

# Peculiarities of the E-commerce Development in the Conditions of Digital Economy

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## Abstract

The article is devoted to current issues of the development of e-commerce, which is gaining more importance in the conditions of widespread quarantine restrictions. As a result, of the research the importance of digitalization as a driver of economic development is substantiated and the main business models of e-commerce and their modifications are examined. The peculiarities of e-commerce in the context of digital economy were analyzed and their current state was established. Identified the main trends in the development of e-commerce at the current stage, which allowed to identify problem areas that require further study and evaluation. Presented the results of the market research of decorative cosmetics, based on which the summarized set of problems that affect the online sales in this segment of the market.

## Key words:

*e-commerce, e-commerce business models, digital economy, Internet sales technologies, cosmetics market.*

## 1. Introduction

The end of the XX - the beginning of the XXI century was marked by the transition of the world economy to fundamentally new forms of functioning, for which information technology becomes an integral part of the life of people and functioning of the world economic space.

The expansion of information and communication and communication technologies leads to the emergence and development of new market systems that become a constituent part of the world economy and the economic system of Ukraine.

The spread of information technology has led to a transformation of both the relationship between the enterprise with the environment and the transformation of the internal structure of the enterprise. This leads to the emergence of new business models, areas and ways of doing business on the Internet.

Digital economy causes cardinal transformation of spheres and business processes on the basis of the Internet and digital technologies, creates conditions for innovative orientation of business, makes companies highly productive systems and creates opportunities for sustainable economic development. The use of

digitalization will allow to optimize operations, form large networks of qualitatively new links and exchange information in the process of distribution of goods from producers to consumers.

Under the conditions of the global crisis, caused by the spread of covid-19, enterprises that use digitalization tools were not only able to avoid bankruptcy, but also to adapt and continue to work effectively in a worldwide lockdown.

The essential advantage in comparison with traditional forms of trade was gained by electronic commerce, which allowed consumers to satisfy their needs with an hourly security measures, and enterprises to remain and function in the markets.

The growing popularity and rapid development of electronic forms of business creates ambiguity in the external environment in which an enterprise must develop, the multiplicity of sales requests in the online space, and increased international competition. This causes the need to find and develop modern algorithms for effective management of electronic commerce in domestic conditions and theoretical and practical support for long-term development and ensuring the competitiveness of Ukraine. The above-mentioned conditions determine the importance of substantive substantiation and development of theoretical and methodological and practical support of system management of electronic commerce development in the Ukrainian business environment.

The purpose of the research is to deepen the theoretical positions, methodological foundations and development of practical recommendations for managing the development of electronic commerce in the sectoral markets under the conditions of digitalization of the economy.

To achieve the goal it is suggested to solve the following tasks:

- to summarize the theoretical positions of management of the development of electronic commerce and its status in the current environment;
- to find out the current state, peculiarities of functioning and tendencies of development of electronic commerce in Ukraine.

The subject of the research is the process of managing the development of electronic commerce in the sectoral markets under the conditions of digitalization of the economy.

In order to achieve the goal of the research it is suggested to use both general scientific and specific scientific methods.

## 2. Literature review

Recently, the issue of e-commerce is becoming increasingly important. Many scientific researches of leading scientists are devoted to modern features of its development and processes of digitalization, namely: Abramova A. (2021) [1]; Bao J. (2021) [2]; Cosmulescu C. (2019) [3]; Dykha M. (2021) [4]; Feng Z. (2021) [5]; Gong S. (2021) [6]; Grigoraş-Ichim C.E. (2018) [7]; Butko M. (2016) [8]; Jehangir M. (2011) [9]; Kholiavko N. (2020) [10]; Kholiavko N. (2021) [11]; Popelo O. (2021) [12]; Konhäusner P. (2021) [13]; Kychko I. (2021) [14]; Liu S. (2021) [15]; Dubyna M. (2021) [16]; Garafonova O. (2021) [17]; Kychko I. (2021) [18]; Samiilenko H. (2021) [19]; Khudolei V. (2021) [20]; Samoilovych A. (2021) [21]; Shkarlet S. (2020) [22]; Tang X. (2021) [23]; Tulchynska S. (2021) [24]; Xu J. (2021) [25]; Yu G. (2021) [26] and others.

The aim of the researchers' article [26] is to study the impact of the development of rural e-commerce on the digital credit behavior of rural households. The study uses a multivariate model and a method of comparing predisposition indicators with rural residents. Researchers investigated and analyzed the impact of participation in e-commerce on the scale of digital credit in rural households.

The researchers' article [13] focuses on the study of crowdfunding for independent print media, revealing the features of e-commerce, marketing and business development. As a result of the study, the authors determined that independent print media focus on crowdfunding based on rewards for launching publications.

Based on traditional international trade, the authors [23] argue that the development of cross-border e-commerce is directly linked to many industries, which contributes to employment and the development of many industries. Researchers have shown that cross-border e-commerce plays a large role in economic development. The authors found that traditional international trade has gradually changed to cross-border e-commerce, due to the improvement of the e-commerce platform.

The aim of the article [15] is to identify the features and study trends in the model of e-commerce of the agricultural product brand in terms of new media. The authors proved that the proposed model will promote the brand of agricultural products. Researchers [25] have studied the problems that exist in the development of the e-commerce poverty alleviation system. The authors

propose to create a "joint management" between the government, e-commerce and farmers, to train and implement e-commerce talents.

The research of scientists [5] is based on the study of modern development of rural e-commerce. According to the authors' research, it is determined that products have a single standard for measuring quality, price-quality ratio and support for public policy are the main factors influencing the development of rural e-commerce. The authors [6] explore e-commerce recommendations that offer customers useful and interesting products to increase user satisfaction and online conversion rates. Researchers use the method of joint filtering based on the transfer of user interests, which calculates the similarity of customers in the measurement of interests.

The authors of the article [2] investigated that in the conditions of COVID-19 the mode of development of the world economy and trade changed and this contributed to the acceleration of the rapid development of the cross-border e-commerce regime. Researchers have explored the main problems of cross-border e-commerce. The researchers analyzed the relationship between blockchain and cross-border e-commerce.

The aim of the article [4] is to study how digital technologies have penetrated the online business. The authors study the main marketing tools for the development and effectiveness of e-commerce in the context of globalization: SMM-marketing, SEO, contextual and banner advertising, communication marketing, video marketing, event marketing, remarketing. The authors investigate the main trends and most effective tools of the digital age.

Researchers [9] argue that information and communication technologies are one of the important factors determining the rapid growth of e-commerce transactions worldwide. Research has shown that the behavior of Internet users regarding online shopping is changing due to the growth of ICT and IT infrastructure. The article identifies that the growth of Internet users, online spending and the introduction of new technologies are key factors in the development of e-commerce in Malaysia.

## 3. Results

E-Commerce is one of the key segments of the digital economy, which allows the use of ICT for the implementation of activities of buying and selling goods and services via the Internet, resulting in a change of ownership without using direct contact between the seller and the buyer.

Electronic commerce includes: electronic information exchange, electronic flow of capital, electronic commerce,

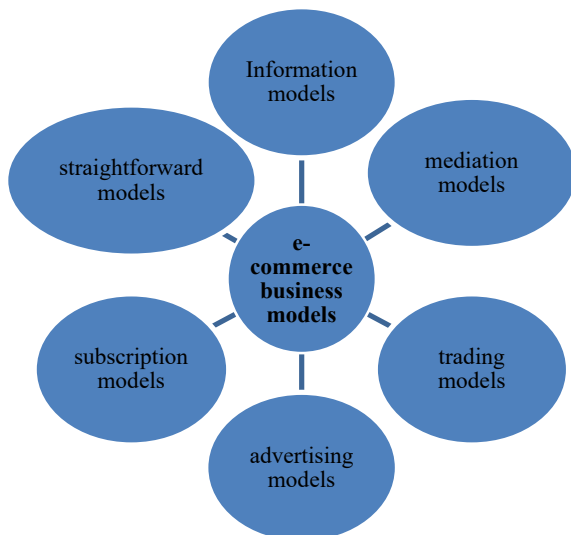
electronic money, electronic marketing, electronic banking and electronic insurance services [27].

Today, the main models of interaction in e-commerce are: B2B (business to business); B2G (business to government); B2C (business to sporadic); C2C (sporadic to sporadic); G2G (government to government); G2C (government to sporadic); G2B (government to business), as well as their variations as B2A (business-administration); A2B (administration to business), C2A (sporadist to administration [28; 29].

These models differ in the level of development and benefits received by the parties of interoperation, as well as a complex of marketing and financial instruments, which are used in the process of functioning of the models.

With the rise of e-commerce, new modifications to the model are starting to emerge, one of which is D2C (direct-to-consumer), which enables control of the customer experience and the process of purchasing a product. D2C is about improving the customer experience and building long-term relationships between brands and customers, through which the brand uses online channels for interactions with customers, while neglecting the offline channels (distributors, retailers, etc.). This staffed and automated approach requires a radical restructuring of traditional business processes, improving the process of staffing and ease of establishing relationships with customers, which determines the relevance of the research.

Figure 1 shows business models of electronic commerce, which are characterized by the variability of implementation methods, and can be combined into a common strategy depending on the goals of the company.



**Fig. 1** Business models of e-commerce.

Source: Compiled by the author on the basis of the journal [30].

The main trends in the development of electronic commerce include:

- implementation of chatbots, which make the purchasing process faster and reduce personnel costs through automation of standard processes;
- increasing role of social networks as a channel for distribution of goods and services;
- building a personal relationship between customers and sellers;
- the transition of communications to the online space;
- increasing the role of piecemeal inclusiveness to improve customer service and staffing;
- omnichannelness;
- increased competition in the customer service sector, which means that more competitiveness will be enjoyed by companies that provide a better and more staffed service;
- according to OC&C Strategy Consultants, the number of such buyers will grow to 55% by 2022;
- use of Augmented Reality technologies to solve the problem of visualization of products that cannot be seen by the customers during online orders;
- staffing, including staffed content and notifications;
- visual commerce that uses other types of visual media instead of photos: content (blogs, podcasts, online photo and video sharing platforms, online comments), interactive content, captivating videos and added reality;
- replacement of CRM-platforms on CDP-platforms, which allow to accumulate information about the customer from online and offline sources, predict the time of communication with customers and the point of "non-return" of the client;
- ROPO (Research Online, Purchase Offline) coefficient calculation, which shows how many of the visitors of the online store's site did not make a purchase for such a reason: the visitor used the trading site only as a platform to study and choose products, read comments about them, and then made a purchase offline;
- the creation of unified platforms for Lifetime Value Management, which include XMail, Flocktory's Exchange [28; 31; 32].

The analysis of these trends demonstrates the need to analyze consumer behavior in the sectoral markets and the peculiarities of shaping consumer behavior in the context of online business. Additional study is required for the impact of customer satisfaction level and quality of services in the field of electronic commerce, management of efficiency and development of electronic commerce in the period of uncertainty.

At the same time, domestic electronic commerce is facing a number of disadvantages that hinder its development and implementation into the global trading system:

- lack of high-speed Internet in small settlements;

- problems related to cyber security and protection of personal data of buyers, security of trade operations, which reduce the level of trust of buyers;
- monopoly of the world leaders in electronic commerce, who are encouraging the development of domestic players in the electronic commerce market;
- payment systems are characterized by insufficient reliability;
- the cost of logistic shipments is quite high, which makes it necessary to reduce the growth rate of electronic commerce;
- the system of electronic settlements is insufficiently developed;
- lack of high quality of service in the field of electronic commerce.

The relevance of the need for digitalization and management of the development of electronic commerce was most clearly manifested in the period of the COVID-19 pandemic, when enterprises. The companies that had been reluctant or had deliberately avoided the introduction

of electronic forms of trade found themselves on the verge of survival in a short period of time due to their inability to compete with the strong companies that were actively introducing the ICT.

Addressing these issues is urgent, as it will enable domestic companies to increase growth rates and sales volumes and ensure competitiveness in the electronic commerce market.

The period of crisis phenomena, which includes covid-19, necessitates further research into the state of the market and its development prospects in an unstable and unrecognized environment, Determination of the degree of influence of the totality of factors and trends on the choice of strategy for the development of electronic commerce in the domestic environment.

As of 2020, more than 9% of all purchases in Ukraine are made online, while in 2019 the share of e-commerce in retail in Ukraine was estimated at 7%, and the market expanded by 17% over the year [29] (Fig. 2).

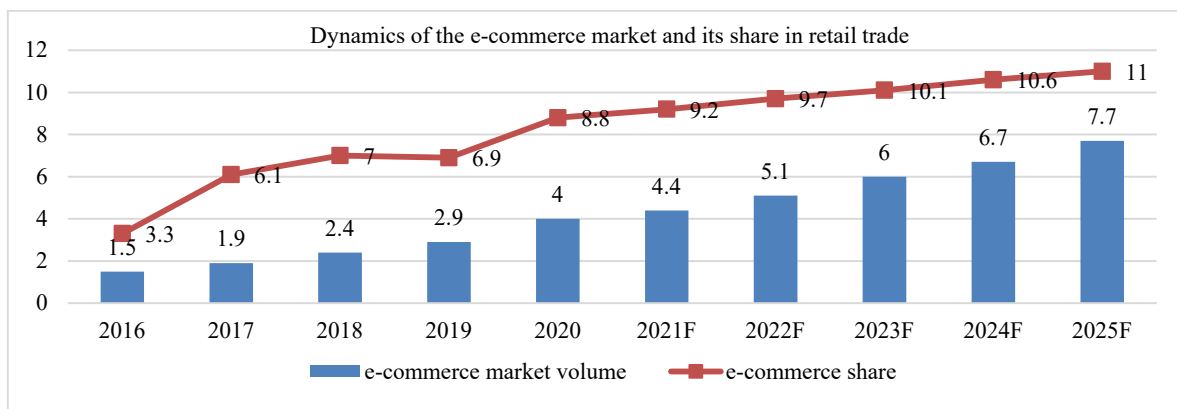


Fig. 2 Dynamics of electronic commerce market and its share in retail trade.

Source: [33].

According to EVO Group, the forecasted amount of electronic commerce to 2025 amounted to 11%, which will enable us to obtain benefits for both consumers, manufacturers, and for the state and society.

The leading position in the e-commerce market is occupied by four business models, namely marketplaces, online stores, ad boards and price aggregators. According to Retailers, the most visited marketplaces in June 2020 were Rozetka (53.39 million), Epicentr (10.85 million), Allo (7.91%), Makeup (7.44 million), Comfy (7.17 million) [34].

The data varies depending on the month and the time of the year, indicating a low level of demand from buyers.

According to the Hubber survey for the first half of 2021, the biggest difficulties encountered by enterprises when working with marketplaces are:

- lack of merchandise promotion tools (52.2%);

- content preparation (36.2%);
- technical integration (30.4%);
- updating of prices and availability (20.3%);
- processing of questions and feedback from buyers) (11.6%);
- order processing (10.1%);
- mutual settlements with marketplaces (8.7%).

Thus, for the management of development in the field of electronic commerce function, there are tasks that need to be solved:

- creation of tools for selling goods and services through marketplaces and other electronic commerce channels;
- creation of algorithms for the processing of client data;

- creation of algorithms that can facilitate order processing and technically integrate systems of suppliers and marketplaces.

The electronic commerce will allow domestic companies to succeed on both domestic and world markets, ensuring sustainable development, increasing the competitiveness of products, reducing costs for the conduct of activities and increasing the level of customer satisfaction.

Creation of the global interconnected network of economies of different countries allowed foreign contractors to penetrate into the domestic market, and for Ukraine it opened the possibility of supplying its own goods and services to the world markets. However, under such conditions the problem of development of national sectors of the economy and domestic enterprises' ability to enter the world economic space becomes especially urgent.

One of the sectoral markets to be investigated in the context of e-commerce management is the cosmetics market.

The prospect of managing the development of electronic commerce in the market of cosmetic products is

the possibility of using digital technologies for modernization of productions and improvement of business processes, Increasing the efficiency of corporate management and strengthening the position of the industry enterprises in the domestic and global economic space.

As a sector market it was decided to turn to the cosmetics market, because according to EVO Company, cosmetics were among the top four categories most often purchased in 2020 at Prom.ua and Bigl.ua: sales in mid- and late 2020 amounted to 2.8 million orders, 34% more than for the same period of the previous year [29].

The company Research and Markets predicts the volume of the global cosmetics market up to 2020 at 675 billion dollars with a growth rate of 6.4% per year [35]. These data make it possible to assert that the inclusion of Ukraine into the world market of cosmetics will allow it to take its place in the world economy.

The Ukrainian cosmetics market tends to grow in 2011-2020. The growth rate of the domestic cosmetics market for the period 2007-2020 and the growth rate of the global cosmetics market for the period 2011-2020 are presented in Figures 3 and 4.

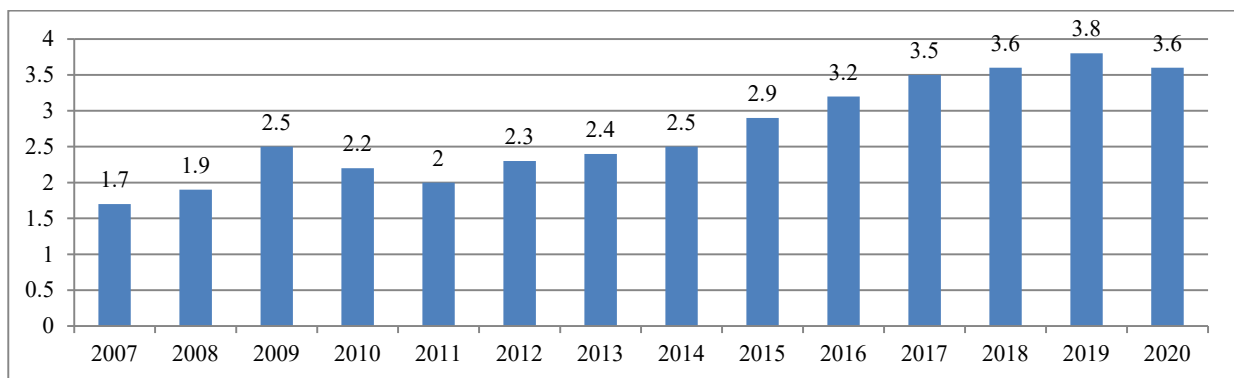


Fig. 3 Growth rate of the domestic cosmetics market in 2007-2020, %

Source: Compiled by the author on the basis of [36].

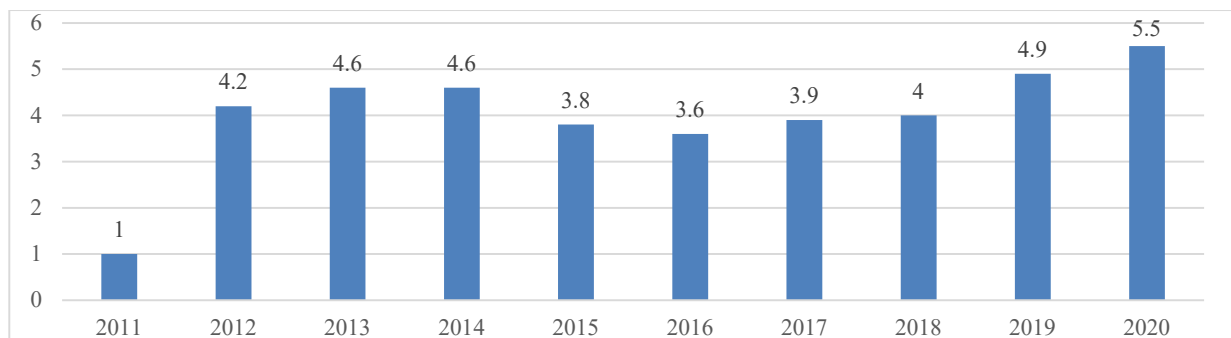
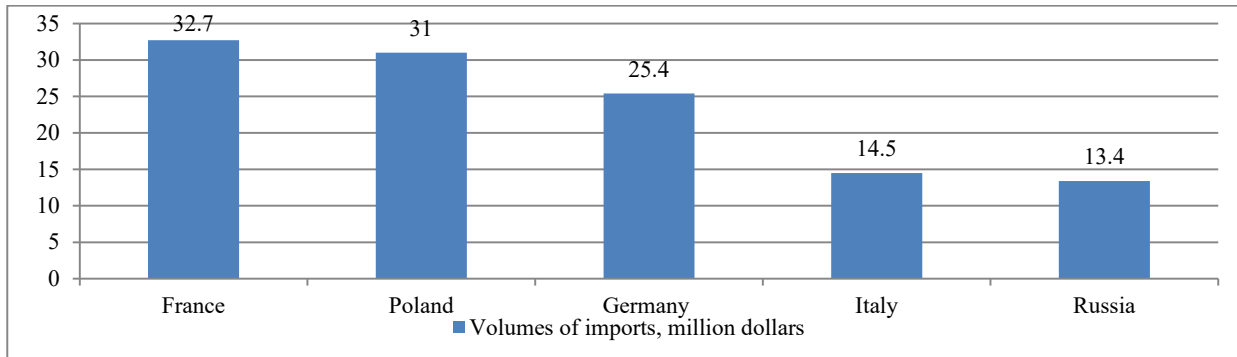


Fig. 4 Growth rate of the global cosmetics market in 2011-2020, %

Source: Compiled by the author on the basis of [37].

Having compared Fig. 3-4, we can conclude that the overall rate of growth of the domestic market is in line with global trends of growth in the cosmetics market.

Figure 5 shows the largest countries from which Ukraine imports decorative cosmetics:



**Fig.5** The most importing countries of decorative cosmetics.

Source: developed by the authors based on the source [38].

Almost a third of imported products are represented by goods from the European Union. Of this amount, France and Poland account for the largest share - 32.7% and 31% respectively, which, however, is explained by the high worldwide popularity of French brands and geographical proximity of Poland as a supplier of products.

The cheapest cosmetics account for about 60% of the market, medium-price segment products - close to 30%, premium products - close to 10% [39].

The domestic market of decorative cosmetics is characterized by the absence of monopolists: companies win the respect and loyalty of consumers through the implementation of advertising and pricing strategies, significant investment in the development and creation of new products that best meet the needs of consumers. The main factor shaping customer loyalty is the duration of brand functioning in the domestic and world markets, which indicates its competitiveness and quality.

Among the well-known brands of imported make-up are: 2B (Belgium), A'pieu (South Korea), Avene (Russia), Art-Visage (Russia), BeYu (Germany), Beauty House (UK), Catrice (Germany), Chanel (France), Christian (UK), Clematis (South Korea), Eva Cosmetics (South Korea), Eveline Cosmetics (Poland), Estee Lauder (USA), Faberlic (Russia), Flormar (Turkey), FFleur (Russia), Givenchy (France), L'Oreal Paris (France), Lancome (France), LiLo (Belarus), MAC (Canada), Max Factor (Russia), NYX Professional Makeup (South Korea), Oriflame (Switzerland), Tom Ford USA) and others.

Domestic decorative cosmetics are represented by the following brands: Color Me, Dini, Pudra, MAXI Color, Ilusor, M.A.G., EcoVegeto, LCF, Bird, Happy Nails, Etual cosmetics, Sweet Lémon, Iren Bukur and others.

The role of domestic manufacturers in the Ukrainian market of cosmetic products is rather limited, and only 10 % of the market is occupied by Ukrainian manufacturers.

Ukraine is currently implementing measures to increase export volumes of cosmetic products manufactured in Ukraine, in order to improve the economic condition of the market and to create a balance between import and domestic production, because at the moment the domestic producer requires protection and support, because imports occupy more than 90% of the market [40].

This is connected with a number of difficulties faced by Ukrainian producers and their immediate solution will allow to carry out production and economic "breakthrough" and to take leading positions in the context of the domestic economic space and to find its competitive place in the international market system.

One of the leading trends in the development of the market of decorative cosmetics is and will be the transition of communication between the seller and buyers in the Internet. According to experts, 42% of cosmetics purchases are made through the Internet [41]. This is explained by a much wider range of opportunities for buyers: familiarization with the product and its features from several sources, the ability to select the product for the price of receiving remote consultations, fast ordering and delivery of goods, the possibility of saving time. The summation of these factors causes the growth of the role of online shops of decorative cosmetics.

Marketing research conducted in this area is characterized by fragmentation and lack of interpretation of this information in the digital dimension of interaction with consumers.

Against the backdrop of the crisis caused by the epidemic covid-19 has had a significant impact on the cosmetics market, dramatically increasing the volume of online purchases, which allowed customers to reduce the number of contacts with buyers, but made it possible to satisfy their needs in the maintenance of beauty. Nowadays 35% of consumers in the world and 42% in

Ukraine buy cosmetics and goods for self-care in the Internet [42]. At the same time, there was a decrease in sales of decorative cosmetics due to the lockdown, which reduced the need for make-up in social interaction.

Sixty-eight people aged 18-60 took part in the questionnaire and answered 18 questions.

85.3% of the surveyed respondents use decorative cosmetics, making them the main target audience of the online store, 14.7% of people do not use decorative cosmetics, but are potential buyers because they can buy the product for use by family members, as a gift to friends, etc.

The survey involved 80.9% of young people aged 18-25 years, 8.8% of young people aged 26-30 years, and 9.1% of young people aged 31-60 years. We can see a tendency that the services of the online store are most often used by young people aged 18-45 years old, which make up the potential audience of the online store for the sale of decorative cosmetics.

69.1% of the respondents have at least once purchased decorative cosmetics through online stores. 30.9% of people have never used the services of online shops to buy decorative cosmetics, with only 11.8% of them not considering such a possibility in the future. Therefore, 88.2% of respondents are potential audience of the online store, of which 21% are potentially interested in purchasing at the online store, which will satisfy their needs and demands.

82.4% of respondents bought cosmetics for personal use, 5.9% expect special offers for the goods for the purpose of purchasing decorative cosmetics at a discount, 8.8% - as a present and 2.9% - for personal use or as a present. Therefore, it is important for the online store to consider the possibility of offering promotional offers to its customers before the holidays, thereby stimulating consumption.

For 64.7% of consumers, the country of origin of decorative cosmetics does not matter, 25% of respondents buy cosmetics from foreign manufacturers because of their opinion about their better quality, and only 10.3% of the respondents buy products of mainly domestic producers, supporting the national manufacturer. Therefore, the online store is free to choose the brands to be represented in its assortment.

79.4% of the respondents believe that the price should be consistent with the quality of the product, i.e. they are not ready to overpay for the brand name, powerful advertising company, if the price is not backed up by the appropriate product quality characteristics. The price is a decisive factor in the choice of decorative cosmetics for 14.7% of the surveyed potential buyers, and only 5.9% of people do not care about the price of the product. Therefore, the activity of the future online store of decorative cosmetics will be focused on the sale of high-quality mass-market cosmetics and middle-price segment.

41.2% of the respondents buy the same brands that have been tested by their own experience; 25% of the respondents pay attention only to the key product characteristics without studying all the information about the product, that is, the time factor is important for this group of consumers; they do not want to spend too much time on product selection and want to have a good overview of the website and product pages. 22.1% of the respondents carefully study all the characteristics of the products, evaluating all their advantages and disadvantages, i.e., the online store needs to provide the buyer with all the necessary information about the product in an easy-to-understand form, and 11.3% of respondents choose the product they like the most without paying attention to product characteristics, i.e. this category of consumers is characterized by impulsiveness in purchase. For such customers the online store must provide a high-quality photo and video materials, which can be a good way to present decorative cosmetics and to create the urge to buy.

The data obtained indicate that most people use 2 or more devices to access the Internet. Thus, 67.6% of respondents use notebooks, 33.8% use desktop computers, and only 13.2% use tablets. 89.7% of respondents use mobile phones and smartphones to access the Internet, which means that the online store must optimize the mobile version of the site, and in the future consider the possibility of creating a web add-on for the convenience of customers when using the services of the online store.

The study enabled us to find out which social networks are used by respondents who buy decorative cosmetics:

- Instagram (95.6%);
- Viber (98.7%);
- Telegram (83.8%);
- Facebook (77.9%);
- YouTube (76.5%);
- WhatsApp (35.3%);
- Tumblr (7.4%).

The cosmetics market's target audience tends to change: the number of children becoming customers through Instagram and TikTok, where makeup tutorials are popular video content, has increased, and the segment of children's and men's cosmetics for grooming is expanding.

The majority of consumers had no negative experience when purchasing decorative cosmetics in online stores, focusing on the speed of order processing and the quality of service by the online store staff. Among the most widespread complaints made by the buyers were:

- damage to the goods during transport and delivery;
- the goods ordered were not consistent with the goods received by the purchaser;
- poor quality of the product, which made it necessary to consult a doctor.

The spread of electronic commerce enables manufacturers and retailers to better search for and create long-term relationships with customers by using ICT.

Relevant remains the development and improvement of models of customer satisfaction with cosmetic products in the market of domestic electronic commerce. Such research is a welcome phenomenon for developed countries, but its results cannot be extended to domestic consumers due to significant mental differences.

Instability and ambiguity of the environment, increasing global competition and ICT development necessitate the adoption of appropriate management decisions and research into the status and prospects of the market under the conditions of electronic commerce.

#### 4. Conclusions

Digitalization is one of the leading factors in increasing the competitiveness of the economy of the country and creating an entirely new type of economy,

Managing the development of electronic commerce, taking into account trends and tendencies, becomes essential under the conditions of digitalization of the economy. Management of the development of electronic commerce requires increasing the efficiency of functioning of organizations under conditions of unrecognized and minimalistic environment, changes in motivations, needs and requests of customers, increasing level of competition and allow to enter new markets. To achieve these objectives requires the development of methodological tools appropriate to the market conditions.

The development of electronic commerce leads to the transition of traditional areas of commerce in the electronic space, which necessitates their implementation in the online environment with the development of appropriate strategies for their further integration into the overall development strategy.

The data on the dynamics of Internet penetration and the dynamics of the electronic commerce market and its share in the retail market indicate the readiness of the domestic market for digitalization and development of this sphere.

In the course of the study there were:

- the efficiency of digitalization as a driver for increasing the productivity of the economic system has been proved;
- the paper considers electronic commerce in the context of digital economy and analyzes its current state;
- the article revealed the main trends in the development of electronic commerce at the present stage, which made it possible to identify problem areas that require further study and elaboration;
- formulated a set of problems encountered by electronic commerce in the course of its functioning and

development, the solution and no violation of the impact of which will allow the level of penetration of digitalization in the domestic space to be improved;

- the article considers the main business models of electronic commerce and their modifications. In the future, modifications are predicted: business models will be used as parallel structures, flowing one into another, which will allow to create new variants of their functioning;

- it was suggested that the cosmetics market be used as one of the sector markets, which is characterized by promising and dynamic development, and gives wide opportunities for the development of domestic online retailers.

Taking into account the substantial achievements of domestic scientists in the study of electronic commerce, additional research is required:

- modernization and development of the potential of electronic commerce to improve the functioning of individual enterprises and sectors of the economy;

- research into the process of integrating the domestic e-commerce market into the global online market;

- development of recommendations for the state sector policy in the field of electronic commerce, ensuring the competitiveness of domestic enterprises in the conditions of global competition;

- development and enhancement of existing models for analyzing customer experience in order to offer quality service and improve communications between electronic commerce entities;

- analysis and improvement of implementation mechanisms of electronic commerce development management;

- evaluating the efficiency of e-commerce development management in the domestic business environment and developing methodological tools for evaluating the development of e-commerce;

- research on the experience of the world's leading countries in the field of electronic commerce development management in the sectoral markets.

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