



EFFECT OF COVID -19 ON THE INDIAN ECONOMY AND SUPPLY CHAIN

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ABSTRACT:

Today the world is threatened by the spread of corona virus disease known as COVID -19. It started from WUHAN city of china that is called the major transportation hub of china. Due to spread of COVID -19 the government bodies have been taken many actions to breakdown its transmission. closure of sea ports and airports are one of them. They have to stop transportation and banned import and export activities throughout the countries. India is the developing country, the government has announced 41 days lockdown for the safety of the society and to reduce the transmission of corona virus. All nations are dependent on each other because of economic, financial, industrial reasons. China is the major distributor of the raw material to the countries. Due to lockdown, India's import and export highly affect the supply chains. Lack of supply from China all manufacturing activities, factories and industries have to face the problem of shortage in raw materials. That's why production of finished goods are less than their demand. Less supply affected cost, demand, price and quality of finish goods that have and adverse effect on supply chain and Indian economy. There are total 18 problems found which affect the supply chain in India. Thus, the study about effect of COVID-19 on the supply chain and Indian economy will be important for researchers to developing models to overcome the challenges to improve the situation.

Key words: - COVID-19, Indian Economy, Supply Chain, Manufacturing industries;

INTRODUCTION:

Manufacturing Industries are the part and parcel of any nation. these are the major contributors in development in the global economy. Now the main aim of Industries is of high margin and high value of production. But due to pandemic disease COVID-19, shortage of raw materials and imports affect the production and supply chain of global economy. Now the low margin and high volume of products lead to low the level of economy. Manufacturing plays important role in contribution to the gross domestic product (GDP). The motive of manufacturing industries is usually about the cost reduction so that profit may increase. But due to the COVID-19 pandemic, manufactures have been facing the disturbance in process of production. About 35% of manufactures are affected by this. Most of factories are shut down and some are facing the problem of lack of the labour due to COVID-19 spread. The first case of COVID-19 in India was on January 2020. Now government has declared lockdown to fight against corona. Due to spread of corona virus, all manufacturing industries whether small scale units or large scale units are facing problem of lack of labour, lack of raw material, less transportation. All of these problems cause the shortage in production. Less production

leads to less supply. Most of countries have been shifted out of china due to disturbance in supply chain. There are total 18 critical issue which are faced by manufacturing units with the bad effect of COVID-19. Not only India but supply chain is disturbed all over the nations. The Indian government has held high level meetings to setup of new manufacturing policies, plants and strategies. Japan and other countries are also concerning about new manufacturing system with alternatives places. Indian Government is focusing on new market policies, economic decisions for establish Indian as alternative to china for manufacturing at level of local as well global market. There is an urgent need to design new dimensions, smart and more diverse supply chains. The government across the nations. Focusing on encouraging manufacturing sector.

Thus, COVID-19 effect on Indian economy and supply chain have been worse day by day. It is expected that the further study about impact of COVID-19 on supply chains all over the country will be helpful for researchers and policy makers to find the solution and developing models to overcome from this critical time.

Impact of COVID-19 on Indian economy

COVID-19 change the way in which the world work, it is just like a depression. The economic damage due to the pandemic continuously affecting more fields, factors of Indian economy. Main adversely affected sectors of economy are textile, auto sector, aviation and tourism, shipping, building and construction etc. The suddenly decline in economic activities is unexpected in the history of India. After the great depression of 1930 in which the global economy has faced the worst disturbance. Due to this loss, Keynes has suggested the concept about trade business cycle the four stages of business cycle are boom, recession, depression and recovery. These elements determined the growth rate and gross domestic product (GDP). After the liberalization policy in 1991, International Monetary Fund (IMF) has shown the GDP growth as 1.9 percent, which was the great depression of Indian economy such as the corona virus has disturbed the whole economy. Instead this IMF report, In 2020 financial year India being the World Economy Report. The global economy is projected to 3% lower in 2020 that is more adverse situation than the financial problem in 2008-09. Impact on predictive sectors or real sector of the economy is now more critical than 2008-09 financial year. The country will have to face many challenges related to finance, health, banking, marketing, transportation, rising prices, and many more. During lockdown, demand and supply crises in the market and uncertainties increase the surplus liquidity of the banking system. There is a huge impact on the financial system such as stock market crash, share market crises, liquidity of funds that have been facing by banking system and leading to various changes in monetary plans & politics. Due to lack of earning, shortage of funds, dollar denominated debts that bothering the world economy International trade and companies dependent on this will suffer strains and losses. Decrease in production crises of supply chains, the global pandemic COVID-19 has affect the economy which suggested the target to make Indian economy developed. It was planned of USD \$s trillion with 7% of gross domestic product by the year of 2024. According to the world bank latest assessment India target to grow 1.5 percent to 2.8% as per IMF. It has projected a GDP growth of 1.9% in 2020. The major purpose of Indian economy is expected to grow with the object of

USD \$5 trillion economy to progress at 9% every year for five years ahead. India's growth trajectory since 2011 as shown as follow:-

Demand side shock/Impact

The huge uncertainty and down fall in market has affect the business that disturb the entire system of manufacturing units, production level and demand cycle. It includes various services of private and public sectors are provided Indian government such as Aviation, hospitality, tourism. Aviation sector is now facing maximum loss due to the present pandemic crises at next 2-3 quarters. Aviation contributes 2.4% of GDP has impacted critically. All these sectors including their employees around 42.7 million of people that are also suffered by great losses. Auto sector, that contribute 10% of GDP including employees around 40 million of people is declining day by day because of less demand. As a result of it firms and manufacturing units, industries and companies has to closed unfortunately. Closing of cinema halls, decreasing shopping from complex malls affected the retail sectors and also lead to change in the demand of consumers towards essential goods & luxury goods. The change in pattern of consumption affected a downfall because of fall in income and lost jobs, daily wages, less sources of income, funds that questioned the Ratchet Effect given by Economist J.V. Dusenberry.

The continue threat of spread of COVID-19 in the society has affected their decision making, confidence level and their purchasing decision towards products. Service of travel, transportation has stop due to lockdown all over the country as it has major reason of declining in economic activities. Lockdown accounted a huge loss of \$4.5 billion every day due to lockdown. Business travelling slow-down various conferences, business meeting workshops seminars on a large scale forced to cancellation of hotel services. At the end, all discussed earlier accounts for the huge losses that our Indian economy have been bearing due to the global pandemic COVID-19 throughout the world.

Supply side impact

Some marginal firms and small scale units large scale units in the supply side has shutdown. India exports raw material and import source of

goods that are used for final goods are now on pause due to delay in supply and shortage of raw material from china. The sectors includes their in are automobiles, electronics and chemical product etc. that now suffered a shortage of required and component demanded. China accounts 27% of India's imported automotive. India purchase above 85% of active pharmaceuticals ingredients (API) from china. Because of banned import & exports, there is a causes of shortage of raw material availability and thus price may go increase. Global pandemic COVID-19 has disturbed the production cycle, resulted to that future investment may affected. Lockdown has also lead the worst impact on electronics that India imported about 55% from china that now going on decreasing.

Impact on International Trade

The COVID-19 pandemic represents disruption to the global economy and World Trade, as production and consumption both are scaled back across the world. According to WTO, world trade is expected to fall down between 13% & 32% in the year 2020 and as a result of it normal economic activity has disturbed. Share of Indian export in global exports in 3.5% (2019). The trading balance sheet of India has shown a trade deficit of 9.8 USD in march 2020. This deficit has play negative role on the business and household and the only reason of it is decrease in production and trade. To overcome such obstacles government has been focusing on measures and policies for indigenous production to reduce the dependency ratio on a single country. This will make possible for domestic industries to boost production and reduce the trade losses. China being a major market for products like sea food, gems and jewelry etc. for imports. Fisheries sector has shown a fall of 1330 crore. India's current fiscal exports decline by 1.5% to 292.91 billion. As per UNCTAD, India's trade is of 348 million dollars. India counted in highest 15 most affected economies that are disturbing the entire trade pattern in the world due to decrease the production of china. Trade impact estimated on chemical sector at 129 million dollars, textiles and apparel at 64 million dollars, automobile sector at 34 million dollars, electrical machinery at 12 million dollars, leather products at 13 million dollars etc. the UN economist has declared fall/drop by USD 50 billion fall in

manufacturing exports worldwide. 7500 commodities 190 countries are exported by India where import of 6000 commodities from 140 countries. Trade surplus of India shared with USA, UAE and Bangladesh and have trade deficits with China, Saudi Arab and Switzerland. Overall, the immediate goal is to bring the pandemic under control & mitigate the economic damage to people, industries, companies and nations. But policy makers must start planning for future after pandemic.

Impact on Global Manufacturing & Supply chain

Pandemic COVID-19 has affected manufacturing units and disturbed supply chain across the world. It cause thousands of manufacturing that shut down over the world including India, U.S, Europe etc. Many global industries are depends on china for raw material, equipments, parts. Due to closure of manufacturing units in china for next few months, supply takes time around 30 days for shipping from china to Europe or U.S. For example, fiat Chrysler automobiles announced its temporary shut down their production in Serbia because the parts imported from china. Similarly, Hyundai has also announced to stop their assembly lines/streams in the Korea due to the disruption in the supply chain because of pandemic COVID-19. There are three impact areas that are critically affected by COVID-19 as:-

1. Workforce

As we know the speedy transmission of COVOD19 threat the world. Government has taken many preventive actions for the safety of mankind. It has guide people to stay at home. Industries which are dependent on another units for the production have to face disruption in supply chain. Less workforce may unable to meet the customers.

2. Product

The Covid-19 has affected the competitive market. Suppliers have to bear the drop/fall in market value of products. Customers are shifting towards alternatives when they may not satisfy with quality, price or availability of products on time.

3. COST

There has been an increase in shipping charges that increase the cost of production which cause

the increase in price, such cost factor may also disrupt the supply chains. At the same time industries have to take decisions for the safety of society. At present industries are working with mobilizing concept to set up the crisis management mechanism. Industries have to face these challenges as :

1. There is a requirement to create multi-tier supply chains with the critical components to determine the alternative or optional sources of supply chain to overcome the present situation.
2. There is a need to prediction the current inventory available including the spare parts, raw material and stock which can be used for production until the situation comes under control.
3. According to industry experience, the demand may increase or decrease so proper demand planning should be there. Demand forecast strategy may helpful for this.
4. There should be an option for the remote location working to optimize the production & distribution capacity which begin by ensuring employee safety in the crisis situation as pandemic Covid-19.
5. There is a need of logistic capacity. It results in flexible transportation whenever required.
6. A proper management of cash and network capital which help to determine the reasons of financial impact by the supply chain.

Barriers in supply chain during COVID-19 in India

Supply chains are usually effected by some issues. India is developing country and spread of COVID-19 all over the world has created many crisis. Disruption of the supply chain is also one of them. To prevention from pandemic COVID-19 and to breakdown its transmission government has announced lockdown and also banned import and exports activities across the nations. Stoppage of national trade many industries which are dependent on one or another industries, or on raw material, final goods, spare parts etc. are now temporarily shut down , As a result of which supply chain got disrupted. There are total 18 barriers found out by academic discussion and supply chain experts. These barriers for the Indian supply chain are caused by COVID-19. These barriers have a huge impact on Indian supply chain, that can be studied with the MCDMs techniques such as ANP, AHP, TOPSIS, DEMATEL, MAVT,

MAUT, VIKOR and other model preparation can be done by data analytics techniques such as – SEM, ANOVA and ISM. These will help the industries, policy makers to overcome from supply chain issues due to COVID-19.

CONCLUSION:

Above study about effect of COVID-19 on Indian economy and supply chain highlights the effects, requirements, issues and challenges of global manufacturing and supply chain. COVID-19 has adverse effect on all the world day by day. Due to pandemic disease COVID-19, today thousands of industries are shut down their assembly lines, streams in U.S & Europe and in developing nations like India. According to the study with consultation with experts, there are total 18 barriers which affects the supply chain in India. MCDMs techniques such as AHP, ANP, MAVT and theory based MCDMs and other model validation can be done by data analytics techniques may helpful to overcome such barriers caused by pandemic COVID-19. The study can also be extended by assessment of barriers with the decision making approaches. Identification of Interrelationship between barriers with the interpretive structural modelling can found solutions to overcome issues.

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Tables and Figure

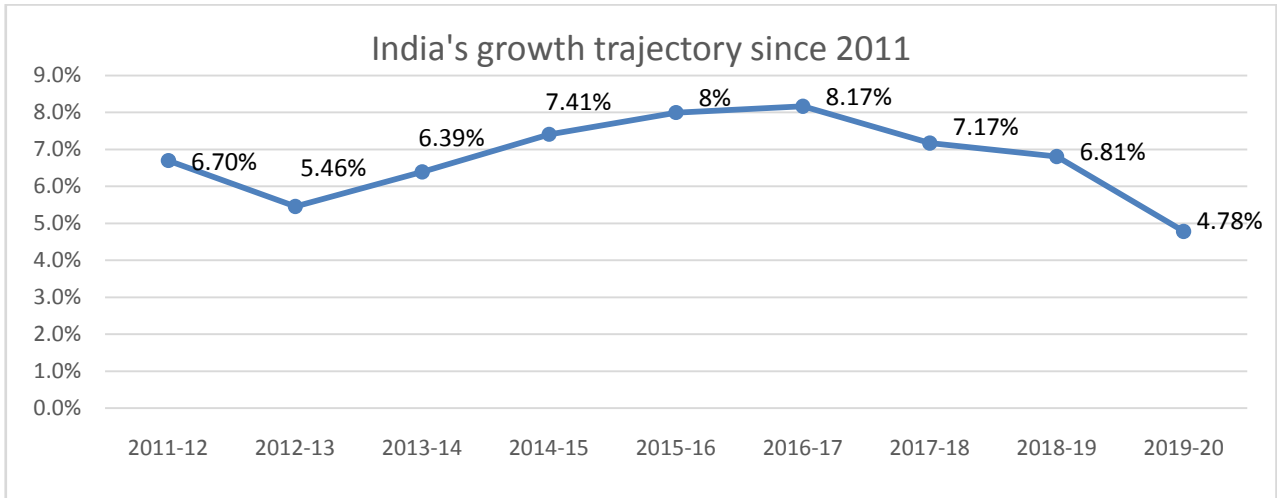


Figure : India's growth trajectory since 2011