

Abstract
to dissertation on the topic
«Development of electronic trade in the Republic of Kazakhstan:
theory, practices, mechanism»
for PhD degree in «6D050600 - Economics»
prepared by Almas Toleuuly

Relevance of the research topic. Companies are currently developing their own business processes using e-commerce. The effectiveness of these companies is directly related to the available reserves to reduce operating costs, improve distribution channels and reduce redundancy. E-commerce meets the needs of consumers for e-commerce platforms by enabling business processes to function and responding quickly to changes in market structure.

The Strategic Development Plan of the Republic of Kazakhstan until 2025 states that "the integration of domestic e-commerce platforms with international e-commerce platforms (Alibaba, Amazon, Ebay) will open up additional opportunities for the export of goods, as well as transport and postal services." Of course, the integration of domestic e-commerce with international e-commerce platforms, on the one hand, will allow Kazakh companies to reduce costs, accelerate and facilitate the development of advanced technologies for trade and logistics, on the other hand, provide consumers with quality goods and services.

The integration of e-commerce platforms can bring new opportunities or new threats to all e-commerce entities, regardless of their attitude to this phenomenon. These threats include a lack of theoretical foundations for the development of e-commerce, a low level of security of electronic payment systems, incomplete implementation of logistics infrastructure and inconsistency of legal issues in different countries in this regard.

In such cases, the Republic of Kazakhstan must determine not only its own way of developing e-commerce, but also how the country can strengthen its position in this global process.

The roadmap for the development of e-commerce in the Republic of Kazakhstan until 2025 provides for "the share of e-commerce in the total volume of retail trade up to 10% by 2025". However, to achieve such results requires solving a number of problems in the organization of e-commerce. First of all, the state must ensure a high percentage of the population's access to high-speed Internet. Secondly, it is necessary to ensure the safety of personal data of buyers and guarantee the return of goods or money when buying a low-quality product.

COVID-19 has accelerated the spread of e-commerce to new businesses, customers and products. This allowed shoppers to access many products from the comfort of their homes. At the same time, e-commerce companies continued to operate despite the restrictions. Despite the government's efforts to develop e-commerce during the COVID-19 crisis, the financial situation of citizens receiving unemployment benefits should be taken into account. This requires taking into account the special needs of consumers, including by providing fair prices for services provided through intermediaries. It is also important to ensure adequate

competition in e-commerce, communications services, logistics and an enabling environment for e-commerce.

In this regard, it is especially important to study new opportunities for e-commerce, which is one of the main sources of globalization.

The degree of scientific sophistication. The formation and development of e-commerce is very important in a market economy. E-commerce is in the interests of the household, business and government. Therefore, the emergence, formation and development of e-commerce are considered in the works of domestic and foreign scientists.

The theoretical foundations of the research, i.e. the main conditions for the development and formation of e-commerce are the work of the following foreign scientists: Vasiliev G.A., Gavrilov L.P., Paitel K., Babenko L.K., Tsarev V.V., Gavrilov et al. L., Sibirskaya E.V., Startseva O.A., Strauss J., Halliga B., Fellenstein K., Frost R., Zvas V. And so on.

In addition, the following domestic economists made an important contribution to the study of e-commerce: Idris S.S., Shen B., Zhumadilova M., Zhusupbekova M.K., Alshanskaya A., Sadykov B. and others.

However, despite the large number of scientific papers on the development of e-commerce, research in this area is contradictory and underdeveloped. In particular, further research is needed on the theoretical relationship between e-business, e-commerce and e-commerce.

The purpose of the dissertation research is to substantiate scientific and practical recommendations by identifying the theoretical and methodological foundations of the formation of e-commerce and considering the mechanisms for the development of its organization.

To achieve this goal, you need to solve the following tasks:

- to determine the genesis of e-commerce, taking into account the stages of sustainable development of the modern economy;
- to reveal the essence of the formation and development of electronic commerce through the systematization of methodological approaches;
- describe the typology of e-commerce systems based on information technology and systems;
- grouping of factors influencing the development of electronic commerce, according to their stimulating and inhibiting properties;
- Analysis of institutional support for e-commerce in relation to digital business processes in the Republic of Kazakhstan;
- assessment of trends and problems of key indicators of e-commerce in the Republic of Kazakhstan;
- analysis of the behavior of participants in the B2C e-commerce market in the context of digital transformation;
- to develop directions for improving the institutional support of electronic commerce through the study of world experience;
- give recommendations on the development of e-commerce in the B2C model, taking into account security mechanisms;

- to develop proposals for the implementation of new features of the mobile application for the development of e-commerce.

The object of the research is the subjects of the e-commerce market who carry out commercial activities on the Internet, including the participants of the e-commerce market of the B2C model.

The subject of the research is organizational and economic relations arising in the development of e-commerce in modern conditions.

Theoretical and methodological foundations of dissertation research. The methodological basis of the dissertation is made up of systemic and process approaches, logical, statistical, analytical, comparative and structural methods.

The theoretical basis of the dissertation research is the fundamental works of Kazakhstani and foreign scientists on the organization of e-commerce, the peculiarities of its development, as well as normative acts of the Republic of Kazakhstan in the field of state regulation of e-commerce.

The information base consisted of statistical reports of ministries and departments of the Republic of Kazakhstan, as well as their research, information from non-governmental organizations.

Scientific novelties of the dissertation include:

- On the basis of scientific papers and provisions related to the concept of "electronic commerce", the stages of development are determined, methodological approaches are laid down and the author's definition of the concept of "electronic commerce" is given;

- classification of the structure of e-commerce, aimed at promoting goods and services, attracting new customers and expanding sales channels through integration;

- The main factors influencing the development of e-commerce (information, legal regulation, infrastructure) are grouped according to their stimulating and inhibiting properties;

- Based on the SWOT analysis, the directions of e-commerce in the Republic of Kazakhstan were determined, taking into account the strengths and weaknesses;

- directions for improving the institutional support for e-commerce, taking into account the institutional mechanisms;

- In the B2C model section, specific recommendations have been developed on security mechanisms (privacy enhancement technologies, digital signature, encryption technology, digital envelope) and Mobile application for the development of e-commerce.

The main positions are made for defense:

- a diagram describing the relationship of e-commerce with the concepts of "e-business" and "e-commerce";

- classification of the structure of e-commerce;

- the result of grouping the main factors influencing the development of electronic commerce, according to their stimulating and inhibiting properties;

- SWOT analysis of the e-commerce development schedule in the Republic of Kazakhstan;

- Development scheme of the institutional mechanism of institutional support for e-commerce;

- E-commerce model through security mechanisms and mobile applications to develop e-commerce in the B2C model division.

The dissertation is a complete research of practical relevance aimed at the development of e-commerce. Based on the results of the dissertation research, the following conclusions were made:

1. Analyzing the work of many scientists on the formation and development of electronic commerce, the following five stages and their names can be distinguished: trade in electronic data exchange (1960 - 1982); distance selling (1982-1990); Internet commerce (1990-2008); mobile trade (2008 - 2019); secure digital commerce (2019 - present). The directions of the methodological basis of electronic commerce are determined: type of remote trade; type of activity related to electronic business; a set of special agreements; e-commerce component. Based on the systematization of scientific views on the concept of e-commerce, a scheme was developed for its connection with the concepts of "e-business" and "e-commerce" (e-commerce is an integral part of e-commerce, which, in turn, is one of the ways to conduct e-business). In view of the above, the author's note is given: e-commerce is a purchase and sale transaction between a seller and a buyer on the Internet using digital technologies and mobile applications.

2. The proposed e-commerce system requires not only a certain level of technological development of the communication infrastructure, but also the introduction of integrated management information systems. The structure of an e-commerce organization consists of the following parts: managed and managed structure; technical and integration structure. A managed and managed e-commerce structure increases the speed of information retrieval (around the clock), makes it easier to do business and expands the range of goods and services sold, regardless of warehouse availability. In turn, it is classified according to subjects and objects. A technical and integrated e-commerce framework reduces costs through the use of public infrastructure, as information is exchanged digitally using software, computers and mobile phones. In turn, it is classified by e-commerce infrastructure, service locations, and sales locations. The organizational structure of e-commerce, which we offer, has a clear focus and its characteristics, which depend on the goals, organizational mechanisms, the nature of actions, their volume, and the final result. This, in turn, will allow the use of Internet technologies: to promote goods and services, attract new customers, expand sales channels through integrated communications.

3. The development of e-commerce is influenced by three main factors: information factors, regulatory factors and infrastructure factors. At the same time, the nature of the use of the factors influencing the development of e-commerce has a twofold direction: on the one hand, it stimulates the development of e-commerce by automating production processes; on the other hand, it can interfere with the logic of an e-commerce organization because it allows you to control the decision-making process that is the foundation of e-commerce management. The main

factors influencing the development of e-commerce can be grouped according to their stimulating and inhibiting properties. This grouping provides the following opportunities: stimulates or slows down the business process; allows for innovation policy; reduces business risks; provides information security.

4. Analyzing the institutional support for e-commerce in the Republic of Kazakhstan, the following conclusions can be drawn:

- Basic requirements for institutional and legal regulation of e-commerce. The legal framework in the field of e-commerce is still being formed: the concepts of e-commerce and trade are being clarified, the distinction between the concepts of e-commerce and e-commerce has been legally divided, the concepts of e-commerce and information and advertising trading platform are introduced. Changes and additions regulate trade, the use of electronic payment instruments, tax and customs services, transport and logistics storage centers (fulfillment);

- professional associations can participate in the discussion of regulations related to the development of electronic commerce. For example, the Association of Digital Kazakhstan participates in the examination, development and improvement of legislation in the field of e-commerce. In addition, the Association takes measures to promote equal competition and favorable financial and economic conditions, as well as to ensure antimonopoly legislation in the activities of legal entities in the field of electronic commerce;

- The principles of protecting the rights and legitimate interests of e-commerce participants were approved. Thus, the subjects participating in the electronic trading platform have all the rights and, accordingly, fulfill all the obligations provided for by the current legislation.

5. The current state of e-commerce in Kazakhstan is characterized by the following trends:

- availability of technical infrastructure and availability of information and communication technologies. Creating a functional environment for e-commerce, consisting of data generated in the process of e-commerce and technologies for working with them, and maintaining its efficiency is also a prerequisite for development. In the Republic of Kazakhstan for 2015-2019, the cost of information and communication technologies of legal entities has doubled: if in 2015 116102.2 million tenge was allocated for information and communication technologies, in 2019 - 337712.7 million tenge. Financial resources were used to introduce processing technologies, ensure the security of internal networks and improve labor productivity. During the reporting period, the number of computer users increased by 8%, and the number of Internet users increased by 11.3%. In 2019, the share of computer users is 82.2%, and the share of Internet users is 84.2%. In e-commerce there is a continuous process of generating, collecting and updating data on computers and Internet users, market participants, supply and demand, contract transactions, payment transactions, etc. This process, on the predominance of retail e-commerce in the overall structure of e-commerce. In 2019, compared to 2015, the volume of retail e-commerce increased by 4 times, wholesale e-commerce increased by only 1.6 times, and services - by 3.1 times.

Thus, in 2019, the share of retail e-commerce in the overall structure of e-commerce was 47.3%. According to official statistics, the volume of the retail e-commerce market in the Republic of Kazakhstan in 2019 amounted to 206.2 billion tenge or 1.82% of total retail trade turnover. According to the data for 2015-2019, the top five most popular products are: cosmetics (21.4% in 2015 and 27.5% in 2019), spare parts for cars (11% and 9.1%). , computers and software (11.1% and 6.1%), footwear (4.9% and 6%) and clothing (7.7% and 5.8%). Over the past five years, there has been no change in consumer demand, only the demand for furniture decreased from 9.4% in 2015 to 0.9% in 2019. Currently, domestic e-commerce organizations are trying to expand the range offered, but the slowdown in this process is due to many external factors (customs regulations, monetary policy, etc.). and associated with a number of internal characteristics (eg technological backwardness, logistics conditions, etc.);

- the habit of citizens to pay cash when receiving orders in e-commerce. According to 2019 data, the main methods of payment in e-commerce are bank and postal transfers (30%), cash (28.4%) and payment cards (27.9%). The pace of development of e-sales involves the active use of remote payment methods. The transition of the domestic e-commerce service to the e-payment system is hampered by the fact that the vast majority of trade transactions are conducted through direct contact with citizens and the lack of security of the data exchange process;

- underdeveloped e-commerce logistics infrastructure. Currently, there are no third parties in the transaction, except for the seller and the buyer. For example, in 2019, 35.6% of buyers received the goods they ordered through e-commerce. However, according to official statistics, consumers used the courier services of third parties (21.5%), own courier services (14.9%) and transport companies (10.8%) to deliver goods.

Taking into account territorial and transport factors, alternatives to the delivery of goods (through specialized companies or courier delivery) may be more expensive for the end consumer.

6. The following results were achieved in the SWOT-analysis of the behavior of e-commerce market participants in the B2C model in the context of digital transformation:

- The role of domestic e-commerce in the world rankings for the development of e-commerce. To do this, the B2C e-commerce index of the United Nations Conference on Trade and Development was studied in the world rankings for e-commerce. Among the countries of the Eurasian Union, Belarus (37th place) and Russia (40th place) have the best places. In 2019, the Republic of Kazakhstan ranked 57th, which is 6 places lower than in 2017. The results of indicator 2 of the UNCTAD B2C e-commerce index of the Republic of Kazakhstan for 2017-2019 were found to be low: the size of the indicator of account ownership in a financial institution or mobile money service provider (citizens over 15 + years old); postal reliability index indicators. According to the Global Cybersecurity Index of the International Telecommunication Union under the United Nations, Kazakhstan

ranked 40th in the 2018/2019 Global Cybersecurity Index, rising to 42nd place compared to the previous ranking in 2017 (82nd place). Thus, the country is included in the list of countries with a high level of preparedness to counter the threats posed by cyberspace;

- The best sellers of the world and domestic online market. Consumers in 10 countries with the most developed e-commerce market in 2019 spent between 350 and 1804 US dollars on the market. In the Republic of Kazakhstan, consumers spend only \$ 66 on the online market. Most Kazakhstani customers buy goods not from regular computers, but from phones and tablets, including mobile applications.

According to 2018, the share of purchases made in Kazakhstan through mobile phones and tablets amounted to 65%. Kaspi from the Republic of Kazakhstan (83rd place) is one of the 100 largest online markets in the world. It earns 7.3 million tenge per month. sells general purpose goods to consumers in the online market. On 10 trading platforms in the TOP KZ Retail E-Commerce 2019 ranking, consumers spent an average of 16.4 - 284.3 US dollars. The leader is Kaspi.kz, followed by the national carrier AirAstana;

- Factors of consumer satisfaction of e-commerce were assessed. In the regions of the Republic of Kazakhstan, the highest level of online shopping activity, ie 425 Internet users who traded at least 3 times on the electronic trading platform were surveyed. In general, the average data on the importance of factors are as follows: commodity price factor (1st place), payment system security factor (2nd place) and delivery of goods (3rd place). According to the results of the assessment, buyers from the regions of Kazakhstan were most satisfied with the prices of goods (8.20 points), the technology of supply of goods (7.07 points), as well as the supply of goods (7.0 points). Two of the three main factors belong to the group of "infrastructure" factors. The lowest level of satisfaction with the assessment of the regions of Kazakhstan is observed in terms of legal regulation: "Payment system security" (4.60 points), "seller data security" (4.38 points) and "consumer protection" (5.01 points). These assessment factors are very subjective, their perception is often determined by the experience of customers and their area of tolerance, although the results of this assessment affect the development of e-commerce. The index of customer satisfaction by regions of the Republic of Kazakhstan was 0.6129 (61.29%). The most influential factors in the formation of this level of satisfaction were the price of goods (11.94%), delivery of goods (7.89%) and ratings on reviews and popularity (6.86%). This level is very high, but there are reserves to increase it;

- The main necessary areas for further development of domestic e-commerce have been identified. SWOT-analysis showed that the Republic of Kazakhstan has a wide range of regulations in the field of e-commerce and is used in practice. Taking into account the role of domestic e-commerce in world rankings, the best sellers of global and domestic online markets, consumer satisfaction factors in the survey, it is necessary to: develop areas for improving the institutional support of e-commerce;

it is necessary to develop mechanisms to ensure trade security; It is necessary to suggest ways to improve the mobile application.

7. Institutional support of e-commerce includes: legal institution; model of institutional regulation; institutional mechanism. In our opinion, the institutional mechanism for the development of e-commerce in the Republic of Kazakhstan should include organizational, regulatory, technological, personnel, tax information and advertising tools that ensure the continuous operation of the market mechanism and the continuity of the reproduction process.

To improve the institutional support of e-commerce, we offer the following areas:

- in order to reduce the cost of servicing payment transactions, it is necessary to introduce an electronic system of settlements between legal entities without resorting to the system of bank accounts;

- in order to create a favorable tax regime, it is necessary to reduce the threshold values of non-cash turnover from 90% to 70% for e-commerce entities to receive income tax benefits;

- It is necessary to support the development of logistics infrastructure for e-commerce, while maintaining the interests of consumers of goods and services;

- Provision of tax benefits for e-commerce entities that promote the development of remote employment of people with disabilities and other vulnerable categories of citizens.

8. In the section B2C model, we offer a scheme for the use of security mechanisms for the development of e-commerce for the development of e-commerce and information security. The developed scheme allows:

- PETs allow online users to protect the privacy of personal information provided and processed by services or applications;

- digital signature helps to prevent violations by encrypting unique information;

- encryption technology protects financial information of users in payment systems;

- Digital envelopes are one of the most important developments that play an important role in protecting the key infrastructure of companies.

Defense mechanisms complicate the technology used to detect malicious attacks on companies' critical infrastructure and provide for measures to improve risk management in online transactions. In fact, these mechanisms help to strengthen the capacity of information technology systems to detect and respond to new crimes.

9. A model of mobile trading has been developed to improve e-commerce in terms of the B2C model. There are the following advantages of developing e-commerce through a mobile application using this model:

- Transformation into a direct marketing channel for customers. Consumers are increasingly using mobile devices to buy goods, and businesses need to incorporate these devices into their marketing strategies;

- Increasing the company's popularity through social networks. The

development of mobile applications for e-commerce helps to build strong relationships with customers and attract them more to the business;

- Monitoring the delivery of customer orders. The mobile application is an intermediary between logistics companies and online stores;

- Ability to collect and analyze data. With the information collected, e-commerce companies have the opportunity to introduce new things or update their products, create personal content, create marketing campaigns and improved marketing strategies in accordance with customer requirements.

Thus, the proposals for the development of e-commerce in the Republic of Kazakhstan provide the following opportunities:

- 1) institutional support of e-commerce will ensure coordination and harmonization of regulations. At the same time, the widespread use of institutional mechanisms will increase the transparency of the e-commerce market;

- 2) the introduction of security mechanisms for e-commerce requires the company to spend additional funds, but it increases the confidentiality and security of business processes;

- 3) introduction of a mobile application promotes the development of e-commerce. Mobile trading creates additional competitive advantages for legally operating companies, which has a positive impact on business reputation..

Theoretical significance of the dissertation. Its theoretical significance is the development of the theoretical foundations of e-commerce, the definition of the relationship between the level of information services of e-commerce and the level of consumer satisfaction, the systematization of factors affecting the development of e-commerce. Theoretical results of the study can be used by relevant e-commerce entities in the use of online services. Theoretical conditions of the dissertation research, individual conclusions Development of courses "Electronic Commerce", "Information Economics" can be used in the economic educational process of secondary and higher education.

Practical significance of research results – The work contains specific recommendations on security mechanisms for the development of e-commerce and mobile applications.

The main results obtained in the dissertation research can be used as a source of scientific and practical information for e-commerce sellers and consumers, university professors and other stakeholders.

Introduction of the main rules and results of the study. The results of the work were published in 9 articles, including 3 articles in publications approved by the Committee for Quality Assurance in Education and Science of the Ministry of Education and Science of the Republic of Kazakhstan, 4 articles in domestic and foreign international scientific conferences, 2 articles in international scopus databases. published in publications.

The results of the dissertation were included in the Corporate Business Division of Kazakhtelecom JSC.

The structure and scope of the dissertation research. The structure of the dissertation includes normative references, definitions, designations and

abbreviations, introduction, three chapters, conclusion, list of references. The work contains 26 tables and 10 figures and is supplemented with appendices.

The introduction examines the relevance of the research topic, the degree of scientific study of the problem, the goal, objectives, form, subject, theoretical and methodological foundations of the research, scientific innovations and the main provisions of the thesis, the theoretical and practical significance of the work.

The first part of the thesis "Theoretical and methodological foundations of the development of electronic commerce" examines the genesis, essence, typology of electronic commerce and factors influencing the development of electronic commerce. In considering the genesis of e-commerce, there are five stages and names of it. The means of communication and the reasons for the development of the proposed stages of the formation of e-commerce were identified. The methodological foundations of the concept of "e-commerce" were studied in relation to the type of remote trade, the type of activity related to e-business, a set of special contracts and a component of e-commerce. Summarizing the different views on the development of e-commerce, it was found that e-commerce is an integral part of e-commerce, which, in turn, is one of the ways to implement e-business. In the definitions of e-commerce, many authors have shown that there is no difference between the concepts of e-commerce and e-commerce. The document distinguishes between these concepts and considers e-commerce as a separate case or component of e-commerce, which is a set of business processes in an electronic environment through transactions between sellers and consumers using modern information technology.

The structure of e-commerce is divided into two parts: managed and managed structure; technical and integration structure. The technical capabilities of the structure inform e-commerce partners and customers (in a timely and complete manner) about products and services through the rapid preparation and delivery of information and services, which increases the level of customer service, ensures stable and feedback between partners. The system is based on the exchange of information with the possibility of personalizing interaction with clients, depending on the technical capabilities of individual parameters. The organizational structure develops new promotional strategies and multi-level sales channels using minimal financial risks and experimental marketing measures.

Three main factors influencing the development of e-commerce are identified: information factors, regulatory factors and infrastructure factors. The main factors influencing the development of e-commerce are grouped by their stimulating and inhibiting properties and provide the following opportunities: the business process is ensured by a rational technological, assortment, price, sales and personnel policy; implementation of innovation policy (introduction of new production, information and management technologies) increases the competitiveness of the company and its resistance to changes in the external environment; objective assessment of business risks and forecasting the market situation using modern management theory and mathematical modeling of risks; modern hardware and software for computerization of business processes, as well as tools for storing and

protecting business information.

The second section "Research on the current state of e-commerce in the Republic of Kazakhstan" examines the specifics of institutional support for e-commerce, trends and issues of assessing key indicators of e-commerce, analyzes the behavior of participants in the B2C e-commerce market in the context of digital transformation. When considering the institutional support of e-commerce in the Republic of Kazakhstan, the main requirements of its institutional and legal regulation, the activities of professional associations involved in the discussion of regulations, the principles of protection of the rights and legitimate interests of e-commerce participants.

The description of the current state of e-commerce in the Republic of Kazakhstan revealed the availability of technical infrastructure and access to information and communication technologies, the predominance of retail e-commerce in the overall structure of e-commerce, the habit of citizens to pay cash when ordering e-commerce and underdeveloped e-commerce logistics infrastructure.

To determine the role of domestic e-commerce in the world rankings for the development of e-commerce, the B2C e-commerce index of the United Nations Conference on Trade and Development was studied in the world rankings for e-commerce. In order to assess the factors of consumer satisfaction of e-commerce, a survey was conducted among Internet users in the regions of the Republic of Kazakhstan.

The index of customer satisfaction by regions of the Republic of Kazakhstan amounted to 0.6129 (61.29%). It was found that the formation of this level of satisfaction was largely influenced by factors such as product price, product delivery and ratings on reviews and popularity. SWOT-analysis showed that the Republic of Kazakhstan has a wide range of regulations in the field of e-commerce and is used in practice.

The third section "Improving the mechanism of development of e-commerce in the Republic of Kazakhstan" addressed the development of areas for improving the institutional support of e-commerce, proposals for the development of e-commerce in the B2C model and the use of new mobile applications for e-commerce.

It was found that the institutional support of e-commerce is associated with the legal institution, the model of institutional regulation and the institutional mechanism. The legal institution of e-commerce is primarily associated with changes in the institutional content of economic relations. Economic relations in e-commerce have gone far beyond the institutional framework of legal regulation, and it is time to transform their regulatory framework in accordance with the changing realities of the international market.

The effectiveness of e-commerce depends on the chosen model of institutional regulation. The work examines the European, American and Chinese models of institutional regulation. It was found that the basic requirements of the European model are applied in the Republic of Kazakhstan, since domestic

legislation provides for the full regulation and registration of electronic commerce entities and their transactions.

The institutional mechanism of e-commerce raises issues related to the effectiveness of the institutional mechanism of the market, designed to ensure the consistency, transparency, predictability and reliability of relations, trade transactions and the functioning of their participants.

The B2C model suggests the use of confidentiality technologies, digital signatures, encryption technology and digital envelopes to promote e-commerce and protect information. These mechanisms will help strengthen the capacity of information technology systems to detect and respond to new crimes. To improve e-commerce in terms of the B2C model, a mobile trading model has been developed.

The use of this model allows you to turn a mobile application into a direct marketing channel for customers, increase the company's popularity through social networks, track the delivery of customer orders, collect and analyze data.

As a result of the work, scientific discoveries were formulated in all sections. Specific recommendations were made for the development of e-commerce in the Republic of Kazakhstan in connection with the harmonization of regulations on institutional support, the use of security mechanisms to increase the confidentiality of business processes and the introduction of a mobile application.

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