



COVID-19 Pandemic: Ex-concurrent and Ex-post Transformations

Manideep Chandra \square

Principal, Shibpur Dinobundhoo Institution (College), Shibpur, Howrah -711102 Email: <u>drmanideep2012@gmail.com</u>

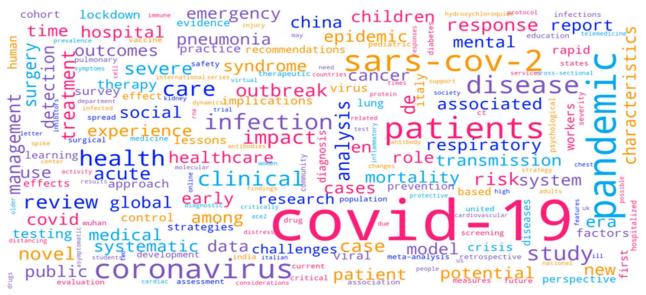
Abstract:

The COVID-19 pandemic can be traced back to the most frequent key words in article titles tagged as COVID-19. Pandemic refers to the uncontrolled outbreak of an epidemic that emerges following the spread of the virus all over the world. It is all about the massive disruptions that have taken place at many levels from the economic fields to Cultural fields. It also refers to the helplessness of the human ingenuity before the ingenuity of the nature. Already, at the time of typing this article, globally 171,708,011 people have been affected and 3,697,151 have been pronounced dead. So, the story of global pandemic was the story of anxiety, suffering, disease and death of the less fortunate people. The global pandemic is not merely a medical phenomenon; rather it pervades the entire field of human activities including economy, culture and ecology. Novel Corona Virus (COVID-19) has brought about "novel" changes in the ambience of trade and commerce, culture and ecology. These waves of changes are creating economic, cultural and ecological impacts. The objective of our discourse is to provide a snapshot about the extensity, intensity and propensity of the impacts of COVID-19 pandemic.

Key Words: economic, cultural, ecological, impacts, disruptions, pandemic, COVID-19.

I. Global Pandemic

Let me start with the most frequent key words in article titles tagged as COVID-19¹.



Most frequent words in article titles tagged as COVID-19





My reason of starting with the most frequent key words in article titles tagged as COVID-19 is to highlight the fact that the intensity, extensity and propensity of the COVID-19 Pandemic can be traced back to them. Pandemic refers to the uncontrolled outbreak of an epidemic that emerges following the spread of the virus all over the world. It is all about the massive disruptions that have taken place at many levels from the economic fields to Cultural fields. It also refers to the helplessness of the human ingenuity before the ingenuity of the nature. The human existence is under severe threat. Already, at the time of typing this article, 171,708,011 people have been affected and 3,697,151 have been pronounced dead (spreading over 224 countries and areas)² (WHO Coronavirus (COVID-19) Dashboard: 4 June 2021).

The story of global pandemic is the story of anxiety, suffering, disease and death of the less fortunate people. The global pandemic is not

People Affected	Pronounced Dead	Countries and Areas Affected	Dashboard Dated
754,948	36,571	202	³ (31 March 2020)
2,074,529	139,378	213	⁴ (17 April 2020)
3,349,786	238,628	213	⁵ (3 May 2020)
171,708,011	3,697,151	224	² (4 June 2021)

merely a medical phenomenon; rather it pervades the entire field of human activities including economy, culture and ecology. Novel Corona Virus (COVID-19) has brought about "novel" changes in the ambience of trade and commerce, culture and ecology. These waves of changes are creating economic, cultural and ecological impacts. These multiple impacts are in turn affecting us with both positive and negative externalities. Thus, the matter merits discussion from many angles. Logically, we are supposed to perform the study before the outbreak (i.e., *ex-ante*) and during the outbreak (i.e., *ex-concurrent*) and after the outbreak (i.e., *ex-post*) of the COVID-19 pandemic. Consequently, we do require a cut-off period of the outbreak of the COVID-19 pandemic. As per media reporting, the outbreak has begun in Wuhan, China, in December, 2019. However, the COVID-19 disruptions have started in India since the imposition of countrywide lock-down on 1.3 billion people since 24th March, 2020. The successive periods of Lockdown have a deep impact on India's economy, society, polity and ecology. The objective of our discussion is to provide a snapshot about the *Ex-anti, Ex-concurrent* and *Ex-post* transformations due to COVID-19 pandemic.

II. Ex-ante Scenario

World merchandise trade volume was expected to be affected so adversely that it was predicted to go down even beyond the global financial crisis of 2008-09. (Press Release, 8 April, 2020, WTO). According to the McKinsey's latest survey ⁶ (December 2019) on economic conditions, growing section of respondents has portrayed somewhat optimistic picture. In terms of the global economy, the respondents' views have remained unchanged about the trade conflicts, geographical instability and changes in trade-policy. However, in terms of respondents' home economies, their views have been shifted to changes in trade-policy, domestic political conflicts and geographical instability. The aforesaid findings are corroborated by the observations of IMF Blog ⁷ (December 18, 2019). According to the blog, rising trade barriers and associated uncertainty has been responsible for cyclical and structural slowdowns globally. Further pressures came from country-specific weakness in large emerging market economies such as Brazil, India, Mexico, and Russia. Worsening macroeconomic





stress related to tighter financial conditions (Argentina), geopolitical tensions (Iran), and social unrest (Venezuela, Libya, Yemen) rounded out the difficult picture.

III. Ex-concurrent and Ex-post Scenario

The outbreak of (COVID-19) has medical root and economic consequences. During the lockdown there is a total economic disruption. Erosion of the GDP, increasing pressure of NPA, joblessness of dailywage workers, hoarding of essentials, losing of jobs, govt. dictated food rationing, death due to hunger etc are some of the direct economic scenarios of COVID-19. The scenario is quite evident from Moody's GDP forecast ⁸ (March 28, 2020). Moody's Investors Service sharply cut India's GDP forecast to 2.5% during the lockdown, which was 5.3% before the lockdown. According to "Business Today" estimate ⁹ (March 27, 2020), Indian economy may lose Rupees 8.76 lakh crore during the period of lockdown (Table 1) ¹⁰ (March 27, 2020). Sex-workers in Mumbai are struggling to survive amid coronavirus-lock-down ¹¹ (Mar 29, 2020). Overall, it appears that the economic situation is becoming very gloomy and day after day the economic transformation are depicting frustrating picture. Disruptions caused by the global pandemic (COVID-19) has cultural (i.e., ethical, social and political) consequences.

Thus, it also has brought into focus the power of culture in this global pandemic (i.e., the power to save the mankind by practicing alternative culture). An offshoot of the current global pandemic is digital

Table – 1				
Sector	Degree of	Estimated Loss		
	disruption	(Rs. lakh crore)		
Mining & Quarrying	Complete	0.31		
Manufacturing	Near Complete	2.16		
Construction	Complete	1.06		
Trade, Hotel, Transport, Communication	Near Complete	2.42		
Financial, Real Estate, Professional Services	Near Complete	2.81		
		8.76		

transformation. A global survey of 800 executives across eight industries conducted by The Economist Intelligence Unit has highlighted the need for digitization. Digital transformation could impact most positively the broad societal areas like skill building, diversity & inclusion, public Health & welfare, public safety, disinformation, energy security, unemployment, climate change, food security, wealth inequality and disaster relief¹². The mining sector has been affected adversely due to the fall in demand and the consequent fall in the prices of metals and minerals. ¹³ (2020).

IV. Pandemic (Indian Scenario: at the nascent stage)

I have made an analysis of the nascent stage with the help of the COVID-19-Patient Database of India available through (COVID19-India: Patient Database: 31/03/2020 at 11.44 a.m. https://t.me/covid19indiaops).

i) Analysis

Form the analysis (Table -2), it appears that transmission through overseas connection was one of the most prominent features of the COVID-19 crisis of India. i.e., out of 1585 patients

Table – 2					
Mode of Transmission of COVID-19 Number of Patients infected					
infection in India	with COVID-19	Total			
Local	405				
Imported	511				
Yet To Be Determined	656				
Data not available	13	1585			





so far identified 511 patients were of foreign nationality. It appears that "cultural extension activists and activities" do matter.

Further, it appears that Tourist, Travelling to Foreign Countries, Travel History and Returning from Foreign Country were the key factors for the spreading of COVID-19 infections in India (Table -3). In the following paragraphs, analysis has been done regarding the other dimensions: e.g., deceased rate, recovery rate of patients (imported) in comparison with recovery rate of patients (local) etc.

From (Table -4), it appears that deceased rate almost remaining the same.

Recovery rate for patients (imported) is better than Patients (Local).

From (**Table 5**), it appears that the two highly affected states (Kerala and Maharashtra) have large number of patients (imported) in comparison to Patients (Local).

From (**Table 6**), it appears that the male and the female both segments have large number of patients (imported) in comparison to Patients (Local).

From (Table 7), it appears that (within Age Group 1-17 Years) the male and the female both segments have large number of Patients (Local) in comparison to patients (imported). From (Table 8), it appears that (within Age Group 18-25 Years) the male and the female both segments have large number of patients (imported) in comparison to Patients (Local).

Table -3				
Key Factors for the spreading of	No. of Patients in	fected with COVID-19		
COVID-19 infections in India	Local	Imported		
Tourist	-	31		
Doctor	4	2		
Travelling To Foreign Country	-	24		
Travel History	-	68		
Returning From Foreign Country	-	78		
Wife Of Infected	5	4		
Mother Of Infected	5	-		
Father Of Infected	3	2		
Daughter & Daughter-in-Law	7	-		
Son & Son-In-Law	5	1		
Family Members	10	3		
Relative & Close Relative	17	-		
Others/Data not available	349	298		
Total Number of Patients	405	511		
infected with COVID-19				

Table – 4					
Migrated Hospitalized Deceased Recovered					
Local	-	389	7	9	
Imported	1	453	11	46	

Table – 5					
			Karnataka	Tamil Nadu	
	Kerala	Maharashtra	Imported/Local	Imported	
Number	Imported/Local	Imported/Local		/Local	
Patient	160/31	61/37	56/43	25/41	
Recovered	14/6	2/ NIL	5/3	2/ NIL	
Deceased	1/NIL	2/ NIL	2/1	NIL/1	
Hospitalized	145/25	57/37	49/39	23/40	

Table – 6					
	Patients (ii	mported)	Patient	s (local)	
Number	Female	Male	Female	Male	
Patient	113	276	99	184	
Recovered	5	21	6	4	
Deceased	3	8	2	5	
Hospitalized	105	247	91	175	

Table – 7					
Number of Patients (imported) Number of Patients (local)					
Age 1-17 Yr	Female	Male	Female	Male	
Patient	1	2	9	7	
Recovered	NIL	1	1	NIL	
Deceased	NIL	NIL	NIL	NIL	
Hospitalized	1	1	8	7	

Table – 8					
	Number of Pat	Number of Patients (imported) Number of Patients (loca			
Age 18-25 Yr	Female	Male	Female	Male	
Patient	21	56	8	26	
Recovered	1	4	-	-	
Deceased	-	-	-	-	
Hospitalized	20	52	8	26	





From (Table 9), it appears that (within Age Group >65 Years) the male and the female both segments have large number of patients (imported) in comparison to Patients (Local). It appears that the male and the female

Table – 9				
	Number of Pat	tients (imported)	Number of Pa	atients (local)
Age >65 Yr	Female	Male	Female	Male
Patient	12	21	10	10
Recovered	1	3	-	1
Deceased	2	6	1	2
Hospitalized	9	12	9	7
				1

both segments have large number of patients in the age group 18-25 Years in contrary to the widespread prediction that children and the elders are most vulnerable.

ii) Comments

From above analysis, it appears that the culture is the most prominent factor of global disruptions like COVID-19 pandemic which is quite evident from the large number of patients having infected by COVID-19 through imported mode of transmission rather than local (Table-2 a).

Here lies the significance of culture including the society and polity in the present discussion. Even the very name "COVID-19" itself is the product of

Table – 2 a				
Mode of Transmission of COVID-19 Number of Patients infected				
infection in India	with COVID-19			
Local	405			
Imported	511			

cultural reservations. "We had to find a name that did not refer to a geographical location, an animal, an individual, or a group of people, and which is also pronounceable and related to the disease," said Tedros Adhanom Ghebreyesus, the director-general of the WHO, during a press conference ¹⁴ (Feb 14, 2020). We are staying in so that COVID-19 stays out. It is really very unusual and painful to be confined in home for 24 hours. We are in a fix about how to utilize the never-ending time. However, we are redesigning and redefining ourselves by engaging in different household chores for the first time in our lives. In fact, people tend to become more social internally and externally during the lockdown. We are sure that our fight with the COVID-19 is going to be a long-term agenda and we do require to carry on our collective discipline and conviction regarding hygiene etiquette even after the end of the lockdown.

V. Transformations

The COVID-19 pandemic is in many respects unprecedented, but in no respect it was unforeseen. As we focus on our immediate collective response, it is vital that we learn from the mistakes, missteps and missed opportunities of the past if we are to avoid repeating them ¹⁵ (2021).

a) Social

The transformation through disruptions on account of COVID-19 pandemic vary cross-culturally. Therefore, we need to understand transformation discussion, within the context of culture. Let us explore the existing literatures.

In a unique case of social ostracism, the migrant workers returning to villages were told to live in trees to enforce social distancing Later it turned out that the behaviour of the villagers is pro-active reaction. They had taken the media campaign about social distancing seriously enough to ask the workers to make trees their home during the self-quarantine ¹⁶ (Mar 29, 2020). Another interesting development is that usage of different social media has been increased sharply. 70% more people are using group video calls and are spending more time than usual watching Facebook and Instagram Live amid the new





coronavirus pandemic ¹⁷ (24 Mar, 2020). WhatsApp has seen a 40 % increase in usage. Across all stages of the pandemic, WhatsApp is the social media app experiencing the greatest gains in usage as people look to stay connected ¹⁸ (28 Mar, 2020). An engineering professor at Algeria's University of Oran and a human rights activist said that because of the novel coronavirus pandemic, confinement is an additional punishment for the prisoners ¹⁹ (April 17, 2020). Inspectors who visited two closed women's prisons found there was an urgent need to ease severe COVID-19 restrictions because many prisoners reported deteriorating physical and mental health and some had not seen their children for long time. ²⁰ The currency of fame has always been deeply unstable. Apparently, through smart phones, the famous people are suddenly on the same footing as everybody else during the closure of movie theatres and live venues. Despite this illusion of a level playing field, the famous are finding new ways into our minds and are appearing in unfamiliar ways ²¹ (Jun. 11, 2020). Our culture leans so sharply toward the social that it rewards social behaviour while ignoring the positive effects of time spent alone ²² (Apr. 19, 2017). The American Psychological Association's annual convention, 2017 focused on data that reveals loneliness and social isolation pose an equal, if not greater, danger to public health than the more commonly discussed risk factors such as smoking, obesity etc. We are lonelier today than at any other point in recorded history and there is an impending danger of outbreak of loneliness epidemic.²³ (Dec. 26, 2017). The World Wide Web has started to reflect what its inventor, Tim Berners-Lee, imagined - a collective of ideas shared not for glory or financial gain but for the betterment of human knowledge. Zoom offering free upgrades for schools, Canadian telecommunications businesses waiving roaming and long-distance fees and Uber delivering food to health care workers for free, the digital ecosystem is seeing a boom of organizational altruism. ²⁴ (April 29, 2020). Our devices are delivering a culture of auto-romance. Invisible Boyfriend or Invisible Girlfriend who pretend to be your romantic partner offer companionship and conversation. Hence, the online community is providing millions with illusions of intimacy.²⁵ (Jan. 2, 2020). Everyday creativity has been boosted as a means to relieve the stress, anxiety and depression caused by the pandemic. ²⁶ (February 2021). From the personal to the professional, the role of beauty has changed overnight. 82 per cent of women are currently wearing less make-up, with 52 per cent of us having changed our beauty priorities since lockdown began. With the lower half of the face covered, the eyes will take on a new importance, with focus on the eyes and brows and bold eye looks used to express individuality. ²⁷ (May 15, 2020). The clients have adopted digital fitness solutions to counter the physical restrictions posed by the pandemic. The extended lockdown drove a massive surge in the demand for virtual classes for yoga (87%) and high-intensity interval training (HIIT) cardio workouts such as zumba (72%), aerobics (67%), and pilates (22%)²⁸. Anthropologist Edward Hall coined the term proxemics and described public distance, social distance, personal distance and intimate distance as distinct categories common to all cultures. However, social distancing measure during pandemic refers to the distances covered by droplets and small particles, potentially containing viral loads, when breathing, coughing or singing ²⁹. The Oxford COVID-19 Government Response Tracker with daily information on travel and movement across 111 countries, finds that autocratic regimes imposed more stringent lockdowns. However, no evidence is found that autocratic governments were more effective in reducing travel. Rather, democratically accountable governments introduced less stringent lockdowns but were approximately 20% more effective in reducing geographic mobility at the same level of policy





stringency. ³⁰ (May 13, 2020). During the pandemic, we have got an opportunity to showcase the relative strengths and weaknesses of democracies and autocracies as a political structure for the management and prevention of pandemic. ³¹ (December 2020). China has reportedly resolved the pandemic situation swiftly even in the face of international condemnation for spreading COVID-19 epidemic from Wuhan. ³² (2020). From implementing sanitizer stations to increasing signage to maintain physical distance, some of the largest hotel brands have raised their cleaning standards in the wake of the coronavirus pandemic. ³³ (May 13, 2020). During the pandemic, many employers and employees have demonstrated exceptional adaptability in shifting their place of work from the office to the home. ³⁴ "Deepfakes" has turned out to be the new digital-social menace. Deep learning process is used to train an algorithm to doctor a fake scene. Deepfakes now require no working knowledge of AI-enabled technology. All it takes is some sample footage and a large data set of photos and the free software like FakeApp or Faceswap which can convincingly swap out one person's face for another's. ³⁵ Very often the banks alert us about social engineering fraud using mobile numbers similar to bank's toll-free number to obtain pin, CVV, ID, Password etc. The term social engineering fraud is also important in the context of the cash-less transactions and crypto-currency transactions which are being used now in ever-increasing haste. Recently, a supermajority of the El Salvadoran legislature voted to adopt bitcoin as legal tender. ³⁶ (Jun. 10, 2021). In a global survey of 800 executives across eight industries, respondents from the education sector are most likely to agree that the pandemic has highlighted the need for digitisation to benefit disenfranchised groups in society ³⁷. While enforcing restrictions, some governments have used "friendlier" strategies and some governments have resorted to rather scare tactics or "fear appeals" (coined by Howard Leventhal). However, the ethics of fear appeals needs to be scrutinized in order to determine whether scare tactics are morally acceptable and appropriate ³⁸. The trends of incident cases, deaths, and intensive care unit admissions (ICU) in Spain and Italy before and after their respective national lockdowns using an interrupted time-series design was analysed. Results reveal that during the successive lockdowns the epidemic curve has been flattened and confirmed that lockdown was effective. ³⁹ (2020 July). It was found that the SutteARIMA method is more suitable than ARIMA to calculate the daily forecasts of confirmed cases of Covid-19 in Spain.⁴⁰ (2020). A mathematical model applied for a population of 100,000 provides an overview to improve knowledge of outbreak trends and quarantine effectiveness in reducing infection. Results reveal that the decrease in infected people is due to the quarantines. ⁴¹ (2020). The implementation and outcomes of telemedicine (to reduce the risk of transmission) in a Department of Urology in a regional hospital in Northern Italy during the outbreak of Covid19 pandemic was assessed. ⁴² (2020 June). Guidance has been provided to prepare for the impact of COVID-19 pandemic on breast cancer patients and to advise on how to triage, prioritize and organize diagnostic procedures, surgical, radiation and medical treatments. ⁴³ (2020 Aug). A conceptual model was proposed for the COVID-19 outbreak in Wuhan with the consideration of individual behavioural reaction and governmental actions. ⁴⁴ (2020 Apr). Globally or locally, physical interaction between Doctor and Patient has been replaced by online consultation with the Doctors. Virtualised treatment has become the way of our lives at the cost quality of clinical care to some extent. ⁴⁵ (April 11, 2020). The home-confinement during lockdown has reportedly deteriorated mental and physical health conditions. ⁴⁶ (2020 June). During lockdown, 1.3





billion people in India, 760 million in China, more than 200 million in the USA and 300 million in Europe and UK were ordered to stay inside. The home-confinement has reportedly facilitated sexual intimacy through increased time spent together and simultaneously offset the intimacy due to the more chance of interpersonal conflicts and stress. ⁴⁷ (2020 Apr 30). The home-confinement during pandemic has reportedly aggravated chaos, fear, anxiety, stress and disrupted cognitive functions. ⁴⁸ (2020 Apr 11). The psychological distress perceived by the Italian general population during the early phase of the pandemic was investigated. The study has provided important insight into developing targeted intervention strategies. ⁴⁹ The home-confinement during lockdown implicitly imposed restricted mobility for all including the very old people. Compulsive immobile lifestyle over the months has reportedly damaged the mobility capacity of the very old people permanently. ⁵⁰ (2020). It has been transpired that the country-wise lockdown is important to prevent the spread of COVID-19 among Italian population. ⁵¹ Decrease in the workforce as well as in the demand has been perceived on extraction of raw materials, production of finished products and service provision industries due to social distancing and travel restrictions. However, people have resorted to panic-buying in case of medical supplies and food. ⁵² The month-long lockdown has reportedly deteriorated glycaemic control and diabetes related complications. Consequently, it has increased co-morbidity factors associated with COVID19 infection. ⁵³ (2020 Jul-Aug).

b) Ecological

It has been observed that the global ecology has been significantly improved during the month-long or rather year-long lockdown imposed in different parts of the world.

Let us explore the existing literatures.

Lockdown has served as an air purifier. BHIWADI has made a giant leap forward from poor to good on a long scale of poor-moderate-satisfactory-good. With most vehicles off the roads, flights grounded and all but essential businesses shut, people in some of the world's biggest cities appear to be breathing air with relatively safer levels of pollutants. According to the "Indian Today" ⁵⁵ (March 27, 2020)

Table-10				
City	Air Quality Index Last year	Air Quality Index before Lockdown	Air Quality Index During Lockdown	
	(25-27 Mar 2019)	(16-24 Mar 2020	(25-27 Mar 2020)	
Bhiwadi	221 -Poor	207 -POOR	42 –Good	
Gaziabad	168 - Moderate	188 - Moderate	81–Satisfactory	
Noida	141 - Moderate	152 - Moderate	71 -Satisfactory	

According to the India Today Data Intelligence Unit (DIU), air quality in major Indian cities has been significantly improved during the period of lockdown (Table-10) ⁵⁴ (March

28, 2020). Delhi along with Mumbai, Ahmedabad and Pune have recorded "satisfactory" air quality rating. Weather maps have indicated that pollution over India is considerably lower this year than it was last year. ⁵⁶ (Mar 30, 2020) The weather maps depict less polluting matter in the atmosphere. Dolphins have returned to Italy's coastline, while the famous Venice canal now has become clear enough for us to spot fish ⁵⁷ (Mar 19, 2020). Studies have revealed that there is a positive corelation between air pollution and COVID-19 infection. It indirectly recognises the positive role of lockdown in preventing the spread of COVID-19. ⁵⁸ (2020 Apr 15). Environmental indices have revealed that air quality has been improved during the prevalence of lockdown due to the lower emissions of NO₂, CO₂ and the particulate matters in air. ⁵⁹ (2020). Studies has established that the air quality of the city of





Barcelona (NE Spain) has been improved remarkably during the prevalence of lockdown due to the lower traffic emissions in the air ⁶⁰ (2020 Apr 11). The COVID-19 infection rate in India has remained considerably lower due to quick imposition of restrictive administrative measures. ⁶¹ (2020 Apr 23). Studies have revealed that the air quality of Vembanad Lake, Kerala (the longest freshwater lake in India) has been improved remarkably due to the lower emission of the suspended particulate matter during the prevalence of lockdown. ⁶² (2020). Studies has revealed that there is a significant reduction in CO and NO₂ levels due to the partial lockdown measures implemented in the city of Rio de Janeiro (Brazil). Obviously, it is an instance of improvement of air quality during lockdown. ⁶³ (2020). The National Air Quality Index of the megacity Delhi has revealed that the air quality has been significantly improved during the prevalence of lockdown. ⁶⁴ (2020).

On the whole, the ecological transformation during and after the lockdown are very encouraging and a step forward towards sustainable development.

c) Technological - Developing Global Cloud Culture

During the lockdown, increasing number of people has started taking recourse to the cloud-based culture for social (socializing with friends and relatives), official (discharging official duties and responsibilities), professional (rendering professional services) or for even personal purposes (ordering for groceries or medicines). Even, WHO is rethinking to replace the term "social distancing measures" with the term "physical distancing measures". The rationale behind this is that in order to prevent community infection, people need to isolate themselves "physically" not socially; they need to stay at home but by no means that should be taken to mean to cut relationships with their friends and relatives. In this cloud-based communication culture we do not need to present us physically for socializing with others. The very controversial "social media" turns out to be the one and only one savoir of mankind for maintaining social relationships.

Let us explore the existing literatures.

The pandemic simply erased many in-person jobs. The people are supposed to acquire digital skill to survive in the new hybrid digital reality. Every job is in some way a digital job and everyone needs to have the basics of digital fluency. COVID-19 was like pouring gasoline on the digital transformation. Technology is growing and evolving so fast and the cloud computing is the only future. ⁶⁵ The Access to COVID-19 Tools (ACT) Accelerator is a time-limited global collaboration designed to rapidly leverage existing global public health infrastructure and expertise to accelerate the development, production, and equitable access to COVID-19 tests, treatments, and vaccines in order to expedite the end of the acute phase of the COVID-19 pandemic. ⁶⁶ (6 April 2021). The COVID-19 Strategic Preparedness and Response Plan (SPRP) outlines the public health measures that need to be taken to support all national governments to prepare for and respond to COVID-19. 67 (2020). Researchers all across the world are coming up with new inventions to help tackle coronavirus. COVID-19 is demonstrating what human ingenuity is capable of in the face of adversity ⁶⁸. An improved technology using Raman spectroscopy has been introduced for detection of current and past COVID-19 infections during the analysis of saliva.⁶⁹. The empirical results provide evidence of strong spill overs across the cryptocurrency markets with respect to global risk factors of COVID-19. ⁷⁰ (2021). As COVID-19 continues to disrupt construction, companies have continued to prove their resiliency through onsite





and offsite innovation and quick adaptation to change. This extenuating circumstance caused construction companies bound by paper documents to be introduced to the power of the cloud. Tools like Microsoft OneDrive, Google Drive and Dropbox are now in wide use across the sector. ⁷¹ (May 6, 2020).

VI. End Note

Ex-post sociological transformations have reiterated the importance of the incorporation of online teaching at every level of education. Digital education meanwhile, holds out the promise of opening up educational resources to the students in general. However, the real success of digital education is subject to the dedication of the teachers, access to the necessary technology and internet connectivity to participate on the part of the students. Preparing and delivering the quality lectures online to the students get frustrated due to the deficiencies on the part of the teachers in using effectively the tools and resources associated with the online teaching. The teachers in general are averse to lifelong learning. This does not come as a surprise as the teachers in general have historically been slow to adopt new technologies. COVID-19 has changed that trend slightly. Interestingly, the same teachers are super-fast in learning the SOP of different social media including Facebook and WhatsApp. Naturally, during the period of pandemic, the teachers are under stress as they are proverbially shy in using online teaching gadgets and web resources. Moreover, in the remote areas, the teachers get handicapped due to the poor or no internet connectivity. So far as home confinement during lockdown is concerned, sociological imagination is yet to capture the tolerance level of the citizens during the period of preventive confinement due to COVID-19.

Ex-post ecological transformations have vetted that during the prevalence of lockdown, pollution level in cities across the countries has been significantly improved. Environment impact analysis is yet to calculate the positive corelation between pollution control and lockdown when there are no meteorological interferences.

Ex-post technological transformations have explicitly announced that digital transformation is the hallmark of the new normal. Speed of technological change and integrating new technology into legacy systems are the primary challenge to implement organisation's digital transformation strategy. By default, the cloud computing has become mandatory. As the standard mode of operations is no longer feasible, organisations are coping with the pandemic surprisingly well. Overall resilience to COVID-19 shocks implies supply-chain adjustment, remote work and real-time decision-making. Given the scale of disruption caused by pandemic the organisations are reacting swiftly in adapting the above-mentioned micro transformations.

Ex-post socioeconomic transformations have reminded us of the Global Financial Crisis of 2008-2009. During that time, investments were made in gold by selling off the equities. Whereas, during COVID-19 hard currencies were stockpiled by selling off gold in order to face uncertainties. In the broad socioeconomic world, the scale and pace of change is unprecedented and the national governments ought to cope with the situation.

The onset of the COVID-19 pandemic has acted like an "accelerator" in transforming the sociological, ecological, technological and financial ground realities into innovative new normal realities.





Bibliography:

- ¹ https://i.redd.it/u5c7u6dn7fw51.png
- ² WHO Coronavirus (COVID-19) Dashboard: 4 June 2021 (at 12:23pm CEST), who.int
- ³ WHO Coronavirus disease COVID-19 Situation Dashboard Last Updated: 31/03/2020 (at 18:00 CEST), who.int
- ⁴ WHO Coronavirus disease COVID-19 Situation Dashboard Last Updated: 17/04/2020 (at 2:00am CEST), who.int
- ⁵ WHO Coronavirus disease COVID-19 Situation Dashboard Last Updated: 03/05/2020 (at 2:00am CEST), who.int
- ⁶McKinsey Global Survey results (December 2019):Economic Conditions Snapshot, https://www.mckinsey.com/~/media/McKinsey/Business%20Functions/Strategy%20and%20Corpo rate%20Finance/Our%20Insights/Economic%20Conditions%20Snapshot%20December%202019% 20McKinsey%20Global%20Survey%20results/Economic-Conditions-Snapshot-December-2019-McKinsey-Global-Survey-results.ashx
- ⁷ Gopinath, Gita, Gian Maria Milesi-Ferretti, and Malhar Nabar, 2019 in Review: The Global Economy Explained in 5 Charts: DECEMBER 18, 2019, https://blogs.imf.org/2019/12/18/2019-in-review-theglobal-economy-explained-in-5-charts/
- ⁸ Hari Hara Mishra, Coronavirus in India: COVID-19 lockdown may cost the economy Rs 8.76 lakh crore; here's how, Last Updated: March 28, 2020, https://www.businesstoday.in/opinion/columns/coronavirus-in-india-covid-19-india-lockdowneconomy-cost-gdp-gva-nationwide-shutdown/story/399477.html.
- ⁹ Prasanna Mohanty, Coronavirus Lockdown II: How serious could the impact be on Indian economy and GDP, Last Updated: March 27, 2020, https://www.businesstoday.in/current/economypolitics/coronavirus-lockdown-serious-impact-on-indian-economy-gdp-high-unemployment-covid-19-economic-growth/story/399444.html
- ¹⁰ Prasanna Mohanty, Coronavirus Lockdown II: How serious could the impact be on Indian economy and GDP, Last Updated: March 27, 2020, https://www.businesstoday.in/current/economypolitics/coronavirus-lockdown-serious-impact-on-indian-economy-gdp-high-unemployment-covid-19-economic-growth/story/399444.html
- ¹¹ PTI, Sex workers in Mumbai struggle to survive amid Coronavirus lock down, Mar 29, 2020, https://www.businessinsider.in/india/news/sex-workers-in-mumbai-struggle-to-survive-amidcoronavirus-lock-down/articleshow/74873050.cms?utm_source=copylink&utm_medium=referral&utm_campaign=Click_through_social_share&utm_source=contentofi nterest&utm_medium=text&utm_campaign=cppst
- ¹² EIU_MIcrosoft_The_Transformation_Imperative_Industry_Report_for_Education.pdf).
- ¹³ Timothy Laing, The economic impact of the Coronavirus 2019 (Covid2019): Implications for the mining industry, The Extractive Industries and Society (2020), doi: https://doi.org/10.1016/j.exis.2020.04.003.
- ¹⁴ (Umair Irfan, The life-and-death consequences of naming the coronavirus: Feb 14, 2020).
- ¹⁵ (Dr Tedros Adhanom Ghebreyesus, COVID-19 Strategic preparedness and response plan WHO/WHE/2021.02 © World Health Organization 2021, p VII).





- ¹⁶ PTI, Migrant workers returning to villages told to live in trees to enforce social distancing, Mar 29, 2020, 16:07 IST https://www.businessinsider.in/india/news/migrant-workers-returning-to-villages-told-tolive-in-trees-to-enforce-social-distancing/articleshow/74873661.cms?utm_source=copylink&utm_medium=referral&utm_campaign=Click_through_social_share
- ¹⁷ Tripuraindia, 70% increase in Facebook Messenger group video calls, Tuesday, 24 Mar, 2020, http://dhunt.in/90luT?ss=eml.
- ¹⁸ Tripuraindia, WhatsApp sees 40% increase in usage in time of pandemic, Saturday, 28 Mar, 2020, http://dhunt.in/93p5P?ss=eml
- ¹⁹ (Coronavirus pandemic worsens plight of Middle East prisoners, India Today, April 17, 2020, Agence France-Presse), https://www.indiatoday.in/world/story/coronavirus-pandemic-plight-middle-east-prisoners-1667880-2020-04-17
- ²⁰ Inspectors concerned by impact of continued COVID-19 regime restrictions in women's prisons,https://www.justiceinspectorates.gov.uk/hmiprisons/media/press-releases/2020/07/inspectors-concerned-by-impact-of-continued-covid-19-regime-restrictions-in-womens-prisons/
- ²¹ Have Celebrities Become the Grifters of Quarantine? JOELLE KIDD Published 15:22, Jun. 11, 2020, https://thewalrus.ca/have-celebrities-become-the-grifters-of-quarantine/
- ²² The Benefits of Solitude MICHAEL HARRIS Updated 9:42, Apr. 27, 2020 | Published 15:06, Apr. 19, 2017, https://thewalrus.ca/the-benefits-of-solitude/
- ²³ The Science of Loneliness SAM JURIC Updated 11:03, Mar. 16, 2020 | Published 10:35, Dec. 26, 2017, https://thewalrus.ca/the-science-of-loneliness/
- ²⁴ This Is the Internet We Were Promised ANGELA MISRI Updated 16:00, May. 1, 2020, Published 13:04, Apr. 29, 2020, https://thewalrus.ca/this-is-the-internet-we-were-promised/
- ²⁵ How YouTube Gives Us Love without the Messiness, MICHAEL HARRIS Updated 17:07, Aug. 4, 2020, Published 12:56, Jan. 2, 2020, https://thewalrus.ca/how-youtube-gives-us-love-without-the-messiness/
- ²⁶ Kapoor et al., Innovation in Isolation? COVID-19 Lockdown Stringency and Culture-Innovation Relationships, Frontiers in Psychology, February 2021, Volume 12, https://doi.org/10.3389/fpsyg.2021.593359.
- ²⁷March, Bridget, MAY 15, 2020 https://www.harpersbazaar.com/uk/beauty/a32473197/how-coronaviruswill-change-beauty/
- ²⁸ How COVID-19 changed fitness regime of Indians; Here's what a survey revealed, https://www.financialexpress.com/lifestyle/health/how-covid-19-changed-fitness-regime-ofindians-heres-what-a-survey-revealed/2107825/
- ²⁹ Dr. Joanne Leerlooijer, Distancing practices and the Covid19 regime; proxemics and the redefinition of social space, https://www.wur.nl/en/Persons/Joanne-dr.-JN-Joanne-Leerlooijer.htm
- ³⁰ Carl Benedikt Frey, Chinchih Chen, and Giorgio Presidente, Regimes and Countries Responsiveness to Covid-19 Oxford Martin School, Oxford University May 13, 2020, pp 1.
- ³¹David Stasavage, Democracy, Autocracy, and Emergency Threats: Lessons for COVID-19 From the Last Thousand Years, International Organization 74 Supplement, December 2020, pp. E1–E17.
- ³² Alex Jingwei He, Yuda Shi and Hongdou Liu, Crisis governance, Chinese style: distinctive features of China's response to the Covid-19 pandemic, POLICY DESIGN AND PRACTICE 2020, VOL. 3, NO. 3, 242–258 https://doi.org/10.1080/25741292.2020.1799911





- ³³ COVID-19 sweeps in a new cleaning regime for the hospitality industry May 13, 2020, https://news.yahoo.com/covid-19-sweeps-cleaning-regime-210400272.html
- ³⁴McCarthy Tétrault, Laura DeVries and Colton Dennis, Key Considerations In Responding To Employee Requests To Work From Home, https://www.mccarthy.ca/en/insights/blogs/canadian-employeradvisor/key-considerations-responding-employee-requests-work-home
- ³⁵ The Double Exploitation of Deepfake Porn, BY MAGGIE MACDONALD Published 14:18, Jun. 10, 2021, https://thewalrus.ca/the-double-exploitation-of-deepfake-porn/
- ³⁶Macdonald, Maggie Published 14:18, Jun. 10, 2021 https://twitter.com/CoinDesk/status/1402509338095149056?s=03
- ³⁷ (EIU_MIcrosoft_The_Transformation_Imperative_Industry_Report_for_Education.pdf)
- ³⁸ Biana HT, Joaquin JJB, The Ethics of Scare: COVID-19 and the Philippines' Fear Appeals, Public Health, https://doi.org/10.1016/j.puhe.2020.04.017
- ³⁹ Tobías A. Evaluation of the lockdowns for the SARS-CoV-2 epidemic in Italy and Spain after one month follow up. Sci Total Environ. 2020 Jul 10;725:138539. doi: 10.1016/j.scitotenv.2020.138539. Epub 2020 Apr 6. PMID: 32304973; PMCID: PMC7195141
- ⁴⁰ Ansari Saleh Ahmar, Eva Boj del Val, SutteARIMA: Short-term forecasting method, a case: Covid-19 and stock market in Spain, Science of The Total Environment, Volume 729, 2020, 138883, ISSN 0048-9697, https://doi.org/10.1016/j.scitotenv.2020.138883.
- ⁴¹ Danny Ibarra-Vega, Lockdown, one, two, none, or smart. Modeling containing covid-19 infection. A conceptual model, Science of The Total Environment, Volume 730, 2020, 138917, ISSN 0048-9697, https://doi.org/10.1016/j.scitotenv.2020.138917
- ⁴² Luciani LG, Mattevi D, Cai T, Giusti G, Proietti S, Malossini G. Teleurology in the Time of Covid-19 Pandemic: Here to Stay? Urology. 2020 Jun;140:4-6. doi: 10.1016/j.urology.2020.04.004. Epub 2020 Apr 13. PMID: 32298686; PMCID: PMC7153527
- ⁴³ Curigliano G, Cardoso MJ, Poortmans P, Gentilini O, Pravettoni G, Mazzocco K, Houssami N, Pagani O, Senkus E, Cardoso F; editorial board of The Breast. Recommendations for triage, prioritization and treatment of breast cancer patients during the COVID-19 pandemic. Breast. 2020 Aug;52:8-16. doi: 10.1016/j.breast.2020.04.006. Epub 2020 Apr 16. PMID: 32334323; PMCID: PMC7162626
- ⁴⁴ Lin Q, Zhao S, Gao D, Lou Y, Yang S, Musa SS, Wang MH, Cai Y, Wang W, Yang L, He D. A conceptual model for the coronavirus disease 2019 (COVID-19) outbreak in Wuhan, China with individual reaction and governmental action. Int J Infect Dis. 2020 Apr;93:211-216. doi: 10.1016/j.ijid.2020.02.058. Epub 2020 Mar 4. PMID: 32145465; PMCID: PMC7102659.
- ⁴⁵ Webster, Paul, Virtual health care in the era of COVID-19, WORLD REPORT VOLUME 395, ISSUE 10231, P1180-1181, APRIL 11, 2020
- ⁴⁶ Zhang SX, Wang Y, Rauch A, Wei F. Unprecedented disruption of lives and work: Health, distress and life satisfaction of working adults in China one month into the COVID-19 outbreak. Psychiatry Res. 2020 Jun;288:112958. doi: 10.1016/j.psychres.2020.112958. Epub 2020 Apr 4. PMID: 32283450; PMCID: PMC7146665
- ⁴⁷ Arafat SMY, Alradie-Mohamed A, Kar SK, Sharma P, Kabir R. Does COVID-19 pandemic affect sexual behaviour? A cross-sectional, cross-national online survey. Psychiatry Res. 2020 Apr 30;289:113050. doi: 10.1016/j.psychres.2020.113050. Epub ahead of print. PMID: 33242820





- ⁴⁸ Gautam R, Sharma M. 2019-nCoV pandemic: A disruptive and stressful atmosphere for Indian academic fraternity. Brain Behav Immun. 2020 Aug;88:948-949. doi: 10.1016/j.bbi.2020.04.025. Epub 2020 Apr 11. PMID: 32289366; PMCID: PMC7151469
- ⁴⁹Lorenzo Moccia, et al., Brain, Behavior, and Immunity, https://doi.org/10.1016/j.bbi.2020.04.048
- ⁵⁰ Valenzuela PL, Santos-Lozano A, Lista S, Serra-Rexach JA, Emanuele E, Lucia A, Coronavirus lockdown: forced inactivity for the oldest old?, Journal of the American Medical Directors Association (2020), doi: https://doi.org/10.1016/j.jamda.2020.03.026
- ⁵¹ Chintalapudi N et al., COVID-19 virus outbreak forecasting of registered and recovered cases after sixty day lockdown in Italy: A data driven model approach, Journal of Microbiology, Immunology and Infection, https://doi.org/10.1016/j.jmii.2020.04.004
- ⁵² Nicola M, Alsafi Z, Sohrabi C, Kerwan A, Al-Jabir A, Iosifidis C, Agha M, Agha R, The Socio-Economic Implications of the Coronavirus and COVID-19 Pandemic: A Review, International Journal of Surgery, https://doi.org/10.1016/j.ijsu.2020.04.018
- ⁵³ Ghosal S, Sinha B, Majumder M, Misra A. Estimation of effects of nationwide lockdown for containing coronavirus infection on worsening of glycosylated haemoglobin and increase in diabetes-related complications: A simulation model using multivariate regression analysis. Diabetes Metab Syndr. 2020 Jul-Aug;14(4):319-323. doi: 10.1016/j.dsx.2020.03.014. Epub 2020 Apr 10. PMID: 32298984; PMCID: PMC7146694
- ⁵⁴ Rampal, Nikhil, India breathes better with humans confined to homes, March 28, 2020, https://www.indiatoday.in/amp/diu/story/coronavirus-india-lockdown-breathes-better-humansconfined-homes-1660729-2020-03-28
- ⁵⁵ India Today Web Desk, Coronavirus: In India's metros, lockdown turns air purifier, March 27, 2020, https://www.indiatoday.in/india/story/coronavirus-india-lockdown-metros-aqi-air-quality-1660209-2020-03-27
- ⁵⁶ Prabhjote Gill, Weather maps show how India's Coronavirus lockdown is helping people breathe a little better, Mar 30, 2020, 19:00 IST, https://www.businessinsider.in/india/news/weather-maps-showhow-indias-coronavirus-lockdown-is-helping-people-breathe-a-little-

better/articleshow/74896617.cms?utm_source=copy-

link&utm_medium=referral&utm_campaign=Click_through_social_share&utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

⁵⁷ Sanchita Dash, Dolphins return to Italy, Venice canal shines, China's air clears up – the impact of Coronavirus isolation says we need to rethink our ways, Mar 19, 2020, https://www.businessinsider.in/science/environment/news/dolphins-return-to-italy-venice-canalshines-chinas-air-clears-up-the-impact-of-coronavirus-isolation-says-we-need-to-rethink-ourways/articleshow/74705435.cms?utm_source=copy-

link&utm_medium=referral&utm_campaign=Click_through_social_share

- ⁵⁸ Zhu Y, Xie J, Huang F, Cao L. Association between short-term exposure to air pollution and COVID-19 infection: Evidence from China. Sci Total Environ. 2020 Jul 20;727:138704. doi: 10.1016/j.scitotenv.2020.138704. Epub 2020 Apr 15. PMID: 32315904; PMCID: PMC7159846
- ⁵⁹ B. Paital, Nurture to nature via COVID-19, a self-regenerating environmental strategy of environment in global context, Science of the Total Environment (2020), https://doi.org/10.1016/j.scitotenv.2020.139088



- ⁶⁰ Tobías A, Carnerero C, Reche C, Massagué J, Via M, Minguillón MC, Alastuey A, Querol X. Changes in air quality during the lockdown in Barcelona (Spain) one month into the SARS-CoV-2 epidemic. Sci Total Environ. 2020 Jul 15;726:138540. doi: 10.1016/j.scitotenv.2020.138540. Epub 2020 Apr 11. PMID: 32302810; PMCID: PMC7151283
- ⁶¹ Paital B, Das K, Parida SK. Inter nation social lockdown versus medical care against COVID-19, a mild environmental insight with special reference to India. Sci Total Environ. 2020 Aug 1;728:138914. doi: 10.1016/j.scitotenv.2020.138914. Epub 2020 Apr 23. PMID: 32339832; PMCID: PMC7179495
- ⁶² Ali P. Yunus, Yoshifumi Masago, Yasuaki Hijioka,COVID-19 and surface water quality: Improved lake water quality during the lockdown, Science of The Total Environment, Volume 731, 2020, 139012, ISSN 0048-9697, https://doi.org/10.1016/j.scitotenv.2020.139012
- ⁶³ Dantas G, Siciliano B, França BB, da Silva CM, Arbilla G. The impact of COVID-19 partial lockdown on the air quality of the city of Rio de Janeiro, Brazil. Sci Total Environ. 2020 Aug 10;729:139085. doi: 10.1016/j.scitotenv.2020.139085. Epub 2020 Apr 28. PMID: 32361428; PMCID: PMC7194802
- ⁶⁴ S. Mahato, S. Pal and K.G. Ghosh, Effect of lockdown amid COVID-19 pandemic on air quality of the megacity Delhi, India, Science of the Total Environment (2020), https://doi.org/10.1016/j.scitotenv.2020.139086
- ⁶⁵ Susanna Ray, https://blogs.microsoft.com/latino/2020/11/16/free-online-digital-skills-courses-revivehope-and-careers-for-millions-amid-the-pandemic/
- ⁶⁶ What is the Access to COVID-19 Tools (ACT) Accelerator, how is it structured and how does it work?, Version: 6 April 2021, © World Health Organization 2021, https://www.who.int/docs/defaultsource/coronaviruse/act-accelerator/act-a-how-it-works-at-6april2021.pdf?sfvrsn=ad5f829f 24&download=true
- ⁶⁷ COVID-19 Strategic Preparedness and Response Plan: Operational Planning Guidelines to Support Country Preparedness and Response © World Health Organization 2020, https://www.who.int/docs/default-source/coronaviruse/covid-19-sprp-unct-guidelines.pdf
- ⁶⁸ COVID-19 innovation: These gadgets were designed to fight the pandemic | World Economic Forum, https://www.weforum.org/agenda/2020/04/coronavirus-covid19-pandemic-gadgets-innovationtechnology/
- ⁶⁹ Carlomagno, C., Bertazioli, D., Gualerzi, A. *et al.* COVID-19 salivary Raman fingerprint: innovative approach for the detection of current and past SARS-CoV-2 infections. *Sci Rep* **11**, 4943 (2021). https://doi.org/10.1038/s41598-021-84565-3
- ⁷⁰ Shahzad, S.J.H., Bouri, E., Kang, S.H. *et al.* Regime specific spillover across cryptocurrencies and the role of COVID-19. *Financ Innov* 7, 5 (2021). https://doi.org/10.1186/s40854-020-00210-4
- ⁷¹ Brown, John, Wednesday, May 6, 2020, Innovation in a Time of Crisis How Construction Is Responding to COVID-19, https:// www.constructionexec.com/article/innovation-in-a-time-of-crisis-howconstruction-is-responding-to-covid-19

⁷² (EIU_MIcrosoft_The_Transformation_Imperative_Executive_Summary.pdf)