

Development of E-Commerce Business in the Period of Modern Challenges and Threats ¹

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ABSTRACT

The article discusses the general definition of electronic commerce. The considered categories of electronic commerce are: B2B (Business-to-Business); B2C (Business-to-Customer); C2C (Consumer-to-Consumer); C2B (Consumer-to-Business); B2A (Business-to-administration); C2A (Consumers-to-administration). Analysis of positive and negative aspects of electronic commerce, as well as their characteristics. The trends and features of the global e-commerce market are considered. E-commerce business development tools that can be used to improve operations in this area are proposed. The development of electronic commercial business in Ukraine during the period of modern challenges and threats, namely during the Covid-19 pandemic and the Russian-Ukrainian war, is considered.

Keywords: e-commerce, business, development, e-commerce market, trends and forecasts, modern challenges and threats

JEL Classification: F13, F18, O24

1. INTRODUCTION

E-commerce is a huge part of the economy and is vital to businesses that sell their products or services online. E-commerce gives businesses the ability to reach more customers than traditional retail. With so many people making their purchases online, it is the fastest-growing retail market. Today more than 15 % of all shops have become e-commerce. Their number is growing each month and every year more than 3% of all shops change their type of business to e-commerce. With the COVID-19 this number has grown even bigger. There is no more Amazon and Alibaba and eBay as the only online market places in the world. Many new businesses have entered this sphere and their numbers are growing very fast.

¹ Prepared Within the Project of the Programme EU Erasmus+ «Implementation of European Union mechanisms for combating modern challenges and threats» (101085700 – IMEU – ERASMUS-JMO-2022-HEI-TCH-RSCH) (2022-2025)

2. GENERATION OF THE DATA

Theoretical and practical aspects of business organization and management, development of e-commerce have been studied in recent years by both foreign and domestic scientists, including: Kraus K.M., Kraus N.M., Manzhura O.V [1], Vynogradova O.V., Drokina N.I. [2]. However, despite a significant amount of research on the issue of organization and development of electronic commerce, Internet trade in the period of modern challenges and threats is new and insufficiently studied in the scientific literature. In previous works [3], the authors considered the anti-crisis strategy of the enterprise, which is proposed to be supplemented with e-commerce measures. The main goal of the article is the analysis of trends in the development of electronic commercial business in Ukraine in the period of modern challenges and threats. In order to achieve the set goal, it is necessary to perform tasks, in particular: consider the concept of electronic commerce at the current stage of economic development; conduct an analysis of modern trends in the development of electronic commercial business in Ukraine in the period of modern challenges and threats; to determine the main problems of the development of electronic commercial business and possible ways to solve them.

3. RESULTS

E-commerce is a special type of economy which includes trade and financial deals, that are made with the help of computer networks and also business processes that are done with the help of such networks.

It is known that through the last years more and more deals are made remotely with the help of electronical devices. This is because it is much easier to make electronical payments and also much more comfortable than with real cash. More and more people prefer to pay for their purchases online.

Modern economy is unthinkable without e-commerce. If we look at the forecast of economic specialists and analytics, by the 2021 45% of all spending of people will be in electronical payments and more than 60% will be dependent from these devices.

Electronical business has become a natural consequence of development of informational and computer systems as well as telecommunication technologies.

It is known that nowadays e-commerce has 4 stages of implementation: marketing, production, sales and payments. Move to the e-commerce partly or fully is a guarantee of increase in the maximum number of customers [4].

The development of e-commerce is something that can be described in a scientific and economical way. Many new things have been invented for the last 20 years and with these inventions e-commerce began to grow largely. A lot of new terms, rules and laws, as well as different categories, strategies and many other things have been made in order to fulfil the needs of customers and businesses that are included in e-commerce [5]

E-commerce is divided into several known categories. The most important of them are described below. There are also other types but they are not so frequently used and most of the e-commerce's don't use them pretty often.

- 1) B2B (Business-to-Business). The scheme "Business-to-Business". It can be described as the sale of wholesale goods from producer to dealer. Dealer gives the goods in a small wholesale amounts to internet shops, from which these goods are delivered to customers [6].
- 2) B2C (Business-to-Customer). This includes payments between online shops and customers, purchases of trainings from registered experts, rent of computer programs – any retail deal between financial and juridical users [6].
- 3) C2C – e-commerce from consumer to consumer. C2C – e-commerce in the internet, when one consumer sells goods to the other consumer without other companies or people and not producing those goods. The examples of such deals are for example OLX in Ukraine or Avito in Russia. The users there can put on trade almost any goods, find buyers and sell goods at the exact time [7].
- 4) C2B — e-commerce from consumer to business. In simple words, it is the opposite to B2C because in this case consumer gives something to business. The example here is that a person makes some goods from leather (portmones or something like that) but he sells it not to buyers, but to the online shop. The shop pays money for each good and then sells the same goods to the shop's customers [7].
- 5) B2A — business administration. B2A – is the e-commerce that includes online transactions, that are done by companies and governmental structures. B2A is used in fiscal and legal securing, when working with different juridical documents and so on. Here as an example we can add different governmental purchases through internet [7].
- 6) C2A — e-commerce between consumers and administration. This is becoming a very popular type of e-commerce nowadays which includes transactions between consumers and governmental institutes. For example, it can be an appointment with a doctor and payment for medical service, forming of tax returns and similar payments, online studying and similar staff [7].

E-commerce is a new business for our world and it is still in the process of development. Alongside with other types of business it has pros and cons of using it (Table 1):

Table 1: Positive and negative aspects of e-commerce for business development (author's investigation based on [8])

Positive aspects of e-commerce for business development		
1	Physical availability	Possibility to make a purchase from any part of the world
2	Reduction of expenses	Minimal investments in business development
3	Control and analytics	the company always knows what its customers are interested in and what resources are used to find the shop. It may also know

		the customers preferences and the things people dislike.
4	Risk minimization	Remove the risks that are connected to getting, storage and including financial aspects.
Negative aspects of e-commerce for business development		
1	Sectoral restriction	The lack of development in some sectors of business due to sectoral restrictions.
2	High priced solutions for optimization of e-commerce	Attracting significant funds for the creation and promotion of the website, training of personnel and optimization of logistics
3	Security questions	The problems that are connected to the security in the Internet are not solved in a full amount nowadays.
4	Confidential information questions	Confidentiality and security are the biggest problems of e-commerce nowadays.
5	Undeveloped legislation	Economy of e-commerce in the real time scale has to be followed by changes in the sphere of legal regulation of internal and external trade. It has to be regulated not only in the international law, but also on the level of national legal systems

There is an interesting fact that consumers search goods in the internet outside their countries. 57% of online buyers said that for the last six month they maid online purchases in the foreign online shops.

The average percent of the consumers that made purchases abroad through continents is: 63,4% in Europe, 57,9% in Asia-Pacific region, 55,5% in Africa, 54,6% in Latin America and 45,5% in North America (Fig. 1). This tendency is connected to the move of e-commerce on the global level. It is important to remember that selling in other countries makes the company follow the trends and tendencies of foreign markets and focus on them [9].



Figure 1 – Overseas online purchasing rates

With the permanently growth of internet usage and its popularity among all demographic segments e-commerce is good for almost each company. The creation of the company's presence in the Internet means that the owner of business or company can apply to their customers and increase the amount of business operations by getting the authority on the market. It is almost impossible for the company to compete in today's business world if it does not have enough presence in the Internet which is the main principle of e-commerce. A huge specter of big and small companies uses e-commerce in order to increase their sales by listing their services and goods in the net, where consumers can check or make inquiries and also put orders just by pressing one button.

E-commerce has significantly increased the abilities of consumers though internet. Using their websites and online ads companies can communicate with their clients, give information about new products and sell goods. Consumers forums and functions, which allow people to leave reviews and comments about products and services, gave the consumers more freedom so with the help of e-commerce buyers may put their contribution in the creation of the right product and give their opinion about the general service of the company. It is good not only for the consumer but also for the producer because they can produce goods and services which suits their clients and they won't have losses and may increase the pleasure of the people. E-commerce saves time not only for companies but also for clients [10].

More and more people are making purchases through the social networks because of their fast development. Nowadays social networks became more than just advertising channels and people can buy goods on the popular platforms which they use every day.

Facebook, Instagram, Twitter, Pinterest have already implemented the possibility to use the good catalogues which highly increased online sales. For example, Instagram has made a function "Shoppable post" which allows the companies to tag goods in posts or stickers [11].

The development of the segment of e-commerce has also influenced business processes and consumers behavior. It is important to mention the logistic sector that takes place in each stage of the life cycle of the product. With the appearance of many online retailers and increase of the sales amounts the demand for the standard warehouses is getting lower to the point of fulfillment operators that give a big specter of logistic services which work with a huge number of SKUs of different types, sizes and temperatures.

In the situation of the market transformation the warehouse industry gives new solutions which include: multi-level mezzanines, weight-controlled assembly, robotic lines and IT products.

The temp of the growth of e-commerce is huge. A lot of new online retailers appear and they are ready to invest in the creation of the logistic ecosystem. The changes to the requirements of the logistic companies will push to the change of the format and creation of new concepts. The increase of demand accumulates the implementation of new quality warehouses. The development of system of local warehouses may significantly reduce the delivery time. And with this the tendency on the development of the market will continue [12].

B2C market of the e-commerce has grown more than in three times for the last five years. The amount of sales in 2019 was almost 4,9 trillion dollars. The leader in the B2C e-commerce is China which has made a big move towards electronic sales to the customers over the last 10 years and has been more successful than many of its competitors.

The fast development of the sphere in connection to the fast-growing electronic base helped a lot of online trade platforms to be created in China for various spheres. There are three huge companies that are in the top list of the worlds e-commerce companies. They are Alibaba group, marketplace TAOBAO and TMALL which have the goods turnover more than 1,2 trillion USD.

In the 2019 the group of companies Alibaba had a number close to 56% of the whole e-commerce market in China. Today it works in more than 200 countries and sells all types of goods to many people all over the world.

The rapid growth of the Chinese market and its expansion in the world have contributed to the creation of new strategic solutions by the Chinese government and the creation of special e-commerce zones. The e-commerce special zone is a document and customs clearance system that uses e-commerce to provide preferential and convenient international goods flow.

These regions have been working in 37 cities in China, which has improved the liberalization and convenience of international online trade. China's success has attracted more and more multinational companies and brands [13].

Despite such a big success of e-commerce there are many other factors that influence customers decisions on buying or not buying a good. An example of this is the topic about the security of the nature which has become a trend several years ago. Today a lot of popularity gain ecofriendly goods. The research conducted by hbr.org said that around 65% of users want to buy goods of the companies which support nature protection. People are more interested in the goods which are made using ecological clear methods and are also able to recycle several times and also goods which help to secure the environment. To get the attention of the client's e-commerce's can use natural package, send receipts via e-mail, add products that are oriented on the security of the nature and have a special slogan for this [14].

As it was already mentioned there are many things that can be done in order to improve the e-commerce and increase it even more. There are still things that have to be developed and things that have to be implemented in order to make e-commerce better than offline shops. Many governmental legislations have to be created in order to control e-commerce and make this business as legal as offline businesses. It is important for many e-commerce companies to follow the trends that occur in the modern world. With the help of e-commerce, the worlds trading market will become much more easier and people from all over the world will be able to afford goods which they could not afford without online shops [19].

According to the research from the beginning of pandemic COVID-19 the volume of the e-commerce market in Ukraine has grown for 41% [18].

The e-commerce market in 2020 was one of the most dynamic markets in Ukraine. It reached the point of 4 billion which is almost 9% from the whole volume of retail trade. And for the last five years the market has grown for three times.



Figure 1 – Development of e-commerce during the COVID-19 pandemic in Ukraine

Also, at the beginning of the war, there was a maximum downward jump, but already in the middle of March, business in electronic commerce began to gain momentum.

To date, the following trends are being followed:

- 1) The Ukrainian software development cluster has grown almost 46 times over the past 17 years, from \$110 million in 2003 to about \$6 billion in 2022;
- 2) There are about 210,000 IT specialists in Ukraine;;
- 3) the country's IT ecosystem includes 4,000 local companies and 110 leading global research centers (Samsung, Microsoft, Ring, Snap, Magento, Plarium, Boeing, Siemens, Ericsson);
- 4) Currently, the main customers are the USA (about 50% of all IT services are exported there), the EU (35%, including Germany, the Netherlands, Denmark, Sweden) and Canada (8%);
- 5) The International Association of Outsourcing Professionals (IAOP) announced the 100 best IT outsourcing service providers in 2020. The list includes 13 Ukrainian software developers and 8 companies with offices in Ukraine.
- 6) In 2020, Ukraine rose to the 2nd position in the StartupBlink rating, entering the top 30 for the development of ecosystems for startups.
- 7) Ukraine occupies a leading position in the ranking of countries for offshore software development and becomes a world IT center;

- 8) One of the top 20 offshore locations in the EMEA region according to Gartner;
- 9) One of the top 50 most innovative countries according to The Global Innovation Index
- 10) According to Clutch, there are over 1,000 verified web development companies and 870 app development companies in the country [15, 20]

On February 24, 2022, a full-scale war begins in Ukraine. Most of the population is moving abroad, cafes and restaurants are closing, and infrastructure is being massively destroyed.

E-commerce is becoming the biggest medium for all walks of life. The banking system, even during the war, continues to work quite well, as analysts note.

Also, as noted by Forbes [16], e-commerce business grew by 9-11% compared to 2020. "Ukrainian entrepreneurs are flexible and managed to adapt quickly," explains the reasons for the rapid recovery. At the same time, due to the temporary occupation of territories and military migration in Ukraine, the number of people with access to e-commerce has decreased. In the first months of the full-scale war, an outflow of sellers was observed on Prom.ua. The company does not name the exact number of entrepreneurs who stopped operating on the marketplace [16].

But Ukrainians also faced the massive problem of shortage of goods that they used before the war.

According to the Gradus survey, as of March 28, consumers were most interested in the following categories: food products, medicines, clothing and footwear, hygiene products. At the same time, in the " Food products " category, the greatest demand was observed for cigarettes, canned fish and coffee. In the "Medications" category, there were medicines for the musculoskeletal system, nervous and cardiovascular systems were in demand. Consumers were also actively looking for hunting and fishing clothing and men's boots; contact lenses and sets of cosmetics for care; baby mixtures and diapers; feed for animals and filler for their toilets [17,18].

But despite this, even in a state of war, life goes on, and therefore, in mid-March, the e-commerce market began to regain its position. Leaders whom they are used to and know recover faster and take customers.

So, the e-commerce market is a good prospect for many companies. They have many opportunities, especially nowadays. The market is developing rapidly, but there is still a lot of free space. The Ukrainian e-commerce market is also developing rapidly. This is a good example of how something bad like a pandemic or war can affect a semi-profitable market and take it to the next level.

4. DISCUSSION AND CONCLUSION

Summarizing the above, it should be noted that e-commerce has the potential to become a major business worldwide. The pandemic gave a strong impetus to the development of e-commerce both in Ukraine and around the world. All food establishments and various areas of business have switched to online ordering and delivery. In addition, online banking is also developing, where various operations can be done in two clicks.

The war in Ukraine also affected the development of e-commerce. Business in e-commerce grew by 9-11% compared to 2020. "Ukrainian entrepreneurs are flexible and managed to adapt quickly."

The e-commerce market is a good prospect for many Ukrainian companies to promote business by entering new sales markets.

Results of this research may be implemented in further scientific investigations, which will be related to the development of e-commerce development strategies

5. REFERENCES

- 1) Kraus K.M., Kraus M.N., Manzhura O.V. E-commerce and Internet trade: a teaching and guide. - Kyiv: Agrar Media Group, 2021. - 454 p. [Electronic resource]. – Access mode: https://elibrary.kubg.edu.ua/id/eprint/37044/1/Kraus_Elektronna_komertsiiia_2021.pdf
- 2) Vynogradova O.V., Drokina N.I. B49 Electronic business. Tutorial. - Kyiv: DUT, 2018. - 292 p. [Electronic resource]. – Access mode: https://duikt.edu.ua/uploads/l_1477_17408367.pdf
- 3) Domashenko M.D, Kotenko O.O., Shkola V. Yu, Kasianenko T., Khomutenko L.I. Anti-crisis management of international investments in energy-efficiency, resource-saving and clean technologies // International Journal of Ecological Economics and Statistics, issue No. 4, Vol. 41, 2020 vol. – P. 71-81. [Electronic resource]. – Access mode: <http://www.ceser.in/ceserp/index.php/ijeas/article/view/6627>
- 4) Training in e-commerce. General definition of e-commerce. [Electronic resource]. – Access mode: <https://vsetreningi.ru/schools/e-kommers/>
- 5) Ruhaniika S. History, meaning and objectives of the e-commerce. Important features of e-commerce. Economic discussion. 15/07/2020. [Electronic resource]. – Access mode: <https://www.economicdiscussion.net/business/e-commerce/31868>
- 6) What is e-commerce. E-commerce for beginners. Interkassa. 10/05/2019. [Electronic resource]. – Access mode: <https://www.interkassa.com/blog/chto-takoe-elektronnaya-kommerciya-e-commerce-dlya-nachinayushchih/>
- 7) Types and categories of e-commerce. Pros and cons of e-commerce. Wezom 09/ 07/2021. [Electronic resource]. – Access mode: <https://wezom.com.ua/blog/elektronnaya-kommertsiiia>
- 8) Malega I.A. Positive and negative sides of electronic business. News of regional financial-economical university №2 from 01/10/2016. [Electronic resource]. – Access mode: <https://science.rfei.ru/ru/2016/2/160.html>
- 9) Polly Smith. Importance of the development of e-commerce. South-West State University. 15/05/2014. [Electronic resource]. – Access mode: <https://swsu.ru/sbornik-statey/vazhnost-razvitiya-elektronnay-kommertsii.php>
- 10) Victoria Stepanova. The future of e-commerce. 10 trends of the development of the market of e-commerce in the world. VC blog. 15/10/2020. [Electronic resource]. – Access mode: <https://vc.ru/trade/167337-budushchee-ecommerce-10-sovremennyh-tendetsiy-razvitiya-rynka-elektronnay-kommercii-v-mire>
- 11) Valeriy Tushin. Global development of e-commerce in USA and China. Shopolog blog. 10/03/2021. [Electronic resource]. – Access mode: <https://www.shopolog.ru/metodichka/analytics/global-noe-razvitie-e-commerce-ssha-kitay-rossiya/>

- 12) Trends of the development of e-commerce in the global internet trading. GiTrends blog. 16/07/2021. [Electronic resource]. – Access mode: <https://grodnoinvest.by/press-center/trendy-top-6-tendencij-razvitiya-globalnoj-internet-torgovli/>
- 13) Dmitro Leyba. Trends of the development of e-commerce in 2021. CoMagic blog. 10/12/2021. [Electronic resource]. – Access mode: https://www.comagic.ru/blog/posts/mar/8_trendov_elektronnoy_kommertsii_aktualnykh_v_2021_godu/
- 14) Baker Tilly Ukraine. Market of the e-commerce in Ukraine in 2021. Trends of the development of e-commerce in Ukraine in 2021. InVenture blog. 06/07/2021. [Electronic resource]. – Access mode: <https://inventure.com.ua/analytics/investments/rynok-e-commerce-v-ukraine>
- 15) Software development in Ukraine: the latest statistical data. [Electronic edition] - Mode of access // <https://www.altamira.ai/blog/the-ukrainian-it-market-the-latest-statistical-insights/>
- 16) The CEO of one of the largest marketplaces in Ukraine told how much Internet trade grew during the war. [Electronic edition] - Access mode // <https://forbes.ua/news/seo-odnogo-z-naybilshikh-marketpleysiv-ukraini-rozpoviv-naskilki-zroslo-internet-torgivlya-pid-chas-viyni-11012023-11000>
- 17) Ukrainian e-Commerce during the war. [Electronic edition] - Access mode // https://ko.com.ua/ukrayinskij_ecommerce_pid_chas_vijni_141478
- 18) S. Saranya, S. Vijaya COVID-19 MODEL WITH S-I FOR BEDDINGTON DE ANGELIS PREY-PREDATOR SPECIES // International Journal Ecology and Development, issue No. 1, Vol. 38, 2023. – P.13-25. [Electronic edition] - Access mode // <http://www.ceser.in/ceserp/index.php/ijed/article/view/6919>
- 19) Sauda Mubarak, Indrani Sarker, Nahid Salma, Sumaiya Shafayet Supti, Mizanur Rahman Zihad, Farhana Afrin Duti The Effects of Social Media on Spreading Panic during COVID-19 Pandemic in Bangladesh: A Study // International Ecological Journal and Statistics, issue No. 3, Vol. 43, 2022. – P.1-11. [Electronic edition] - Access mode // <http://ceser.in/ceserp/index.php/ijeess/issue/view/731>
- 20) Olga Panchenko, Maryna Domashenko, Oleksii Lyulyov, Nnataliya Dalevska, Tetyana Pimonenko, Natalia Letunovska Objectivation of the ecological and economic losses from solid domestic waste at the heating enterprises // Management Systems in Production Engineering 2021, Volume 29, Issue 3, pp. 235-241 DOI 10.2478/mspe-2021-0029 <https://sciendo.com/article/10.2478/mspe-2021-0029>