

Adapt or perish: A review on COVID-19 disruption, emerging technologies and new business models.

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Received: 10-Mar-2023, *Manuscript No.* AAJFM-23-91329; **Editor assigned:** 12-Mar-2023, *AAJFM-23-91329 (PQ)*; **Reviewed:** 26-Mar-2023, *QC No.* AAJFM-23-91329; **Revised:** 31-May-2023, *Manuscript No.* AAJFM-23-91329 (R); **Published:** 07-Jun-2023, *DOI:* 10.35841/ajfm.7.4.186

Abstract

This paper aims to conduct a review on the effects of COVID-19 on emerging technologies and new business models, emphasizing the role of adaptation in navigating the disruptions caused by the pandemic. In regards to the design and methodology, the literature on this topic was revised, allowing the identification of key themes and trends related to the adoption of new technologies and business models in response to the pandemic.

The findings suggest that COVID-19 has accelerated the adoption of new technologies and business models, particularly in the areas of E-commerce and remote work. The pandemic has created a sense of urgency among businesses to adapt to changing consumer behaviors and preferences, leading to the emergence of new business models and innovative approaches to service delivery.

The practical implications of these findings are significant, as they highlight the importance of agility and flexibility in business operations. Companies that are able to adapt quickly to changing market conditions are better positioned to survive and thrive in the new normal.

Keywords: Business models, Emerging technologies, COVID-19, E-businesses, Innovative

Introduction

The progressive growth of using information and communication technologies over the past two decades has enabled shoppers with more flexibility through the emergence of online shopping [1]. The growth and innovations in computer aided technology made online shopping become a widespread choice, not just in developed countries, but also in most developing countries. Online shopping in the past few decades triggered a revolution in the business strategies of many businesses, as consumers have grown accustomed to online purchasing and the door step delivery of products from anywhere in the world. E-commerce is rapidly transforming how enterprises interact with each other, consumers and governments. As a result of changes in the landscape of ICTs, E-commerce is now growing rapidly [2]. There is growing evidence that the use of E-commerce has a significant impact on firm performance, especially on micro and small enterprises and in the services sector.

COVID-19 pandemic happened to the entire world and have a tremendous economic impact globally, even though not evenly because some of the countries were more prepared, but most of the countries especially less developed and developing countries were unprepared [3].

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 [4]. Driven by necessity, consumers shifted from traditional to online shopping. The dominant players on the supply side of the market were able to adapt in a relatively short time, as their digital infrastructure benefited from previous thorough optimization. Market players that were long hesitant to decide on whether and when to start with the digital transformation were forced to improvise under the pressure of market survival [5].

The COVID-19 pandemic has redefined procedures in every business sector. In the first half of 2020, companies had to face an unexpected and unpredictable situation that resulted in both threats and opportunities in real time [6]. Almost overnight, brick and mortar establishments of most stores closed and the dominant part of transactions and activities moved from offline to the online environment. Small and medium enterprises in pandemic restrictions were faced with difficult times and adaptation was immediately needed.

COVID-19 has reshaped customers purchasing behavior pushing from brick and mortar to online shopping due to the movement restrictions undertaken by the government to stop spreading the virus and consequently produced an increased demand for domestic products and services [7]. Businesses needed to respond quickly to the new newly created circumstances and challenges and implement strategies that will satisfy the grown demand for e-shopping. For businesses to be able to survive there was an immediate need for an adaptation of business strategies and policies.

This paper aims to analyze the effects of COVID-19 on the development of E-commerce in the global context, by studying the state of E-commerce before the pandemic and the progress boosted by the pandemic outbreak [8]. The study analyzes the rapid demand for E-commerce applications induced by government measures to stop spreading the virus during pandemics and analyzes the business approach to providing an appropriate supply of goods and services online. The focus will be specially to give insight into the challenges that have been brought to companies to adapt the business models to E-commerce demand and to respond to challenges of COVID-19 emergence further using the potential for E-commerce development [9].

Literature Review

New business model in a digitalized world

The business model for digital business needs to be explicit and offer appropriate information and knowledge to support the managers of digital businesses successfully. Traditionally, investments are usually needed for establishing a business and were considered to be a strategic barrier to entry. However, with the internet and newer mobile technologies, new ways of doing business have been offered, such as E-commerce [10]. Usually, with E-commerce, the barriers to entry are not as high, and some argue that since the internet has reduced barriers to entry, this allows new entrants to come into many industries. Despite the increase of E-commerce and the importance of a business model to an organization's success, consensus regarding its definition and meaning has been lacking. Researchers in the E-commerce area have depicted business models from different perspectives and Al-Debei and Avison, developed a business model suitable for E-commerce by analyzing previous literature on definitions of the business model in information systems. Generally, there has been confusion in the world of business that it has experienced from traditional to digital ways of doing business [11]. In the world of traditional business, business strategy, and business processes are more merged due to the stable environment, low level of competition, and certainty. The traditional business process is also relatively simple and static and there are only limited ways of doing business. When it comes to digital business, a gap between business strategy and business processes has emerged and connecting these two has become more challenging due to the dynamic IT based business processes and there are now multiple ways of doing business.

Furthermore, the business model aims to help managers of digital businesses to experience more control in the company, as well as compete better with the appropriate and necessary information that the model provides [12]. The level of information that the model provides, should furthermore, extend to the managers' knowledge of how to adapt their business to their business model including strategy and processes to deal with uncertainties and changing environments. By no means is the business model completely independent, as it correlates with the business process and the

strategy and by that, it creates a unique strategic operational mix.

Adapt or perish?!

The business environment today can be turbulent and businesses need to respond to emerging threats and opportunities in an appropriate way [13]. The leader of an organization has a lot of responsibility for the effectiveness of the firm, by making the right decisions that will encourage innovation and adaptation. Adaptations of organizations revolve around changes that are made to cope with external threats and take opportunities and exploit them. Opportunities can be explored from different aspects such as new technologies, changing markets and shifting needs and expectations of customers. Because of these external factors, which can be both threats and opportunities, firms need to develop the ability to adapt to these external changes so they do not have a negative effect on them [14]. At times, the business environment can be quite uncertain and uncertainty is greater when the times are going through a rapid technological change. Furthermore, uncertainty can include political and economic change and uncertainty. If a firm were to experience this, it would be important for them to embrace innovation to develop an appropriate response to the changes that it may be facing.

According to Yukl and Lepsinger, certain values are necessary for large organizations to have in times of change. These values include flexibility, continuous improvement, initiative and striving for excellence [15]. Instead of viewing change and adaptation as something negative, it is better to embrace it as something that is a continuous process for improvement for the company. Furthermore, for companies to adapt to change in a good matter, it can be important to monitor the environment, which involves collecting and analyzing data about the external environment and to identify the possible threats and opportunities that come with it. External monitoring can be effective, especially if people from all levels of the company are involved in the process and the information that is collected is used to improve strategic decisions. Then, there is strategic planning, which is the process of determining where the company is and where the company wants to be in the future and how to get there [16]. The process of strategic planning in cases of adaptation involves, identifying tactics and deciding which resources and actions are needed to implement the strategies through the adaptation process. Furthermore, a company should envision the external change and what outcomes they want to come out from it. It is about putting opportunities and threats in context and making decisions about how the company should respond. Then it is important to build support for the change by viewing the change as necessary and feasible. Lastly is implementing the change in the company and at this stage, the leader of the organization needs to consider the behaviors and feelings of the people in the company and still encourage innovative thinking.

The value of E-commerce: Strategic perspective

Grandon and Pearson, state that some studies were made on the strategic value of E-commerce, where they focus on the management group of 59 American and European E-commerce companies. The study focused on E-commerce firms and their value creation [17]. The result showed that 59 firms representing 80%, of E-commerce businesses, had four factors in common such as efficiency, complementarity, lock in and newness, therefore, online websites are increasing sales and reforming the world of E-commerce. E-commerce is used to share business information and manage business networks and business transactions. Electronic commerce has shifted the definition of a company due to its business ability to deliver products, organize and keep network relationships instead of manufacturing a product and delivering a service. These sets of technologies and database management are the major drivers of E-commerce. The development of technology and other forms of communication has contributed to a modification in organizational structures and business activities by influencing the competitive opportunities of companies. The widespread utilization of computers and the internet has created a paper free trade for citizens and economic activities through online connections [18]. Information technology is an important part of an E-commerce firm's performance. Therefore, it increases the capacity to coordinate business transactions between buyers and sellers within the company or among other companies. Organizational readiness to implement information technology in firms determines the next change before the adoption of E-commerce. Readiness can be explained as how an individual in a firm is prepared to bring innovation. This includes the organizational culture, process orientation and business size. It is agreeable with the idea of Haque, Sadeghzadeh and Khatibi that stated the adoption of information technology is a weapon for healthcare organizations to improve efficiency without compromising quality.

E-commerce adoption refers to the establishment of a company's web presence, maintaining relationships and conducting transactions using electronic networks. According to Accenture and Oxford economics, digital sales growth is outpacing dynamics in traditional areas. The share of output produced by entities active online in total gross domestic product is projected to increase by 2.5% points (to 25%) in the global economy and by approximately 5 p.p. in developed countries until 2020. There is a broad academic consensus that the development of digital commerce is having a positive impact on potential output, consumer purchasing power and labor productivity [19]. A clear understanding of this mechanism is visible in the European Union. The European commission introduced a special digital agenda for Europe in its Europe 2020 strategy. The aim is to increase households' access to the internet with 100% coverage of broadband speed above 30 MB/s and at least 50% coverage of broadband speed above 100 MB/S and to expand national E-commerce with the goal of 50% of households purchasing products online, including 20% performing cross-border commerce. The digital single market strategy was adopted in 2015 and included

16 specific initiatives. The strategy aimed to enhance Europe's position as a world leader in the digital economy and E-commerce. A mid-term evaluation of the strategic goals revealed slow progress of reform caused by two key factors. First, an economic slowdown in 2013 resulted in lower funds for investment in ICT infrastructure. Second, E-commerce adoption was slower than expected, with regulatory problems to unite European markets (*i.e.* the problem of geo blocking). European countries were visibly outpaced by global peers in digital expansion. A study conducted by the centre for Retail research (Retailresearch.org. 2017) in the UK, Europe, the US and Canada confirmed the leading role of the United States in online retailing and mobile purchases [20].

COVID-19 impact on E-consumers

Starting in China the spread of the virus was observed by the western world with considerable surprise. Li and Hallsworth focused on the beginnings of the COVID-19 pandemic in China, where most pandemic stricken people decided to follow the Chinese government's nationwide self-quarantine campaign. Words such as economic lockdown and social distancing have entered the vocabulary of people's everyday lives and managerial practice. Very few analysts at the time could imagine that similar measures would be applied in the broader context of open western markets. In terms of the changes in the e-shopping behavior of Czechs forced by the restrictions imposed by the pandemic, Friedson, et al. refers to research by GoPay, which compares the volume of payments in e-shops at the time of the declaration of the state of emergency. They identified the categories showing an undesired decline in payments and also the categories which showed an increase in sales. Sheth states that since consumers could not go to the stores, the stores came to their homes. Sheth states that it is possible to anticipate a lasting change in selected characteristics of consumer behavior. He argues that while consumers are slowly returning to old habits, it is likely that these old habits will be adapted by new practices and regulations in the way consumers buy services and products. New habits will emerge in the context of technological progress, as a result of demographic change and also thanks to the innovative ways in which consumers have learned to cope with blurring borders, whether for work, education or leisure. COVID-19 made a push in shifting buyer behavior from brick and mortar to digital space. Sheth examines opportunities and problems in information management brought by the COVID-19 pandemic. COVID-19 has suddenly changed our life; from normal to new normal, movement to no movement, and social behavior to social distance. All these restrictive measures, but also the fear of the people of the infection, gave a push to the acceleration of digitalization and E-commerce growth. If gaining digital skills and changing the habits of the population were happening slowly over the years, suddenly when there was no other choice, there was a forced change in behavior and consumers' habits. In such circumstances, online shopping was no longer a choice, but rather a necessity and online shopping was part of these forced changes in habits and consumer behavior. The literature that emerged during the

COVID-19 outbreak mostly is exploring changing attitudes in shopping behavior triggered by COVID-19. Consumer behavior and marketing activities have also changed significantly during the COVID-19 emergency. Koch, et al. investigates shopping motivations that drive online purchase behavior during the COVID-19 pandemic in Germany. Grashuis, et al. investigate the grocery shopping preferences during COVID-19 in the United States, Mirhoseini, et al. in Canada and Hassen on food behavior and consumption in Qatar. Gao, X, et al. investigate the impact of COVID-19 on E-commerce adoption in China and Pham, et al. investigate COVID-19 awareness affecting consumer purchasing benefits of online shopping in Vietnam. Neger, et al. research factors affecting consumers' internet shopping behavior during a pandemic in Bangladesh. The Coronavirus outbreak, which is more 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. Some of these changes are predictable, others not so well. Uncertainty on the customer side was transmitted to suppliers in the form of enormous burdens and pressure. Consumers have also begun to prefer shopping from the safety of their homes, even for products that have only recently represented a marginal part of the market. From the point of view of customer demand, there has been a shift in the trend of buying daily consumption products as well as oversized goods online. On the one hand, there is forced the closure of most brick and mortar stores; on the other hand, enormous pressure on E-commerce and distribution, complemented by a supply shock in various segments of goods.

To combat the public health emergency of international concern at different degrees like wearing masks, working from home, social distancing and lockdown to prevent physical interactions between individuals a series of interventions and recommendations to the governments have been issued (World Health Organization 2020). The use of digital technology to perform daily activities and online shopping has been accelerating worldwide in the context of mobility restrictions imposed by governments. Consumer behavior worldwide was severely disrupted due to the restrictive lockdown rules and social distancing practices. COVID-19 made a push in shifting buyer behavior from brick and mortar to digital space. Sheth examines opportunities and problems in information management brought by the COVID-19 pandemic. COVID-19 has suddenly changed our life; from normal to new normal, movement to no movement, and social behavior to social distance. All these restrictive measures, but also the fear of the people of the infection, gave a push to the acceleration of digitalization and E-commerce growth. If gaining digital skills and changing the habits of the population were happening slowly over the years, suddenly when there was no other choice, there was a forced change in behavior and consumers' habits. In such circumstances, online shopping was no longer a choice, but rather a necessity and online shopping was part of these forced changes in habits and consumer behavior.

Even though during the pandemic consumers have cut spending, they were open to digital offerings and the demand has shifted to "online". COVID-19 was exceptionally challenging for businesses worldwide and brought to the fore the special role E-commerce can play in this crisis and beyond. ACI Worldwide reports that the purchase volume of E-commerce for June 2020 increased by 31%, compared to the same month in 2019. A range of factors, objective and subjective, influences shopper behavior and the pandemic was one such factor. Pandemic emergency influenced not only the attitude of people toward health but also their buying behavior. Digital adoption will continue to be crucial as retailers adapt to consumer preferences shaped and transformed by the pandemic. Tapping into the potential of the cloud is all about speed, security, flexibility and savings. This shift in demand for digital offerings and spending online was often a necessity rather than a choice and the main question to be answered is will it stay?. Will the changed behavior in favor of online shopping remain after the pandemic is over?.

At the end of 2020, E-commerce Europe reached out to E-commerce Europe's national E-commerce association members to conduct a new survey on the impact of COVID-19 on E-commerce in the context of the second lockdown in Europe. The survey counts 19 contributions, highlighting the COVID-19 situation in different European countries (Ecommerce Europe, 2021). The expectation of 2021 of all respondents for the development of the E-commerce sector in 2021 is positive, with 11 respondents feeling "very confident" and 8 "rather confident" about the sector's growth in the upcoming year. Respondents expect that a substantial part of the E-commerce sector growth will be retained due to the changes in consumer behavior and increased public trust. Even though there are some concerns among respondents with regards to the growth of the sector after the end of the COVID-19 restrictions, the majority estimate definitive growth in the online sale of products in 2021 and possible growth in services, such as travel, taking into consideration there is some relief of the current measures. Overall, respondents note that the COVID-19 pandemic has accelerated the digitalization of businesses in Europe and will result in continuous growth for the E-commerce sector, driven by businesses and consumers alike. E-commerce has turned into a lifeline for many traditional brick-and-mortar stores during the pandemic and has also proven resilient by meeting consumers' increased demand and ensuring the provision of essential goods and services. To find out about E-commerce customer retention after COVID-19 in Finland, Statista surveyed 1051 respondents in the period April to May 2020. 73 percent of Finnish online customers that shop online due to the Coronavirus (COVID-19) outbreak stated that they will continue shopping online after the crisis. According to the survey results, customer retention rates were the highest among those who bought clothes (88%), games and entertainment (84%) and recreational goods (79%). In the same survey, over half of the respondents in Finland said that they have started shopping for new products and services online during the Coronavirus (COVID-19) pandemic. Deloitte used data from the Danish E-commerce association (FDIH) collected from its

600 members in the three weeks following the Danish lockdown. Their findings confirm that the international trends and COVID-19 will permanently reshape E-commerce as we know it, separating winners from the rest.

Even though motivating the first adoption is a necessity for success, continuous use is vital for long-term sustainability and profitability. Nabavi, et al. defines continuous usage as a decision by the consumer to continue using certain information technology already utilized by him/her. The continuous use is more substantial than the initial use, where the acquisition cost of a new consumer may be up to five times higher than to retain an existing consumer.

The results of the survey performed on about three thousand and seven hundred consumers in nine developing and advanced countries (Brazil, China, Italy, the Republic of Korea, Germany, the Russian Federation, South Africa, Turkey and Switzerland), revealed that more than 50% of the survey's participants now do online shopping frequently (Netcomm Suisse Observatory and UNCTAD 2020). Therefore, expectations are that COVID-19 will permanently normalize the usage of online shopping. This could also assist in developing proper strategies aimed at increasing the use of online shopping.

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The literature concentrated on the factors that determine intention to continue usage of online shopping is scarce and only a few authors explored this topic, but not in COVID-19 circumstances. Recently Al-Hattami published a study on online shopping focusing on continuance intention determinants for using online shopping under COVID-19 in India and Akar influenced customers' pandemic concerns on their purchase intentions and purchasing behaviors in Turkey.

Discussion

COVID-19 impact on E-retailers

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. Some of the most hard hit sectors

include airlines, leisure and hospitality; Bars and restaurants are also being heavily affected. 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. 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. Altig, et al. 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.

Intuitively, the crisis will not only leave numerous firms struggling for survival but will also impose some to search for suitable alternative strategic paths. 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. Therefore, it is 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 was 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. According to Craven, et al. there are some immediate actions that firms should consider in response to COVID-19. 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.

The COVID-19 pandemic has redefined procedures in almost every business sector. In the first half of 2020, companies of all sizes had to face an unexpected and unpredictable situation that resulted in both threats and opportunities at the same time. Almost overnight, brick and mortar establishments of most stores closed and a dominant part of transactions and activities moved to the online environment. Although retail stores (with a few exceptions) had to remain closed, e-shops could operate without any restrictions. As a part of stricter hygiene measures, carriers temporarily abolished cash payment and a large number of e-shops followed this approach by cancelling cash on delivery and preferring card payments through the payment gateway. While until recently, the traditional business model of companies has been slowly and gradually modified towards E-commerce, the closure of markets has given the modifications a revolutionary character. The sudden change in the usual stereotypes of consumer behavior caused by both the closure of the economy and the need for social distancing brought about extensive improvisation for all stakeholders, especially during the first weeks of the pandemic. Wang, et al. state that in the event of an emergency, consumer behavior is different, it changes. A huge number of variables create a situation in the market that is unprecedented in modern history. Although in the medium term, it may only be a kind of black swan, likely, many of the changes that have recently occurred in the market under the pressure of unpredictable and non-standard conditions will persist in the post-COVID period. It was also assumed that the highly non-standard situation in the market will result in both threats and opportunities.

Frost and Sullivan made a report and stated that 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 impacts of the Chinese lockdown have affected many outside of China as well, due to them being one of the most important economies and contributing greatly to the global economy.

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 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 also an economic one. Many businesses across the world have been struggling due to China coping with the pandemic. The COVID-19 pandemic has a negative impact on business performance and this incidence can be resolved if businesses can adapt by adopting digital marketing and building CRM.

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, 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 business going.

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. 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.

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. 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. 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. When the environments of firms or industries change, supporting factors of a business model also changes to suit the environment. When this happens, there is the risk of business models being less successful than they maybe once were and could potentially be abandoned. 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.

Furthermore, the COVID-19 outbreak could be compared to the SARS crisis that happened in 2002 and 2003, which were quite the early days for E-commerce as it started taking off in the 90's. 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 1990 and early 2000. 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. During the SARS outbreak,

thousands of people were infected which also led to schools, factories and shops being closed in China. During the outbreak of SARS, Alibaba eventually evolved into a B2B platform that connected US buyers with Chinese suppliers. JD.com launched an online E-commerce site and they were a chain of small electronics. 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. While many countries gave warnings to businessmen 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.

Conclusion

In conclusion, the COVID-19 pandemic has brought many disruptions to traditional ways of doing business, but it has also accelerated the adoption of emerging technologies and new business models. Businesses that have been able to adapt and embrace change have been better equipped to survive and thrive in this new digitalized world. The traditional barriers to entry have been lowered, allowing new entrants to compete in various industries. The importance of a clear and explicit business model in a digital business cannot be overstated, as it provides the necessary information and knowledge to help managers succeed in the company. The business model should be viewed as a strategic operational mix that enables organizations to cope with external threats and take advantage of opportunities.

To adapt and survive in this dynamic environment, organizations need to embrace change, innovation and continuous improvement. Leaders need to develop the ability to make the right decisions and encourage innovation to enable their organizations to adapt quickly to external threats and changing customer needs. Companies need to monitor the environment, identify threats and opportunities, and engage all levels of the organization in the process of data collection and analysis. Strategic planning is also critical in the adaptation process as it involves determining the current and future state of the company and how to get there. Lastly, implementing the change is vital and leaders need to consider the behavior and feelings of people in the organization, encourage innovative thinking and build support for change.

In this new digitalized world, the ability to adapt and innovate will be critical for businesses to survive and grow. The COVID-19 pandemic has brought about many disruptions and challenges, but it has also opened up new opportunities for businesses to thrive. By embracing change, utilizing emerging technologies and adopting new business models, businesses can adapt and succeed in this new world.

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Citation: *Deshati E. Adapt or perish: A review on COVID-19 disruption, emerging technologies and new business models. J Fin Mark 2023;7(4):1-8.*

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