

# POST COVID-19 PARADIGM SHIFT IN SOCIAL SCIENCE, TECHNOLOGY AND PUBLIC HEALTH

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### ABSTRACT

The COVID-19 pandemic has changed the world anomalously and the effects of which have been felt the world over. The pandemic has altered the way we live and work. These changes have led to a paradigmatic shift. A paradigmatic shift is a fundamental change in the underlying assumptions of a phenomenon. The COVID-19 pandemic has the potential to result in multiple paradigm shifts in social science, technology and public health. Each of these areas affected incredibly. The potential long-term impacts of COVID-19 include job insecurity, financial consequences, remote work, technological dependence, restriction of activities, mental issues and many more. Millions of people are at risk of falling into extreme poverty. Many enterprises face an existential risk. A new model of healthcare delivery emerges with more focus on preventive measures, technologies, and remote care. COVID-19 pandemic became a catalyst for the implementation of online therapy and e- health tools in routine practice. The pandemic accelerated technological adoptions immensely. Some positive changes are also observed like increased public health expenditure, improved air quality, reduced green house gas emission and increased Ozone level. Understanding the factors associated with all these impacts can helps to overcome the challenges facing the social, technological and health sectors and lessen their negative consequences.

**Keywords:** COVID-19, Health, technology, paradigmatic shift, consequences.

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## ABOUT COVID-19 AND PARADIGM SHIFT-

Coronavirus disease (COVID-19) is an infectious disease spread by the SARS-CoV-2 virus. The virus can be transmitted from an infected person's mouth or nose, at the time of coughing, sneezing, speaking, singing or breathing. Individuals can be infected by inhaling the virus if he has near someone who has COVID-19, or by touching a contaminated surface and then touch eyes, nose or mouth. The virus spreads more easily. The World Health Organization declared the COVID-19 pandemic as the Public Health Emergency as the "International Concern" on January 30 and an epidemic on March 11, 2020. (Singhal, 2020; Wiersinga, 2020; Kumar, 2020)

Paradigmatic shift is an important change that happens when the usual way of thinking about or doing something is replaced by a new and different way. The term Paradigm shift was first described by Thomas Kuhn in the book 'The Structure of Scientific Revolution' in 1962. (Michelson, 2020; Wikipedia, 2022) This pandemic had forced us to redefine what and who we value, how we govern, whose opinions we listen to, how we view facts and science, and even our relationships.

The COVID-19 pandemic has changed the world, the effects of which have been felt all over the world. As the new reality of the pandemic sets in, organizations and individuals fight with the implications of the virus. Organizations have generally engaged in understanding pro-employee responses, and many have entirely altered how and where employees work. The COVID-19 has led significant unpredictability worldwide, including international travel limitations. When, in March 2020, the WHO declared a pandemic of (COVID-19), then world closed borders and excessively limited travel. Other than these, there have been over 13 million cases and 570,000 deaths occur due to COVID-19 pandemic. The spectrum of 'paradigm shifts' range from personal to professional, individual to organizational, and across most of the industries. (Howe, 2021) Post covid-19 there are so many changes occurred in the human health, technology and also in education. The rapid transition overburdened their current technological capacities resulting in system collapses and changeable access to required organizational resources for remote employees. Paradigm shift is the result of new development being introduced or as a result of new ways of thinking about a problem or as a result of fundamental changes occurring in society. Figure1 shows that digital shift after COVID-19 pandemic. People demanding high amount of safety such as touchless operations to prevent COVID infections. Post infection tracing to prevent further infection had become a part of daily life. (NEC, 2020)

### *Paradigm Shift in Health*

The outbreak of the COVID-19 pandemic developed a public health crisis. The COVID-19 infection was already changed the way we think and live. People faced so many problems and difficulties for living their normal life. (Rao, 2021; Gupta, 2020)The ongoing pandemic has afflicted hospital nurses' and health experts' life quality. Many countries started lockdowns and restricted regional social gatherings with the initial signs of the COVID-19 disease. The impact of coronavirus pandemic has been largely disruptive in terms of economic activity as well as a loss of human lives. Almost all the sectors have been adversely affected as domestic demand and exports sharply dropped with some notable exceptions where high growth was observed.

The pharmaceutical industry has been on the rise since the emergence of the Covid-19 pandemic, especially in India, the largest producer of generic drugs globally. With a market size of \$55 billion during the beginning of 2020, it has been surging in India, exporting Hydroxychloroquine to the world, especially to the US, UK, Canada, and the Middle-East. As health professionals around the world were figuring out how to treat the virus, pharmaceutical providers started to investigate what existing drugs might help treat patients with COVID-19, potential new medicines to help to treat the symptoms and long term effects of the disease, post COVID symptoms and effects, and the production of a vaccine. (Nicholson, 2020)

Telemedicine is underutilized field in medicine and its benefits are brought to focus during this pandemic situation. Teleconsultation and telehealth expanded and reduce the burden of the hospitals. Virtual clinics offering wide variety of health care services had become a norm. Doctors, nurses and other health professionals utilized Machine learning (ML) and Artificial Intelligence (AI) for the diagnosis and treatment of chronic diseases. The next shift will be home-based elderly care, palliative care and rehabilitation including wellness practices, health promotion like quitting tobacco, healthy diet and physical activity. Home-based yoga practices can be promoted for rehabilitation of patients who have suffered a stroke or myocardial infarction and other chronic diseases. Continuing medical education also had undergone major changes. While it may not entirely replaced medical conferences, webinars and virtual educational platforms had become popular and frequent. (Prabhakaran, 2020)

#### *Paradigm Shift in Technology-*

The COVID-19 pandemic has caused many unwanted and unprecedented changes in every industrial sector whether it is Automobile, Hospitality, Aviation, Retail, or any other. (GeeksforGeeks, 2021) All of these sectors have undergone the negative impacts of this pandemic or lockdown situation on their respective businesses. Due to this situation tech organizations adopted modern technologies that can tackle with such pandemic situation. All the individuals or businesses, when they're locked at home or are working remotely, had used digital tools and technologies whether it be Social Media Platforms like What's App, LinkedIn, You Tube, Instagram, Communication Apps like Zoom, Google meet or Microsoft Teams, Cloud Software, etc. to continue their business. This eventually raised the demand and usage of the internet and technologies remarkably. Just for an example-'Zoom' alone experienced year-on-year growth of around 340-345% in the year 2020. IT organizations experienced required digital transformations. Twitter had announced its permanent work from home plans. The Tsunami of online learning has offered. Many schools and colleges are started online learning to avoid educational loss of the students and for the remainder of their syllabus. Students who are interested in using computers and mobile are ready for it. We live in a world where Internet access is a now necessity, not a commodity. COVID- 19 pandemic accelerated the rise of the digital economy shown in the figure 2. Before the pandemic paradigm shift towards digitization and servitization of the economy was already having started. (BDO USA, 2020)

#### *Paradigm Shift in Social Science*

The COVID-19 pandemic distressed the communities and economy around the world. The pandemic drastically altered the everyday life around the globe. (SSRC, 2021; Middlemass, 2020). Covid-19 has flipped over societies and theatrically changed everyday life. Our present occurrence, while unrivalled, have been thoroughly shaped by continuous societal

realities. COVID-19 has destroyed communities and economies. While medical science has been front and centre of the response to the virus itself.

The air quality has been widely reported to have improved worldwide due to COVID-19 restrictions. (Liu, 2021) Table 1 represents the Air quality during lockdown.

Play is a crucial part for children's growth and health development. The world was more confined each day for that "playground was closed". It just seems indefensible to see an ordinary, innocent playground convicted as if it were a safety hazard.

Job insecurity is a very stressful experience related to the distress and negative feelings. (Ashford, 1989; Lim, 1996) Due to this unfamiliar pandemic, there is a sharp decline in employment and economic activity emphasizes the possibility of significant job insecurity and financial problems. Similar to job insecurity, many people experienced greater financial problems due to the COVID-19 pandemic. (Wilson, 2020) Job insecurity is associated with inadequate wage models. An increasing unemployment rate had been resulted into a sudden increase in the sense of job insecurity among employees. Lack of job security has a direct impact on an employee's health and work-life balance. (Basyouni, 2021) Many families have been impoverished.

#### POSITIVE IMPACTS OF COVID-19-

Due to COVID-19 there is some positive impact like decreasing air pollution. The production of green house gases is reduced. Water quality has also been enhanced. The changes were mainly applicable for the lack of industrial and agricultural activity. There was also decreasing in collisions and accidents. There are severe disturbances occur in industrial operations, the transport volume is decreased, and thereby, positive impacts on the environment observed. COVID-19 has produced positive effects on the environment, which must be focused for the better management of the environment in the future. Government health expenditure is increased. Effects of COVID-19 pandemic have successfully recovered the environment which is effective in positive impact on global climate change. Ozone level is increased. It of course altered day today behavior of humans and the ecological system. Families are spending more time together, walking, talking and completing school work. Where time is available, guardians are encouraged to their children through playing games, arts and crafts. Guardians also share time with children by looking together television programs and doing online study of their child. Interaction that occurs between parents and children is healthy. (Mousazadeh, 2021)

#### CONCLUSION

During COVID-19, every field had experienced a severe economic, social and health related downturn associated with the stress throughout the world. Vast number of people have lost their jobs and experienced financial crisis. Awareness of these paradigm shifts enables us to adapt a rapidly changing pandemic environment. So, it can be concluded that to bring every aspect of life back in to balance after the COVID-19 pandemic, we require to make several essential paradigm shifts away from antiquated ways of thinking and toward the new. Further research is required to understand the impact of COVID-19 in depth.

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#### REFERENCES-

1. Singhal T. A Review of Coronavirus Disease-2019 (COVID-19). *Indian J Pediatr.* 2020;87(4):281-286. doi: 10.1007/s12098-020-03263-6.
2. Wiersinga WJ, Rhodes A, Cheng AC, Peacock SJ, Prescott HC. Pathophysiology, Transmission, Diagnosis, and Treatment of Coronavirus Disease 2019 (COVID-19): A Review. *JAMA.* 2020;324(8):782–793. doi:10.1001/jama.2020.12839
3. Kumar D, Malviya R, Kumar Sharma P. Corona Virus: A Review of COVID-19. *EJMO.* 2020; 4(1): 8-25.
4. Michelson J. The COVID-19 Paradigm Shift- From Values to Carrier to Whole Economies. 2020. Available from: <https://www.forbes.com/sites/joanmichelson2/2020/05/05/the-covid-19-paradigm-shift--from-values-to-careers-to-whole-economies/?sh=20566f8b38a2>
5. The Structure of Scientific Revolution. Wikipedia.2022. Available from: [https://en.wikipedia.org/wiki/The\\_Structure\\_of\\_Scientific\\_Revolutions#:~:text=Phase%204%20%E2%80%93%20Paradigm%20shift%2C%20or,puzzles%20within%20the%20new%20paradigm](https://en.wikipedia.org/wiki/The_Structure_of_Scientific_Revolutions#:~:text=Phase%204%20%E2%80%93%20Paradigm%20shift%2C%20or,puzzles%20within%20the%20new%20paradigm)
6. Howe DC, Chauhan RS, Soderberg AT, Buckley MR. Paradigm shifts caused by the COVID-19 pandemic. *Organ Dyn.* 2021;50(4):100804. doi: 10.1016/j.orgdyn.2020.100804. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7648497/>
7. Moving ahead to the new normal. 2020. Available from: <https://www.nec.com/en/global/newnormal/index.html>
8. Rao G, Singh A, Gandhotra P, Meraj P, Jauhar S, Kuvin J, Epstein L, Naidu S, Arora R, Kaplan B, Jauhar R. Paradigm Shifts in Cardiac Care: Lessons Learned From COVID-19 at a Large New York Health System. *Curr Probl Cardiol.* 2021;46(3):100675. doi: 10.1016/j.cpcardiol.2020.100675.
9. Gupta V. Global Health Needs A Paradigm Shift Post Coronavirus Pandemic. *Outlook.* 2020. Available from: <https://www.outlookindia.com/website/story/opinion-global-health-needs-a-paradigm-shift-post-coronavirus-pandemic/351923>
10. Nicholson D. The role of pharmaceutical industry in the COVID-19 crisis. 2020. Available from: <https://www.ideagen.com/thought-leadership/blog/the-role-of-the-pharmaceutical-industry-in-the-covid-19-crisis>
11. Prabhakaran. The world after COVID-19: Paradigm shifts in health and healthcare. 2020. Available from: <https://www.timesnownews.com/columns/article/post-covid-19-paradigm-shifts-in-health-and-healthcare/584753>
12. Impact of COVID-19 on Information Technology (IT) Industry. 2021. Available from: <https://www.geeksforgeeks.org/impacts-of-covid-19-on-information-technology-it-industry/>
13. COVID-19 is Accelerating the Rise of the Digital Economy. 2020. Available from: <https://www.bdo.com/insights/business-financial-advisory/strategy,-technology-transformation/covid-19-is-accelerating-the-rise-of-the-digital-e>

14. COVID- 19 and the social sciences. 2021. Available from:  
<https://covid19research.ssrc.org/>
15. Middlemass R. What is the role of the social sciences in the response to COVID-19? 4 priorities for shaping the post-pandemic world. 2020. Available from:  
<https://blogs.lse.ac.uk/impactofsocialsciences/2020/08/25/what-is-the-role-of-the-social-sciences-in-the-response-to-covid-19-4-priorities-for-shaping-the-post-pandemic-world/>
16. Liu F, Wang M, Zheng M. Effects of COVID-19 lockdown on global air quality and health. *Sci Total Environ.* 2021;755(1):142533. doi: 10.1016/j.scitotenv.2020.142533.
17. Ashford SJ, Lee C, Bobko P. Content, causes and consequences of job insecurity: a theory-based measure and substantive test. *AcadManag J.* 1989; 32:803829.
18. Lim VKG. Job insecurity and its outcomes: moderating effects of work-based and nonwork-based social support. *Hum Relat.* 1996; 49:171194.
19. Wilson, Jenna M. MS; Lee, Jerin MS; Fitzgerald, Holly N. MS; Oosterhoff, Benjamin PhD; Sevi, Bariş MS; Shook, Natalie J. PhD. Job Insecurity and Financial Concern During the COVID-19 Pandemic Are Associated With Worse Mental Health. *Journal of Occupational and Environmental Medicine.* 2020;62(9):686-691 doi: 10.1097/JOM.0000000000001962
20. Basyouni SS, Keshky MS. Job Insecurity, Work- Related Flow, and Financial Anxiety in the Midst of COVID-19 Pandemic and Economic Downturn. *Front. Psychol.*2021. Available from: <https://www.frontiersin.org/articles/10.3389/fpsyg.2021.632265/full>
21. Mousazadeh M, Paital B, Naghdali Z, Mortezaia Z, Hashemi M, KaramatiNiaragh E, Aghababaei M, Ghorbankhani M, Lichtfouse E, Sillanpää M, Hashim KS, Emamjomeh MM. Positive environmental effects of the coronavirus 2020 episode: a review. *Environ Dev Sustain.* 2021;23(9):12738-12760. doi: 10.1007/s10668-021-01240-3.

## TABLES

Table1-Air quality during covid19 lockdown-

| Gases             | Air quality index value in % |
|-------------------|------------------------------|
| NO <sub>2</sub>   | (23–37%)                     |
| PM <sub>10</sub>  | (14–20%),                    |
| SO <sub>2</sub>   | (2–20%)                      |
| PM <sub>2.5</sub> | (7–16%)                      |
| CO                | (7–11%)                      |
| O <sub>3</sub>    | increases 10–27%             |

Note: Air quality index value falls relative to the pre-lockdown period

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FIGURES

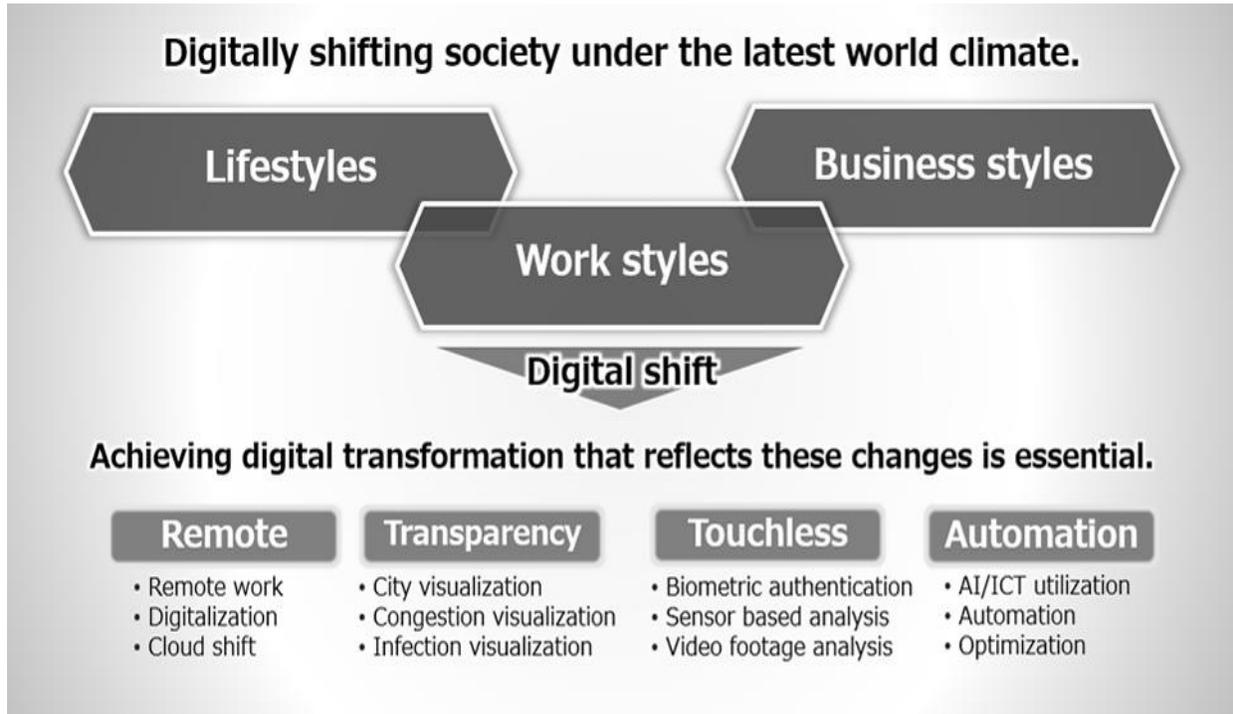


Figure 1: Digitally shifting society under the latest world climate

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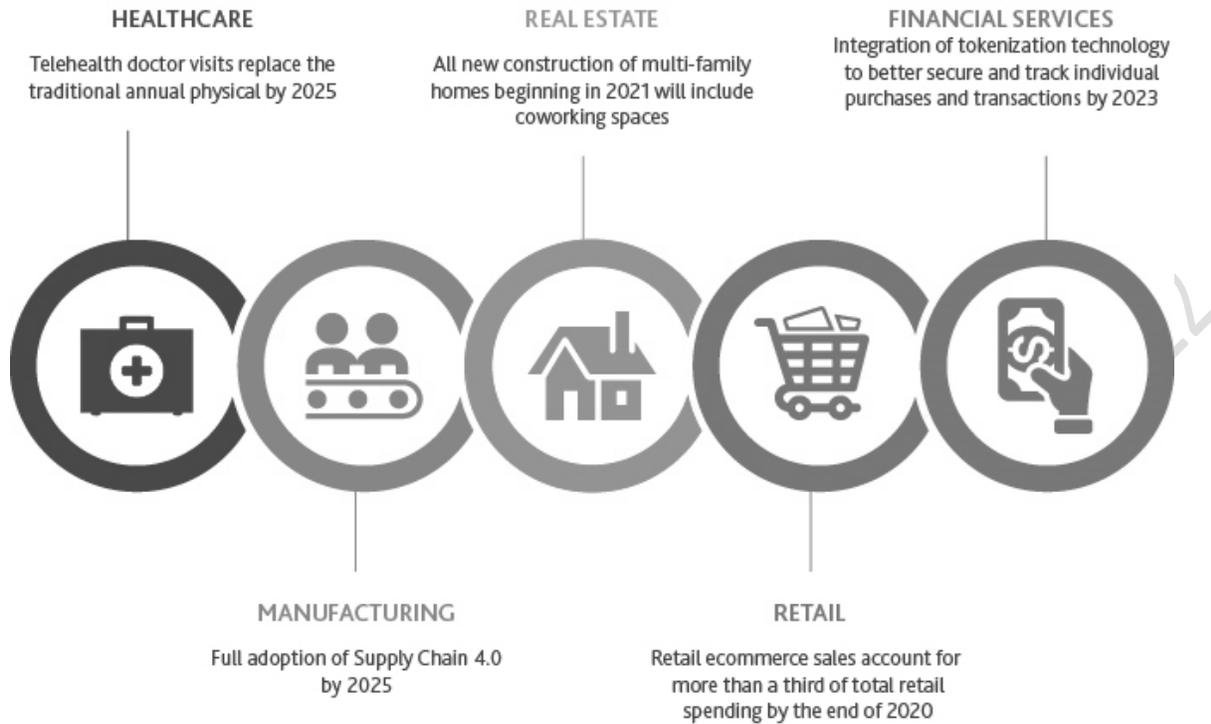


Figure 2: COVID-19 accelerated the rise of the digital economy

CAPCDR 5th Conference: Nucleus