E-Commerce as a Driver of Economic Growth in Russia

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Abstract. The purpose of this study is to assess the state and potential of the e-Commerce sector as a driver of economic growth in Russia. The article confirms three research hypotheses: 1) the dynamics of the Russian e-Commerce sector development has its own country specifics; 2) the e-Commerce sector development is a factor of economic growth in Russia; 3) the period of the Covid 2019 pandemic is the beginning of the intensification of the e-Commerce sector development in Russia. It is revealed that the level of the Russian e-Commerce sector development is significantly behind the dynamics of e-Commerce development in China, United States, Great Britain and Germany, and Russia is not included in the group of countries with fast-growing markets. The contribution of e-Commerce to the Russian economy in 2019 amounted to 2% of GDP, the dominant sectors in the e-Commerce market in Russia are B2C and C2C. Using the methods of correlation, covariance and variance analysis, the authors proved that the e-Commerce development has a significant impact on the dynamics of economic growth in Russia, and stimulating its development will allow for future GDP growth in the country. Analysis of the e-Commerce dynamics in Russia during the Covid 2019 pandemic showed a significant growth of the sector in the first months of the epidemic, which may be the beginning of a new stage in the e-Commerce development in Russia.

Keywords: e-Commerce · Economic growth · Internet · Economic relations

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1 Introduction

The intensive development of digital technologies and access to the Internet has transformed the principles of organizing economic relations in the sphere of trade in goods and services. E-Commerce has become one of the most dynamically developing areas in the economy of many countries. So, according to some estimates, in 2019, the sales market in the e-Commerce sector in the world reached 3.46 trillion US dollars (IPGResearch 2020). Leaders in the e-Commerce development are China, USA and a number of European countries. Thus, according to the International Telecommunication Union in 2019, the B2C e-Commerce market in China alone reached 738 billion dollars, in the USA – 542 billion dollars, in the United Kingdom - 79 billion dollars, in Germany-74 billion dollars (DataInsight 2019). Meanwhile, Russia is the last major emerging market without a dominant online retailer. With Internet penetration at 80%, the e-Commerce sector accounted for only 3% of GDP in 2018.

On the one hand, such restrained dynamics allows to expect rapid growth of this sector in the Russian economy in the near future (following the example of the Chinese model), so, according to estimates, Morgan Stanley and Co Int. Plc. (2018) by 2020, the market will be worth $31 billion. On the other hand, many developed countries have moved far ahead and it will be quite difficult for Russia to catch up with them due to a number of constraints, including the lack of institutional foundations for Internet activity and the lag in the digital technologies development. Unforeseen circumstances, such as the Covid 2019 pandemic, can probably significantly change the situation with the development of the e-Commerce sector, give the necessary impetus to increase Internet activity and turn the e-Commerce sector into a driver of economic growth in Russia.

2 Methodology

The purpose of the study is to assess the state and potential of the e-Commerce sector as a driver of economic growth in Russia. During the study, three hypotheses were tested: 1) the dynamics of e-Commerce sector development in Russia differs significantly from the dynamics of e-Commerce development in developed countries; 2) the e-Commerce sector development is a factor of economic growth in Russia; 3) the period of the Covid2019 pandemic is the beginning of the intensification of the e-Commerce sector development in Russia.

The original understanding of e-Commerce was associated with “the implementation of business communications and transactions in networks and via computers, or with the purchase/sale of goods and services, as well as the transfer of funds using digital technologies” (Berger 2008; Virin 2012). The mass use of Internet technologies and the transformation of the Internet from a communicative environment to a dynamically developing global market has contributed to the change of institutions and economic relations in the network economy, and also led to the emergence of
e-Commerce as a special type of economic relations (Kaluzhskij 2014; Popov and Khachatryan 2019). E-Commerce in this study will be understood as a set of economic relations between various entities (individuals, business structures, the state) regarding the exchange, distribution and redistribution of goods through the use of digital technologies as a tool for information exchange. Digital technologies that define the structure of e-Commerce include: 1) Electronic Data Interchange (Hollensen 2004); 2) Electronic Funds Transfer; 3) e-trade; 4) e-cash; 5) e-marketing (Petrik 2012); 6) e-banking (Fraumeni 2001). The e-Commerce configuration depends on the category of economic relations subjects: B2G (Business-to-Government); B2B (Business-to-Business); B2C (Business-to-Consumer); C2C (Consumer-to-Consumer) (OECD 2019).

Researchers point to the reasons why e-Commerce can become a factor in economic growth: e-Commerce is closely linked to modern advances in information technology; e-Commerce is based on information and Internet constructions; e-Commerce is an innovation compared to traditional business activities; e-Commerce forms an ecosystem chain; e-Commerce has a strong permeability (Qu and Chen 2014; Schneider 2012). The e-Commerce development is causing changes in the consumption system, as it provides people with a wider choice of products and allows them to significantly meet material and cultural needs, increasing people’s consumer spending (Qu and Chen 2014). (Subramani and Walden 2001) emphasize that investing in e-Commerce is beneficial for companies, as it makes the business competitive and generates additional profits, promotes the entry of small and medium-sized enterprises into new markets, and creates new jobs. The introduction of e-Commerce technologies reduces the company’s costs (the cost of developing, manufacturing, storing and distributing goods and services, the document management cost, inventory and indirect costs through the use of an organized supply chain, the telecommunications cost). The government also increases consumer needs, generating market demand and contributing to economic development through the e-Commerce (Laudon and Traver 2012). The use of e-Commerce technologies contributes to the expansion of trade space to national and international sizes, the restructuring of the world market and improving the efficiency of international import-export trade relations, as well as the growth of trade turnover and the number of cross-border payments (Terzi 2011).

Research methods: general scientific methods (including the method of theoretical analysis and synthesis), systematization method, logical, dialectical methods, graphical method, system approach, method of correlation, covariance and variance analysis.

3 Results

Hypothesis 1: the dynamics of the Russian e-Commerce sector differs significantly from the dynamics of e-Commerce in developed countries.

The e-Commerce development in the world is objective and is due is due to the spread of the Internet and the introduction of digital technologies (Nikitenkova 2010). Internet penetration is often linked to the current state of communication networks, so
broadband is not used equally in many countries, and emerging online markets rely heavily on mobile for infrastructure reasons (Fig. 1).

![Dynamics of development of fixed and mobile broadband Internet access in the world, 2014–2018](image1)

**Fig. 1.** Dynamics of development of fixed and mobile broadband Internet access in the world, 2014–2018 (compiled by the authors according to HSE 2019)

The share of the population with access to the Internet is growing due to the development of communication networks and mobile communications (Fig. 2).

![Percentage of global population accessing the Internet, by market maturity, 2014–2019](image2)

**Fig. 2.** Percentage of global population accessing the Internet, by market maturity, 2014–2019 (compiled by the authors according to Statista, 2020c)

In 2019, the number of Internet users worldwide was 4.53 billion (or 53.6% of the world's total population), up from 4.2 billion in the previous year (Statista 2020a). Easier access to computers, modernizing countries, and more widespread use of smartphones have enabled people to make more online purchases (Fig. 3).
The direct impact of the speed of broadband network capacity development and the growth in the number of Internet users on structural changes in the economy and the e-Commerce development is traced (Fig. 4).

E-Commerce has become an integral part of the economy of almost any country. However, its development in macroregions occurs at different rates. The Asia-Pacific region is the leader and surpasses North America by almost two times in terms of Internet trade turnover. This trend is due to the strong economic growth of developing Asian countries and a fairly rapid increase in Internet penetration in the region. Overall, the global e-Commerce market grew by 17.9% in 2019 to 3.46 trillion dollars. In 2019, China and the United States are the world leaders in the e-Commerce market (they account for about 40% of the market), Great Britain and Germany follow them. At the same time, the fastest growing markets in 2019 were Mexico (35% growth), India (32%), the Philippines (31%), and China (27%) (IPGResearch 2020). The largest e-Commerce company in the world is Amazon.com (US) with annual revenue of
280.5 billion dollars in 2019, and net revenue of 11588 million dollars (IPGResearch, 2020). Alibaba is the largest player dominating the Chinese market, the volume of sales on the Alibaba group portals in 2019 amounted to about 900 billion dollars.

E-Commerce penetration in Russia lags behind other emerging markets. Internet penetration is high (~80%), smartphone penetration (~50%) is growing, but e-Commerce penetration remains only at level 3% (Morgan Stenley Research 2018). In 2019, the Russian e-Commerce market is estimated by DataInsight (2019) at 23 billion dollars. Between 2012 and 2017, this market grew by an average of 21% per year, compared to the growth of the general retail market by 7% per year. This is still lower than in other emerging market countries such as China (17%) and Brazil (4.7%), where Internet penetration is lower. E-Commerce penetration in Russia is only 3% (excluding the cross-border market).

E-Commerce is represented in the Russian Federation by all market sectors: from B2G to C2C. The most noticeable are the more institutionalized B2B and B2G sectors. However, the dominant role in the e-Commerce market in Russia is occupied by B2C and C2C sectors (Didenko 2013). B2C sector revenue in 2019 amounted to 1.6 trillion rubles (+25% compared to 2018), and generated 425 million orders, the average receipt was 3800 rubles. The volume of online sales in 2019 in this sector amounted to 1,620 billion rubles or 24.9 billion dollars. The C2C market generated revenue of 568 billion rubles and generated 177 million sales with an average receipt of 3,210 rubles. The number of sellers involved in C2C trading in 2018–2019 has almost doubled to 13.9 million sellers. The number of buyers increased to 11.8 million (DataInsight 2019). The volume of the retail online export market (foreign orders from Russian online stores, sales through representative offices and store sites in domains of other countries, as well as foreign orders from Russian small and medium-sized businesses received through sales platforms) in 2019 amounted to 5.28 billion rubles (or 817 million dollars), 15.7 million shipments were made, and the average receipt was 52 dollars.

According to the RAEC, the contribution of e-Commerce to the Russian economy in 2019 amounted to 4172.8 billion rubles (RAEC 2020). However, despite the described dynamics of development of certain segments of e-Commerce in Russia, similar indicators on average for developed countries (the United States, United Kingdom, Germany, etc.) and China are currently 2–5 times higher than in Russia.

Hypothesis 2: the e-Commerce sector development is a factor of economic growth in Russia.

In order to check the impact of e-Commerce on Russia’s economic growth, we will present indicators from Russian and international reports that reflect the level of e-Commerce development in the country in Table 1.
We will conduct a correlation analysis to determine the relationship between economic growth and factors that reflect the level of e-Commerce development. The correlation coefficient can range from +1 to −1. The larger the module of the correlation coefficient, the more noticeable the change in one indicator is reflected in the change in the second. If the coefficient is equal to 0 the relationship between them is completely absent (Shihalyov 2015). In our case, the value of Russia’s GDP is a dependent variable. Five factors are used as independent variables that can measure the level of e-Commerce development, including: the share of e-Commerce in the total volume of retail trade in the Russian Federation; the number of Internet users; the number of online stores; the penetration of e-Commerce in Russia; the volume of online trade. The correlation analysis results of the five independent variables is shown in Table 2.

### Table 1. The GDP and E-Commerce development dynamics in Russia, 2010–2019 (compiled by the authors according to Gks 2020; World Bank 2020; GFK 2018; HSE 2016; InSales 2015; InfoLine 2019)

| Years | GDP (at current prices, in billion rubles) (Gks 2020) | Share of online commerce in total retail trade in the Russian Federation, in % (HSE 2016) | Individuals using the Internet (% of population) (World Bank 2020) | Number of online stores, units (InSales, 2015) | E-commerce penetration in Russia (among the entire population of Russia aged 16–55), % (GFK 2018) | Online trading volume, billion rubles (InfoLine, 2019) |
|-------|---------------------------------------------------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|---------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| 2010  | 46308.5                                           | 1.07                                                                                           | 43.0                                                                            | 16000                                       | 3                                                | 260                                               |
| 2011  | 60114.0                                           | 1.3                                                                                            | 49.2                                                                            | 25000                                       | 5                                                | 405                                               |
| 2012  | 68103.4                                           | 1.6                                                                                            | 55.2                                                                            | 32500                                       | 8                                                | 555                                               |
| 2013  | 72985.7                                           | 1.9                                                                                            | 60.0                                                                            | 39000                                       | 14                                               | 759                                               |
| 2014  | 79030.0                                           | 2.3                                                                                            | 63.5                                                                            | 43000                                       | 17                                               | 929                                               |
| 2015  | 83087.4                                           | 3.9                                                                                            | 68.5                                                                            | 76000                                       | 21                                               | 1100                                              |
| 2016  | 85616.1                                           | 2.7                                                                                            | 71.4                                                                            | 150000                                      | 25                                               | 1400                                              |
| 2017  | 91843.2                                           | 2.4                                                                                            | 72.7                                                                            | 215000                                      | 30                                               | 1680                                              |
| 2018  | 104629.6                                          | 3.0                                                                                            | 75.0                                                                            | 300000                                      | 37                                               | 1950                                              |
| 2019  | 110046.1                                          | 3.2                                                                                            | 75.5                                                                            | 350000                                      | 45                                               | 2200                                              |

### Table 2. Correlation coefficient matrix between GDP and five e-Commerce development factors (authors’ own calculations)

| e-Commerce development factors                                      | GDP (at current prices, in billion rubles) |
|--------------------------------------------------------------------|-------------------------------------------|
| Share of online commerce in total retail trade in the Russian Federation, in % | 0.798897                                  |
| Individuals using the Internet (% of population)                    | 0.96297                                   |
| Number of online stores, units                                     | 0.905316                                  |
| E-commerce penetration in Russia (among the entire population of Russia aged 16-55), % | 0.975472                                  |
| Online trading volume, billion rubles                               | 0.974727                                  |
The results indicate that there is a positive relationship between the share of online commerce in total retail trade in the Russian Federation; individuals using the Internet; the number of online stores; the e-Commerce penetration; the online trading volume and the gross domestic product, which also explains that e-Commerce has a positive impact on economic growth.

We will conduct a covariance analysis that allows us to identify the strength (proximity) of the relationship between a sample of indicators, to test the results of the author’s hypothesis about interrelated economic factors that determine the level of e-Commerce development and affect the economic growth of Russia (Table 3).

| e-Commerce development factors | The level of correlation to the annual dynamics of Russia GDP (2010-2019) |
|--------------------------------|--------------------------------------------------------------------------------|
| Share of online commerce in total retail trade in the Russian Federation, in % | 12 504,7427 |
| Individuals using the Internet (% of population) | 191 106,9010 |
| Number of online stores, units | 1 957 035 660,0000 |
| E-commerce penetration in Russia (among the entire population of Russia aged 16-55),% | 237 737,4100 |
| Online trading volume, billion rubles | 11 366 079,6100 |

The method of covariance analysis revealed whether the data sets of economic indicators are associated by value. Thus, the number of online stores and the online trade volume are most strongly associated with the country’s GDP, i.e. they have the greatest impact on economic growth.

We will use the method of variance analysis to assess the volatility of annual dynamics of changes in a sample of indicators that affect Russia's economic growth by examining the significance of differences in average values (Table 4).

| Indicators | Dispersion |
|------------|------------|
| GDP (at current prices, in billion rubles) | 379 183 191,142 |
| Share of online commerce in total retail trade in the Russian Federation, in % | 0,798 |
| Individuals using the Internet (% of population) | 128,231 |
| Number of online stores, units | 15 214 669 444,444 |
| E-commerce penetration in Russia (among the entire population of Russia aged 16-55),% | 193,389 |
| Online trading volume, billion rubles | 442 711,956 |
The dispersion shows the degree of volatility (variability) of indicators. The analysis showed that the indicators of GDP dispersion coincide with the number of online stores, and a weaker match—with the volume of online trade, the other indicators are not as volatile as GDP. Thus, the analysis suggests that the e-Commerce development is a significant factor in Russia’s economic growth, and despite the fact that currently the share of e-Commerce in the country’s GDP is about 2%, stimulating its development in the future can provide the desired result. In the global economy, growth in e-Commerce in Russia is comparable to Brazil and India, but still significantly behind that of the United States and the European Union (the US share of e-Commerce in GDP is 7% in most Western European countries 9%) (IPGResearch, 2020).

Hypothesis 3: the Covid2019 pandemic period is the beginning of the e-Commerce sector intensification in Russia.

The situation with the Covid-2019 pandemic is likely to trigger the rapid e-Commerce development in Russia. It has been proved that the typical economic consequence of some epidemics is the growth and intensive development of e-Commerce companies and the home entertainment sector, which largely compensates for the decline in GDP in many countries (Karpunina et al. 2020). For example, restrictions related to the epidemic threat of SARS in China have contributed to the development of the country’s e-Commerce sector (primarily through the rapid growth of Alibaba), established digital mobile telephony and the Internet, and thus marked the turning point when the Internet emerged as a truly mass media in China. The epidemic has also triggered a rise in text messaging, which has boosted business for cellular companies such as China Mobile. It also contributed to the development of three Chinese Internet portals, Sina, Sohu and NetEase, through revenue-sharing agreements with the telecommunications company (Ghosh 2016). Broadband Internet access has also received a huge boost, due to the need of the quarantined population for communication, information and entertainment. An analysis of the situation with the pandemic in 2020 shows its impact on the e-Commerce sector development in Russia. For example, Nielson (2020) estimates that significant changes have occurred in the development of the e-Commerce sector in Russia in the period from February to May 2020 due to the Covid-2019 pandemic. There is a change in the stages and content of consumer behavior: 1) conscious purchase of health products; 2) attention to products to contain the virus and protect health; 3) purchase of products with a long shelf life and health products; 4) surge in store visits; increase in basket volume; 5) increase in online sales, reduced store visits, lack of goods in stores, difficulties in the supply chain; 6) strictly limited trips to the store, explosive growth in online sales, price increases due to a shortage of goods; 7) return to the usual life, but with increased concern for health and hygiene, a shift towards an online channel (Nielson 2020). According to Nielson (2020), in Russia there is an increase in online sales of everyday goods, goods aimed at “fast” consumption, to maintain household life, (more than one hundred percent (109.1−113.4%), starting from the beginning of March 2020). Self-isolation and the transition to remote work stimulated a sharp increase in the number of online orders, the largest growth is observed in such product categories as food, electronic and household appliances (in particular, laptops), accessories for working from home (headsets, keyboards, etc.), and products for children. However in most product categories this growth is short term (RAEC 2020). Measures taken by online
retailers in a pandemic, such as free shipping of orders, increasing the minimum order amount, the motivation of buyers to cashless and contactless payment, contactless development of express delivery also contributed to the e-Commerce sector growth. If we take into account the Asian countries experience, at the stage of market stabilization, there is a decrease in hype demand after the “purchase”, an increase in sales in related categories, increased attention to health and hygiene, the launch of new products, and accelerated growth in online sales, including for the older generation. For example, Nielsen forecasts online retail sales growth of 109% compared to last year (Nielsen 2020). Nevertheless, despite the extreme situation in order to unlock the e-Commerce potential, the state should find effective tools to stimulate the e-Commerce development as a factor of economic growth in Russia, based on positive foreign experience. First of all, this concerns the formation of an institutional framework for the e-Commerce development and investment in logistics, since Russia is missing its potential growth opportunities due to infrastructure problems.

4 Conclusions

It is proved that the dynamics of development of the Russian e-Commerce sector differs significantly from the dynamics of e-Commerce development in China, United States, United Kingdom and Germany, which are significantly ahead of the Russian Federation. Russia is also not included in the group of developing countries with the fastest growing markets (Mexico, India, China, Philippines). However, e-Commerce is represented in the Russian Federation by all market sectors: from B2G to C2C. The B2C and C2C sectors dominate the e-Commerce market in Russia. The contribution of e-Commerce to the Russian economy in 2019 amounted to about 2% of GDP, the largest contribution was made by the market of electronic payment services and online retail. The authors conducted a study of the impact of e-Commerce on the economic growth of Russia using methods of correlation, covariance and variance analysis. The obtained results allowed to assert that the e-Commerce development is a significant factor in Russia’s economic growth, and stimulating its development in the future can provide the desired result. The authors analyzed the dynamics of the e-Commerce sector development in Russia during the Covid2019 pandemic and proved that the sharp growth of the sector observed in the first months of the epidemic can be prolonged over time and become the beginning of the intensification of e-Commerce development in Russia.

References

Berger, E.: E-kommerciya i cepi postavok: lomka prezdnih granic, in Gattorny, D. (Ed.), Upravlenie cepyami postavok, Infra-M, Moskva (2008). (in Russian)
DataInsight: “Internet-torgovlya v Rossii 2019” (2019). https://datainsight.ru/sites/default/files/DI_Ecommerce2019.pdf. Accessed 2 June 2020. (in Russian)
Didenko, E.: Raskinut’ seti. Nacional’nye pochtovye operatory boryutsya za novye rynki. Pochta Rossii 5(111), 6–11 (2013). (in Russian)
Fraumeni, B.: E-commerce: measurement and measurement issues. Am. Econ. Rev. 91(2), 318–322 (2001)

GFK: Issledovanie auditorii onlajn pokupatelej v Rossii ” (2018). https://cache-mskm902.cdn.yandex.net/download.yandex.ru/company/figures/2018/gfk/yandex_market_gfk_2018.pdf. Accessed 12 May 2020. (in Russian)

Gks: Valovoj vnoutrennij produkt (v teksuchshich cenah, mlrd.rub.) (2020). https://www.gks.ru/accounts. Accessed 29 May 2020. (in Russian)

Ghosh, B.: China’s internet got a strange and lasting boost from the SARS epidemic (2016). https://qz.com/662110/chinas-internet-got-a-strange-and-lasting-boost-from-the-sars-epidemic/. Accessed 30 May 2020

Hollensen, S.: Global nyj marketing. Novoe znanie, Moskva (2004). (in Russian)

HSE: Rynok Internet torgovli v RF (2016). https://dcenter.hse.ru/data/2017/03/10/1169536647/202016.pdf. Accessed 29 May 2020. (in Russian)

HSE: Cifrovyaya ekonomika: Telekommunikacionnaya infrastruktura (2019). https://issek.hse.ru/data/2019/08/08/1483634509/NTI_N_139_08082019.pdf. Accessed 21 May 2020. (in Russian)

InfoLine: Foodtech: onlajn-torgovlya i sluzhby dostavki. Rejting INFOLine Russia TOP online food retail, (2019). https://infoline.spb.ru/upload/iblock/d37/d3712744170621b6827d87ad69c6d50c.pdf. Accessed 15 May 2020. (in Russian)

InSales: “Analiticheskij byulleten’ InSales 2015: Rynok Internet-torgovli v Rossii v 2014 godu (2015).https://www.insales.ru/blogs/insales/analiticheskij-byulleten-insales-2015-rynok-inter-net-torgovli-v-rossii-v-2014-godu. Accessed 20 May 2020. (in Russian)

IPGResearch: Global’noe razvitie e-Commerce (2020). https://rgud.ru/documents/2020-IPG_Research_E-commerce.pdf. Accessed 4 June 2020. (in Russian)

Kaluzhskij, M.: Elektronnaya kommerciya: Marketingovye seti i infrastruktura rynka. Ekonomika, Moskva. (2014). (in Russian)

Karpunina, E., Zabelina, O., F. Galieva, G., Melyakova, E., Melnikova, Y.: Epidemic threats and their impact on the economic security of the state. In: 35 IBIMA proceedings of the international conference in Seville, pp. 1–2 April 2020

Laudon, K., Traver, C.: E-Commerce, 9th edn. Prentice Hall, New York (2012)

Morgan Stanley & Co. Int. PLC+ (2018), Russia e-Commerce: last but not least. https://www.shopolog.ru/u/6890-morgan-stanley-ru-e-com-internet.pdf. Accessed 12 May 2020

Nielson, Koronavirus i fmcg-trendy v Rossii: novaya real’nost’ i novye vozmozhnosti (2020). https://ppc.world/uploads/article_images/2020/04/research/nielsen-covid-19_global.pdf. Accessed 4 June 2020. (in Russian)

OECD: Unpacking E-commerce. Business Models, Trends and Policies (2019). https://www.oecd.org/going-digital/unpacking-e-commerce.pdf. Accessed 1 June 2020

Petrik, E.: Internet-marketing. MFPA, Moskva (2012). (in Russian)

Popov, E., Khachaturyan, M.: Tendencies of development of the tools of strategic planning of industrial companies’ activities in post-industrial economy. in Lecture Notes in Networks and Systems, vol. 57, pp. 718–725 (2019)

Qu, L., Chen, Y.: The Impact of e-Commerce on China’s Economic Growth. In: Proceedings WHICEB 2014 https://aisel.aisnet.org/whiceb2014/101. Accessed 22 May 2020

RAEC: Ekonomika Runeta v epohu COVID-19 — rastem i transformiruemsya (2020). https://www.shopolog.ru/metodichka/analytics/issledovanie-raek-ekonomika-runeta-v-epohu-covid-19-rastem-i-transformiruemsya/. Accessed 25 May 2020. (in Russian)

Schneider, G.: Electronic Commerce, 10th edn. Cengage Learning, Ohio (2012)
Shihalyov, A.: Korrelyacionnyj analiz. Neparametricheskie metody, Kazan un-t, Kazan (2015). (in Russian)

Statista: Global number of internet users 2005–2019 (2020a). https://www.statista.com/statistics/273018/number-of-internet-users-worldwide/#statisticContainer. Accessed 24 May 2020

Statista: Number of internet users worldwide from 2009 to 2019, by region (in millions) (2020b). https://www.statista.com/statistics/265147/number-of-worldwide-internet-users-by-region/. Accessed 24 May 2020

Statista: “Percentage of global population accessing the internet from 2005 to 2019, by market maturity” (2020c). https://www.statista.com/statistics/209096/share-of-internet-users-in-the-total-world-population-since-2006/. Accessed 29 May 2020

Subramani, M., Walden, E.: The impact of e-Commerce announcements on the market value of firms. Inf. Syst. Res. 12(2), 135–154 (2001)

Terzi, N.: The impact of e-Commerce on international trade and employment. Procedia – Soc. Behav. Sci. 24, 745–753 (2011)

Virin, F.: Internet-marketing. Polnoe prakticheskie rukovodstvo, EKSMO, Moskva (2012). (in Russian)

World Bank: Individuals using the Internet (% of population) - Russian Federation (2020). https://data.worldbank.org/indicator/IT.NET.USER.ZS?locations=RU. Accessed 28 May 2020