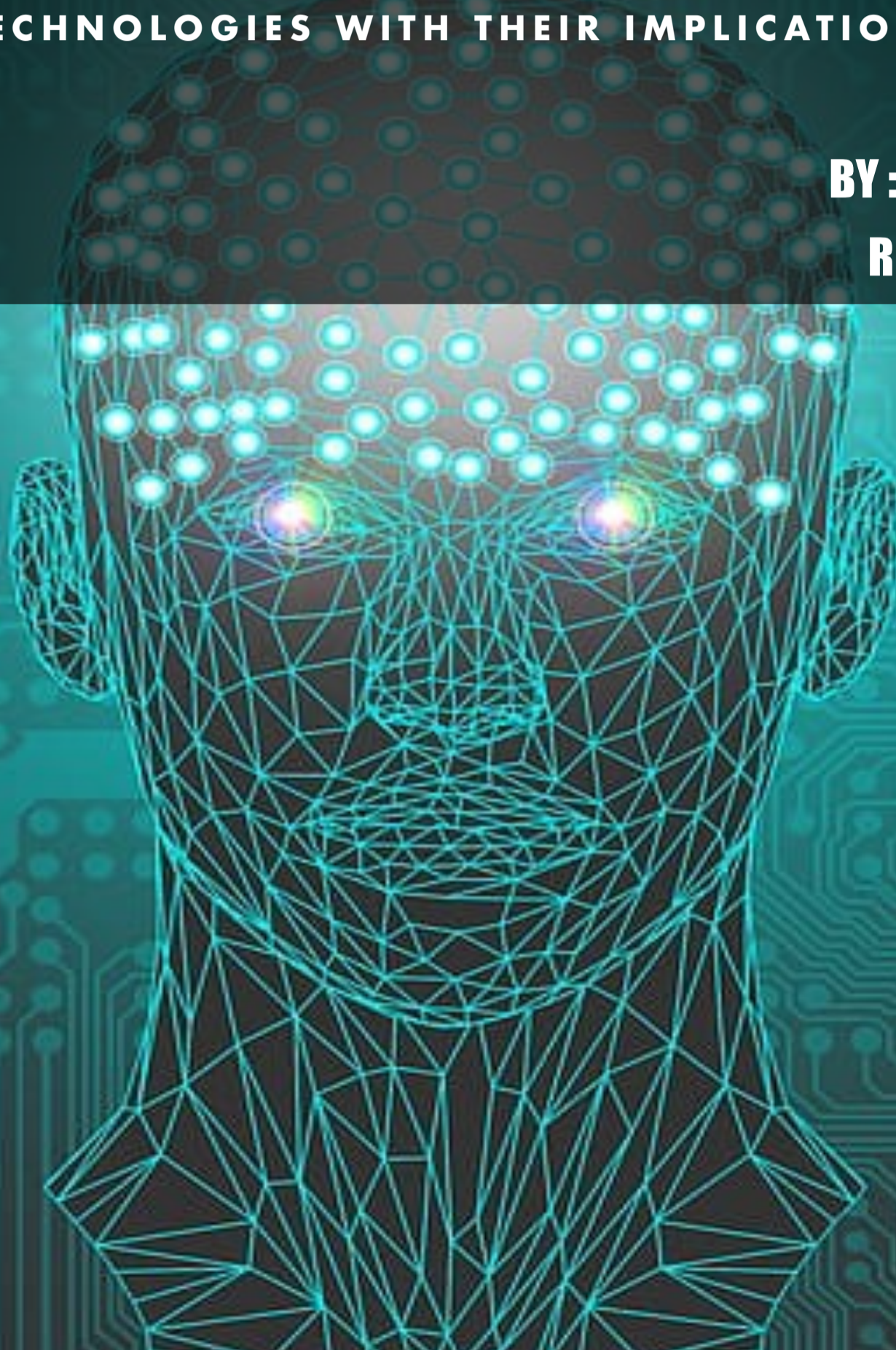


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**A REVIEW ON EFFECTS OF COVID-19 ON BUSINESSES AND
TECHNOLOGIES WITH THEIR IMPLICATIONS**

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Abstract:

The COVID-19 pandemic, shattering millions of human lives, has caused unfathomable damage to the global economy as the businesses across all sectors (tourism, hospitality, manufacturing, start-ups, real estate) were collapsed after the restrictions (lockdown, self-isolation, international travel ban) imposed by the government to curtail the spread of the virus. Many companies are facing a financial crisis as businesses are not running in a fully-fledged manner. The production capacities of various firms were declined due to the disruption of supply chains and the shortage of capital. Consequently, a large number of people have lost their jobs which in turn may gradually drag the whole nation to poverty. However, though it has suffered at the beginning of the outbreak, the global economy is now bouncing back to normal with its innovations and strategies. Digital technologies have played a paramount role in the revival of the global economy as most businesses are now managed through online platforms. Further, it has extended its impact on all sectors including healthcare, education, and even household.

Keywords: COVID-19, global economy, businesses, technologies, .

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Introduction

The unprecedented outbreak of the coronavirus disease, also known as COVID-19, a global pandemic, has created a massive crisis in the development of the global economy. As of July 22, 2020, there have been 14,765,256 confirmed cases of COVID-19, including 612,054 deaths, reported to the World Health Organization (WHO). Concerning the pandemic breakout, the governments of many nations across the globe declared sudden or phased lockdowns to save the lives of people rather than saving the economy. Strategies like ‘social distancing’ and ‘stay-at-home’ to stifle the spread of disease were implemented instantaneously which severely damaged several businesses across industries. [1]

According to the World Trade Organization (WTO, 2020), early estimates have anticipated that major economies will lose around 2.4 to 3 percent of their gross domestic product (GDP) during 2020 due to the COVID-19 pandemic, thus precipitating a global financial crisis. [2] Besides, the expert assessed a loss of about 2.7 trillion US dollars to the worldwide economy. [3] Each an extra month of shutdown reckons for a further 2 to 2.5 percent of global GDP growth. [4] Moreover, India’s GDP by the International Monetary Fund has been cut down to 1.9% from 5.8% for the financial year 2021. [5] Almost all businesses across the world face the biggest challenges in keeping their financial wheels rolling amidst reduced revenues and the high level of uncertainty. [2] As COVID-19 is disrupting the economies of many countries, economic activities across multiple sectors (tourism, food services, retail, manufacturing, business, and administration) have been lessened, steering to decrease in employment and reducing revenue streams for several businesses. [6] Since major economic activities have been restrained, the COVID-19 pandemic is associated with several new dares in comparison with the 2008 global financial crisis. The uncertainty regarding consumption and investment among different stakeholders, like consumers, trade partners, suppliers, and investors has elevated by the extent of COVID-19 spread across the globe. [1] The catastrophe sown by coronavirus disease is generating spillover effects throughout global and regional supply chains and even disrupting demand and supply. [2] The phase after a pandemic will witness less interest in investing and more interest in saving our capital, thereby resulting in reduced economic growth. The global trade on which society is based has uplifted a large number of countries around the globe out of poverty and produced well-developed economies, yet it has also seen devastation during the pandemic leading to more poverty in the world. [1] As the COVID-19 pandemic rampages across the world, leaving a trail of death and destructions in its wake, the global trade is now expected to sink by between 13% and 32% in 2020. Hence, almost paralyzing normal economic activity and social life in every country. [7]

Globalization is similar to a chain process where the progress is stopped on the condition that when a single chain-link gets collapsed. Being known as the biggest manufacturer of the various components, active

pharmaceutical ingredients (APIs), and other raw materials, China is one of the worst affected countries due to COVID-19 and consequently hitting the global economy badly by the decrease in industrial production. Many markets, especially in the fields of tourism and hospitality were thrashed due to the travel ban imposed by some countries, resulting in millions of dollars loss to the airlines, tourism, and hospitality industries. Further, various functions such as scientific conferences, business meetings, sports events, fashion shows, and the marriage parties were called off. Nearly all small-scale businesses such as cafes, restaurants, gyms, and hair salons have simply collapsed due to the lack of demand from their regular customer which in turn has made millions of people (particularly migrant and part-time workers) to lose their jobs around the world. [7] The Kingdom of Saudi Arabia has provisionally prohibited pilgrimage to Mecca and Medina (the two holiest cities of the Islam religion). Moreover, a hike in the prices of medicines, sanitizers, masks, and other essential commodities is noticed multiple times because of their increased demand. All these factors have significantly negative impacts on the local and global share markets. [3]

This unforeseen crisis triggered by COVID-19 has pushed businesses across the world to rapidly work in newer and more resilient ways. Technological, societal, and economic changes will become inevitable for survival as the COVID-19 crisis continues to impact businesses in the following few years. A range of digital technologies like the Internet of Things, artificial intelligence, big data analytics, and drones can be used to tackle the bleak global challenges posed by the current crisis. [2] Nowadays, online communication, online entertainment, and online shopping are seeing anomalous growth. [1] Considering the safety and benefits of home-deliveries, store pick-up, and cashless payment, consumers are now switching to online purchases that they never reviewed before. Several governments have classified online shopping and home deliveries as “essential services” in this emergency scenario. [4]

The businesses also can learn how to make their infrastructure, systems, and procedures to be more adaptable in the same way as consumers have learned to improvise. [8]

Effect on business and its implications:

The COVID-19 pandemic has seriously threatened the global economic activities in every region of the world. Several countries across the world have inflicted widespread restrictions (lockdowns, quarantines, and closure of physical shops and businesses) to flatten the curve of infection rates, thereby protecting the functioning of healthcare systems. [9] However, the closure of the economy has heightened the risks associated with investments by businesses as many companies are either facing bankruptcy or reducing their production capacity which has subsequently led to higher unemployment and underemployment. [10]

A survey conducted in China of 995 firms exhibited that approximately 85.01% of them are at the verge of bankruptcy due to the significant drop in operating income and the lack of cash flow unless the crisis can be addressed successfully within three months. ^[11] Similarly, another survey on the impact of the COVID-19 crisis on business management has revealed that firms may by and large face an abrupt reduction of orders, cost pressures such as rent, wages and, taxes, an increase in the price of raw materials, insufficient demand, and difficulty in finding alternative suppliers. ^[12] A study conducted by the British Plastics Federation (BPF) to explore how COVID-19 is influencing the manufacturing businesses in the United Kingdom (UK) has shown that over 80% of respondents forecasted a decline in turnover over the next 2 quarters, with 98% admitting concern about the negative impact of the pandemic on business operations. ^[13] Self-isolation policies and disruption to supply chains were identified as key factors for staffing deficiencies and importation issues. After the 2008 financial crash, the chemical industry is anticipating its worst growth as it reduces its global production by 1.2%. ^[14]

Post the outbreak of COVID-19, consumer's consumption attitudes have tended to be more conservative and are showing great concern about health and safety. This has resulted in fundamental changes in consumer's preferences and purchasing patterns. Indeed they prefer to reduce unnecessary expenses which elicited a sharp decline in the firm's revenue in the first quarter of 2020. ^[15] Nevertheless, businesses are working faster to ensure a competitive advantage. Firms are redirecting to new operating models focused on the customer with support from the right governance and are quicker to decide where to invest and reallocate their resources. ^[16] The global catastrophe posed by COVID-19 has adversely affected the start-ups that could have been viable under normal circumstances. ^[17] A high percentage of start-ups are striving hard to survive as the capital and revenue required to sustain them are quickly running out. Therefore, the start-ups are now operating in sectors like online grocery delivery, healthcare, fast-moving consumer goods, and home entertainment because survival must be their primary focus until the pandemic is over. ^[10] As per WTO (2020), trade this year will fall by approximately 13 to 32% according to the positive and negative scenarios respectively. Moreover, the recovery is unknown as it depends on the duration of the COVID-19 pandemic and the effectiveness of policy feedbacks. ^[18] The pandemic-induced closure of international borders made trade flow crucial in ensuring access to essential goods like medicine and food as well as in supporting jobs and economic activities. ^[19] Nonetheless, some service trades, like information technology services are flourishing since employees can work from home. ^[18] Pharmaceutical industries also have detrimental impacts due to production slow-downs and limitations in supply which inadvertently leading to revenue loss. The active pharmaceutical ingredients are largely exported from India (18%), Europe (26%), and China (13%) to the United States. Besides, China is also the biggest exporter of medical devices in the United States, accounting for 39.3%. ^[14]

The deadly viral outbreak of COVID-19 has paralyzed the tourism industry for long-term which in turn accelerated unemployment and disruption of economies that are highly dependent on tourism. Countries like Greece, Portugal, and Spain that are relying more on tourism (more than 15% of GDP) will be particularly negatively affected by this crisis, perhaps even losing 10 percent of GDP growth. [20] The World Travel and Tourism Council has given an alert that around 50 million jobs in the global travel and tourism sector may be at risk. [14] According to the United Nations World Tourism Organization, 2020 (UNTWO, 2020), this pandemic has wreaked a potential loss of USD 30-50 billion for the travel and tourism industry due to the entry and exit bans as well as other restrictions imposed by several countries and regions. [2] The hospitality industry has also been most hard-hit by the COVID-19 pandemic, illustrating a plunge in hotel industry revenue per available room to 11.6% by March in the United States and to 89% by the end of January 2020 in China. [14] As a consequence of badly hitting the tourism industry, other adjuvant sectors such as leading hotels, restaurants, bars, theme parks, tourist destinations, museums, trade fairs, cultural and sports events are abandoned, leaving a significant financial burden behind and the gravity of which has yet to come to light. [2, 14] Nevertheless, tourism companies have already initiated measures to ensure the safety of their employees and customers by upgrading their cleaning procedures and adopting new standards, along with the restraining staff. Hygiene certifications accredited by health expert associations are promoted by most companies. Restaurants, hotels, airports, and public spaces have re-engineered their functioning to make them contact-free or contactless. Mobile apps (for check-in, check-out, room keys, mobile payments, booking purchases), in-room technologies for entertainment, destination e-shopping, and digital payments are extremely recommended these days. The new operating environment enforced by COVID-19 includes measures such as management of crowds in public spaces (airports, shopping malls, museums, restaurants, and hotels), utilization of human disinfectors and hand sanitizers, and applications identifying people's health profiles. [21]

While the tourism, aviation, and hospitality sectors have been badly affected due to the closure of services to reduce the risk, food retailers and grocery stores are struggling with surging demand as consumers are hoarding things for long periods of isolation. Unfortunately, the COVID-19 pandemic pursues to rattle the manufacturing and supply chains with subsequent ill effects on consumers, businesses, societies, and the global economy. Businesses are reoptimizing and reshaping their supply chain to make certain that there is no single point of failure by carefully managing interdependent components like localization, complexity reduction, dual-sourcing, and investing in advanced manufacturing technologies. Besides, to ensure business continuity, manufacturing firms are taking measures such as cross-functional controls and coordination on a global and regional level, increase in safety stocks and shift inventories, pivot freight models, better customer support programs, rebound measures for demand returns, and rapid responses to changing sources of demands to secure revenue streams. [2, 22]

Great uncertainty faced by another sector is the real estate industry as the social distancing norms have reduced house views which made both buyers and sellers reconsider their plans. Further, many people around the world have been driven to unemployment which in order leads to difficulty in paying rents, mortgages, and various household expenditures. Through Skype and FaceTime, some brokers are offering house tours to minimize the risk of infection dissemination. ^[14] Similarly, China Evergrande Group, a real estate company, executed projects through obtaining signatures on smartphones and conducted housing transactions through online across the country. ^[15]

On the bright side, some businesses are blooming during this pandemic particularly internet-based business, such as those related to online entertainment, food delivery, online shopping, online education, and healthcare industries (herbs and vitamins). ^[1]

Effects on technology and its implications:

Firms and governments are designing and evaluating flexible frameworks to implement emerging technologies such as data policy, digital trade, Internet of things (IoT), artificial intelligence (AI), drones, autonomous vehicles, blockchain telemedicine, and environmental innovations. ^[23] Digital technologies like the Internet of things, artificial intelligence, and blockchain are becoming vital for the functioning of economic and social activities in the COVID-19 crisis.

Big data analytics have assisted policymakers and researchers to predict and follow the reach and impact of the COVID-19 outbreak. Further, it has guided many leaders in making conventional decisions that affect staff, customers, and operational capacity. Real-time COVID-19 trackers have enabled epidemiologists, scientists, health workers, and policy-makers in making more informed decisions to combat the pandemic by aggregating and synthesizing incident big data. Moreover, real-time analysis of GPS data helped the government in apprehending the population's compliance with social distancing orders as it indicated people's movement within a certain locality. Even drones can be used to monitor whether safety guidelines are being followed and to spray disinfectants on affected areas. Additionally, geolocation information systems are supporting health workers and researchers to track and map the spread of the virus. ^[2] The public health disaster inflicted by COVID-19 confronting global healthcare systems has encouraged the development of digital health solutions to attenuate the impact of the pandemic. These digital healthcare systems encompass telehealth, robust surveillance systems, technology-driven diagnostic and clinical decision-making tools, wearable tracking devices to estimate physiological parameters (temperature, heart rate, and sleep duration) and interactive chat services providing COVID-19 information. Telemedicine delivered through viral chatbots

and web bots is emerging as a viable option for providing instant life-saving information and safe medical care. Further, digital healthcare solutions help to identify, report, and provide surveillance and rapid response for COVID-19 cases. [23] A global socio-technical crisis has been fostered by the COVID-19 pandemic that rapidly and prevalently disrupting existing practices as well as quickly emerging as a catalytic and meta-transition event that challenges and redefines the legitimacy and efficacy of existing political and economic structures. These socio-technical changes consequently will reform future business activities and ecological burdens. [24] Firms are transferring the original marketing channels of their existing business to online channels at present which provides them the opportunity to maintain the normal operation of their existing business while reacting successfully to the swiftly changing purchasing patterns of customers during the COVID-19 crisis. The China Construction Bank started an online “cloud studio” to provide financial services to customers through WeChat applets is an example of the transformation that happened. [15]

Vast changes have even occurred in the teaching system as well because most educational institutes are conducting classes through the internet, digital devices, and online platforms (group video programs) during this pandemic. [2] However, many students and parents are facing technical challenges as they have neither access to the proper technologies for distance learning nor the necessary skills to handle them.

People who work and live away from families are now reunited by embracing digital technology and Zoom video services set an evident illustration as most families with the internet have now learned to participate in Zoom meetings. Further, sophisticated technology has brought a dramatic change in consumer behavior as online shopping including grocery shopping became more prevalent post the onset of lockdown in many countries. [1] Correspondingly, many retailers and even some leading companies prefer to use e-commerce as a new channel that can be adhered to the policy of home quarantine and make it more convenient for consumers to get access to the products or services they need. [15] Further, retailers can spread the information about the availability of products, particularly any restrictions on the quantity allowed to be bought through online mode in order to limit both speculations and panic buying during the current emergency. [4] However, compared to the marketing innovations, technological innovations always require a long research and development cycle whereas the former can be implemented relatively quickly to adapt to the new and varying demands of customers. Thus, digital technology will become a prerequisite rather than an alternative for all sectors including businesses, healthcare systems, education, and even for households.

CONCLUSION:

The COVID-19 disaster wreaked enigmatic destruction to the global economy that perhaps takes multiple years to rebuild. The uncontrollable spread of the virus ceased all economic activities across the world as the government of all countries abruptly imposed strict nation-wide lockdown and closed international borders. The businesses (small-scale to large scale) faced the biggest challenges for survival due to disruption in supply chain and reduced demands from customers. The production capacities of various industries were forced to decline which in turn led to financial crisis and unemployment. However, new and resilient strategies should be implemented by industries to sustain in the current scenario until the COVID-19 crisis debilitate. Further, the government and policymakers should extend their support in formulating policies to recover rapidly from the current recession. Fortunately, digital technology appeared as a boon in this pandemic as it helped to tackle many issues in various sectors. Online shopping, online entertainment, online education, and online payment became more favorable as they reduce the risks associated with direct contact. Firms started to invest more in digital technologies as they find them as an ideal innovation to overcome the crisis. Further, health workers and researchers were also benefited by emerging technologies, and even distant families were reunited through digital communication. Thus, technologies played a significant role in bridging the gap created by the crisis in economic activities to a large extent.