

Collusion: COVID-19 –Worldwide Economy And It's Effects

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Abstract:

Only a few months back, it was unfathomable that life will come to a standstill like this and people will be impacted so much that they will need to stay home in order to stay safe from a virus that is invisible to the world. All forms of businesses had to shut down, so that the spread of the virus could be contained. Looking at the mode of spread of the virus, every government had to strictly ask its citizens to maintain social distancing, exercise regular use of mask and sanitizer in order to be safe. Lifestyles of citizens around the world have changed drastically beginning with greetings to eating fads like turning vegetarians or vegan.

The pandemic has affected the entire world economy and since almost the entire world resorted to either partial or complete lockdowns, in order to flatten the curve of the virus, and almost all forms of businesses have taken the downward spiral due to these clampdowns.

Travel and Hospitality to Manufacturing, Education, Film and Entertainment, Banking and Finance almost any and every domain, field or sector that one can think of has been impacted dearly.

This book chapter aims at studying the impact of this pandemic on some of these sectors and businesses to gain a wider perspective on the collusion, its impact and the way forward.

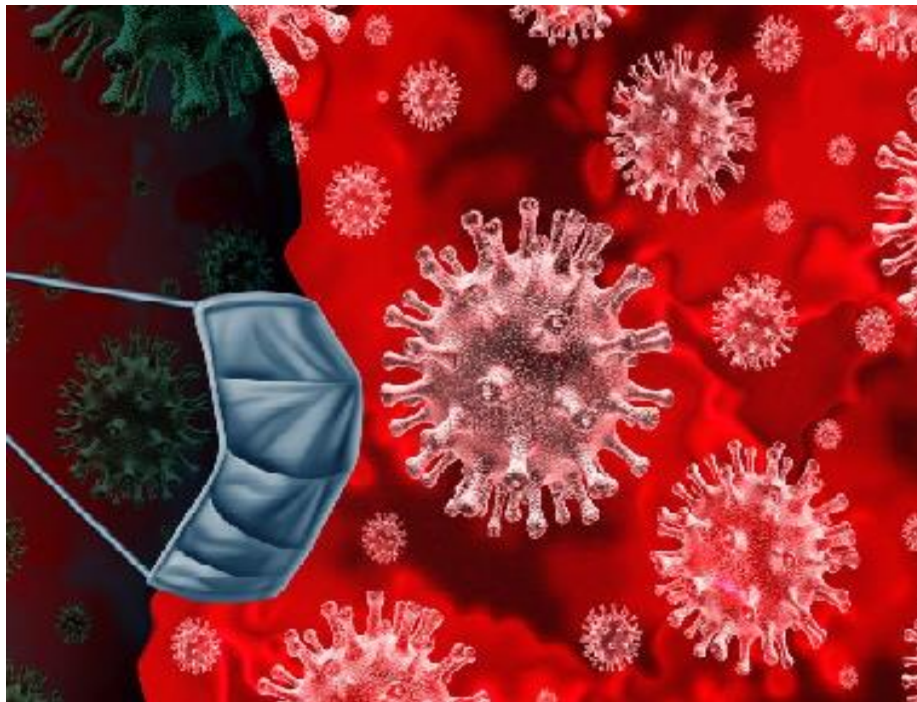
Keywords: *Economy and impact, COVID-19, Different working sectors, Barriers, employment.*

Objective:

At the time this article was written the world was suffering with total cases of corona at 30,356,634, fatalities at 950,625, recovered cases at 22,046,144 (according to <http://www.worldmeters.info/coronavirus>), USA being right on top, which of course is a dubious distinction. This virus surfaced sometime in December of 2019 in China and the rest is now history with the worst still not over as the virus is still spreading steadily. Though, things do not appear to get back to normal anytime soon, but it's important that people head out and businesses start to reopen, even if in a staggered manner, so that this downward spiral may be contained.

Though whole world is trying that the virus do not get spread but it is spread steadily. After a long worldwide lockdown now things will not be normal but we have to step out so that the down break in the economy can be put to a balance where lives of people are no more on stake as it has directly contrived their employment and income.

The objective behind this study is to know how the world was respiring before the COVID - 19 entered and now how it has affected to different sector and industries which is directly or indirectly has affected the global economy. How everyone is trying to save themselves and also trying to save their employment. Also how government is playing its role and trying to make citizens life to normal, as we all know that it might take 1-2 year to bring life to normal track and have a smooth life.



Introduction:

A virus from Wuhan city in China has spread all over the world. World Health Organization (WHO) had declared World Health Crises in the month of January to avoid the spread of Virus. In any case of crises in any part of the world the economic effect is shown in whole world.

According to the studies the researcher showed SEIR model the peak cases which had arrived on 15th February 2020 was 59769 which high precision of fitting of data. This dynamic change in the value of R was taken in account of epidemic where the scenario was totally different. In mean while the researchers around the world had scrambled to ascertain how is the Virus getting spread and how can it be controlled quickly.

Today every person on this earth is suffering from the deadly virus which is unseen, unpredicted, affecting the jobs of people, studies of the future of this planet. It seems that everything is getting messed up. But still the coverage and motivation of human are not letting down and trying hard to get rid from this injurious unseen infection.

Global Economy

We all know the economy worldwide was on smooth track and the life style of very citizen on the earth was calm and stress less. There were lots projects initiated in 2019 in the world and in India. All manufacturing industries, the creative industry, civil sites, education sectors and other important working sectors were undisturbed.

After New Year celebration all had new plans and ideas for new studies courses and admissions, some for jobs, some for business what new can be initiated or anyone planning for a start-up , some singles were planning to get double (marriages), planning in the sports like holding of Olympics, 20-20 cricket match and many more. But no one knew that 2020 will come like a black swan for whole world.

No one in the world knew that a smooth running life will come to stake and people had to stay at home so that they are safe from a virus which is invisible to the world. School, college, offices, malls, theaters all have shut down, so that the spread of the virus can be stopped. And that virus is COVID-19- Corona Virus Disease, which spreads from mouth, hand, by sneezing, cough, shaking hands, so every government has strictly asked the citizens to maintain social distancing, regular use of mask and sanitizer so that we are safe. Today whole world is using the Indian gesture of greeting each other rather shaking hands. The living style has changed, people are getting more of vegetarian, and kids are not allowed to move out to play. COVID has changed and broken whole world badly.

A situation of abnormal to the state of normal. A Pandemic deadly virus has affected the global economy. In this present scenario we all are fighting against a microbe which is unseen. This infection varies from person to person, country to country. The whole world has resorted in the mode of lockdown so that the infection curve can be flattened. This means that millions of citizens need to stay back home shutting down their business and other works which would affect the economy system. It is a situation where no one can say when this will come to an end, as the medical teams are in process of curing the patients and also find the medicine for this virus.

The situation is stressful for whole world as one cannot stop working as whole supply- chain is getting affected from this. Due to lockdown indirectly every sector is getting locked whether it education, manufacturing, tour- travel, Hotels- restaurants, creative industry etc.

About Virus

Corona virus are of different types some are dangerous and some are not so dangerous, it infects the sinuses, nose, and throat windpipe and lungs. In medical terms it is called Respiratory Tract Infection. It spreads when two person are in contact to each other or like shaking hands, speaking too closely to the person, sneezing in front without keeping hand on the mouth. The range of the infection is mild and injurious. According to the medical research there are seven types of Corona virus and COVID-19 is among the seven corona virus which is caused by the SAR-COV-2 which causes Middle East Respiratory Syndrome and the Acute Respiratory Syndrome.

Coronavirus is a single strand ribonucleic acid (RNA) which belong to Orthcoravirinae which a subfamily which can be further be divided into several sub-groups, which may be mild different biologic virulence and characteristic. It is believed bats might be culprit as virus is zoonotic and has sequence identity to BAT-COV. Therefore, bats are taken as natural host reservoir of Corona Virus.

The medical team are working on to get the vaccine for this deadly virus and more than 100 vaccine are in different stages of process, testing and developing, it might take years or 12 to 18 months to get the vaccine which can be used or the cure of COVID-19.

The sign of COVID- 19 are fever, problem in taking breath, loss of smell and taste, coughing, headache and body ache and one is unable to get up, fatigue, nausea. It varies human to human and the symptoms may change because till now exact symptom has not been yet identified. And this is the reason that the medical team has not got the accurate vaccine.

Literature Review:

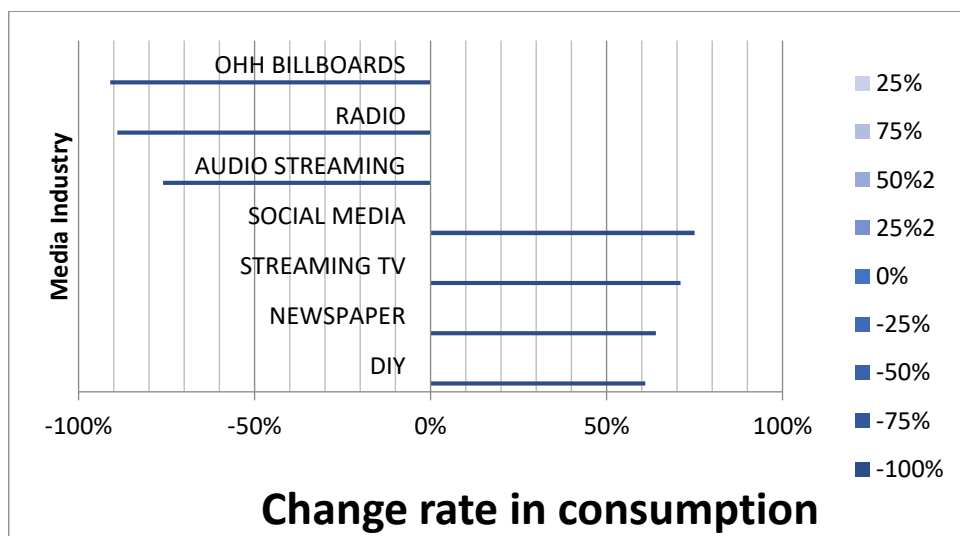
Economy, we say a domain supply in money in face of the production, the trade, consumption and distribution of any kind of goods and services by different mode and medium. No doubt, the pandemic corona virus has steadily affected our daily life, business, world trade. When the World Health Organization announced the emergency lockdown to some period of time the economy was in balance state and as the duration of the lockdown mode was extended the economy worldwide moved downward rapidly, as working was shutdown. But slowly a remote working style has brought so that world should not go down for their livelihood.

Impact on various sectors of World Economy

Let's look at the impact on certain sectors of the economy world- wide:

Media:

With media we mean press, television, radio, out of home, online media etc., the different news channels across the world and one of the most important sector which is giving us the live-updates for what is happening across the world. They are working hard moving every corner of the world and maintain the regulation announced by the government for the safety. Today this is the only mode of information and the mediator between the government and the people. This sector is also a mode of getting balanced economy. But during COVID-19 the impact has been faced by many sectors and the media is one of them. According to a survey in the 1st week of lockdown it was observed that 75% of social media got increased as most of the people spent time in browsing internet. We can see the impact of COVID-19 on consumption of Media in India in below graph.



The major stakeholder world-wide-

Every sector is dependent on it, the hospitals, and every home where almost every is on remote working i.e. work from. In fact the media is also dependent on it. This sector is working hard try giving 24*7 electricity to every home and factories. We all know that electricity cannot be stored in a very large amount; it is generated in a planned way on the demand forecast. According to a research we found that this year 2020 in the month of January and February the supply of electricity got increased to 3% and 7% comparing to previous year. But in next 2 months i.e., March and April 2020 there was a rapid fall down to 3% and steadily to 25% total decrease in the supply of the power.

Figure 1: % change in power supply position between March 1 and April 19 (Y-o-Y from 2019 to 2020)



Power generation during the lockdown period for reducing the consumption was been adjusted to remunerate and reduction has calibrated by minimizing the power generation by coal. In contribution of coal in power generation this resulted in total decrease of an average saying 73% 64% during this period. In the below table we can see the consumption of mixed energy resource.(Fig no-2).,

Energy Sources	Average Generation			Contribution to Total (in %)	
	Mar 1-Mar 24	Mar 25-Apr 19	% change	Mar 1-Mar 24	Mar 25-Apr 19
Coal	2,511	1,873	-25%	72.5%	65.6%
Hydro	302	331	10%	8.7%	11.6%
Renewables (of which)	325	312	-4%	9.4%	10.9%
<i>a. Solar</i>	157	162	3%	4.5%	5.7%
<i>b. Wind</i>	97	96	0%	2.8%	3.4%
Gas, Naptha, Diesel	132	146	11%	3.8%	5.1%
Nuclear	113	114	1%	3.3%	4.0%
Lignite	82	78	-5%	2.4%	2.7%
Total	3,465	2,854	-18%	-	-

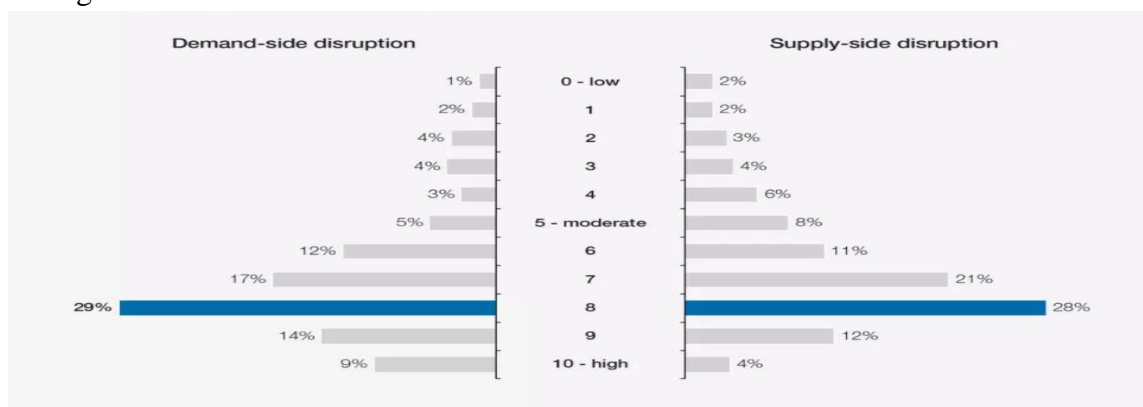
Creative:

We call them as Art sector also. A source of entertainment, a big hit by corona virus to the film industries all over the world their works have put on hold so that they are safe. But on other side 1st time in the first half of 2020 there is a huge loss in revenue. But slightly the industry people try to work in an innovative way by series making which can be streamed pocket theater which mobile phones in form of different mobile applications like most famous Netflix, Amazon Prime Videos, Zee5, VOOT etc.

According to a report in a magazine named Everything Experimental 90% of the Entertainment Management and 53% of the events are getting cancelled some of the State Government are trying to support this sector.

Manufacturing sectors:

It is one of the major parts of economy 20% is contributed in the GDP due to lockdown(shown below graph). The daily products are being manufactured like dairy products, raw food items, and medical equipment’s pharmaceuticals. The impact of virus was shown on beverage, electrical and electronic items, chemical, aviation making of smartphones and televisions were stopped. There are few products, taking it from healthcare which is high in demand. All the important sectors of manufacturing industry are suffering, as there is reduced in demand and disrupted supply chain. The industry is trying once the dust gets settled there will be imperative change and innovation. Taking all safety measures for the workers, checking out and revising the prices and promotion strategies.



Civil sites:

Another important part of economy, but it got badly affected by the virus. Almost all over the world the working sites were stopped reason being most of the labors across the world due to this lock down preferred to move back to their home as the income slowly got off. According to the

Economics Times around 20,000 are projects that are ongoing across the country and running delay.

✚ Hospitality & Tourism :

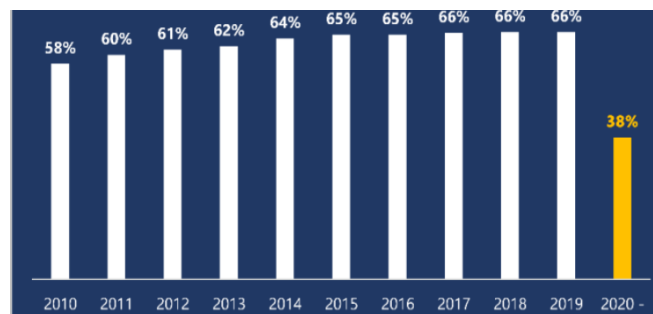
Important element of the economy, but is affected badly and still running on bad track. Everyone's eye is on the spread of corona virus in that case people fear in moving towards restaurants. Since the government has announced for the avoiding going to the places like pubs, clubs restaurants, due to which there huge fall down in the supply chain on the food items.

In term of business there is a big hit to the tourism, travel and hotels and restaurants.

We are finding mobilization in the food services where there is an arrange of free food to those who are unable to get food.

Another key section to the economy, the aviation, railway stations, cruise operators were put on halt. At the time when emergency lockdown was declared people got stuck who went for having their vacations. The government of different countries made the flight arrangements to bring back their people. The tourism as experienced the panic of the corona virus. People are still cancelling their planned trips, this is the hardest hit by this microbe virus on the travel industries .People are thinking better to be at their own places as that is most safest place they could get.

According to the American Hotel and Logging Association in the below graph we can see the Hotel occupancy rate from 2010 to 2020.



✚ Shopping malls and Movie Theatres:

One of the important source of getting growth in economy, in the initial stage across the world it was asked to strictly close all the shopping mall and movie theaters as it was a big source from where the spread of virus would rapidly increase. But now slowly the malls have got the permission to open keeping the social distancing in mind so that spread of virus is not encouraged. But the other point of economy i.e. the movie theaters are still asked to shut down as social distancing may be possible here.

✚ **Banking and Financial sector:**

It runs the economy, we can say unfortunately or fortunately this sector cannot be shut down it has to be in moving mode. But yes the banking sectors have been asked to maintain the social distancing mode so that the banking staffs and the people are safe. The cash work was reduced to avoid the spread of virus. It was initiated that any kind of withdrawn or transfer of money will be made in digital format.

During this crises

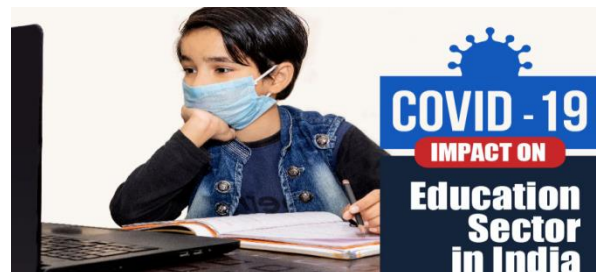
The financial sector has definitely fallen down, the share markets has gone mad among the investors. The Government has played an important role in rescuing the packages which could help the people. Fall in share markets has affected in the sanctioning of various projects worldwide. Companies are checking out which branch in world is lacking with work source so that projects can be given to them which is helping in not losing the employment.

✚ **Education:**

Important key in economy and also the future of the planet. The students who tried never missing their classes, have been asked to sit at home. New admissions who were planning to go college and have some new experience are still in the process of admission. The new thing which has been introduced was the remote teaching. Till now everyone had smart teaching through use of smart boards and the works on the laptops getting the lectures. But now the student who always had a heavy traffic reason for getting late for the lecture, will not have now as the new mode do not required to be present in campus rather they have to get live through online classes. It is a new system for both teaching and learning process, but yes circulation of economy in this sector is trying to balance and also trying to put back how it was, but definitely it would take some time to be in process and getting on normal track.

✚ **Salons:**

Not giant part but yes the salons and beauty parlors are the source of good economy. Due to the lockdown they have totally shut down. People are scared of moving out. Men better think of having long hair and beard rather putting their life to danger, somewhere the thinking is in females too. The parlor lovers are just waiting to get things normal. The high brands have opened it maintaining the regulations of social distancing and sanitizing their equipment, so that customers feel better.



Medical:

Again an important and most valuable section of economy, it is playing a role of savior. The whole medical team across the world are trying their level best to save every patient who are in grip of COVID-19. By the side there are also trying to find out the vaccine for this deadly virus. Today the healthcare sector has become the epicenter for this injurious pandemic corona virus. The private hospitals have shown full support to the government hospitals. Today government and the private healthcare sector are working together helping out with the equipment and the other requirement.

As per the studies at New York State Hospital quickly recognized the need of SAS (supplementary information sources and had relied on the direct importation of data and matching the data of the patient identification and occurrence of death rate. The descriptive statistics was calculated by using SAS software which was 9.4; by SAS institution.



As per the records 29th February to 1st June 2020 the total COVID cases were 203,792 which were diagnosed and was reported. But as per current record new cases are 4,49,578. Taking 7 days average it 9.62,131.

The vaccine introduced 200 CR have be given world wide`, where 485 are fully vaccinated and 62.1% are still left for vaccination.

IT Industry:

The huge packet of economy, without the IT industries lie could be very hard also hard for the other important sectors. The IT sector outsourcing is one of the flourishing industry in the world. The IT sector has made the life of people easier. The great ideas and innovations have changed the mind and the lifestyle of people. During this lockdown period it's the IT sector which is trying to let people stay at home without getting job less. The term digitalization was possible only with the help of IT sectors across the world. The modern equipment getting available to the healthcare sector, media, education is due to the IT sector. It is neither getting down nor it is letting down the other sectors too by initiating new projects. Some of the big IT sectors are Microsoft, Infosys, TCS, Google, Wipro, Gartner, Capgemini, Accenture, IEEE Computer Society and many more.

According to the report of UN , India stands at 15 which has got affected due to COVID-19. But, it has also been noted the so far no cancellation to the contract has been faced by the service partners.

According to the Statista the revenue soared at a faster rate we can find below through the graph comparative domestic revenue over the years.



Religious places:

This sector has economy rate but undoubtedly it's economy is nowhere related to the use to common people at the time of crises. As according to them any charity done is only for them who are part of the worship areas. During this pandemic virus they given a support by closing and giving the message to stay at home and do worship at their place so that they be safe.

Overview on some blogs by important channels

S.No	Writer's Name	Channel Name	Site	Date	Blog Summary
1.	Ilaria Grasso Macola	Power Technology	http://www.powertechhnology.com/feature/impact-covis-19-power-sector	17 th March 2020	Without power no sector can resist whether it is healthcare, nuclear energy. The COVID-19 has threatened global supply chain in many sectors.
2.	Amy Watson	Statista	http://www.statista.com/statista/1104224/film-industry-revenue-loss-coronavirus-worldwide/	18 th June 2020	According to recent data globally the film industry suffered a loss in revenue around seven billion U.S. Dollars in the mid of March 2020 due to the pandemic corona virus. And around 10 billion dollar in the month of April – May 2020 due to screening cancelled.

3.	Laura Wood	Research and Market	http://www.prnewswire.com/news-release/impact-of-COVID-19-on-the-global-manufacturing-industry-2020-3014250.html	16 th April 2020	Manufacturing sector a major part of economy accounts for nearly 16% global GDP in 2018. Due to virus it has out broken and fall down.
4.	Hassan Djebet	HN Hospitality net	http://www.hospitalitynet.org/opinion/4098062.html	9 th April 2020	Worldwide crises has come to the hospitality industry due to Pandemic virus. Government has played a huge role in saving the hospitality industry by sanction amount through which they can help out the needy who are not getting food.
5.	Michael Rehfisch	Knowis AG	http://www.knowis.com/blog/coronavirus-how-it-impact-the-financial-service-sector	25 th March 2020	It mentioned that the payment transaction, deposit of collecting and leading, the banks play a very important role. It is a high time for the financial sector to take right decision in stabilizing the economy system globally.
6.	Kali Robinson	Council on Foreign Relations	http://www.crf.org/in-brief/how-are-major-relegions-responding-coronavirus	19 th March 2020	We all know that the religion is practiced among 100 million of people Due this pandemic crises the religious leaders have appealed their followers to take safety precautions and also embrace their spirituality confronting social, health and economic challenges that are overhead.
7.	Narendra Nathan	Economics Times	http://www.economicstimes.indiatimes.com/wealth/personal-finance-news/impact-of-coronavirus-pandemic-on-the-world-economy/	21 st April 2020	It says that as the world is undergoing the pay-off of the corona virus, the International Monetary Fund has revised the growth of GDP globally from 3.3% three months back to a contraction of 3%.

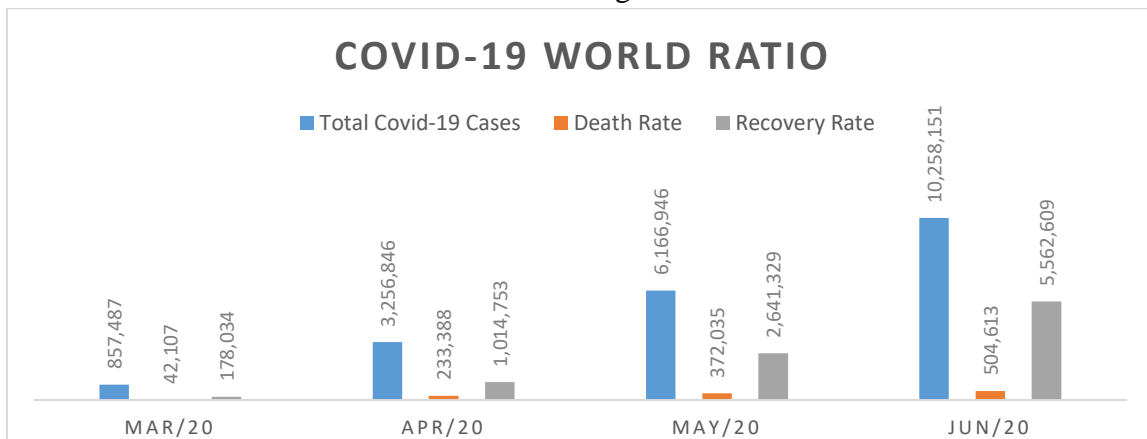
8.	Executive Briefing	Mc Kinsey & Company	http://www.mckinsey.com/business-function/risk/our-insight/COVID-19-implication-for-business	25 th June 2020	It has tried to explain how business during this extra-ordinary period should run and what implications should one follow to improve its business style.
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Method

Data

The data for the cases of COVID 19 was taken from the NHC (National Health Corporation) , Chinese Centre of Disease Control , WHO, various official medias, Chinese websites and some from previous studies of February cases.(Fig.1.),shows the COVID -19 World Ratio. (Fig.2.),shows the recession that came due to COVID 19 in the year 2020 and Graph 1. Show the current cases of COVID 19 worldwide.

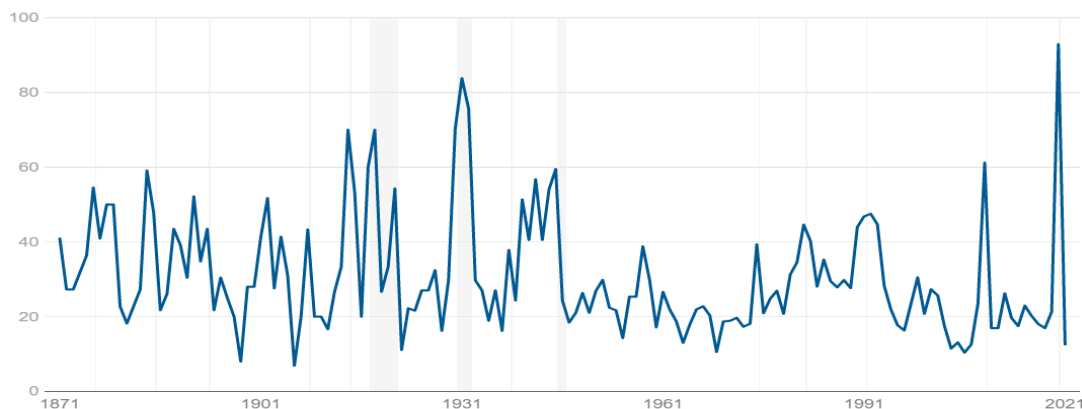
Fig.1. The rate of corona cases worldwide according to *Worldometre*.



Analysis the economy rate many of the emerging and the developing economy are facing a bad breakdown in the economy and experiencing a weaker growth, COVID-19 has challenged faced harder.

The Cooperation and Coordination Globally taking the measures of this pandemic virus slow spread, there is need to alleviate the economic damage which also includes the international support. This provides a chance of achieving the public health and regains the global recovery. According to the GLOBAL BANK the below graph shows the recessions in 2020 world-wide.

Fig.2.



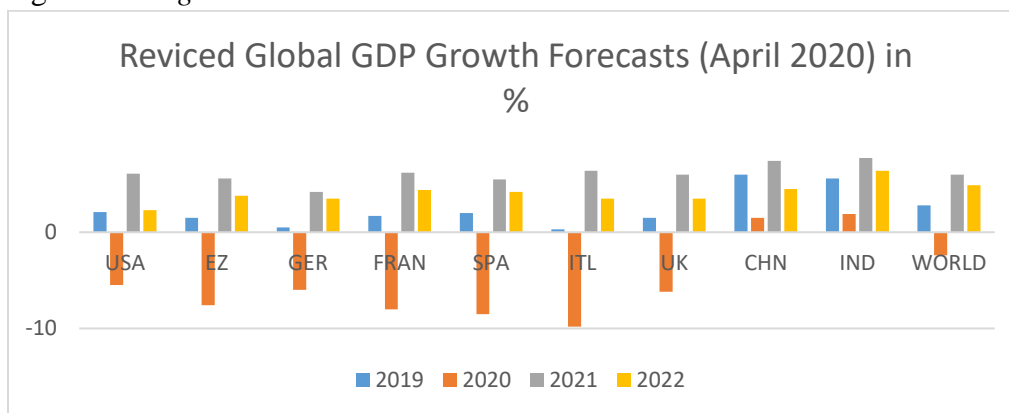
Graph 1. Country rate of COVID Cases at present

S.No	Country Name	Active Case	Recovery	Death Rate
1.	USA	8.93 Cr	788,904	10.2 L
2.	India	4.38 Cr	727,715	5.26 L
3.	Brazil	3.33 Cr	399,087	6.75 L
4.	France	3.13 Cr	321,722	1.47 L
5.	Germany	2.97 Cr	167,998	1.13 L
6.	United Kingdom	2.32 Cr	228,055	1.82 L

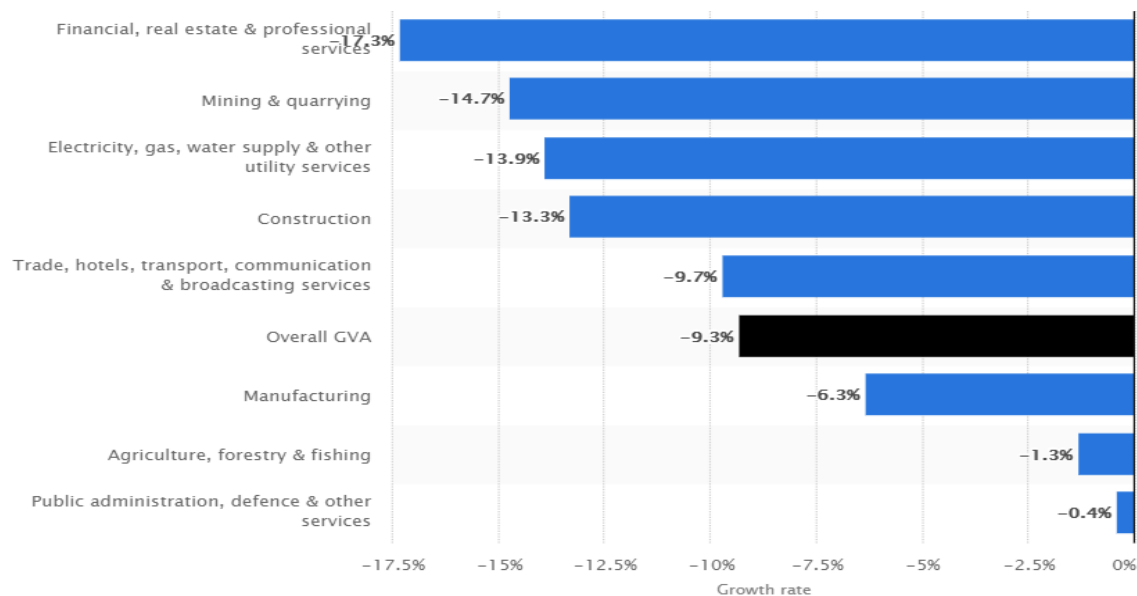
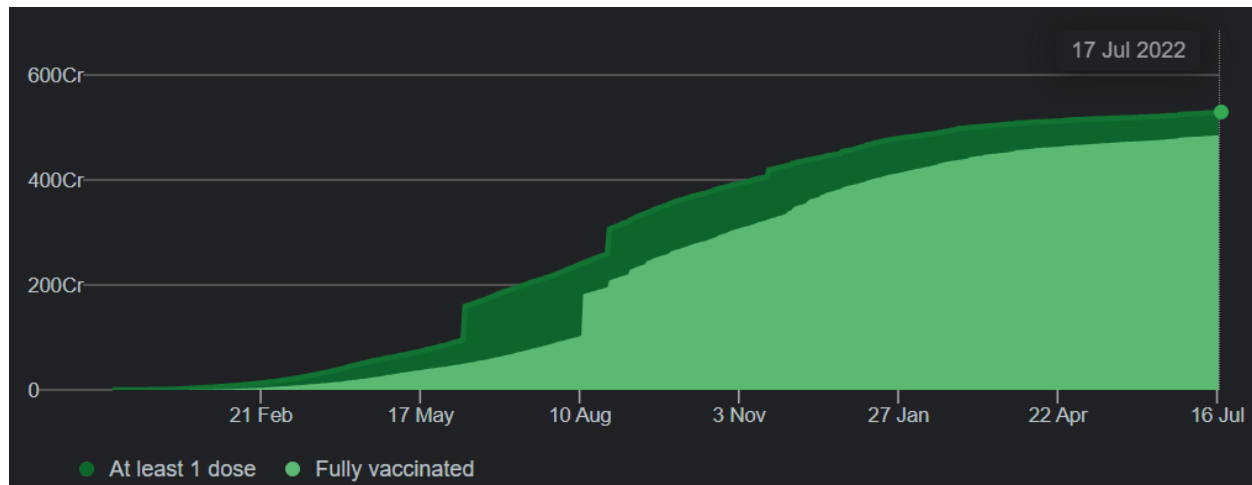
The Central banks had taken a slew of measures to the liquidity and funding issues from the market so as to prevent the rate of interest rising sharply and also to support government bonds.

The behavior from the business and consumer ends changes which results in the deeper and wider and worst credit conditions.

According to the *SP global* revised GDP measures are:



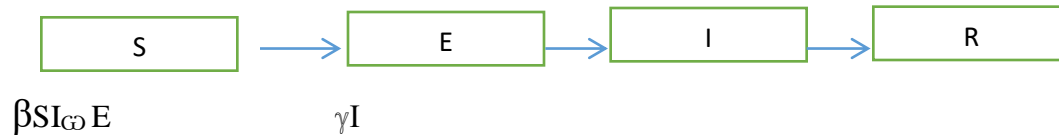
Overview:-worldwide vaccinated report



Mathematical Method

Warehouse was one of the mathematical model which was used during the epidemic dynamic, it was widely applied for long time by Kermack and Mckendrick in the year 1927.

It had included basics and several improved models like SIS, SIR, SEIR. SIER was typical example among all that took incubation period in account, that reflected the flow of people among four states that could be E (exposed), R (Recovery), S (susceptible) and I (infectious).



In the study , the equations for the population had changed for each warehouse;

$$\begin{aligned}
 dS /dt &= - \beta SI \\
 dE /dt &= - \beta SI - \omega E \\
 dI /dt &= - \omega E - \gamma I \\
 dR /dt &= - \gamma I
 \end{aligned}$$

Here $\beta = \beta_0 k$, β is denoted as coefficient of the infection rate. β_0 is denoted as the probability of infection as per the exposure, k is here denoted as the frequency of exposure; $\omega = 1/T_e$, ω is denoted as the migration coefficient rate of latency, T_e is here denoted as average latency and the last is $\gamma = 1/T_i$, γ is here denoted as the migration coefficient rate, T_i is denoted as the recovery time average.

Research Methodology

As the pandemic period is still on and not come to an end. It took place in the starting of the year 2020, so the whole study, the analysis of data all are based on the secondary research. Since the lockdown process is still on so the mode of the study is via news channels and the web updates through world-wide sources.

The research methodology used is secondary data.

Closure

The simulation and the fitting of data had showed the peak of existing confirm cases of around 50769 with fitness goodwill. The development of specific drug and optimization of therapeutic strategies be of more importance than proactive and quarantine procedures.

The virus we are fight is not going to end so fast. Through this study we came to know how whole world is crises. Not a single person is spared from the virus. How the economy level is moving downwards and how the sectors are working hard to bring the economy level at a balance. And how individuals are working hard to safe themselves and also initiating by doing work from home to regulate the economy system globally.

Through this study things have been showed how the government and the private sectors are coming together in this pandemic duration putting the life track to normal and they have got successes in this process from being together during the COVID , inventing the vaccine through which life can be saved and start their life in new ways being COVID a part of life.

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