: Theoretical and Methodological Foundations**” and consists of three subsections. In the subsection titled “**The Essence of the Electronic Commerce System and the Factors Necessitating It,**” the emergence of electronic commerce worldwide and the factors that make it necessary are comprehensively analyzed. The differences between traditional trade and electronic commerce, as well as the positive and negative characteristics of e-commerce, are thoroughly examined. Additionally, the volume of electronic commerce globally from 2015 to 2023 is presented, along with the share of global retail e-commerce within total retail trade. Detailed information about major global e-commerce platforms is also provided.

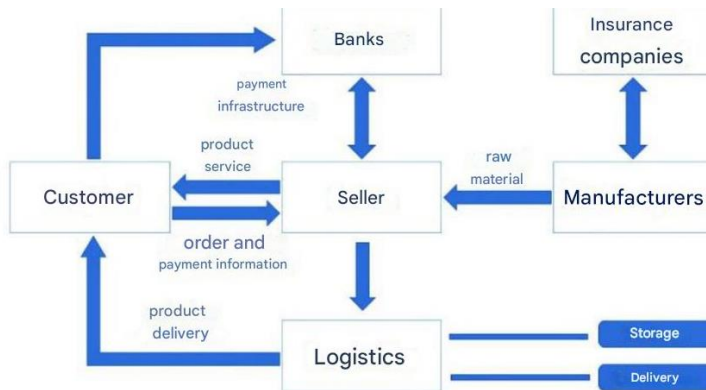


Figure 1. The Operating System of Electronic Commerce

Source: Compiled by the author.

Electronic commerce is defined as commercial activity conducted in electronic environments. It is important to note that numerous factors influence e-commerce, including demographic factors, internet infrastructure and its accessibility, the use of mobile devices, the development of social media, the spread of financial products, logistics infrastructure, and others. Although the world’s first online shopping system was technically introduced in 1979, electronic commerce as a concept emerged in 1995.¹

The volume of electronic commerce is increasing on a global scale. Between 2019 and 2023, the global retail e-commerce volume grew 1.8 times, reaching 5.78 trillion US dollars.² Its share in total retail trade increased from 14.1% to 19.6%.³

The second subsection of Chapter I, titled **“The Importance and Role of Electronic Commerce in Expanding Foreign Economic Activity,”** explores trade-related theories, the emergence, formation, and development characteristics of electronic commerce worldwide, as well as the requirements and recommendations of international organizations concerning e-commerce. This subsection highlights the recommendations of the World Customs Organization’s (WCO) Center for Simplification of Procedures and Practices in Administration, Trade, and Transport, the World Trade

¹ <https://www.umityildirim.com/dosyalar/Yeni-Baslayanlar-Icin-E-Ticaret.pdf>

² <https://ticaret.gov.tr/data/632b143413b8767974670b97/Potansiyel%20E-%C4%B0hracat%20Pazarlar%C4%B1%20Raporu.pdf>

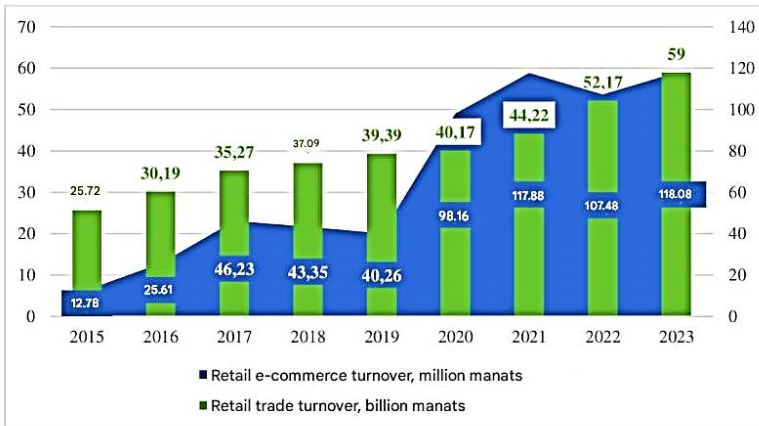
³ E-pazaryeri platformları sektör incelemesi ön raporu, Ankara, nisan 2021

Organization (WTO), the Economic Cooperation Organization (ECO), the United Nations Conference on Trade and Development (UNCTAD), and the Asia-Pacific Economic Cooperation (APEC).

The third subsection of Chapter I, titled **“Innovative Aspects and Manifestations of Electronic Commerce,”** discusses the impact of IT development on the growth of e-commerce. A wide range of innovative methods is used in organizing sales in e-commerce. In a market economy, every enterprise must develop new products and continuously modernize existing ones to maintain its competitive position, which requires expanding innovation activities. Modern IT tools such as global electronic networks, electronic data interchange, electronic payments, mobility and mobile commerce, as well as web languages like HTML, HTML5, and XML, are employed in electronic commerce. This subsection also provides detailed information on personalized customer experiences, voice search, artificial intelligence, blockchain technology, and fast delivery. Additionally, it investigates the opportunities that generative artificial intelligence—considered one of the latest innovations—offers to electronic commerce. Recently, the use of the Direct-to-Consumer (D2C) model in e-commerce has been emphasized.

Chapter II, titled **“Determining the Role of Electronic Commerce in the Development of Azerbaijan’s Foreign Economic Relations,”** consists of five subsections.

The first subsection, **“Analysis of the Current State of the Electronic Commerce System in Azerbaijan,”** thoroughly examines the e-commerce market in Azerbaijan. It calculates the share of electronic commerce in cashless payments made by debit and credit cards and provides detailed information about e-commerce websites operating in the country. Moreover, this subsection presents data on the volume of retail trade turnover and retail electronic commerce turnover in Azerbaijan.



Graph 1. Retail Electronic Commerce Turnover in Azerbaijan

Source: Compiled by the author based on data from the State Statistical Committee (SSC).

Although electronic commerce in Azerbaijan emerged relatively late, it is currently in a new stage of development. It is important to note that e-commerce in the country is regulated by the Law of the Republic of Azerbaijan “On Electronic Commerce.” According to Article 1, paragraph 1.0.1 of this law, electronic commerce is defined as activities carried out through the use of information systems involving the purchase and sale of goods, provision of services, and execution of works. This includes services such as downloading electronic books, virtual games, audio-video materials, placing advertisements, and others via the Internet network.⁴

According to the data presented in the United Nations Conference on Trade and Development’s (UNCTAD) annual report, **B2C E-Commerce Index 2020**, Azerbaijan ranked 60th in 2016, 68th in 2017 and 2018, 62nd in 2019, and 65th in 2020 based on the B2C e-commerce index.

Local electronic payment systems such as **GoldenPay** and online authentication systems like the **Asan İmza** electronic signature system

⁴ “Elektron ticarət haqqında” Azərbaycan Respublikasının Qanunu, Bakı şəhəri, 10 may 2005-ci il

have positively influenced the growth of online sales in Azerbaijan. However, despite these developments, the population still prefers to make payments in cash.

Entrepreneurs in Azerbaijan do not require a special license to engage in electronic commerce. It is important to note that entrepreneurs must register with the Tax Authorities and possess a Taxpayer Identification Number (TIN). The Ministry of Taxes oversees and regulates electronic commerce in Azerbaijan⁵.

The development of electronic commerce in Azerbaijan is reflected in the **Consumer Price Index (CPI) for the National Economy and Main Economic Sectors**⁶.

Between 2019 and 2023, there was a significant increase in both the number and volume of transactions conducted with debit and credit cards in Azerbaijan. Specifically, the number of transactions grew 7.4 times, reaching 1,205,083 thousand transactions, while the transaction volume increased 3.8 times, amounting to 91,340 million AZN. It is important to note that 85,077 million AZN of this volume pertains to debit card transactions, whereas 6,263 million AZN corresponds to credit card transactions. This means that the volume of transactions conducted with debit cards was 13.6 times greater than that with credit cards.

Table 1.
Composition of Domestic Cashless Payments Made with Debit and Credit Cards in Azerbaijan, 2019-2023 (in %)

Indicators	2019	2020	2021	2022	2023
Electronic Commerce	68,19	63,39	64,53	75,87	79,88
POS Terminal	29,75	35,52	35,14	23,99	19,95
ATM	2,05	1,10	0,33	0,05	0,02
Self-Service Terminals		0,02	0,06	0,09	0,15

Table compiled by the author based on data from the Central Bank.

Between 2019 and 2023, the volume of international transactions conducted with debit and credit cards in Azerbaijan increased significantly. Specifically, the volume of these transactions grew 2.2 times, while the number of transactions increased 3.7 times

⁵ <https://www.trade.gov/country-commercial-guides/azerbaijan-ecommerce>

⁶ Azərbaycan Respublikasının milli iqtisadiyyat perspektivi üzrə Strateji Yol Xəritəsi, <https://e-qanun.az/framework/34254>

during this period. In 2023, the volume of international transactions made with debit and credit cards rose by 23.8% compared to 2022, reaching 3.211 billion AZN.⁷

Currently, in Azerbaijan, it is possible to order various products through electronic commerce. However, due to various reasons, more than 90% of consumers prefer to shop on foreign online platforms. Examples of such foreign online platforms include **Amazon, eBay, AliExpress, Trendyol**, and others.⁸

There are over three hundred online stores in Azerbaijan. Examples of these electronic stores include **Kontakt Home, Bazarstore, Bravo, Neptun Supermarket, Baku Electronics, Ofisait**, and others. Reviewing the catalogs of these stores reveals that a wide variety of products and services can be ordered through electronic commerce in Azerbaijan. Customers can purchase groceries, sportswear and equipment, books, furniture, household electronics, and more through these online platforms.

Table 2. Online Stores in Azerbaijan

Electronics	Construction and Building Materials	Online Tire Sales	Online Ticket Sales
<ul style="list-style-type: none"> • Baku Electronics • Umico Market • MG 	<ul style="list-style-type: none"> • OMID • Komfort • Construction Insaat.az 	Radius Tekerstore	iTicket.az Azal.az Azerbaijan Railways (ADY)
Supermarket	Uşaq mağazası	Mebel	Universal
Bazarstore Neptun Bravo	Pandababy.az Dino Kids Shop Supertoys.az	Istikbal Embawood Madeyra	Kobmarket.az Kontakt.az Azexport.az

Table compiled by the author.

In the second subsection of Chapter II, titled “Investigation of the Role of Electronic Commerce in the Development of Azerbaijan’s Foreign Economic Relations,” detailed information about Azerbaijan’s foreign economic relations is provided. The importance of the increase in non-oil product exports in foreign trade is emphasized, and the share of electronic commerce in foreign economic activity is presented. It is noted that in an era of rapid development of information

⁷ Azərbaycan Respublikasının Mərkəzi Bankı, Statistik Bülleten, 12.2023 (285)

⁸ <http://regionplus.az/az/articles/view/7625>

technologies, the growth of electronic commerce turnover within the foreign trade turnover of countries is highly significant. It has been determined that this indicator is higher in developed countries, while conversely, it is lower in developing countries.

Azerbaijan offers extensive opportunities for conducting foreign economic activities. These opportunities include a favorable geographical location, abundant natural resources, transit transport routes, and more. International economic relations are crucial for the development of every country. The efforts made in Azerbaijan's foreign economic relations include import and export, investment inflows, scientific and technical cooperation, labor migration, improvement of currency and financial relations, tourism development, and the establishment of free trade zones. Foreign trade is the most developed form of international economic relations, accounting for approximately 80% of these relations. Foreign trade turnover is the sum of import and export volumes. In 2023, Azerbaijan's foreign trade turnover amounted to 51,183.9 million USD, marking a 2.9% decrease compared to 2022. Of this turnover, exports accounted for 33,898.6 million USD, while imports totaled 17,285.3 million USD.

As I mentioned, the share of exports in foreign economic activity has significantly increased in recent years. To ensure that this growth continues in the coming years, export expansion has been planned and this issue is reflected in the Azerbaijan Republic's socio-economic development strategy for 2022–2026. Specifically, during this period, export diversification will be enhanced and non-oil exports will expand. The production of export-oriented local products of high quality will be ensured, electronic exports will be developed, and state support for the promotion of non-oil/gas exports will be increased. It should be noted that the volume of non-oil/gas exports is planned to increase by 85% in 2026 compared to 2021⁹.

Between 2019 and 2023, the volume of exports in the non-oil sector increased by 1.7 times, reaching 3.3 billion US dollars in 2023¹⁰. It should be noted that in 2022, this figure amounted to 3.05 billion US dollars¹¹.

In the third subsection of Chapter II, titled "Utilizing the Experience of World Countries to Enhance the Impact of Electronic Commerce in Azerbaijan's Foreign Economic Activity," the emergence, formation, and development

⁹ "Azərbaycan Respublikasının 2022-2026-cı illərdə sosial-iqtisadi inkişaf strategiyası"

¹⁰ Azərbaycan Respublikası İqtisadi İslahatların Təhlili və Kommunikasiya Mərkəzi, İxrac İcmalı

¹¹ Azərbaycan Respublikası İqtisadi İslahatların Təhlili və Kommunikasiya Mərkəzi, Həftəlik İcmal, 2023-cü il, yanvar № 1 (73)

forced to exit the market. To ensure that products are both high in quality and low in price, it is necessary to utilize modern technologies in production. This reduces the cost of production and enables goods to enter the market at more competitive prices. In countries such as the United States, China, Japan, and some EU member states, advancements in science and technology have led to significantly lower production costs compared to many other countries.

In the modern era, countries around the world, taking into account the growing development of e-commerce, have begun to incorporate electronic exports into their foreign trade activities alongside traditional exports. Naturally, the share of electronic exports in total foreign trade turnover remains relatively low. However, it should be noted that electronic exports enable businesses to access international markets online. E-export offers significant advantages in reaching customers across various countries. Crucial steps such as identifying the target market and developing website infrastructure in accordance with local taxation and payment systems must be taken correctly. Electronic export refers to the fulfillment of international orders through e-commerce sales channels in the form of micro-export transactions conducted online. This form of export enables businesses to reach potential customers in any country without the need for physical presence in that market. When discussing electronic export in Azerbaijan, it is essential to highlight the Azexport portal.

Table 4.
The volume of Azerbaijan's non-oil exports and the value of export orders via the Azexport.az portal in 2019–2022

Criteria	2019	2020	2021	2022
Volume of non-oil exports, billion USD	1,95	1,9	2,7	3,05
Value of export orders received via Azexport.az portal, million USD	595,7	610,8	496,1	469,9
Share of export orders received via Azexport.az portal in total exports, %	3,03	4,45	2,23	1,23
Share of export orders received via Azexport.az portal in non-oil exports, %	30,55	32,15	18,37	15,41

The table was compiled by the author based on data from the State Customs Committee (SCC).

The fifth subsection of Chapter II, titled “Econometric Assessment of the Impact of E-commerce on Foreign Economic Activity in Azerbaijan,” provides an evaluation of the effects of e-commerce on the export of goods and services and on foreign trade turnover in Azerbaijan, emphasizing its positive influence. To this end, three hypotheses were rigorously tested. Additionally, the impact of e-commerce on the export of goods and services, as well as on foreign trade turnover in European countries, was thoroughly analyzed.

1. Assessment of the impact of e-retail turnover on Azerbaijan’s export of goods and services;

2. Evaluation of the effect of e-retail turnover on Azerbaijan’s foreign trade turnover (export and import of goods);

3. Analysis of the factors influencing the development of e-retail turnover in Azerbaijan;

4. Assessment of the impact of the share of e-commerce in GDP on the export of goods and services in 27 European countries;

5. Evaluation of the effect of e-commerce sales volume on the export of goods and services in 18 European countries;

6. Assessment of the impact of e-commerce sales volume on foreign trade turnover in 18 European countries.

To econometrically evaluate the impact of e-commerce on Azerbaijan's foreign economic activity, the Time Series method was employed. Since a specific e-commerce indicator is not calculated for Azerbaijan, the turnover of e-retail trade was used as a proxy. For this purpose, a database was constructed based on official statistical data from the State Statistical Committee of Azerbaijan, the International Trade Centre, and other international organizations. The database includes indicators such as e-retail turnover in Azerbaijan (in thousand manat), the number of enterprises with internet access (units), the share of internet users in the total population (percentage), the Human Development Index, GDP (million manat), the volume of Azerbaijan’s exports of goods and services (billion USD), Azerbaijan’s foreign trade turnover (billion USD), and the consumer price index. Since the primary indicator, e-retail turnover, is available only for the period 2013–2023, all other indicators in the database correspond to the same timeframe.

Chapter III of the dissertation is titled "Improving the Mechanisms

of E-commerce Impact on Foreign Economic Activity" and consists of two subsections. The first subsection, entitled "Alternative Options for Improving the E-commerce System in Azerbaijan," emphasizes the importance of establishing a high level of internet infrastructure, payment systems, delivery services, and cybersecurity for the development of e-commerce in Azerbaijan.

In 2019, Azerbaijan ranked 70th among 121 countries worldwide according to the Network Readiness Index ¹⁴. In recent years, internet speeds in Azerbaijan have increased significantly compared to previous years, particularly in major cities. However, internet connectivity issues remain prevalent in some districts and their surrounding villages, hindering residents' ability to engage in e-commerce. It is expected that these challenges will be resolved over time, ensuring that all regions have access to high-quality internet services. The more accessible and faster the internet is, the quicker consumers can complete online transactions. This study assessed internet accessibility in the capital city Baku and other regions, emphasizing that internet quality in major cities is satisfactory for online shopping.

In March 2024, Azerbaijan ranked 117th worldwide in terms of fixed broadband internet speed. Although Azerbaijan lagged behind neighboring countries Russia and Turkey in this indicator, it ranked ahead of Georgia and Iran. It is noteworthy that in March 2024, Azerbaijan held the 56th position globally for mobile internet speed, outperforming all its neighboring countries. Specifically, Georgia ranked 69th, Turkey 72nd, Iran 75th, and Russia 111th. ¹⁵

Ensuring robust security systems in e-commerce is of paramount importance. There are numerous security mechanisms that protect both companies and customers in electronic commerce. Examples of such systems include SSL certificates, SET protocol, PCI DSS certifications, 3D Secure, among others. Implementation of security systems in e-commerce significantly contributes to the increase in the number of customers for companies.

In recent years, both the number and volume of transactions conducted through the Electronic Payment System (EPS) in Azerbaijan

¹⁴ https://networkreadinessindex.org/wp-content/uploads/2022/09/NRI_2019_Report.pdf

¹⁵ <https://www.speedtest.net/global-index>

have been increasing. In 2023, the volume of transactions processed via the EPS amounted to 766,377.3 million manat, representing a 5.6-fold increase compared to 2015. In the same year, 93.47% of the transactions were conducted through the AZIPS system, 6.4% through the XÖHKS system, and 0.14% through the AÖS system.

Table 5. The share of AZIPS, XÖHKS, and AÖS in the EPS from 2019 to 2023, %

MÖS	2019	2020	2021	2022	2023
AZIPS	89,76	87,54	84,31	87,6	93,47
XÖHKS	10,24	12,46	15,56	12,24	6,4
AÖS			0,13	0,16	0,14

The table was compiled by the author based on data from the Central Bank

The second subsection of Chapter III, titled “Ways to Improve Tax Mechanisms in the E-commerce System in Azerbaijan,” emphasizes the importance of enhancing tax mechanisms for the development of e-commerce in Azerbaijan.

The taxation of e-commerce in Azerbaijan has been implemented since 2017. According to amendments made to Article 169.3 of the Tax Code, for VAT purposes, when payments are made by persons not registered with tax authorities for the provision of works and services by non-residents who are not registered for VAT purposes under the e-commerce regime, VAT must be calculated and paid on the amount payable to the non-resident in accordance with the procedure established by the aforementioned article.

According to the amendments made to the Tax Code effective from 2017, two main issues have been identified regarding the taxation of the digital economy.

1. Withholding tax at the source (10%);
2. Mechanism for the application of Value Added Tax (VAT) at 18%

Based on the conducted research, the following conclusions can be drawn:

- The volume of retail trade turnover in Azerbaijan increased 2.3 times between 2015 and 2023, reaching 59 billion manat. Moreover, during the same period, the share of e-retail turnover within the total retail

trade also grew significantly. Specifically, from 2015 to 2023, this indicator increased 9.2 times, amounting to 118.08 million manat. The share of e-retail trade in total retail trade was 0.05% in 2015, 0.1% in 2019, and 0.2% in 2023;

- It is well known that the increase in payment cards enhances the ability to conduct e-commerce and expands the volume of cashless transactions. Therefore, the growth in the number of payment cards in Azerbaijan should be regarded as a positive development. Notably, between 2019 and 2023, the number of payment cards in Azerbaijan increased 2.2 times, reaching 16,925,000 cards. Alongside the rise in the number of payment cards, both the volume and number of transactions conducted using these cards have also increased. Specifically, during this period, domestic transactions made with debit cards grew 3.8 times in volume and 7.5 times in number, while those made with credit cards increased 3.9 times in volume and 6.2 times in number. In addition to domestic transactions, the volume and number of international transactions also rose. From 2019 to 2023, the volume of international transactions conducted via debit and credit cards in Azerbaijan increased 2.2 times, and the number of such transactions grew 3.7 times. This growth is associated with the rising number of consumers shopping on foreign online platforms;
- An analysis of the composition of domestic cashless payments made via debit and credit cards in Azerbaijan between 2019 and 2023 reveals that the share of payments conducted through e-commerce increased from 68.19% to 79.88%. During the same period, the share of payments made via POS terminals and ATMs declined. Specifically, payments through POS terminals decreased from 29.75% to 19.95%, while payments via ATMs dropped from 2.05% to 0.02%;
- In recent years, the number of countries with which Azerbaijan has engaged in foreign trade partnerships has increased significantly, resulting in a 1.5-fold growth in foreign trade turnover from 2019 to 2023, reaching 51,183.9 million USD. During this period, imports increased by 1.3 times, while exports grew by 1.4 times.

- Compared to previous years, the number of online service providers in Azerbaijan has increased, with online stores enhancing both their service quality and product variety;
- As a result of the conducted research, it can be stated that the necessary environment for e-commerce has been established in Azerbaijan, and access to the essential tools for conducting e-commerce has been ensured.
- To further develop e-commerce in Azerbaijan, it is necessary to provide the population with relatively affordable ICT products in the future. This would enable low-income families to benefit from e-commerce. A significant portion of the population must have devices that support modern technologies to engage in e-commerce.
- Expanding internet coverage and increasing internet speed in Azerbaijan is crucial. It should also be emphasized that in recent years, quality internet lines have been laid in various regions of the country. However, some settlements still lack internet access, particularly remote mountain villages where establishing internet connectivity is essential. In such cases, citizens will be able to participate in e-commerce and pay for other services online;

- In recent years, the development of electronic tourism worldwide is considered an innovation in the tourism sector. E-commerce has already permeated the tourism industry. From this perspective, to effectively regulate electronic tourism in our country, it would be appropriate to include a provision on electronic tourism in the “Law on Tourism”;

- It would be advisable to include a provision on the “Protection of Consumer Rights in Electronic Trade Relations” in the “Law on Consumer Protection.”

- Proper awareness-raising campaigns should be conducted to develop e-commerce in our country. Accurate information regarding e-commerce should be disseminated through television, social networks, and other media platforms. It is highly important to produce and share photos and videos that demonstrate the advantages and efficiency of e-commerce. Currently, there is a lack of sufficient promotional activities in this regard within the country. The majority of the population, especially in the regions, lacks comprehensive knowledge about e-

commerce.

- The role of e-commerce in increasing not only domestic but also foreign trade turnover should be enhanced. In recent years, the share of electronic exports has been rising globally. Therefore, it is necessary to increase the proportion of electronic exports. The adoption of new technologies in the digital economy is inevitable, and keeping pace with these developments is essential. Naturally, when discussing electronic exports, potential export markets must be identified. It is important to increase the production of local products that are in high demand on the global market. These products should be offered in compliance with standards and at competitive prices to effectively compete with foreign goods in the international market. It is my belief that Azerbaijan can develop this sector by exporting carpets, tea, and saffron to the global market through electronic exports.

- Security issues during payment transactions must be effectively addressed. To achieve this, best practices from global banking institutions should be utilized.
- In the future, the more efficient organization of courier services will drive the development of this sector. For instance, in some countries, products are delivered to customers via robotic couriers. Additionally, certain leading e-commerce operators worldwide employ drone technology in this field.
- To increase the share of e-commerce in Azerbaijan's foreign economic activity, comprehensive e-commerce platforms covering all types of services must be established domestically, drawing on international experience. Undoubtedly, it is essential to analyze the development cycles of globally advanced platforms, and to invite professional experts from abroad to contribute to the advancement of this sector in Azerbaijan.

The main content of the dissertation has been reflected in the following publications:

1. Məmmədov Ş.Q. “Azərbaycanda elektron ticarətin vergiyə cəlb edilməsi”. Tezis “Müasir təhsilin inkişafında beynəlmiləşmənin rolu” / Beynəlxalq elmi-praktiki konfrans, Odlar Yurdu Universiteti. Bakı şəhəri, 3 may 2019-cu il. s. 99-103

2. Məmmədov Ş.Q. “Azərbaycanda elektron ticarət sisteminin mövcud vəziyyətinin təhlili”. “Odlar Yurdu Universitetinin Elmi və Pedaqoji Xəbərləri” jurnalı. Məqalə. Bakı şəh. 2019, № 52, s. 50-61

3. Məmmədov Ş.Q. “Azərbaycanda pandemiya dövründə elektron ticarətə artan tələbat”. “Statistika Xəbərləri” elmi-praktik jurnal. Məqalə. Bakı şəh. 2021, № 3, s. 41-49

4. Shamxal Mammadov. “DEVELOPMENT OF ELECTRONIC TRADE IN AZERBAIJAN AND SOLUTIONS TO THE PROBLEMS IN THIS FIELD”. “RS Global” Journals. International Journal of Innovative Technologies in Economy. Article. (Warsaw, Poland). (2021, № 4(36)). s. 58-62

5. Məmmədov Ş.Q. “Azərbaycanda dövrün tələbinə uyğun İKT-nin və elektron ticarətin inkişafı”. “Statistika Xəbərləri” elmi-praktik jurnal. Məqalə. Bakı şəh. 2022, № 1, s. 54-60

6. Mammadov Sh. G. “Elektron ticarət sisteminin mahiyyəti və onu zəruri edən amillər”. Məqalə. “5 th INTERNATIONAL NOWRUZ CONFERENCE ON SCIENTIFIC RESEARCH”. Antalya, Turkey 17-21 march 2022. s. 159-166

7. Məmmədov Ş.Q. “Azərbaycanda elektron ticarətin inkişafı və 2022-ci ildə elektron ticarət vasitəsilə aparılan əməliyyatlar”. Məqalə. “Doktorant və Gənc tədqiqatçılarının Respublika elmi-praktik konfransın materialları”. Odlar Yurdu Universiteti. Bakı şəhəri, 4 may 2022-ci il. s. 110-117

8. Məmmədov Ş.Q. “Azərbaycanda elektron ticarət sisteminin təkmilləşdirilməsinin perspektiv imkanları”. “Odlar Yurdu Universitetinin Elmi və Pedaqoji Xəbərləri” jurnalı. Məqalə. Bakı şəh. 2022, № 61, s. 28-36

9. Məmmədov Ş.Q. “Azərbaycanın xarici ticarət əlaqələri və onun inkişaf perspektivləri”. “Statistika Xəbərləri” elmi-praktik jurnal. Məqalə. Bakı şəh. 2023, № 1, s. 61-69

10. Shamxal Mammadov. “ELECTRONIC COMMERCE IN AZERBAIJAN AND ITS ROLE IN FOREIGN TRADE”. “RS Global” Journals. International Journal of Innovative Technologies in Economy. Article. (Warsaw, Poland). (2024, № 4(48))

The defense of the dissertation will be held at 16:00 on September 12, 2025, at the meeting of the Dissertation Council FD 1.11 operating under the Scientific Research Institute of Economic Studies at Azerbaijan State University of Economics.

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The dissertation is available for review at the library of the Azerbaijan State University of Economics.

Electronic versions of the dissertation and abstract have been published on the official website of the Azerbaijan State University of Economics.

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