

A Comprehensive Analysis of Disruptive Technologies Effects on Several Businesses in the Post-COVID-19 Era

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Abstract - The outbreak of Covid-19 has a significant impact on individuals and organizations. This paper outlines the significance of Disruptive Technologies in overcoming the present challenges and be ready for the "new normal". It highlights the impact of digital innovation on various industries in Post Covid-19 era. The technological seizure of power to enhanced the new possibilities and opportunities in all segments of business. The study shows the relationship between the different business sectors and implications of technological innovations. The focus is on stating the application and utility of these new technologies in generating the opportunities and new avenues in the post covid-19 era.

The new norms are now adopted by the organizations to handle the challenges and threats generated during Covid-19. Modern technology is developing more quickly than it did in the past in order to keep ahead of the effects and develop new tools for creating a safer world. (Saxena et al., 2020). The new technologies are now supporting in achieving higher level of product and process quality. The need of today is to delight the customer with comfort and cost consciousness without compromising on quality, which is now possible to serve with the implementation of these technologies. Be it education or healthcare, finance or sales and marketing or labor market, the application of disruptive technologies had left no stones unturned.

Keywords - Disruptive Technologies, Digital Innovation, Digital Technologies, 3D Printing, Big Data, Artificial Intelligence, IOT, Technology usage, Covid-19, New Normal, Pandemic

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INTRODUCTION

This review paper explores the opportunity of disruptive technologies and its impact on new normal in post covid-19 era. As noted by Donnelly and Proctor Thomson (2015: 48), 'Tragedies change the character of work by introducing uncertainty and causing people, organizations, and their larger communities to have conflicting priorities. The COVID-19 crisis has accelerated the shift to digital, and entrepreneurs in various sectors have had to create new business models to survive. (Mele et al., 2020) The companies underwent significant transformations and quickly adopted digital technology-based solutions. (Almeida et al., 2020). These digital technologies include deep learning-based artificial intelligence (AI), big data analytics, block chain technology, and the internet of things with next-generation telecommunication networks (like 5G). (Ting and others, 2020). We have only seen the beginning of the disruptive wave that is swiftly approaching the business world, and disruptive innovation and disruptive technology are now common terms in the business lexicon (Evans, 2017). Technology change timelines have shifted from linear

to exponential, and experts predict that the level of profound change that occurs over the next ten years will surpass that of the previous century. (Diamandis & Kotler, 2016; Fenwick & Vermeulen, 2016; Müller & Bostrom, 2016).

The COVID-19 pandemic has elevated information and communications technologies to a new level of significance in human life, whether for better or ill. (2020, Barnes). These new technologies have a significant impact on the socio-economic domain(s) because they are radically novel, growing relatively quickly, and becoming coherent and prominent over time (Rotolo et al., 2015). Through their positive effects on employment and work, education and e-learning, e-health and security, e-commerce and consumption, enterprise and economy, entertainment and well-being, environment, and equality, "disruptive technologies" have had a significant impact on business. (Barnes, 2020).

The coronavirus pandemic outbreak has drastically altered consumer demand patterns for goods and services across national borders and industry

sectors, revealing weak points in the global supply chains of a variety of industries (such as financial products, automotive supplies, and information and communication technology) and service networks (Mele et al., 2020). Work conducted digitally has abruptly replaced traditional knowledge work norms and practices (Wang et al., 2020). Disruptive technologies are transforming how we make decisions and provide goods and services. (Evans, 2017)

DISRUPTIVE TECHNOLOGY

Technological innovations vary in the ways that they impact performance trajectories. Bower (2011). Enterprises, irrespective of their industry, encounter several novel technologies that pose both prospects and challenges in terms of commerce. 2014's Tongur and Engwall. As defined by Christensen (1997), the term "disruptive technology" draws attention to the critical role that technology plays in the success of organizations (Evans, 2017). The term "digital disruption" refers to technological advancements that happen at a rate and scale that upend conventional methods of generating value in and across markets, social interactions, and, more broadly, our comprehension and thought processes, according to Reimer et al. (2015) (p. 4). Miller and associates (2017).

Some of the popular Disruptive Technologies are:

- **3D Printing** - 'Additive manufacturing,' another name for 3D printing technology, is the process of creating a physical object by printing layers upon layers from a digital drawing or model that is three dimensional. (Msci, n.d.)
- **Internet of Things (IoT)** -The term "Internet of Things" refers to anything that is digitally connected, including sensors, meters, smart devices, home appliances, heating services, integrated goods and solutions, etc. IoT is the network of things in homes, cars, factories, and other industrial settings that can "talk" to one another. (Msci, n.d.)
- **Cloud Computing** - Cloud Computing Cloud computing is the practice in which data or software is kept, processed and delivered in remote servers instead of a local network. Data and software can then be easily accessed anywhere, anytime, via the Internet (Msci, n.d.)
- **Block chain** - Fintech and Digital Payments advances in mobile devices and networks, have been the catalysts for profound change in traditional industries like payments, retail banking, wealth management and insurance. (Msci, n.d.)

- **Artificial Intelligence (AI)** - Artificial Intelligence is the development of computer systems that are able to perform tasks that would require human intelligence. A machine with strong A.I. is able to think and act just like a human. It is able to learn from experiences.

Disruptive technologies and technological innovations open a new technological cycle of development and drive transformation processes in modern socio-economic systems. (Melnyk et al., 2020)

COVID-19 CRISES

The World Health Organization declared the COVID-19 pandemic a global emergency on January Thirty, 2020. The COVID-19 pandemic has caused a sharp decline in global mortality rates and poses an unparalleled threat to food systems, the workforce, and public health. The pandemic has severely disrupted society and the economy. There is an existential threat facing millions of enterprises. Approximately 50% of the 3.3 billion people who work worldwide are in danger of losing their jobs. Workers in the informal economy are especially vulnerable because most do not have access to social security or quality health care, and they have also lost their productive assets. The pandemic has destroyed jobs and jeopardized the livelihoods of millions of people. (ILO, FAO & WHO, 2020)

Covid-19 Impact on Business

COVID-19 disruptions do not affect all businesses equally. The pandemic had already caused massive dislocation among big and small businesses. The effects differed by industry; businesses in retail, the arts and entertainment, personal services, food services, and hospitality all reported declining employment. However, because these sectors were better equipped to transition to remote production, businesses in the finance, professional services, and real estate sectors saw less disruption. While some had to close, others were judged necessary and stayed open. While some companies could easily transition their staff to working remotely, others lacked the necessary tools. (Bartik et al., 2020)

Post Covid-19 Era "New Normal"

The Covid-19 pandemic has presented business organizations with a number of challenges, but it has also made innovations necessary and given them the chance to find new business models that will help them thrive through the crisis. The statement "True economic value once again becomes the final arbiter of business success" (Porter, 2001, p. 65) will hold true even though the crisis may leave an economic crater in its wake once it passes. In the near future, organizations will need to search for digital substitutes due to the Covid-19 crisis. Businesses must be flexible and have dynamic capabilities to help them adjust to the changing times

if they are to thrive in the new ecosystem. (Tronvolletal.,2020).

IMPACT ON INDUSTRIES

Opportunities for Business

Prospects for Commercial Activities

The dematerialization of the economy, the easing of environmental pressure, increased efficiency, the emergence of the circular and solidarity economies, the personalization of consumption, the socialization of development, the reduction of the risk of accidents and disasters, and the enhancement of health and quality of life are all positive outcomes of disruptive technologies. (Melnyk et al., 2020).

Healthcare Systems

An extremely linked digital environment may be established more easily thanks to the spread of IOT (i.e., gadgets and equipment) in hospitals and clinics. This allows for the large-scale, real-time collection of data, which AI and deep learning systems can utilize to identify patterns in healthcare. Public health education and communication can benefit from the use of digital technology. (Ting & Associates, 2020). In numerous nations, the use of big data and artificial intelligence (AI) has aided in the tracking of individuals and the preparation for COVID-19, ultimately contributing to the spread of the virus. (Whitelaw et al., 2020)

Labor and Social Relations

Concepts of what is 'new' have continued to change as technology has advanced. (2020, Hodder). During the COVID19 pandemic, social and labor relations have seen substantial changes. Households transform into hybrid workspaces where workplace and household duties are combined. (Almeida et al., 2020). Many individuals have been compelled to work from home as a result of this issue, and videoconferencing via apps like Teams, Zoom, and Skype has now become the standard. The opportunities for working from home expanded as technology developed, bringing with it more tools for monitoring and control. "Working from home seemed to be the key to equality for women with young children, as it allowed them to maintain their hard-earned careers due to more flexible work schedules," it was noted. Hodder (2020) and McCarthy (2020).

Marketing and Sales

New economic opportunities have been generated by the digital technologies and the changes they have brought about in enterprises' everyday lives. (Almeida and others, 2020). According to Grewal et al., "offering highly tailored products at much reduced costs is required for the digitalization of the economy." Due primarily to trade closures and travel constraints, the COVID-19 epidemic had a major effect on the

emergence of internet commerce. (Almeida et al., 2020).

Education and Training

The COVID-19 epidemic offers us a chance to reevaluate the core objectives of education in addition to new pedagogical, digital, and online alternatives. We might also think about how a reinvigorated conception of education could be used to the development of more democratic and fair societies. (Peters and colleagues, 2020). In addition to helping tutors and students communicate, digital technology both enhances and changes the teaching and learning process. According to Chang-Interaction between people and technology enhances the effectiveness of e-learning by enabling the flexible, collaborative, and blended integration of online and in-person instruction. Data analytics and artificial intelligence (AI) have the potential to revolutionize the recruitment and selection process for students into various, relevant academic programs that align with their learning objectives and learning capacities. (Oke & Fernandes, 2020).

Manufacturing and Operations

The construction and upkeep of equipment have undergone significant changes due to the digital revolution, which has an effect on how organizations are structured, cooperate, and think. The Internet of Things, big data, cloud computing platforms, and other cyber-physical systems are a few instances of these innovations. This disruption and mentality shift is the driving force behind digital servitization, which is the application of digital technologies to facilitate the shift from a product-centric to a service-centric business model. (Coreynen, Matthyssens, & Van Bockhaven, 2017 Ardolino et al., 2018;), (Tronvoll et al., 2020).

Challenges

The digital revolution has brought about significant changes in the design and maintenance of equipment, which has an impact on the structure, collaboration, and thought processes of organizations. Examples of these innovations include cloud computing platforms, big data, the Internet of Things, and other cyber-physical systems. Digitalization of services This upheaval and change in perspective is what drives the use of digital technologies to facilitate the shift in business model from one that is product-centric to one that is service-centric. (Melnyk and associates, 2020)

CONCLUSION

Disruptive technologies can help with information access and resource optimization so that higher levels of efficiency can be reached. Technological interventions create new business opportunities and open avenues for social and environmental sustainability.

Digitalization in healthcare with integrated use of various technologies have facilitated in clinical management i.e. in diagnosing, testing, treating and supporting in critical illness and emergencies. Similarly, in education and training the move towards online learning and digitalization of knowledge management has facilitated the scholars and facilitators to expand their vision of blended learning. Also, many companies have initiated a rapid and wholesale shift to remote work arrangements, at least for knowledge-intensive work. Digital technologies that enable real-time data and document sharing and editing as well as text, audio, and video communication among employees are what are enabling this shift. (Leonardi, 2020)

Of course, there are certain doubts that are reflected when we discuss about the impact of disruptive technologies. The excessive use of any facility tend towards higher dependency, and when we talk of technological interventions definitely, human aspect i.e. emotions and feelings are missing which may create a great psychological imbalance. Thus, it is essential to use these technologies wisely, that create a value addition for society and human being for long term sustainable development.

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