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**(Original scientific paper)**

## **STATE OF E-COMMERCE DURING THE COVID-19 PANDEMIC IN THE REPUBLIC OF NORTH MACEDONIA**

**Abstract:** The COVID-19 pandemic set new rules for engagement, basically limiting the physical contact of individuals. As the world was entering lockdown, this showed as an opportunity for digital activities, such as e-commerce, to grow exponentially as the sole method for purchasing products and services in this period. The paper focuses on three different types of e-commerce activities, business-to-business, business-to-commerce and m-commerce, analyzing their state before and during the pandemic years. National economies of developed and countries in transition are also analyzed, to show the growth of e-commerce in various settings.

Special focus is placed on the country of North Macedonia, as an economy in transition, and the levels of acceptance of e-commerce from 2017 onwards. Data from the research shows that the steady rise of e-commerce in the country is accelerated in pandemic years, however total level of GMV is still below developed countries. Companies that haven't adapted to digital activities can be left behind, as the whole world is shifting based on the pandemic response. The research shows several relevant conclusions, such as the expected rise of B2B e-commerce as the primary method of purchasing on a company level, as well as the enormous impact of m-commerce sales that is expected after pandemic years.

**Key words:** *E-commerce, m-commerce, North Macedonia, COVID-19*

**JEL classification:** L81

## **Introduction**

E-commerce appears as a consequence of the development of information and communication technologies, which has been elevated in its use especially during the COVID-19 pandemic. Buying products online can be the fastest and often the cheapest way, while the contactless features were important to establish it as a new default process of buying and selling items during the emergence of the pandemic in 2020. According to Turbanet al., E-commerce is the exchange of goods and services between independent organizations and/or people through the use of powerful information-communication systems and globally standardized network infrastructure. For this purpose, supply chain partners must connect their business processes and information-communication systems. These systems have to work together temporarily and seamlessly, they have to share, exchange and process data throughout the entire business process. Data security and privacy, as well as compliance with laws and procedures, should of course be guaranteed throughout the process. Kalakota and Whintons define e-commerce from four different perspectives:

- **Communication perspective:** According to this perspective, e-commerce is the delivery of information, products/services or payments through telecommunication channels, computer networks or any other electronic means of communication.
- **Business Process Perspective:** This perspective states that electronic commerce is the application of technology for the purpose of automating business transactions and work flow.
- **Service perspective:** E-commerce is defined as a tool to satisfy the desires of companies, consumers and management to reduce costs, improve the quality of goods / services and increase the speed of delivery.
- **Internet perspective:** E-commerce is an opportunity to buy and sell products, services and information on the Internet.

The paper is focused on researching the growth of e-commerce in the Republic of North Macedonia, as well as comparing it with other relevant countries on an international level, following global trends.

## **1. METHODOLOGY OF RESEARCH**

For the purposes of the research process, secondary sources of information are utilized - scientific papers, studies, books, academic journals, case

studies. They will serve to, through their elaboration or citation, give a historical overview, current conditions and future aspects in the development of e-commerce. Several types of research methods were used in the paper:

- Descriptive method, used to describe the basic terms related to the subject of research, through definition and explanation;
- Analytical method, analyze the existing researches;
- The logical method is used for proof when making the final conclusions and recommendations;
- Method of generalization, through which individual observations and observations should lead to general conclusions, which are based on reality.

The research techniques with which the data is processed during the research are the following:

- Collecting data from various sources, books, scientific literature, publications, collections, laws and regulations;
- Collecting materials resulting from specific research in the area;

## **2. GROWTH OF E-COMMERCE BY MODELS DURING THE COVID-19 PANDEMIC**

### **2.1 B2B & B2C e-commerce models**

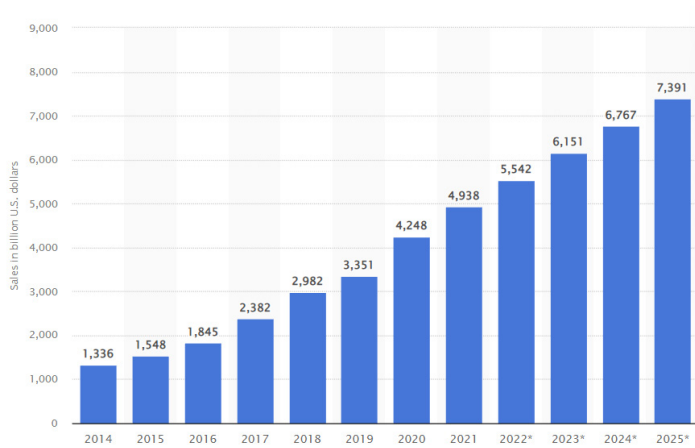
The B2B model of e-commerce includes trade between companies over the Internet, information exchange and cooperation with business partners. This model connects all participants in the business process, manufacturers, suppliers, distributors and intermediaries, leading to the final consumer. Companies quickly saw the opportunity for large cost savings they could achieve through procurement and sales automation, specifically during the lockdown periods of the COVID-19 pandemic. In this model of e-commerce, the company makes an order for purchases from another company directly over the Internet, whereby the preparation of the documentation, the time for processing the order and the delivery of the goods are greatly reduced. B2B during the pandemic offered companies, especially small and medium-sized ones, an excellent opportunity to make contacts with new suppliers, manufacturers, find new business partners, access new markets and reduce costs.

In a highly competitive business environment, B2B e-commerce offers business efficiency and many cost-saving options. The advantages of B2B

solutions during the pandemic are evident in all areas of business operations. The Internet provides the most economical platform for B2B e-commerce, here there is an opportunity to connect companies without the need to apply an additional network. This e-commerce model contributes to lower procurement costs, reduced inventory, reduced sales and marketing costs. There is a shortening of the production cycle due to the more efficient communication of all participants in the production process. In the procurement process, higher employee productivity is achieved, it reduces the possibility of error and shortens the time of the entire process, which leads to a reduction in costs. Marketing and sales through the Internet get an inexpensive and efficient marketing and sales channel that offers the opportunity to expand these activities with minimal investment. The gross merchandise volume (GMV) of B2B e-commerce transactions in 2019 was 22.56 billion dollars, while in 2020 it expanded to over 31 billion dollars.

Compared to B2C, as a model is one of the most recognized and geared towards individual consumers. This model represents commerce over the Internet between a company and a consumer who buys for his personal needs. B2C markets have made a significant contribution to the commercial development of the Internet. The Internet provides access to a new space for commerce, a virtual space, that uses digital data to facilitate market exchange. In the last decade, the new e-market has become widely available for consumers, and for companies it has offered numerous opportunities and challenges.

As shown in graph 1, B2C e-commerce GMV is showing significant growth during the pandemic years, with a steady increase on a yearly level. B2C interaction enables better integration of consumers with products and services. Search tools and Internet communities contribute to reducing the consumer's costs for searching for products and prices. Modern consumers search intensively until they find and receive a suitable affordable offer, while the virtual space offered them a no-contact option in recent pandemic years.

**Graph 1. E-commerce sales on a global level (2014 – 2025)**

Source: <https://www.statista.com/statistics/379046/worldwide-retail-e-commerce-sales/>

## 2.2 M-commerce

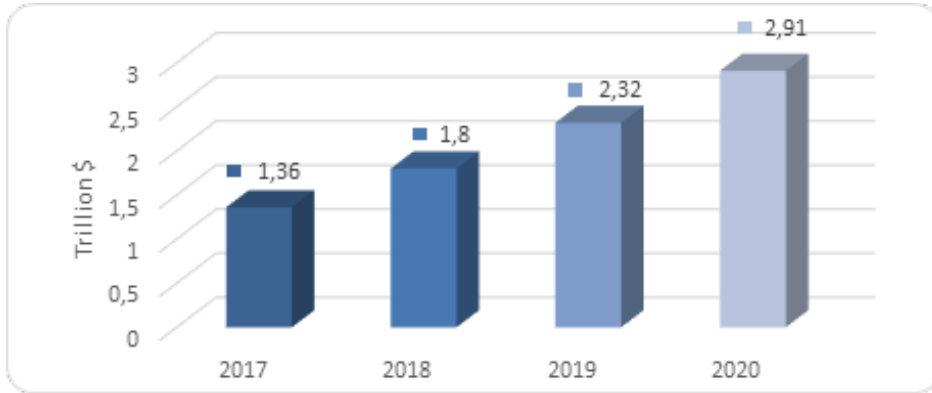
Mobile commerce refers to the conduct of e-commerce through wireless communication devices, smartphones and tablets. M-commerce is carried out through mobile devices and appropriate data transfer protocols. This way of doing business is on the rise in the world because the user is not bound to place and time, the service is available anywhere at any time. M-commerce involves purchasing via a mobile device, mobile marketing, mobile banking or using a digital wallet<sup>1</sup>. Mobile shopping in addition to mobile apps can also be done through optimized websites, even through social media platforms.

A prerequisite for the development of m-commerce is the progress and introduction of new technologies in mobile telecommunications, that is, the development of the Wi-Fi network, network services (3G, 4G, 5G), the global system for mobile communication (GSM), etc. Interest in m-commerce is increasing with the availability and mass of mobile technology as well as the possibility of cheap access to mobile internet. The perspective for the growing development of m-commerce comes from the opportunities to develop new business models and the integration of new technologies<sup>2</sup>.

<sup>1</sup> Safieddine F., (2016), E-systems for Business and Commerce, chapter 7, CRC Publishing

<sup>2</sup> Alotaibi, R.S. (2021) Understanding customer loyalty of M-commerce applications in Saudi Arabia. Int. Trans. J. Eng. Manag. Appl. Sci. Technol., 12, 1–12.

**Graph 2. Value of M-commerce (2017-2020)**



Source: <https://www.statista.com/statistics/806323/mobile-retail-commerce-revenue-worldwide/> (2022)

Graph 2 indicates the global growth trend of mobile commerce. Some estimates say that the percentage of m-commerce in the total e-commerce will be up to 75% in the coming years. The reason for the growth so far, on which future estimates are based, is the rapid development of mobile technology and mobile devices, new innovative solutions, accessible mobile internet and the integration of mobile applications in all segments of everyday life. M-commerce will continue to develop and new opportunities and new challenges will appear.

### **3. IMPORTANCE OF E-COMMERCE DURING THE GLOBAL PANDEMIC COVID-19**

The COVID-19 pandemic has accelerated digital transformations. Digital solutions have become necessary and increasingly necessary for the continuation of some economic and social activities from a distance. These solutions are of crucial importance for online work, online education, telemedicine, as well as for maintaining social connections in times of physical distancing. We are also witnessing the growth of e-commerce not only in developed countries but also in developing countries, which will have long-term implications. However, unless a suitable solution is found, the existing digital divide is likely to result in even greater inequality. In that context, it is necessary to make an assessment of the impact of the pandemic in different regions of the world. Greater efforts are needed from all interested parties - the government, compa-

nies, consumers and international partners in order for e-commerce to play a positive and major role in the national and international recovery.

Despite the global recession show in table 1, the pandemic led to a further acceleration of digital transformation. The pandemic has reinforced the importance of removing existing barriers in e-commerce. Countries that take advantage of the potential of e-commerce will be able to better and to a greater extent take advantage of the opportunities offered by the digital economy.

**Table 1. Global economic influence of COVID-19**

Global GDP	↓ -4,3%
Global product trade	↓ -9%
Global services trade	↓ -15%

Source: UNCTAD, [https://unctad.org/system/files/non-official-document/p01\\_tdb\\_edc\\_wg2021\\_Fredriksson.pdf](https://unctad.org/system/files/non-official-document/p01_tdb_edc_wg2021_Fredriksson.pdf)

The accelerated growth trend of e-commerce, shown in table 2, is very likely to be maintained during the recovery from the consequences, as the “new normal” settles in the following years.

**Table 2. Global trends for e-commerce during COVID-19**

	2018	2019	2020
Percentage of e-commerce in B2C	14,5%	15,8,%	21,3%

Source: UNCTAD, [https://unctad.org/system/files/non-official-document/p01\\_tdb\\_edc\\_wg2021\\_Fredriksson.pdf](https://unctad.org/system/files/non-official-document/p01_tdb_edc_wg2021_Fredriksson.pdf)

The digital economy and e-commerce are playing an ever-increasing role in efforts to achieve the Sustainable Development Goals, bringing new opportunities and new challenges. Countries that harness the potential of e-commerce will be better positioned to reap the benefits of global markets, their products and services in this digital economy, while those that do not risk being left behind. The COVID-19 pandemic dominated global economic development during 2020 and 2021. Movement restrictions and other public health measures have reduced economic activity in many sectors and countries, affecting production, distribution and consumption, especially in countries that were less prepared to deal with the crisis. The pandemic caused a sharp slowdown in economic activity for which economies were largely unpre-

pared. A consequence of this situation was the penetration of e-commerce, due to the need to move many activities online. It seems likely that the accelerated e-commerce growth trend seen during the pandemic will continue during the recovery.

In the fight against COVID-19, economic activities that require close physical contact were strictly limited. In this context, e-commerce appears as the main pillar of the economy in the crisis. E-commerce can help further reduce the risk of new infections by minimizing face-to-face interactions. It can help preserve jobs during the crisis and can help increase the acceptance of physical distancing measures among the population. A crisis can have a lasting impact on companies, consumer preferences and buying habits. Consumers are more willing than ever to embrace online shopping and experiment with new services. Governments should enable conditions and take actions to ensure that e-commerce will use its full potential during this public health and economic crisis.



**Table 3: Retail e-commerce, 2018-2020**

Country	Retail e-commerce (\$ billion)			Total sales (\$ billion)			Percentage of retail e-commerce (% retail)		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Australia	13.5	14.4	22.9	239	229	242	5.6	6.3	9.4
Canada	13.9	16.5	28.1	467	462	452	3.0	3.6	6.2
China	1,060.4	1,233.6	1,414.3	5,755	5,957	5,681	18.4	20.7	24.9
South Korea	76.8	84.3	104.4	423	406	403	18.2	20.8	25.9
United Kingdom	84.0	89.0	130.6	565	564	560	14.9	15.8	23.3
USA	519.6	598.0	791.7	5,269	5,452	5,638	9.9	11.0	14.0
Total	1,770	2,038	2,495	12,752	13,102	13,003	14%	16%	19%

**Source:** UNCTAD, <https://unctad.org/>, based on data from national institutions of the analyzed countries

Table 3 shows us the dramatic rise of e-commerce in certain countries in the context of the restriction of movement caused by COVID-19 and an increased percentage of participation in the total retail sales. As shown in Table 3, South Korea recorded the highest share of e-commerce at 25.9% in 2020, up from 20.8% the previous year. This data shows the growing importance of e-commerce. It also indicates the need for countries, especially developing and transition countries, to take such information into account when rebuilding their economies.

**Table 4. Top 10 economies in transition according to UNCTAD index for B2C e-commerce, 2020**

Rank	Economies in transition	Index value	World rank
1	Belorussia	78,8	35
2	Russia	76,6	41
3	Serbia	75,3	43
4	Georgia	73,6	47
5	Ukraine	71,2	51
<b>6</b>	<b>North Macedonia</b>	<b>71.1</b>	<b>52</b>
7	Moldavia	70,8	53
8	Kazakhstan	68,2	60
9	Azerbaijan	60,0	65
10	Bosnia and Herzegovina	58,1	70

Source: UNCTAD, <https://unctad.org/>, based on data from national institutions of the analyzed countries

According to the UNCTAD B2C E-Commerce Index, North Macedonia is in 6th place among economies in transition and 52nd in the world ranking. The index is formed based on the percentage of internet users, percentage of individuals with an account, the security of internet services and trust in postal services.

**Table 5: Best B2C companies in the world according to GMV (Gross Merchandising Volume)**

GMV rank		Company	State	Industry	GMV (\$ billions)			GMV (%)	
2020	2019				2018	2019	2020	2018-19	2019-20
1	1	Alibaba	China	E-commerce	866	954	1,145	10.2	20.1
2	2	Amazon	USA	E-commerce	344	417	575	21.0	38.0
3	3	JD.com	China	E-commerce	253	302	379	19.1	25.4
4	4	Pinduoduo	China	E-commerce	71	146	242	104.4	65.9
5	9	Shopify	Canada	Internet mediums and services	41	61	120	48.7	95.6
6	7	eBay	USA	E-commerce	90	86	100	-4.8	17.0
7	10	Meituan	China	E-commerce	43	57	71	33.0	24.6
8	12	Walmart	USA	Retail	25	37	64	47.0	72.4
9	8	Uber	USA	Internet mediums and services	50	65	58	30.5	-10.9
10	13	Rakuten	Japan	E-commerce	30	34	42	13.6	24.2
11	5	Expedia	USA	Internet mediums and services	100	108	37	8.2	-65.9

GMV rank		Compa- ny	State	Industry	GMV (\$ billions)			GMV (%)	
2020	2019				2018	2019	2020	2018- 19	2019- 20
12	6	Booking Holdings	USA	Internet mediums and ser- vices	93	96	35	4.0	-63.3
13	11	Airbnb	USA	Internet mediums and ser- vices	29	38	24	29.3	-37.1
		<b>Total</b>			<b>2,035</b>	<b>2,399</b>	<b>2,890</b>	<b>17.9</b>	<b>20.5</b>

Source: UNCTAD, <https://unctad.org>

According to Table 5, leading e-commerce companies have made huge fortunes during the COVID-19 pandemic. It is obvious and expected that companies offering transportation and travel services will have a dramatic drop in rank and gross product value, while companies with digital facing activities (e-commerce, internet mediums etc.) will be at the forefront. Of the leading 13 companies in the world, 7 are from the USA and 4 from China.

#### 4. STATE OF E-COMMERCE DURING THE COVID-19 PANDEMIC IN THE REPUBLIC OF NORTH MACEDONIA

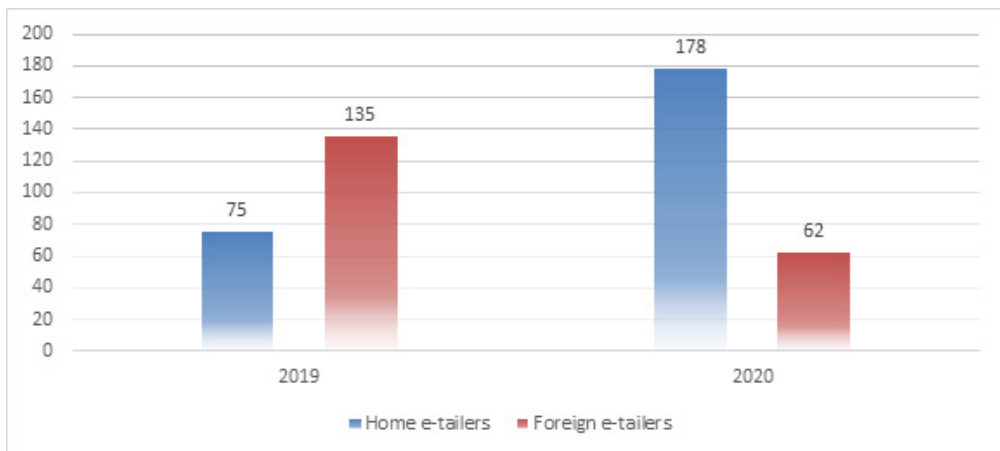
Both on a global scale and in the Republic of North Macedonia e-commerce is seeing significant growth in the number and value of online transactions. Most online purchases were made with domestic payment cards to domestic e-stores. According to the statistics of the National Bank of N. Macedonia, the growth of online shopping towards domestic e-stores in 2020 is 137% higher compared to 2019. During the 2020 pandemic a total of 178 million euros were spent on Macedonian e-stores, of which 6% or 11 million euros were made with foreign cards. In 2019, transactions with Macedonian e-stores worth 75 million euros were realized.

According to the National Bank of N. Macedonia, the value of online payments with domestic cards to foreign e-stores recorded a drop of 54% or 62 million euros in total in 2020. compared to 135 million euros in 2019. This

drop in passion for e-tailers is expected and is due to the drop in travel arrangements, hotel bookings, airline tickets, etc. due to movement restrictions and foreign travel bans.

During 2020, online transactions worth 10.8 million euros were made from abroad to domestic e-stores, compared to 6.8 million euros in 2019, which is an increase of 58.8%. The total value of e-commerce in N. Macedonia during the 2020 pandemic amounts to 240 million euros or a growth of 14.2% compared to 2019 when the value is 210 million euros, Graph 3. Although the growth is not so large and significant, it is more important that the structure of e-commerce is changing and more and more Macedonian consumers buy from domestic e-tailers. In 2019, only 35.7% of the total value belonged to domestic e-traders, while in 2020, 74% of the value of e-trade was realized to domestic e-traders.

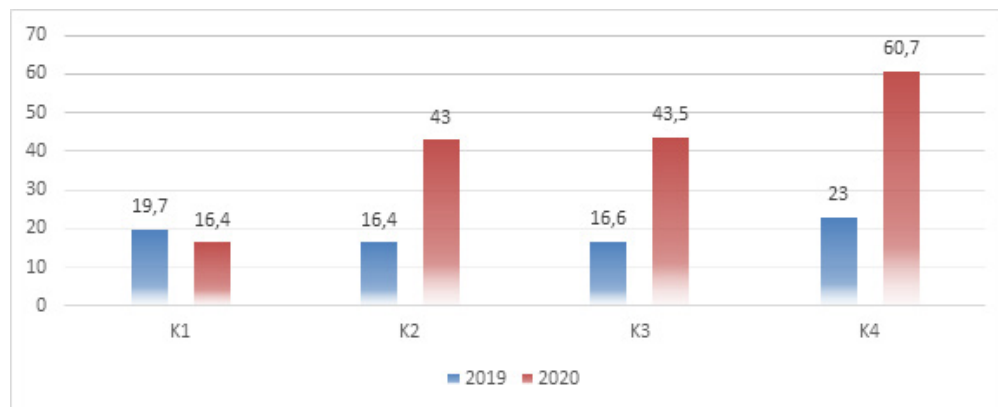
**Graph 3. Value and structure of online shopping in North Macedonia in 2019 and 2020 (million €)**



Source: National Bank of N. Macedonia, <https://www.nbrm.mk>

Graph 4 shows the growth and value of e-commerce to domestic e-traders by quarter, where growth can be observed for 2020 starting from the second quarter, that is, with the start of the COVID-19 pandemic.

**Graph 4. Value of online transactions towards home e-tailers 2019 – 2020 (million €)**



Source: National Bank of N. Macedonia, <https://www.nbrm.mk/ns-newsarticle-soopstenie-862020-en.nspix>

According to data from the State Statistics Office<sup>3</sup>, in 2020 40.1% of individuals with internet access have shopped online in the last 12 months. The percentage in 2019 is 36%, while in 2017 only 20% of Internet users shopped online. The number of new e-stores is also growing. In 2020 439 new e-stores were opened, which is a growth of 43% compared to the previous year. The total number of online sales outlets according to the State Statistics Office at the end of 2020. is 1459. These data indicate increased growth and interest in e-commerce in N. Macedonia. It is also evident the trust that citizens gain in online shopping among domestic e-traders, which is encouraging for the future growth and development of e-commerce.

## Conclusion

The paper researches a relevant topic for the development of e-commerce in countries in transition, with special focus of North Macedonia. As the data shows, e-commerce is still at generally lower levels than developed countries, however is on the rise accelerated by the COVID-19 pandemic. The rise of this trend will depend on the digital readiness and preparedness of the countries as well as the enabling conditions for e-commerce. In fact, the companies that best handled the crisis were highly prepared and supported by appropri-

<sup>3</sup> <https://www.stat.gov.mk>

ate and sound e-commerce strategies. Economies with a high level of internet coverage, with consistent e-commerce strategies and economies that prioritize e-commerce development through coordinated activities stand to benefit the most during the COVID-19 crisis. In terms of companies, those with a long-standing presence on the Internet, traditional businesses with sufficient funds to invest in upgrading their business to e-commerce, communication networks and digital platforms, and companies that overcome the problems of transport logistics, have coped best with the crisis.

Relevant conclusions for the public and private sector:

- **Faster digitalization for SMEs** – more flexible in accepting digitalization of work process, as smaller teams can virtualize their collaboration much easier than corporations
- **New payment methods are critical** – economies with broader types of payment methods (such as PayPal, Venmo etc.) generally achieve greater e-commerce sales. This is also due to the elimination of the “gray” economy with other payment options (cash on hand)
- **B2B transactions may become primarily digital** – trends in recent years (until the pandemic) show a steady rise of B2B e-commerce, with faster adoption during COVID-19. As these transactions are also repeating ones, digitalization saves time and costs, accelerating its acceptance
- **B2C e-commerce transactions in rising economies still struggle** – compared to developed countries, consistently lower numbers in retail e-commerce transactions are registered in countries in transition. The awareness of e-commerce benefits rose during the pandemic years, however still at a slower pace than developed countries. To increase the acceptance of e-commerce, governments can ensure that the proper infrastructure is in place, along with security and privacy laws and measures, while simultaneously promoting the use and best practices of e-commerce for individual buyers.
- **M-commerce is the future** – the growth in B2B and B2C e-commerce in pandemic years is evident, however m-commerce shows much significant growth during those years. Based on the statistics presented in the paper, m-commerce can become one of the standards for online transactions in the following years, with up to 75% participation in digital transactions.

The research can be expanded by including data from e-commerce sales by specific industry before and after the pandemic years. Additionally, the research can be updated with data in researching the “new normal”, as the pandemic onset quiets down in the following years. As the trend was viewed solely through the processing of secondary data, primary research can be included to follow-up the transition from retail to e-commerce activities by companies, as well as explore benefits and drawbacks. Finally, since the paper researched e-commerce, efforts can be made to explore the broader e-business implications on various business processes in the organizations.

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