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Original scientific paper

RESPONSE OF E-TRADERS TO COVID-19 CHALLENGES: EMPIRICAL EVIDENCE FROM NORTH MACEDONIA

Nina Angelovska¹

Abstract

The COVID-19 pandemic caused several short- and mid-term disruptions, to which businesses must adapt. The main goal of this research is to investigate the impact of e-traders response to Covid-19 challenges on online growth. Using existing survey data results linear multiply regression was performed and statistically significant results confirmed that online growth during the Covid-19 emergency was higher in the companies that undertake marketing and delivery adaptation. Further, it was confirmed that e-traders that were selling traditionally and online made higher online growth. Companies with fewer employees were more adaptable to reach higher online growth. Online growth obviously was affected by online sales, and online visits do not statistically significantly influence online growth. The e-traders that believe in the potential for e-commerce in North Macedonia have achieved higher online growth. The timing of the start of the online business does not affect the online growth of e-traders.

Keywords: E-commerce, Marketing adaptation, Delivery adaptation, Pandemic, Online sale

JEL classification: M20

INTRODUCTION

The coronavirus outbreak, which is referred to as Covid-19 as a shortened version of “coronavirus disease of 2019”, was spread incredibly fast among people and in just a few months, tens of thousands of people worldwide have become infected (Platje *et al.* 2020). Furthermore, as the Covid-19 outbreak spreads it also affected companies across the world. Some of the world's biggest companies had negative effects such as disrupted manufacturing, empty stores without consumers, and flagging demand for their wares (Eavis 2020). Some of the most hard-hit sectors include airlines, leisure, and hospitality; Bars and restaurants are also being heavily affected (Dragomir 2021). This pandemic has become the biggest threat to the global economy and financial markets as China, North America, and Europe have been the most hard-hit markets. The Organization for Economic Co-operation and Development (OECD) has downgraded its 2020 real GDP growth projections for almost all economies (Lee 2020). Furthermore, some countries are starting to put their citizens on various forms of lockdown to slow the spread of the virus. These include national quarantines, and school and work closures (Kaplan *et al.* 2020). Altig *et al.* (2020) consider several economic uncertainty indicators for the US and UK before and during the COVID-19 pandemic: implied stock market volatility, newspaper-based economic policy uncertainty, Twitter chatter about economic uncertainty, subjective uncertainty about future business growth, and disagreement among professional forecasters about future GDP growth (Altig *et al.* 2020)

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Intuitively, the crisis will not only leave numerous firms struggling for survival but will also impose some to search for suitable alternative strategic paths (Seetharaman 2020). While the Covid-19 crisis, on the one hand, has posed many challenges to business firms, on the other hand, the use of today's technology innovations allows such firms chances to determine novel business methods that will allow them to survive the crisis. Online shopping is one of those opportunities, where many manufacturing and retail sectors reviewed and adapted their business models online (Herath and Herath 2020). Therefore, it was expected that COVID-19 will permanently normalize the usage of online shopping.

The COVID-19 pandemic accelerated existing trends in e-commerce adoption and increased its penetration globally. As governments and private entities took measures to mitigate the spread of the virus, including lockdowns and movement restrictions, and consumers practiced social distancing to prevent contagion, a significant share of domestic and international trade in goods and services were redirected through digital means. Consumption of digital services and online shopping surged during the pandemic, especially through previously established platforms and marketplaces. More businesses and consumers resorted to electronic payment methods, while many people work from home, increasing pressure on the internet. For many businesses and consumers, this represented an opportunity to tap into online and digital markets for the first time, while others took advantage of the situation to strengthen their online presence. Many firms right now are forced to respond to multiple fronts at once, both for the protection of their workers' safety, as well as protecting their operational viability as many of them are experiencing difficulties with their supply chains (Vanany *et al.* 2021). According to Craven *et al.* (2020), there are some immediate actions that firms should consider in response to Covid-19 (Craven *et al.* 2020). Depending on the level of e-readiness and the extent of digitalization in each company before the pandemic, the rapid transition to e-commerce faced different challenges. In particular, e-commerce thrived, allowing those businesses that had opened or strengthened digital sales channels as the pandemic unfolded to keep afloat and remain solvent during the crisis. This is due to physical stores closing because of the virus and pushing consumers to go online for necessities (Holman 2020).

The pandemic has presented an opportunity for companies in North Macedonia to realize the digital market's potential and address the challenges for maximum results. The purpose of this study is to investigate and explore how Macedonian companies responded to Covid-19 pandemic challenges and what factors influenced the most the utilization of the potential for e-commerce growth.

The remainder of the paper is organized as follows. Section 2 presents the literature review. Section 3 explains data collection and methodology. Section 4 provides empirical analyses. The last section offers concluding remarks.

1. LITERATURE REVIEW

As the topic of the Covid-19 outbreak is still current, there is a lack of studies about it and particularly its relation to e-commerce companies. What is so far known about this subject is that it does affect most types of companies somehow and it is affecting global and national economies (Fernandes 2020). Fernandes (2020) estimates that most countries' GDP growth is likely to decline by three to five percent in 2020 in an event of a mild (1.5 months) lockdown. The coronavirus isn't only a global health crisis, but an

economic one as well. Many businesses across the world have been struggling due to China coping with the pandemic. The COVID-19 pandemic harms business performance and this incidence can be resolved if businesses can adapt by adopting digital marketing and building CRM (Nyoman *et al.* 2021).

The Covid-19 situation is bound to have many consequences for consumers, but many retailers have mixed opinions about the severity of Covid-19 and its impacts. One study by Digital Commerce 360 (2020), including a survey of 304 retailers shows that when asked what impact they believe Covid-19 will have on their e-commerce business, 32% believed that it would go down somewhat while 30% answered that they think it would go up somewhat. The study, furthermore, states that online retailers are continuing to adapt to the continuously changing environment that the Covid-19 outbreak causes. Digital Commerce 360 has a Top 100 list of (North American) retailers based on their global e-commerce sales and as of March 23, 62 of the retailers from the list have closed physical stores due to the pandemic. Most of them now have Covid-19 –related messages on their site and these are some of the changes they currently have to adapt to. The study furthermore states that online sales have increased by 52% compared to the same period last year. Offline retailers are now becoming more dependent on their digital commerce strategies and digital tools to keep their businesses going (Digital Commerce 360 2020).

The crisis can deepen even further if the supply of essential products is stopped. Therefore, when doing business in times of a pandemic, some strategic planning must be considered (Abdin 2020). E-businesses and e-commerce are having great opportunities during this time, as consumers don't have to go outside and expose themselves to the virus. Digital tools are a great option as they can be used for receiving orders, materials procurement, receiving shipments, operationalizing production, distribution, and after-sale service (Abdin 2020).

The Covid-19 situation is constantly changing, and new challenges emerge. Many people's daily lives have now changed as some countries are on lockdown and people are generally staying inside more (Hasanat *et al.* 2020). The online orders of household goods and consumables have risen. Because of Covid-19 online order fulfillment slows as companies have more orders from consumers and the time to fulfill orders has risen. There have previously been changes in the value chain due to digitalization and digital environments that allow the value chain activities to be virtual and in the time of a pandemic, these could have more potential and be flexible (Roosendaal *et al.* 2003). Furthermore, business models embrace the concept of value chains and it is important to understand the business model of the operating firm, especially when new products or services are developed under a state of significant change (Picard 2000). When the environments of firms or industries change, supporting factors of a business model also change to suit the environment. When this happens, there is the risk of business models being less successful than they maybe once wbeen and could potentially be abandoned (Picard 2000). Retailers are aware that their responses to the emergency will dramatically impact their business, but are scrambling to adapt as they have very little time to take action (Pantano *et al.* 2020).

Furthermore, the Covid-19 outbreak could be compared to the SARS crisis that happened in 2002 and 2003, which was quite the early days for e-commerce as it started taking off in the '90s (Liu *et al.* 2011). However, companies like Alibaba and JD.com grew significantly during this time as they were established in the early years of e-commerce, during the late 1990s and early 2000s (Reardon *et al.* 2021). E-commerce firms employ strategies to “fast-track” their spread, responding to challenges of high

transaction costs, heterogeneous consumers, and persisting importance of retail small and medium enterprises (Reardon *et al.* 2021). During the SARS outbreak, thousands of people were infected which also led to schools, factories, and shops being closed in China (Liu *et al.* 2011). During the outbreak of SARS, Alibaba eventually evolved into a B2B platform that connected U.S. buyers with Chinese Suppliers. JD.com launched an online e-commerce site and they were a chain of small electronics (Zheng *et al.* 2020). Due to the SARS outbreak, JD.com had to close almost all of its physical stores and its online retail presence grew instead. Furthermore, during the SARS outbreak, an employee at Alibaba caught the virus which led to 500+ employees being forced to quarantine at home while also working from home (Zheng *et al.* 2020). While many countries gave warnings to businesspersons outside of China for traveling to China, they instead took an interest in Alibaba's online business. Other Chinese suppliers started to invest more in online marketing on Alibaba's platform and that year in 2002, their business grew by 50% and was seeing daily revenues of 10 million RMB. These examples could be compared to the current events to some extent and show an example of how pandemics can affect e-commerce (Zheng *et al.* 2020).

The COVID-19 pandemic has accelerated the growth in domestic and cross-border e-commerce. Lockdowns, movement restrictions, and social distancing to prevent contagion have driven a switch to online and digital channels, increasing the share of digital trade on total trade, both in goods and services. Businesses and consumers shifted massively to digital and online channels to circumvent social distancing measures, continue business operations, secure sources of income, and remain solvent during the pandemic. Within a few months, e-commerce penetration in the region jumped years forward, accelerating a slow digital transformation process occurring before the outbreak of COVID-19.

While domestic e-commerce saw unprecedented growth rates, preliminary data suggest cross-border merchandise e-commerce in the region was negatively affected by the pandemic. The latter happened particularly at the extensive margin, as fewer consumers bought in foreign marketplaces. Disruption in all travel modes, particularly air transport, seems to have been mostly responsible for this trend. The push toward digital trade was held back by important bottlenecks in the region. Some challenges were shared by most countries worldwide given the magnitude of the crisis, but most reflected structural deficits that hinder digital trade. Notwithstanding substantial cross-country differences, the region trails the OECD and South-East Asia in its preparedness to engage and benefit from e-commerce. In many countries in LAC, internet access remains of low quality and expensive, with large gaps between rural and urban areas. Trade facilitation measures lack coordination between border agencies and private operators, while the adoption of new technologies is still low.

2. METHODOLOGY AND DATA

The quantitative method has been applied, using an existing questionnaire surveyed by the Macedonian E-commerce Association (Angelovska and Angelovska 2020). The surveyed questionnaire aimed to reveal the challenges faced by e-traders in North Macedonia, but even more, the degree of utilization of opportunities that have arisen from the emerging health crisis. The questionnaire was surveyed from October 16th to 27th 2020. The questionnaire consists of 6 sections and for this study, we use the first demographic section and the sixth section about the Covid-19 influence on their work,

challenges, and expectations. The total response rate is over 10%, i.e. from a total of sent questionnaires to 697 e-mail addresses, 75 e-merchants responded. After cleaning the received answers and eliminating multiple answers from the same e-merchants, 68 valid answers were received (Angelovska and Angelovska 2020). The frequency of the answers of e-traders in sections 1 and 6, measures, and codes are presented in Table 1. Most of the companies that responded are from the retail industry (53%), then service activities (21%), and others (17%), and there are also wholesale companies with 9%. The online traders that participated in the survey are mostly small and the number of employees in most of them (81%) is up to 20 employees. while 9% have 21 to 50 employees and 10% with over 50 employees. 43% of online companies that answered the questionnaire started online sales in 2020, 37% started in the period 2015-2019, and 20% before 2015. Most of the respondents are companies that started online sales in 2020, which means that the companies that started online sales during the COVID crisis to adapt to the new situation are the most represented. 65% of e-traders deal with products, while products and services 9% and services are offering 12% and only 4% dealing travel. 59% of the respondents were pure-play online sellers. 51.5 % of the e-traders that responded to the questionnaire started to sell online due to the Covid-19 emergency, 91% made marketing adaptations to new circumstances, and 77% made delivery adaptations. 44% of the e-traders reported increased sales and 72% increased visits due to pandemic emergencies. The e-traders were asked to assess how they used the Covid-19 challenges, then what is potential for e-commerce growth in North Macedonia, and what is Covid-19 impact on their online growth starting from 1, little to 5 very much. They assessed worst with a mean of 3.61 the used Covid-19 opportunity, then the potential for e-commerce growth in Macedonia with a mean of 4.01 and a maximum of 4.21 e-traders assessed the Covid-19 impact on online growth.

Table 1 Descriptive statistics of e-traders demography

Variable	Code	Answers	Freq.	%	Cumulative%
Industry	1	Retail	36	52.9	52.9
	2	Production	1	1.5	54.4
	3	Wholesale	6	8.8	63.2
	4	Services	14	20.6	83.8
	5	Other	11	16.2	100
Number of employees	1	1-5	30	44.1	44.1
	2	6-10	8	11.8	55.9
	3	11-20	17	25.0	80.9
	4	21-50	6	8.8	89.7
Start selling online	1	Before 2012	5	7.4	7.4
	2	2013-2014	9	13.2	20.6
	3	2015-2017	12	17.6	38.2
	4	2018-2019	13	19.1	57.4
	5	2020	29	42.6	100.0
Offering	1	Products	44	64.7	64.7
	2	Services	8	11.8	76.5
	3	Travel	3	4.4	80.9
	4	Products and services	13	19.1	100.0

Selling channels	0	Pure-play	40	58.8	58.8
	1	Click and mortar	28	41.2	100
Covid-19 decision to sell online	0	Yes	33	48.5	48.5
	1	No	35	51.5	100
Covid-19 marketing adaptation	0	No	6	8.8	8.8
	1	Yes	62	91.2	100
Covid-19 delivery adaptation	0	No	16	23.5	23.5
	1	Yes	52	76.5	100
Covid-19 impact on sales	0	No change or decreased	38	55.9	55.9
	1	Increased	30	44.1	100
Covid-19 impact on visits	0	No change or decreased	19	27.9	27.9
	1	Increased	49	72.1	100
Used Covid-19 opportunity, mean=3.63	1	Little	3	4.4	4.4
	2		6	8.8	13.2
	3		19	27.9	41.2
	4		25	36.8	77.9
	5	Very much	15	22.1	100.0
Potential for e-commerce growth in MK, mean=4.01	1	Little	0	0	0
	2		3	4.4	4.4
	3		16	23.5	27.9
	4		26	38.2	66.2
	5	Very much	23	33.8	100.0
COVID-19 impact on the online growth-dependent variable, mean=4.21	1	Little	3	4.4	4.4
	2		2	2.9	7.4
	3		11	16.2	23.5
	4		14	20.6	44.1
	5	Very much	38	55.9	100.0

A multiple regression model is used to determine the factors that influenced e-commerce growth – the supply side, by Covid-19 in North Macedonia. More specifically, the research question to be answered is:

RQ: What factors influenced the online growth of Macedonian e-traders during the Covid-19 emergencies?

The study aims to understand the e-traders response to COVID-19 in the retail sector. The retail industry has been taking measures to protect employees' health. The retail industry was trying to adapt to the new Covid-19-created challenges and to make things easier for the customers or respond to increased demand for online shopping. The main measure for e-traders online growth during Covid-19 captures responses in the following item in the survey: How has Covid-19 affected your online growth?, and is a dependent variable in our regression analysis (measured by 5 points Likert scale 1 being little and 5 very much). The focus of this research is to find out how e-traders' responses affected online growth in Covid-19 emergencies. Specifically, we want to see the impact of adaptation e-traders made to online growth. For that reason, the following hypotheses

were formulated for a more thorough study of the set goals. The hypotheses to be tested are:

H1: Marketing adaptation during Covid-19 did affect the online growth of e-traders

H2: Delivery adaptation during Covid-19 did affect the online growth of e-traders

As control variables, we use: Sales channel, number of employees, the timing of the start of online selling, visits and sales during Covid-19, and assessment of the e-traders of the potential for e-growth in North Macedonia.

3. RESULTS

The econometric analysis started with linear regression, and the model summary is presented in Table 2. The R-squared is 0.73, which means that there is a strong significant link between the variables. The modification of the independent variables can influence 73% of the modification of the dependent variable, online growth. The ANOVA test revealed that F (5.299) is statistically significant at a 1% level of significance. Therefore, the model is valid and can be used to test the relationship between the dependent variable and different independent variables of the proposed model.

Table 3 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.732 ^a	.536	.435	.827		
ANOVA						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	43.495	12	3.625	5.299	.000 ^b
	Residual	37.622	55	.684		
	Total	81.118	67			
a.	Dependent Variable: ONLINEGROWTH					
b.	Predictors: (Constant), CHANAELS_TYPE, NUMBER_OF_EMPLOYEE, COVID_19IMPACT_ON_SALES, COVID_19_IMPACT_ON_VISITS, MARKETING_ADAPTATION, DILIVERY_ADAPTATION, POTENTIAL_FOR_E_COMMERCE_GROWTH_IN_MK, WHEN_DID_YOU_START_ONLAJN					

The results of the regression model are presented in Table 3. H1 and H2 show a positive impact of marketing and delivery adaptation during Covid-19 emergencies on e-traders' online growth ($\beta = 0.478$, $p = .000$ and $\beta = 0.661$, $p = .01$). The impact is positive and statistically significant. The p-value ($p = 0.000$ and $p = .01$) reveals the positive and direct relationship and $\beta = 0.478$ indicates that marketing adaptation affects the dependent variable i.e. online growth by about 48 percent and $\beta = 0.661$ that delivery adaptation affects the dependent variable i.e. online growth by about 66 percent. Further, the regression analysis shows a statistically significant impact of the type of sale channel, meaning that if the e-trader is selling pure play, just online or as well in shops "click and brick". There is a direct and significant relationship between the channel type and the online growth ($\beta = 0.43$, $p = .004$). The result can be explained that e-traders that have both sales channels, due to the lockdown, did start to sell just online and self-reported higher online growth. The number of employees has a direct and statistically significant negative relationship with online growth ($\beta = -0.16$, $p = .004$). During the Covid-19 emergency, companies with more employees were struggling with liquidity and payment of salaries. Consequently, they could not focus on strategies for increasing online growth. Companies with fewer employees were more adaptable to reach higher online growth. Online sales and visits have affected the online growth of e-traders, but online sales have a statistically significant impact ($\beta = 0.63$, $p = .002$) on online growth and online visits

do not statistically significantly influence online growth. The assessment of the potential of e-commerce growth in North Macedonia has a statistically significant impact on online growth ($\beta = 0.31$, $p = .003$). The e-traders that believe in the potential for e-commerce in North Macedonia have achieved higher online growth. The timing of the start of the online business does not impact the online growth of e-traders.

Table 3 Regression results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CHANAELS_TYPE	0.432037	0.203013	2.128118	0.0376
NUMBER_OF_EMPLOYEE	-0.160355	0.074913	-2.140547	0.0367
COVID_19IMPACT_ON_SALES	0.634080	0.270166	2.347002	0.0225
COVID_19_IMPACT_ON_VISITS	0.060821	0.227351	0.267518	0.7901
MARKETING_ADAPTATION	0.477757	0.100567	4.750655	0.0000
DILIVERY_ADAPTATION	0.662450	0.254929	2.598568	0.0119
POTENTIAL_FOR_E_COMMERCE_GROWTH_IN_MK	0.310983	0.133868	2.323061	0.0238
WHEN_DID_YOU_START_ONLAJN	-0.026559	0.077757	-0.341562	0.7340
C	0.451338	0.744762	0.606016	0.5470

CONCLUSION

E-commerce underwent a significant stress test at the time of the onset of the global COVID-19 pandemic. Panic buying, partial closure of brick-and-mortar shops, and the overall market uncertainty created unprecedented conditions for all market players. Governments' response to the COVID-19 outbreak resulted in imposed social-distancing measures, lockdowns, and closing of economies triggering acceleration of e-commerce growth globally. Driven by necessity, consumers shifted from traditional to online shopping. The retailers on the supply side of the market needed to adapt in a relatively short time. Some of the retailers were ready to start with the digital transformation they have implemented, while others were forced to improvise under the pressure of market survival. The types of appropriate marketing plans, approaches, and strategies businesses have taken to adapt to the new circumstances will show who harvests the most of the potential for e-commerce development. The main goal of this research is to investigate how e-traders responded to Covid-19 challenges. More particularly, we wanted to know how adaptation in marketing and delivery affected the online growth of e-traders. Using existing survey data results we performed linear multiple regression. Regression results confirmed that online growth during the Covid-19 emergency was affected by actions to make marketing and delivery adaptation. We used control variables and find out that e-traders that were selling traditionally and online made higher online growth. Companies with fewer employees were more adaptable to reach higher online growth. Online sales and visits have affected the online growth of e-traders, but online sales have a statistically significant on online growth and online visits do not statistically significantly influence online growth. The assessment of the potential of e-commerce growth in North Macedonia has a statistically significant impact on online growth. The e-traders that believe in the potential for e-commerce in North Macedonia have achieved higher online growth. The timing of the start of the online business does not affect the online growth of e-traders.

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