

THE INFLUENCE OF THE COVID-19 PANDEMIC ON E-COMMERCE. TRENDS AND CHALLENGES BEFORE AND AFTER COVID-19

Andreea NISTOR¹

Ştefan cel Mare University of Suceava

Abstract

This article aims to analyze the evolution of e-commerce in the context of COVID-19, which generated more sales during the health crisis than in the previous period. In this paper, the methodology used to observe the economic and social evolution of digital commerce is represented by the analysis of online stores comparatively, both before and during the health crisis. Online commerce is among the favored industries by the COVID-19 pandemic because it has grown more during this period, bringing people of all ages into this segment.

Keywords: *e-commerce, COVID-19, online shopping, websites*

JEL classification: *M21, M30, O14, O33*

1. Introduction

Coronaviruses are a large family of viruses that can cause disease in both humans and animals. In humans, coronaviruses can cause respiratory infections, characterized by a simple cold or more severe illness, such as Middle East Respiratory Syndrome (MERS), Severe Acute Respiratory Syndrome (SARS), and the most recent coronavirus detected is COVID- 19 (WHO, 2020).

COVID-19 is an infectious disease that was not known before it appeared in Wuhan, China, in December 2019. The virus spread extremely quickly globally and for this reason, it was declared a pandemic by the World

¹ Ph.D. Student, Ştefan cel Mare University of Suceava, e-mail: andreea.nistor@usm.ro

Health Organization. COVID-19 is one of the largest pandemics to hit the world since the Spanish flu of 1918. The main symptoms of COVID-19 infection include fever, dry cough, malaise, and dyspnea. Initially, the virus was named after the area of origin - Wuhan pneumonia, but after sequencing the genome, it was found that it is a coronavirus (Yen-ChinLiu et al., 2020).

The worldwide spread of COVID-19 has had an unprecedented impact, firstly, on public health and society and, secondly, on the economy. COVID-19 pandemic has caused people to stay home and opt for online shopping (Ang, 2020). At the same time, the new coronavirus had a major impact on all areas and people's lives. The migration of people to online stores represented the need for security and the opportunity to use the digitization services offered: websites, online stores, social networks, etc.

Because most countries have resorted to the quarantine process, which involved closing schools, shops, canceling events, and air transport operations, people have turned to the virtual environment. Thus, the way people carry out their activities has changed, and companies have focused on developing the technological process to survive in the market and for precise cost efficiency. E-commerce was a good opportunity for most companies, allowing a range of products and services and not least, prompt delivery (Shahzad et al., 2020). This demonstrates that e-commerce has much greater control over the markets, and companies have joined the new business development opportunities. Each country has its own culture and civilization, through which the set of values, principles, customs, beliefs, and traditions is formed. Society and the individual generally form consumer preferences, so that the main values of a particular society determine, as a rule, what the public buys, the types of products consumed and purchased, through sets of values and the principle transmitted (Jaakkola, Alexander, 2014).

2. E-commerce trends in 2020

The concept of e-commerce appeared in 1970, and electronic transfer is the main element of business operation in the online environment (Kilian et al., 1994). At the same time, through the Internet and with the appearance of the World Wide Web, the potential of business has grown in a dynamic way, and the online environment is today the main pillar for efficient business management.

From an economic point of view, e-commerce is seen as a whole a real exchange market, where supply and demand meet and where the exchange

of goods and services takes place. Also, online commerce is characterized by those companies that deal with the production of goods, but also their individual purchase (Wigand, 1997). Markets are characterized by competitiveness and determine the attraction of buyers and sellers, unit products, the possibility to enter and exit the market easily, a number of low costs for consumers, but also useful information. Thus, the market is a second way of coordinating outside the hierarchy (Williamson, 1975).

In the European Union, physical shopping has been affected by the COVID-19 pandemic, so that online shopping continues to grow, managing to change people's preferences and certain habits. Also, in 2020, online shopping increased by 4%, so that 69% of people aged 16 to 74 used the internet for online shopping, and 72% of people ordered goods for private use (Eurostat, 2021). The largest increases were recorded in countries such as Germany, Denmark, the Netherlands, or Sweden. At the opposite pole, however, Bulgaria is followed by Romania and Italy (Eurostat, 2021). However, in the last five years, there have been increases in online shopping and internet users in Romania, Croatia, the Czech Republic, but also Hungary, and the most common purchases were clothes.

Over time, a series of studies have been conducted on e-commerce, which usually focuses on two categories: social networks and online sales represented by websites (Sun et al, 2016). From one year to the next, several products have registered negative increases, and this includes clothing, footwear, and accessories, magazines and books, office products, furniture, but also products for cars. This is because the transactions of these products must be completed by both physical and online stores, but during the pandemic, physical stores were closed (Lu, Wu, Peng, & Lu, 2020). Certain categories of products, such as car equipment or household appliances, have seen higher increases, so that, since the early days of the COVID-19 pandemic, Internet users have bought larger quantities of hygiene products, but also household products. Also, the COVID-19 pandemic generated a series of changes in people's behaviors and preferences, producing at the same time a series of economic changes, even becoming an opportunity for many companies (Wang & Wang, 2020). Delivery companies became insufficient during COVID-19 because people avoided going to stores, preferring to turn to home delivery services.

Digitization and Internet access have led to a significant increase in online shopping, year by year, and in 2019, online retail worldwide has

exceeded \$ 3.5 trillion, so that people who purchased goods and services from the virtual environment reached 1.92 billion (statista.com, 2020).

In Romania, in 2020, online commerce reached the amount of 5.6 billion euros. This amount represents transactions generated by local merchants, but also by online stores abroad, which represent tangible physical products because they do not include several services, such as hotel reservations, purchased airline tickets, show tickets, bills, or vacations. Also, according to Eurostat (2021), in Romania, 85% of people have used the Internet at least once in the last year, and 45% of them have made at least one online purchase. In this case, Romania is, at the level of the European Union, at the bottom of the ranking in terms of online shopping.

3. Methodology

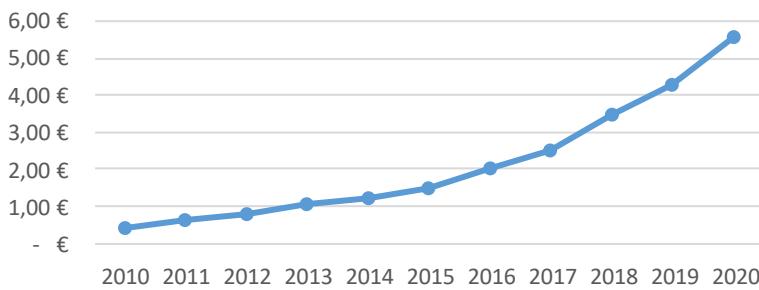
The present research approaches the qualitative analysis, which consists of the analysis of electronic commerce both at the international level and in Romania. Thus, it was decided to analyze the evolution of sales in the first two quarters of 2019 and 2020 of two online stores in Romania, stores that deal with the supply of food supplements and power tools. It was decided to study these online stores because these types of products have been extremely solicited since the beginning of the COVID-19 pandemic. The evolution of sales for the two online stores from both 2019 and 2020 was analyzed, as well as the evolution of customers registered during this period. Thus, to analyze the evolution of the sales of the two Romanian online stores were using Google Analytics, API Inventor Nopcommerce, and E-cap (E-commerce automation platform), a solution developed in Romania by GlocalSoft company. This is a SaaS-type solution that has the ability to integrate e-commerce platforms with an ERP order processing solution, as well as other markets. Also, with the help of the specialized literature and Google Analytics, we analyzed the evolution of Amazon retailer's sales worldwide, thus, we will be able to observe whether or not internationally, sales were affected by the COVID-19 pandemic.

4. Results

Global trade has changed as a result of COVID-19 while changing the business world. At the same time, for some products, the impact of COVID-19 was positive, and for others negative, depending on the nature of the products.

In Romania, online sales have regularly increased in recent years, and the COVID-19 pandemic has accelerated the development of this sector. If before the pandemic, 66% of Romanians shopped exclusively in physical stores, during the state of emergency the percentage of those who bought only in physical stores decreased to 57%. After reducing the restrictions, the percentage of those who say they will buy both online and offline has increased by five percentage points, to 38%, compared to 33% before the pandemic. From the beginning of the pandemic, e-commerce was the one that set the economy in motion. The COVID-19 pandemic caused an acceleration of online shopping, but also online payments made with the help of the card (ARMO, 2021). Thus, it can be seen from Figure no. 1 the fact that in 2019, compared to 2018, the growth of e-commerce was 0.8 billion euros higher. Also in 2010, e-commerce generated a turnover of 0.43 billion euros, up 5.17 billion euros by 2020.

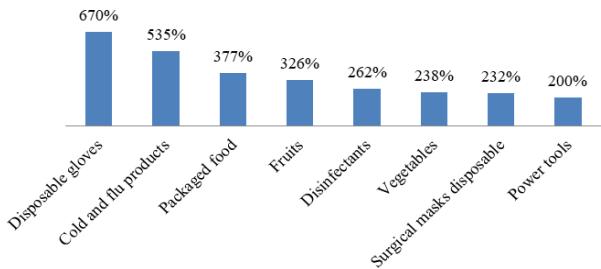
Figure 1: The evolution of e-commerce in Romania in the last ten years (billion euros)



Source: Own processing according to Eurostat

With the outbreak of the pandemic, some of the products experienced a significant increase, while another part recorded sharp decreases. Among the products that recorded increases are: disposable gloves, flu, and cold products, packaged food, fruits and vegetables, disinfectants, disposable surgical masks, as well as power tools.

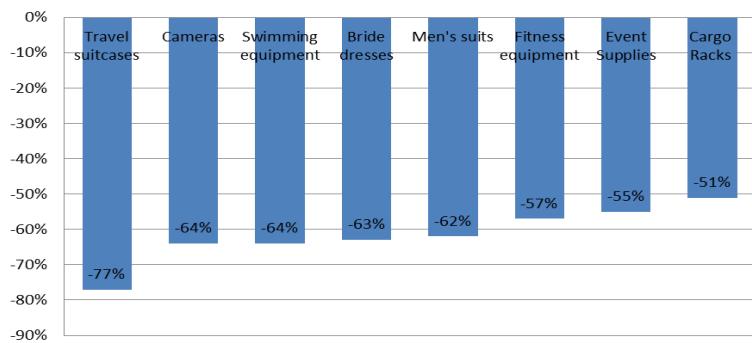
Figure 2: The largest increases of product categories in 2020



Source: Own processing according to ahrefs.com

At the opposite pole, some products have registered decreases, such as travel suitcases, cameras, swimming equipment, bride dresses, men's suits, fitness equipment, event supplies and also, cargo racks. Figure no.2 shows a series of the most solicited products from 2020, since the onset of the COVID-19 pandemic. On the other hand, Figure no.3 shows the decline of some product categories, generated by the COVID-19 crisis.

Figure 3: The Fastest Declining E-Commerce Categories in 2020



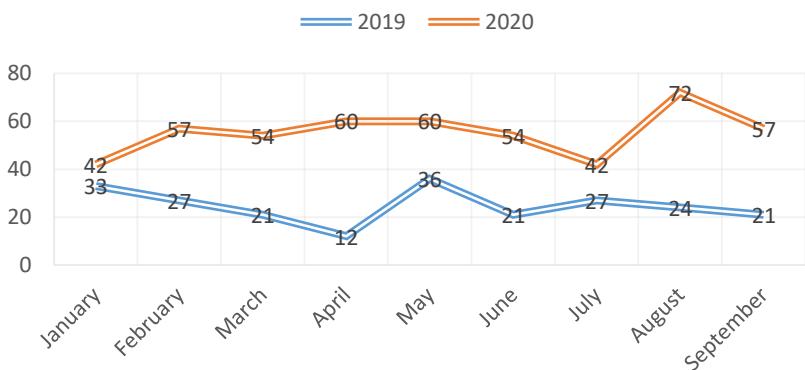
Source: Own processing according to ahrefs.com

To observe the economic and social evolution of online commerce in Romania, we chose to analyze two online stores. One of the stores is named

Embreise and sells food supplements, and the other online store sells electrical appliances. We chose to analyze an online food supplement store because the COVID-19 pandemic sounded the alarm in terms of maintaining good health and strengthening the immune system for many people.

Thus, purchases of natural products and food supplements began to increase in March, a trend that continued in the following months. In the two figures we can see that, in 2020, the number of orders has doubled in the case of the online food supplement store. If in 2019, sales recorded both periods of massive decline and growth at certain times of the year, in 2020, things began to change. Demand for food supplements has doubled and remained on an upward pace until June. In July and August, sales fell and began to rise again in September and the best-selling products were those for boosting immunity. Figure no.4 shows how online sales have evolved in terms of the online food supplement store, in 2020, from January to September and also, shows the evolution of sales in the first three quarters of 2019.

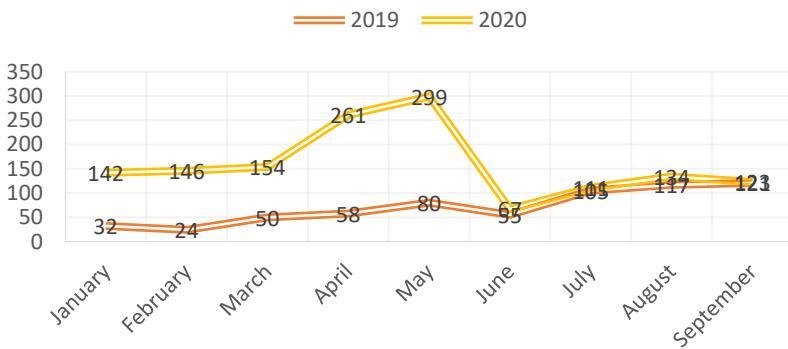
Figure 4: Embreise - Orders 2019 & 2020



Source: Own processing according to API Inventor Nopcommerce, Google Analytics

The second online store we reviewed is one for power tools, named Topstrong. Given that electrical appliances are among the products that have seen substantial increases during this pandemic, we made a comparison of online sales between 2019 and 2020.

Figure 5: Topstrong - Orders 2019 & 2020



Source: Own processing according to Google Analytics, E-cap

Figure no.5 shows the evolution of sales from the beginning of 2020 until September of the store of power tools and also, shows the evolution of Topstrong online store sales in the same period of 2019. Similarly with the food supplement store case, in the case of the power tools store, the number of sales doubled in 2020. Since March, when the state of emergency was declared in Romania, we can see a continuous increase in sales, because people were either unemployed technically, either they opted for telework. In June, sales fell considerably, but since July, they have returned to an upward trend. Regarding the number of customers, in 2020, the number of customers registered on the site increased in the case of both stores. Figure no.6 below, show the new customers registered in the first three quarters of 2020.

Figure 6: Embreise & Topstrong - New customers 2020

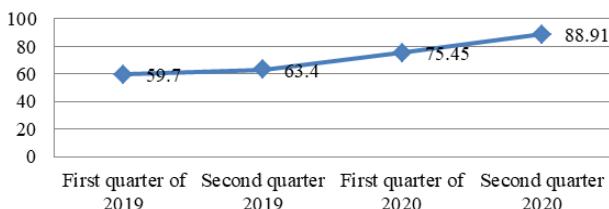


Source: Own processing according to www.embreise.es, Allianz Inventor Topcommerce

Currently, there are many platforms in the online environment to be able to browse and choose the necessary products and services. In 2020, online markets began to grow, mainly due to the COVID-19 pandemic, which closed several stores or prevented movement, so Amazon is considered to be at the top of the online sales rankings.

Sales on Amazon have increased year by year, and the COVID-19 pandemic has determined to increase sales by 33%. In 2019, Amazon recorded a net income of 280 billion dollars, in the US. The most solicited products were electronics as well as subscription services. In the context of the pandemic, Amazon recorded sales in the second quarter of 2020 of about \$ 88.91 billion, exceeding the same period in 2019, when \$ 97.44 billion was recorded. In Figure no. 7 we can observe the net incomes obtained by Amazon in the first two quarters of 2019 and 2020.

Figure 7: Amazon quarterly net income 2019-2020 (billion dollars)



Source: Own processing according to www.visualcapitalist.com

5. Conclusions

The COVID-19 pandemic has had a significant impact on the global economy, so this has led to the adoption of emergency measures, thus establishing the objectives and intentions of the buyer, but also of the companies, which have adapted. The development and spread of technology, as well as the adaptation of mobile applications, has been a change in the whole society, so that the buyer a few years ago had totally different priorities in terms of purchasing products and services, while the buyer in 2020 is more oriented towards online commerce and in particular, to medical and safety products. It has migrated from luxury goods and services to simple things and items necessary for everyday life, which are relevant to most people.

Entrepreneurs have adapted to the new trends imposed by the restrictions of the authorities so that the pandemic has generated important changes in political, economic, and social terms. As a result, companies need to constantly adapt, creating new marketing strategies designed to increase production capacity and the quality of services and products in order to increase their presence in the online environment.

Although the COVID-19 pandemic generated uncertainty in all domains, it managed to increase the dynamism of e-commerce between companies, consumers, and countries and, at the same time, expanded the area of consumers, by audience segments. If before the pandemic, young people were the ones who opted for online commerce, now the elderly joined e-commerce, managing to create a digital society, based on information and purchasing power.

6. References

- Ahrefs (2020), Available at: <https://ahrefs.com/blog/top-amazon-searches/>
- Ang Carmen (2020) Ranked: The Top 100 Product Searches on Amazon. *Visual Capitalist*. Available at <https://www.visualcapitalist.com/top-100-product-searches-on-amazon/>
- Asociația Română a Magazinelor Online (ARMO) (2021). Available at <https://www.armo.org.ro/>
- Embreise, Available at: <https://www.embreise.ro/>

- Jaakkola, E. & Alexander, M. (2014) The role of customer engagement behavior in value co-creation: a service system perspective. *Journal of service research.*
- Kilian, W., Picot, A., Neuburger, R., Niggl, J., Scholtes, K.-L., and Seiler, W. (1994) Electronic Data Interchange (EDI) aus ökonomischer und juristischer Sicht. *Baden-Baden, Germany: Nomos.*
- Lu, Y., Wu, J., Peng, J., & Lu, L. (2020) The perceived impact of the Covid-19 epidemic: Evidence from a sample of 4807 SMEs in Sichuan Province, China. *Environmental Hazards.*
- Shahzad, Arfan & Hassan, Rohail & Abdullah, Izani & Hussain, Arsalan & Fareed, Muhammad (2020) COVID-19 impact on e-commerce usage: An empirical evidence from Malaysian healthcare industry. *Humanities & Social Sciences Reviews.*
- Sun, Y.; Wei, K.K.; Fan, C.; Lu, Y.; Gupta, S. (2016) Does social climate matter? On friendship groups in social commerce. *Electron.*
- Statista.com: E-commerce worldwide, Dossier (2020). Available at: <https://www.statista.com/topics/871/online-shopping/>
- Topstrong, Available at: <https://www.topstrong.ro/>
- Wang, J., & Wang, Z. (2020). Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis of China's prevention and control strategy for the COVID-19 epidemic. *International Journal of Environmental Research and Public Health.*
- Williamson, O. E. (1975). Markets and hierarchies: Analysis and antitrust implications. A study in the economics of internal organization. *New York: Free Press.*
- Wigand, Rolf. (1997). Electronic Commerce: Definition, Theory, and Context.
- World Health Organization: Coronavirus (2020). Available at: https://www.who.int/health-topics/coronavirus#tab=tab_1
- Yen-Chin Liu, Rei-Lin Kuo, Shin-Ru Shih: COVID-19 (2020) The first documented coronavirus pandemic in history. *Biomedical Journal, Volume 43, Issue 4.*