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MATERIALS MANAGEMENT REVIEW



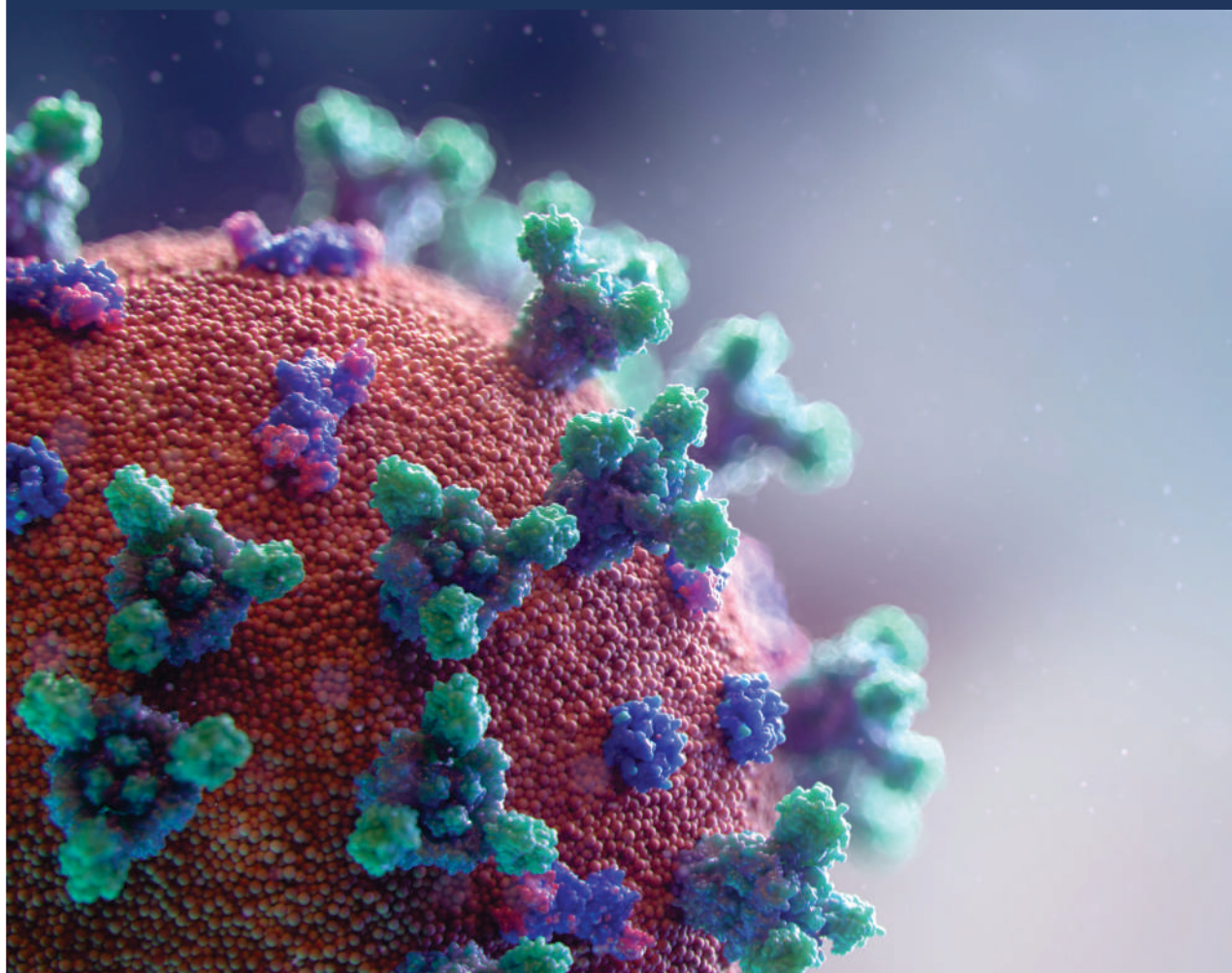
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Supply Chain Readiness for 3rd Wave of Covid-19



A MONTHLY PUBLICATION OF INDIAN INSTITUTE OF MATERIALS MANAGEMENT

1

World Environment Day 2021



Theme - 'Ecosystem Restoration'

- A global mission to revive billions of hectares, from forests to farmlands, from the top of mountains to the depth of the sea

From the Desk of The National President



Dear Members,

Greetings from National President!!

Second wave of COVID-19 seems to be tapering down as I write this message and various restrictions are being lifted to restore normalcy. Both Central and state government and local administration are working single mindedly to control any further spread and more and more people are getting vaccinated. Central Government has made an ambitious plan to vaccinate the whole population by December 21 which effectively means that from August 21 onwards, we have to start vaccinating at least 1 Cr. people daily. Required vaccines for the drive is being procured from various vaccine manufacturers and to make the drive succeed even advance payment is given to the vaccine manufacturers to enable them to fulfill their commitment to make the deliveries on time by improving their infrastructure. While concern is being raised by many for a probable third wave which might affect children below 18 yrs. Which is the only category of the population not covered by vaccination, trial runs are also conducted for this segment of population. We are hopeful that our scientists and medical fraternity will be successful to protect our children below 18 years.

We successfully declared the much awaited results of various semesters recently. Our examination wing is still busy responding / resolving the various result related issues of the student and we are ensuring that the interest of the students are fully protected without violating any of the AICTE examination rules. Several important administrative milestones are lined up within coming months which includes completion of the balance sheets of various branches, account passing meeting for the year 2020-21, holding of AGM and elections. Our administrative wing has already started communicating with various branches to restore the minimum 25 members which is required to restore the branch status. Accounts circular is already issued by giving the time frame to branches to complete the annual audit for their respective branches. This time we are ensuring that majority of the 52 branches complete their audit exercise.

I take this opportunity to urge all members of IIMM fraternity and their family members to take utmost care of themselves and do not lower their guard in our fight against COVID. Everyone should immediately get vaccinated as per the Government guidelines and to continue following the COVID appropriate behavior. Over last several months we have lost several of our beloved Colleagues and their family members to Pandemic. I pray to almighty to give sufficient strength to their family member to overcome this loss. In such difficult times let us help each other in best possible way to come out of the crisis situation.

With Warm Personal Regards

A handwritten signature in black ink, appearing to read 'Malay Mazumdar'.

MALAY MAZUMDAR

National President, IIMM

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From the Desk of Chief Editor



Dear Members,

India is still feeling the heat of the deadlier second wave of COVID-19 which hit India around mid-March and spread more rapidly throughout the country, leading to having over four lakh Corona positive cases and over four thousand deaths every day. Though cases have started to decline as of now, it is still far from over and we are still witnessing over one lakh cases daily.

The second wave has left thousands of patients without medical facilities. This has given birth to a new theory of medical preparedness for possible Third Wave of Covid-19. It is believed that the third wave is likely to affect children in a big way. Even, Supreme Court has taken a note of it and asked the Centre to prepare for the third wave of COVID-19. The court emphasised that it was important to create a buffer stock to prevent panic among the public. The apex court asked the Centre to devise a pan-India approach regarding vaccination of children, bolstering medical infrastructure to deal with the third wave.

It is in the news lately that, India has started clinical trials on the efficacy of Covid vaccines in children between 2-18 years of age. The focus is to protect children from the deadly effects of Covid-19. In between all the odd & worrisome news, we have good news that 'AEC Receptors' which acts as an entry point for virus into human cell are less prominent & less defined in children as compared to adults. Dr. Tushar Parikh, consultant neonatologist and paediatrician, Motherhood hospital, Pune, is quite optimistic that children will not fall ill very badly. They will only have generic symptoms like dehydration or fever or less food intake. There will be no lung complications or the need for oxygen and ventilators. The number of severe cases will be less as compared to that of adults.

Amid growing concern of Third wave, various reports have highlighted the logistics and Supply Chain Issues that must be addressed to ensure that lives can be saved with a sustainable supply of medical oxygen, equipments and drugs. There is a need to increase the capabilities and skills of the existing supply chain resources while creating awareness and an environment that will attract appropriately skilled supply chain professionals.

As supply chains are reviewed, developments in technology and sustainability shall also be considered. Hybrid working will continue to be in vogue. There will be renewed focus on innovations and resilience in supply chain. Advances in artificial intelligence and new technologies, may present opportunities for further supply chain innovation required for Covid-19 crisis. This pandemic has shown different ways, a business can continue to effectively communicate and manage within a remote working environment, which many companies are likely to leverage going forward.

This issue of MMR focuses on readiness of supply chains and supply chain Managers for the likely third wave of Covid-19. While the government is focusing on improving the health infrastructure and availability of vaccines, it's the responsibility of supply chain professionals to keep the businesses running and continue the upward growth of industries. One hopes that lives are not lost on issues like oxygen carrying truck losing its way to the hospital. Immense responsibility lies on the corporate to ensure safety and well being of SCM professionals and other employees to supplement the efforts of various governments and other organizations in combating Covid.

I request all of you to take very good care of yourself, your families and the people in contact with you.

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MATERIALS MANAGEMENT REVIEW

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CONTENTS

PAGE NO.

■ PREPARING TO CHALLENGE THE PANDEMIC THIRD WAVE	6
■ REBOOTING EPC FOR THE NEW NORMAL	8
■ PHARMA INDUSTRY PREPAREDNESS FOR THIRD WAVE OF COVID 19.	10
■ 3 RD CORONA WAVE - PREPARE TO BE RESILIENT	12
■ SAAS MODEL® OF GIG WORKERS ENGAGEMENT IN SUPPLY CHAIN	16
■ STEPS TO SUSTAIN SUPPLY CHAIN OPERATIONS IN CRISIS (WITH BACKDROP ON WEAKNESSES EXPOSED IN SUPPLY CHAINS/ GLOBAL SUPPLY CHAINS IN COVID19 ERA AND VITAL SUPPLY CHAINS LESSONS FROM PANDEMIC)	22
■ VARIANT AND CONFIGURABLE SYSTEM IN SUPPLY CHAIN	24
■ INVENTORY "TOOLKIT"	26
■ EXPLAINED: WHAT IS A WAVE IN A PANDEMIC, AND WILL INDIA SEE A THIRD WAVE OF COVID-19?	31
■ 7 THINGS FOR MODI GOVT TO DO BEFORE THIRD WAVE OF COVID, AND THE TIME TO ACT IS NOW	33
■ THE THIRD WAVE OF THE PANDEMIC IS HERE	35
■ ARE PROVIDERS READY FOR A THIRD WAVE OF COVID-19?	39
■ A THIRD WAVE IS INEVITABLE IN INDIA': ALL YOU NEED TO KNOW	41
■ NEW PRODUCT CATEGORY OF GREEN ROOM AIR CONDITIONERS LAUNCHED ON GOVERNMENT E- MARKETPLACE (GEM) TO MARK THE WORLD ENVIRONMENT DAY TODAY	43
■ COVID-19 AND INDIA'S PREPAREDNESS	44
■ PANDEMIC PREPAREDNESS, THE WAY FORWARD IT IS REQUIRED TO LEARN AND IMPLEMENT LESSONS FROM PREVIOUS PANDEMICS AND OTHER NATURAL DISASTERS.	45
■ WTO UPDATE : REMAKING GLOBAL SUPPLY CHAINS - INDIA'S OPPORTUNITY	47
■ COVID -19: IT'S A POSITIVE IMPACT ON MOTHER EARTH	49
■ PM ADDRESSES THE WORLD ENVIRONMENT DAY EVENT. TARGET OF ACHIEVING 20 PERCENT ETHANOL BLENDING IN PETROL HAS BEEN PREPONED TO 2025 : PM	51
■ IS THE DEVELOPMENT OF GREEN INTELLECTUAL PROPERTY PAVING THE WAY TO ENVIRONMENTAL SUSTAINABILITY IN INDIA? ABOUT 13% OF INDIA'S HIGH-VALUE PATENTS ARE RELATED TO GREEN TECH	53
■ COMMODITY INDEX	54
■ SUPPLY CHAIN MANAGEMENT TAKES CENTRE STAGE: COVID-19 IMPLICATIONS	53
■ BRANCH NEWS	57
■ EXECUTIVE HEALTH	58

NO. OF PAGES 1-60

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PREPARING TO CHALLENGE THE PANDEMIC THIRD WAVE

AUTO ANCILLARY INDUSTRY PERSPECTIVE

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It is said, "when misery comes, it comes in hordes". The pandemic affecting the entire world not seem to be going down or slowing down but coming back again & again. It has been more than a year that we have accepted that the world is no more going to be the same as before, and a new directional thinking has to take charge.

From the Industry perspective, it is much more difficult to predict the changes and adjust accordingly. But, Life has to go on. We need to make some assumptions and take precautions to move. When the first wave hit India sometime in March 2020, all of us thought it is going to go away as we have higher immunity etc.,

The months of April/ May 20 was a nightmarish experience, where sales tumbled down everywhere. Labour force migrated to their places and all disruptions started. But it so happened that the resilience in us took over and Industries started back in August and doing very well beating all expectations.

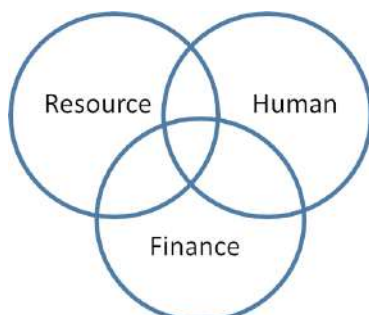
This actually has put a complacency in the minds and when the second wave hit in April 2021, the severity was very high affecting every part of the society.

Both these were short tenured, but the effect was really devastating.

Going forward, we are staring at a possible third wave likely to hit us

The challenges and responses are going to be completely different this time

There are three distinct challenges before the Organization. (It is true to every industry vertical, but we will deal with Auto ancillary perspective in this article)



First - Human Capital & Compliance

Second – Resource Augmentation

Third - Commercial Challenges

Human asset of an Organization are the most precious wealth for any Industry and losing them for any reason would put the operations in jeopardy. But the pandemic has exactly brought in the situation which we have been avoiding to face.

Migrant Labour Force: The biggest challenge would be this group, as many of our industries have built their working structure around this group and skilled them over a period of time.

Identifying the right kind of Incentive to retain this group of people would be priority activity. In earlier times, Industry could not retain these set who were more willing to return back to their home towns.

Organizations are looking at multiple ways to overcome this difficulty by creating accommodation and housing facility for the migrant work force and retain them fully.

However, this needs to be settled in Third wave. Creating large floating work force with pool of talent need to be created.

There is a very clear directional thinking in terms of gig work force, who are freelancers, un attached to any one particular industry.

Organization's Work force : Expecting the third wave, restrictions in terms of the number of people working in an organization at a given time would be the next challenge.

It is also important to note that, working in clusters attract the problem of isolating the entire group, when they contract the pandemic.

Detailed Work group planning is created to work at any given time and completely isolating one group from the other is an initiative created by many Industries.

It helps in limiting the exposure to that group alone thereby the production lines are not deprived of manpower.

Welfare of Supply partners : Ensuring Vaccination done for all the applicable workforce by monitoring, assisting in co-ordination with government health officials, arranging transport facilities etc., till completion of both shots of vaccination.

It is imperative on the part of the Parent Organizations to ensure the above compliance not only with their own employees, but with their Supply partner organizations.

Regulatory Compliance : Due to the pandemic, new regulatory requirements are to be followed in letter and spirit by all the partners in the entire chain.

There have been statutory requirements in Movement of Goods, Movement of people, working hours, Safety norms etc. which are to be complied with not only by the parent organization but by all the supply partners (big or small)

Obtaining E- Pass or E- Registration for our employees to attend work without difficulty during lock down for exempted categories

Ensuring all safety protocols follow up at all work locations including Supply partners end, during the work, before start, at end in factories.

Make Sanitisation, Social distancing and Masking of face, part of work culture.

Resource Augmentation : This is the biggest challenge of unforeseen proportions. Availability of Raw material would be restricted due to the pandemic spreading everywhere.

Raw material suppliers would not be able to work in full force and shortage can be expected. Difficulties in getting ingredients for their production, would affect their capacity.

Study the entire value chain, combing over all the SKU s (stock keeping units) with a fine toothcomb to understand the actual necessity of the materials. (which hitherto was not done and given due importance).

Segregating the entire Spend matrix into multiple baskets (like Most important and non-replaceable, Alternate available, Manageable) and securitize the available raw material to overcome the crisis in the near future.

It is not only raw material which is troubling, but the associated consumables would scare more. Availability of consumables of every kind would be in demand.

Just to point, Oxygen gas, which is a miniscule portion of spending (used for Gas cutting with acetylene gas) is not available from commercial sources, as all the Gas cylinders and gas production has been diverted to life saving medical requirement. A noble gesture indeed.

But the gas non availability has halted major activity of production lines which are important for Export commitments. Hence, even securing this small resource has become important.

Tough times bring new ideas. Rationing the requirement of gas and diverting attention to use other methods of operations like HiDefinition Plasma cutting, water jet cutting etc. would be the order of the day.

On a cluster level, idea of leasing out an oxygen generation plant for a short term to get over the crisis would also be a part of solution.

Commercial & Financial implications

This is the most unavoidable cross-fire victim, which every Organization has to bear in the near term. It is not only the challenge of Working capital depletion, as we would not be getting money on-time from customers but also saving the reputation by not defaulting to the creditors.

Organizing supplier community meet on regular basis to explain the situation and take them on board. Payment terms would be readjusted and /or recalibrated to give a breather to the organization's financial needs.

But, this situation will also give us a silver lining.

Clearing the house to completely get rid of the unwanted items which were put under the carpet all along would be a sure way of making your inventory value correct. If done completely, we may have a lighter list of unwanted items, which may be possible to manage.

Definitely the challenges are much more than we had faced so far. Every situation has its own predicament but also solution. As we go along we may change our strategy to suit the need of the hour.

But, with the human intellect always looking for way out, we would win over this also.

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REBOOTING EPC FOR THE NEW NORMAL

**SATISH PALEKAR, EXECUTIVE VICE PRESIDENT
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EPC industry was widely seen as "Brick & Mortar" and believed to be relatively immune to the disruptions that affected the Silicon Valley. In practice, countervailing factors continued to reshape this industry, even outside of any crisis, and was increasingly underperforming. Given the complexity, EPC industry was typically responding by adapting to incremental productivity improvements and sporadic automation initiatives to shore their fortunes.

However, Covid-19 pandemic has brought about unprecedented challenges to the industry and accelerated the disruption as well as the shift to new normal. The pandemic brought in economic turmoil, supply chain dislocations, health challenges, operating restrictions and safe working procedures that caused huge impact on bottom line.

Fuel costs dropped to zero in an intervening period, which was unheard of, before bouncing back. Yet there is an unease about the oil prices even today. The pandemic induced executives to look at the entire value chain to assess the risk with a top-down as well as bottom-up approach and pin down every element for transformative actions. The result is therefore a combination of "here and now" as well as a "long-term" strategic approach.

A combination of sustainability demands, cost pressure, skills and trade scarcity, new techniques for manufacture, fluctuating client and industry approach, digitalization and a new breed of players will drive the value chain.

We need to appreciate that the market is changing and so is its impact:

1. Tight public project budgets are leading to unrealistic cost pressures on EPC. Private players are hesitating to invest, instead are focussed on conserving cash.
2. There are fewer tenders in markets and there is a large-scale deferment due to liquidity challenges. This means challenges to survival, particularly where the industry is capital intensive.
3. Increasing need for adaptable organisation structures bring in talent redundancy as well as non-availability. This brings to fore the reskilling

agenda and forces a relook at the entire education portfolio.

4. Increasing owner and customer demands for service, passing more risk to EPC contractors.
5. Evolving customer needs and greater focus on total cost of ownership. Typical projects were EPC with O&M risk on customer. The newer tenders are seeing a shift to the Build Own Operate projects, as an option.
6. Increasing complexity of projects.
7. Higher demand for simplified digital interactions. Many contractors are digitally backward or even ignorant and this slows down the project completion cycle time.
8. Huge demand for increasing sustainability requirements and demands for safety performance. Pre-qualification of EPC contractor calls for a rigorous HSE performance assessment. Many existing organisations would find it challenging to qualify. This is a well-established trend in international market and is increasing in India too.

The shift parameters are typically productization (modularisation) and standardisation, increased value-chain control that runs across subcontractors through dashboards, greater customer focus and above all energy transition with a strong sustainability focus.

Consolidation will create the scale needed to allow higher levels of investment in automation and digitalization.

The first shift needs to be by the customer who must accept that lower costs will come only with a flexible approach such as simplifying contracts and make them balanced. It also should bring in element of risk-reward where both the customer and contractor find ways to reduce costs and split the savings. This also applies to contracts which allow some risks to be shared as well as it reduces unwarranted cost load on the project. On the other hand, the same contract would not allow compromise of safety performance.

The customer specifications also need to undergo drastic changes to bring in smart designs that will eliminate errors while using the surplus staff for more

value-added work.

There are several tools at the disposal of an EPC player such as technological improvement including automation. Robotics and Serial production technologies with standardisation of components through the engineering route affords an opportunity to achieve cost reduction, execution speed and quality.

Use of alternate and newer materials would allow lighter and cheaper designs. This however necessitates that the customer also buys into new technology and opportunities.

After all it is a collaborative world.

Digitalisation is the best tool available to EPC contractor and each contractor must make a choice based on the applications, some approaches being as under:

1. It is about digitising and automating processes and products. For instance, a move to automation of processes such as a pay based on receipt of goods (GRN) would eliminate superfluous transactions and eliminate bias.
2. Move towards data-driven decision making while training the team to think and add value.
3. Create infrastructure which is smart and digitally enabled. This is a game changer for business.
4. Engineering using minimum of 5D design tools (such as BIM) integrated with other software will reduce the design time as well as errors. This is a 3D model with added dimension of cost and time (delivery date – needed vs actual) against each supply chain component. Virtual reality and Augmented reality bring in high quality first time right engineering. This saves rework and has a huge impact on project execution, both time and cost.
5. Supply chain based on end-to-end solutions from RFQ to payment.

Localisation drive is another that ensures control and serves a larger national interest. This also means investment of time and development efforts into MSMEs to develop innovative and cost-effective components. They are real partners in our journey.

6. Construct plants using 3D printing and the Full Kit concept (developed on the Goldratt's Theory of Constraints).
7. Usage of drones to monitor the progress that is digitally connected to the BIM through cloud.

Drones are also potentially usable for painting etc at heights and inspection.

8. This feedback loop in turn allows prioritisation of materials delivery and full utilisation of its labour force.

9. Operations and Maintenance (Predictive using IoT as opposed to Breakdown) as well improved asset utilisation (cranes etc) using RFID and optimisation programs.

10. Warehousing and stores management using RFID and issue of components for construction using approved for construction drawings with automated backend material control. This would eliminate theft as well as help create an asset register to be used for everything including O&M.

New entrants are moving in with such tools and approach and are expected to disrupt the market.

There is another transition which is happening globally – Energy Transition backed by the “Green Movement”. This means reduce carbon emissions and use clean fuels such as Hydrogen, generated out of water by electrolysis. After use, the end-product again is water. Power used for electrolysis is also generated using the natural and renewable resources such as solar and wind.

This transition is driven by the climate change agenda and many oil majors have seen erosion in wealth for following “environment polluting” practices. This trend will increasingly apply to all organisations based on their carbon footprint and ESG (Environmental, Social and Governance) rating is making an impact on the market cap.

While fossil fuel projects are drying up, large availability of low cost ESG funds are driving capital investments in green projects. This is accelerating a shift for both the oil majors and EPC players.

Green products are earning premium, and the production / manufacturing processes are increasingly replacing the coal / natural gas-based products by hydrogen to produce green products (such as Green Steel) and government is increasingly subsidising or incentivising the change through PLIs (Performance Linked Incentives).

Hydrogen (as a replacement to fossil fuel), decarbonisation, use of biofuels and recycle economy of plastics etc is now the new norm.

EPC majors are future readying themselves with internal change management and tying up with technology providers to adapt to this change from fossil fuels to green fuels.

To summarise, EPC of the future would be extremely exciting and bright, embracing ecosystem of the future which would be standardised, integrated, smart with energy efficient execution and wedded to green principles.

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PHARMA INDUSTRY PREPAREDNESS FOR THIRD WAVE OF COVID 19.

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Dec 2019 was the time when Corona Virus or Covid 19 as it is called was detected in Wuhan Province of China. Since then it spread rapidly across the globe and all the countries without exception were severely impacted. Even the most advanced Countries like USA, European Union, UK Japan etc were not spared. In fact, the western countries were the worst affected and the death toll also was very high. India too was impacted but fortunately owing to the country wide lockdown imposed early by the govt restricted the spread and the numbers were pretty much in control.

After the peak in Oct 2020, the number of infected people came down pretty much and things pointed to return to near normalcy even when some of the countries already had a second wave which was deadlier than the first one mainly due to the mutations the virus had undergone. However, since March 2021 India also experience the second wave and this time around the things went out of control as the new variants were highly infectious. The Healthcare infrastructure was highly stressed with the shortages of beds and Oxygen. Even the medicines were in acute shortage because of the sudden spurt in demand. The things are expected to settle down in next month or so.

Now the third wave is also feared and as a country we need to be prepared for the same. Pharma Industry had played a crucial role in the first two phase along with other healthcare industries.

So, the question is how the pharma industry

is preparing for the third wave. Here are some of the areas which the pharma companies are working on:

- Ramping of production of medicines. – All the pharma majors are ramping up the production of the existing protocol medicines that are currently used for treatment. e.g. Remdesivir injections Faripiravir tablets etc. The shortages experienced in the second wave was because of the curtailment of production when the cases were on the decline. Having learnt from the previous experience now the pharma companies have geared themselves for increasing the production of these medicines.

The procurement and supply chain teams have swung into action and have started covering inventory of critical Raw Materials to meet production requirements at short notice. In the process, the supply chains have gained a much deeper visibility thru the chains and have become more responsive. We can now ramp / ramp down / substitute sources far more swiftly.

- Exploring ways to increase Vaccine manufacturing - with more and more companies lined up to introduce vaccines and also import from other countries the goal is to cover all Indians and ensure vaccination to everyone or at least 70-80% of the population from Aug-Dec 2021.

Vaccines from Pfizer requires special storage conditions of -70degrees Celsius. India lacks infrastructure to handle supply chain at this temperature. Some of the

companies have already started development of super deep freezers required for this purpose and they are almost ready with the same. Today India's cold chain can handle temperatures upto -22 to -25degrees.

- Ramping Research efforts to bring in new formulations for Covid – Big pharma companies have augmented their efforts to develop new formulations for Covid to the market. Products are being planned with minimum clinical trials and for the products which are found to be effective and having reasonable safety profile are being expedited. Verifin launch by Zydus Cadila for mild to moderate Covid treatment and DRDO's 3DG are some of the examples of new drugs approved for Covid.

New dosage forms of existing molecules are also being developed. For this purpose, new vendors are being taken on board and procurement in coordination with QA teams are working in tandem to reduce the vendor qualification process, which otherwise is very complex in pharma industry due to stringent regulatory compliance, by approving the vendors while concurrently completing the documentation and other compliances.

The companies are taking risks to procure the materials even before receiving the approval from DCGI for the new products.

- Sudden spurt in cases in the second wave has witnessed the extreme shortage of Oxygen. To meet the increased demand concentrated oxygen production was ramped up in recent Covid spurt on war footing to meet needs just within couple of weeks. The govt has also given the directive to divert the industrial oxygen capacities to medical oxygen.

The govt has started Oxygen Express trains

to facilitate speedy distribution of Oxygen to all the corners of the country. This is one of the innovative logistics solutions in the recent times.

Many of the companies have started setting up new Oxygen plants in the shortest possible time for catering to future emergencies.

- Tele medicines – some of the companies have tied up with online pharmacies to distribute medicines to the patients directly.

The supply chain infra of these online pharmacies facilitates the delivery of medicines quickly and directly to the patients

- Customer care centres – many companies have started customer care centres with helpline numbers for the public so that the patients can get proper guidance for the treatment and get the medicines without difficulty.
- Lots of scientific educational virtual webinars are being conducted with Indian clinicians on Covid prevention, diagnosis, treatment protocol & post Covid care...

Covid crisis was a great learning for Supply Chain Professionals. We have retained focus on being responsive, but are giving equal focus to being resilient. We have matured in terms of risk handling capability, deeper visibility through supply chain partners, changed internal processes and so on. The learnings are now becoming a part of our DNA and would stay much beyond Covid.

For now, I am sure that with the concerted efforts of all we will be in a better position to handle and manage the third wave of Covid with patients getting timely treatment and with minimal casualties.

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3RD CORONA WAVE - PREPARE TO BE RESILIENT

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At present we all are going through the 2nd Corona Wave, which is hopefully waning now. The 1st Corona Wave was although not so severe, and we had got head-start to prepare ourselves and shore-up our resources. However, when the 2nd Corona Wave hit us we were not so prepared and our resources were also not aligned. The severity of the 2nd wave is very high and it hit us like a “storm” (as stated by our own PM). In order to understand the why and how of the severity of this 2nd wave, we have to analyze the difference between the two waves. I am doing this in detail, so that the WHYs may through up some solution for the expected 3rd corona wave.

1st Corona Wave

Trait	1 st Corona Wave	WHY
Advance Warning	We had advance warning in Feb-Mar 2020, when corona started spreading from Wuhan, China to US and European countries.	In Oct-Dec 2019 corona started in Wuhan, China and we had update and information (although limited due to China not divulging all details) as to the impact and severity and steps being taken by Wuhan, China
Head-start	We got at least 30-45 days, in Mar-Apr 2020 to prepare ourselves. During this time period, the required and necessary medical and hospital resources were built-up	Since, corona started from Wuhan, China and then spread to US and European countries (before spreading in India), we had gained little knowledge to prevent and contain the corona through what other countries were doing by then
Resources	The long lock-down gave us time to shore-up our medical and hospital infra.	The lock-down was started when the corona had just came in India or the corona was limited to specific pockets in India.
Severity	The severity was not so steep and lethal	By the time corona started spreading in India, it had already gone through similar spread in other countries. This gave us advance information and update about the trajectory to be followed by corona.
Spread	The spread was limited to metro cities like Delhi, Mumbai, Chennai, Bangalore and to the municipal areas. The spread was missing or very less in rural and semi-urban areas.	Since spread was limited to metros and urban areas, the containment and control of the virus became easy. Resource availability was also better in these areas. The Govt. machinery was in a better shape to respond and handle the situation since there were limited areas to monitor and manage.

2nd Corona Wave

Trait	2 nd Corona Wave	WHY
Advance Warning	There was no advance warning. In Mar 2021, we were still debating that the corona wave in Maharashtra is not a “wave” and/or it is only limited to the Maharashtra state	By Dec 2020, many countries in the world had gone through or were going through 2 nd and in some cases even the 3 rd corona wave. However, no such thing happened in India.
Head-start	Nil or hardly sufficient head-start was there. As a result we could not prepare ourselves to brace the virus spread. The medical, hospital and oxygen infra was lacking	In Jan-Feb 2021, it was being debated that probably India has escaped the 2 nd corona wave. Since, by this time other countries had their 2 nd or even 3 rd wave. This gave us certain assurance that we are through with corona pandemic, and it subsequently gave us complacency to lower our guards.

Resources	There was no lock-down. In fact the lock-down was started after corona started spreading	Since there was no head-start and no lock-down, we did not get time to arrange for the resources. Further the corona spread was led by a Mutant variant of the corona which was new and started from India. It is called double or even triple mutant variant.
Severity	The 2 nd wave has been extremely severe and lethal	The severity and lethality of this wave was not seen earlier. Both the severity and lethality has resulted into a spiked demand for medical and hospital infra. Added to this is the demand for oxygen, which was not there during 1 st wave.
Spread	The spread has been equal in metro, urban, semi-urban and rural areas. This time even young people have been affected, which was not the case in 1 st wave.	Since this was a mutant variant, we had no prior idea about the nature and spread of this new corona type. We had no previous exposure or experience in handling this new mutant. So, when the new mutant variant spread to even semi-urban and rural areas, our resource mobilization was lacking and not geared-up.

3rd Corona Wave

And, now we have to map out the expected and projected 3rd Corona Wave.

We only have experience and knowledge of the past two waves with us.

And, the above analysis between the two waves, shall hopefully guide and teach us about the expected 3rd Corona Wave.

Trait	3 rd Corona Wave	WHY
Advance Warning	As per the various models the 3 rd corona wave could come by Sept 2021.	In case the corona mutates again and an entirely new variant comes up, then the 3 rd wave prediction based on previous two wave data may not hold true.
Head-start	The prevailing 2 nd corona wave shall itself act as the head-start for the expected 3 rd wave.	Now most of us have been severely bruised and impacted – either directly or our close circles. This shall act as sufficient head-start. In fact, the current theme of the magazine is trying to do precisely that.
Resources	With previous two waves, the country shall be able to build required infra.	The challenge shall be in arranging and managing the resources to every location in India, howsoever remote it may be.
Severity	The 3 rd wave can be equally severe as the 2 nd wave.	Since, as of now we do not have precise details about the same, it is better to assume the worst case scenario. Thus, the 3 rd wave shall be as severe as the 2 nd wave.
Spread	The 3 rd wave is projected to be more severe among children and the young population.	The 1 st wave impacted the older population more, while the 2 nd wave has impacted the working population. The only population group left now is of children and young ones.

Now, we shall deliberate upon the means to mitigate the expected 3rd corona wave and its likely impact

We shall draw inferences from the above analysis and try to arrive at plausible solutions to successfully wither the 3rd corona wave.

I belong to the auto-component industry, and hence shall focus or restrict myself to handling of supply chain of an auto-component industry.

Brief about Auto-Component Industry

Auto-component industry by its very nomenclature is a feeder industry to the big automobile companies.

However, auto-component industry in itself is very vast and diversified. There are many industry sub-segments in the same.

- 1) Sheet Metal Industry
- 2) Tyre Industry
- 3) Friction Industry
- 4) Electronic Component Industry
- 5) And so many

I belong to the Friction Industry, which supplies brake liners, brake shoes, brake pads, clutch facings etc. to the automobile companies.

Friction Industry

The friction material industry is unique, when compared with other auto-component industries in many ways :

Trait	Friction Industry	Other Auto-Component Industry
No. of Raw Materials	Has 15-20 raw materials for each numerous formulations	Typically has 1-2 or at most 4-5 raw materials
Nature of Raw Materials	All raw materials are of different nature, viz steel, non-ferrous metals, rubber, minerals, binding agents, lubricants, etc.	Typically has only one or two different items. In most cases it is just steel or just some non-ferrous metal like aluminum, copper, or some alloy.
Sourcing	Various raw materials have different sourcing patterns. Like minerals are sourced from mine areas, steel is from steel companies, fibers from different locations or imported and so on.	Sourcing is typically from small area or locality.
Supply Chain	There are multiple supply lines and all supply lines are of varying natures with their own respective challenges.	There are mostly one or two supply lines.
Geographical Spread	The supply lines are spread across India and also outside. Steel and non-ferrous is sourced from Mumbai area, minerals are sourced from east and south India, fiber is imported, and so on.	Supply lines are located in a particular area only.

Supply Chain

The main components of the supply chain are :

- 1) Purchasing
- 2) Supplier Management
- 3) Inbound Logistics
- 4) Inventory Management
- 5) Information Flow
- 6) Fund Management

I. Purchasing

Be like a Daily Wage Earner.

Our purchasing is to exhibit the traits of the Daily Wage Earner. "Roz kamao aur roz khao"

Our purchasing should be as per our actual requirements – the purchase cycle could be daily, weekly or at the most fortnightly.

We should avoid going for full month or more than a month purchase in one-go. And, there should be no forwarding booking or deals.

If the 3rd wave turns out to be severe, there shall be downward pressure on commodity prices, which shall require us to order in small lots in order to avail the full benefit of falling prices.

On the other hand if the 3rd wave turns out to be mild, the commodity prices shall remain at the same level.

For imports the rule has to be tweaked a little to allow for long shipment times and turbulent shipping line operations. Thus we may go for more of small parcel imports.

II. Supplier Management

Call-Center like monitoring and tracking of the Suppliers.

3rd corona wave is expected to be wide-spread and reaching to even small and remote areas. Similarly the wave is also expected to affect mostly the young and working population (and even children).

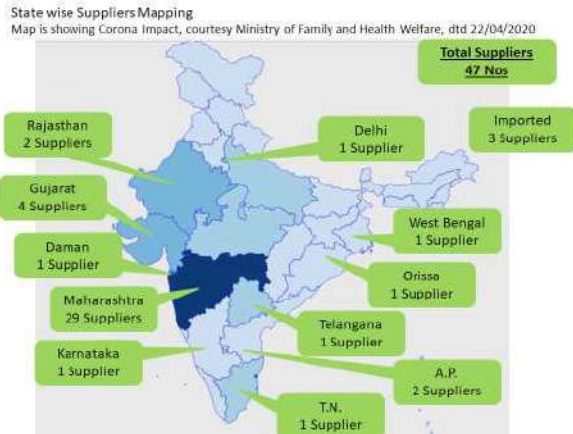
Thus, the 3rd corona wave shall have the potential to impact even remotely located supplier by way of worker availability.

This shall require monitoring and update of all the suppliers on a daily basis. We shall be required to have a Daily Corona Tracker among our suppliers – akin to what Govt. is doing at present for all the states, districts, metros, towns and rural areas.

The job of the Call-Center person shall be to call the suppliers and take stock of his manpower availability,

raw material availability, local Govt. restrictions and severity of corona in surrounding areas. This has to be done for all the suppliers and on daily basis – without fail. The Call-Center shall be manned by as many persons as are required to cover 100% of the suppliers on daily basis.

I am producing details of similar exercise done by us in April 2020 during 1st wave.



III. Inbound Logistics

Deploying “Runners or Own Cleaners” to ensure on-time deliveries.

The way things shall be difficult and dynamic at the suppliers end; same shall also hold true for the transportation of the raw materials. A particular truck may have to cross many areas, districts and states; all with varying corona situations and local restrictions.

This shall require deployment of another Call-Center set-up to track each and every truck movement. Or at least to track all the incoming truck movement from those areas and states where corona impact is severe. Alternatively, the Call-Center set-up deployed for suppliers management can be used simultaneously for incoming truck management too.

In addition, we have to keep a small set-up of people (worker or contract worker or daily wager) ready, who can be asked to travel in the truck to ensure timely delivery.

IV. Inventory Management

Inventory always acts as shock-absorbers against unknown and unforeseen disturbances in the supply lines. The 3rd corona wave shall have the potential to disturb the supply lines in multiple ways – by way of disturbing suppliers’ factories, supplier’s suppliers’ factories, transport, etc. So we have to maintain sufficiently high raw material inventory to absorb unforeseen supply disturbances.

This inventory build-up shall not be the traditional way of build-up; where we build inventory to accommodate for future price increases or future high-demands. The inventory build-up shall be just to handle the

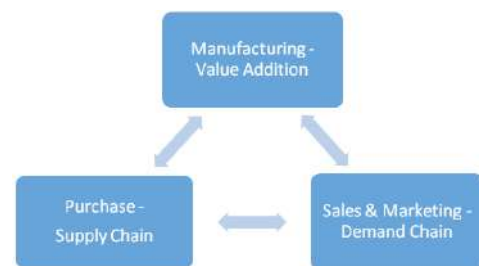
unforeseen supply disruptions. Thus, this inventory build-up does not contradict my proposal for 1st section of Purchasing.

V. Information Flow

In a traditional and normal way, the information flow in a company is mostly linear.



The 3rd corona wave shall impact all the three arms of an organization. So rather than having a linear relationship structure, we shall need to have a more cohesive structure.



This shall allow for prompt and immediate action by all three arms simultaneously, rather than waiting for information to flow from 3rd arm to the 1st arm.

VI. Fund Management

Cash is King.

The Fund (or in Indian term Cash) Management shall be the key during the 3rd corona wave. The Fund-flow was the most important factor in a company’s operation during both 1st and 2nd wave. And same shall be true for 3rd wave too.

When the pandemic happens two things happen - almost simultaneously. Demand takes a hit, and parallel the cash-flow gets impacted.

During such a time, having enough cash, not only ensures in getting good price negotiations done, but also ensures that we get preferred treatment from the supplier side.

Thus a company having sufficient cash or easy liquidity position shall be in a much better position to wither the storm.

Keeping ourselves prepared is always a better option, rather than not being prepared.

Even after preparation there is no guarantee that we shall pass-through or be successful; however we shall have the satisfaction that we tried and prepared ourselves in whatsoever possible way.

The End

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SAAS MODEL[®] OF GIG WORKERS ENGAGEMENT IN SUPPLY CHAIN

SN PANIGRAHI, PMP, PROJECTS, LEAN SIX SIGMA
GST & FOREIGN TRADE CONSULTANT & TRAINER
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Gig Economy – Concept

Gig Economy - Definitions from Oxford Dictionary

A Labour Market Characterized by the prevalence of Short-Term Contracts or Freelance work as opposed to Permanent Jobs.

The word “Gig” refers to the Transient Nature of the Job itself.

A **Gig Economy** is a free market system in which **Temporary Positions** are common and Organizations Hire Independent Workers for **Short-Term Commitments**.

‘Gig’ – a word, coined several decades earlier, but in recent times, it is gaining prominence because of **Technological Connectivity, Social Networking and Global Talent Exchange** - often nowadays connecting with Clients or Customers; Suppliers & other Business Associate through an **online platform**.



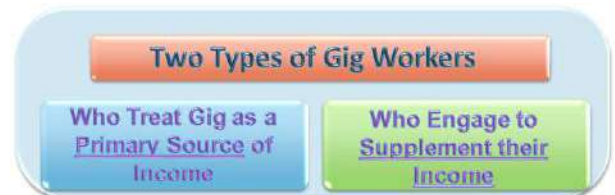
Gig Economy in Various Sectors:

A Gig economy encompasses all platforms that hire Independent Contractors, Consultants, and Workers in different sectors, such as :

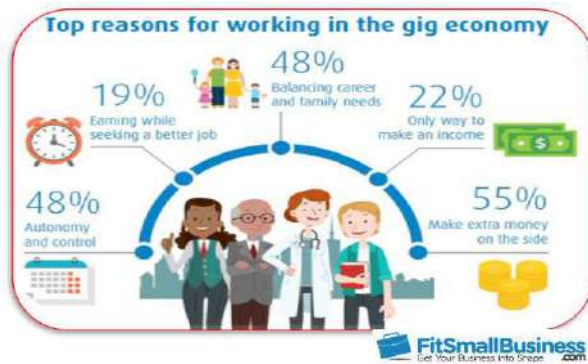
- ❖ Manufacturing, Construction Industry, Airports, Automotive, Energy utilities, Mining, Ports, Food and Beverages, Medical & Health Care, IT & Software Development;
- ❖ Supply Chain, Logistics & Transport, Media Reporting & Journalism, Freelance Writing, Content Creation, Social Media Marketing, & Communications, Creative Fields such as Art and Design, Project Management, Consultancy, Accounting and Finance, Teaching & Education Fields etc..... etc.....



Reasons to Embrace the Gig Economy



- ❖ Independent Work : Autonomy and Control
- ❖ Engaged in Gig Work & Earning while Searching Better Job for Full-time.
- ❖ Gig as a Only Source of Income
- ❖ Better Balancing & Supporting Career and Family Needs
- ❖ Making Extra Money – Faster Access to Income – Supplement Income
- ❖ Savings for Financial Goals & Life Events
- ❖ Stay Busy or Active & Engaged



Gig Economy – Benefits to Gig Workers

The Gig economy can benefit workers, businesses, and consumers by making work more adaptable to the needs of the moment and demand for Flexible Lifestyles – as against conventional full-time jobs from 9 to 5 Routines.

Income for Survival – Unemployed or Low Salary Workers.

Some may use gig work to Supplement the Income they receive from a Traditional Job.

Somehow Engaging & Remaining Healthy

Learn & Earn : Income To Support Education

Gig work is expected to witness increased participation of women as it will offer them flexibility - Women Encouragingly Engaged in these Assignments, Earning Supplementary Income with Flexibility of Work Schedules while Looking after Both Family (School Going Children or Ailing Elderly Relatives) & Profession.

In Recent Times Covid Disrupted Workplaces :Work from Home – Work at Will – Flexi Timing become New Norm in the Pandemics.

Engagement – Income Dependency Gig Model:

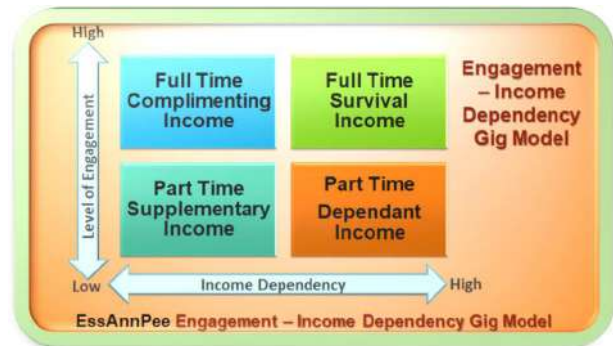
Gig Engagement may be on Full Time or on Part Time basis. Also such Engagement may be on the basis of Income Dependency. Here the model Developed considering both the factors.

Part Time - Supplementary Income : Eg.: Women who Don't want to Engage in Full Time, but Engage on Part Time basis to Supplement Family Income – Earning for Extra Income while Taking Care of Children & Family Affairs.

Part Time - Dependant Income : Eg.: Low Salary Workers (Full Time Employment in Some other Organization) want to Work on Part Time out of Bare Necessary to Add up Income.

Full Time - Complimenting Income : Eg : Artists, Freelance Writers / Critics, Journalists / Reporters, Fashion / Creative Designers, Web Dingers, Architects etc. who may Engage Full Time as their Profession (some times out of Passion), but Earning is Not Prime Driver.

Full Time - Survival Income : Eg: Jobless Youth from Poor Family - These Gig Workers for their very Survival Depends on these Temporary Jobs & Interested on Full Time Availability.



Gig Economy – Benefits to Gig Employers

“Employers have the ability to flex their workforce to align with demand and to pivot quickly through the utilization of a contract or freelance hire”

Greater Efficiencies in Delivery Resulting in Lower Cost

Get to Benefit from a more Diverse Talent Pool, Greater Innovation, Better Fiscal Management, Increased Flexibility and Scalability as per Demand; Competitive Pay Rates and Flexible Options and much more.

Employers Avoid the Cost Burden of

- ❖ Recruiting New Talent,
 - ❖ Onboarding / Induction,
 - ❖ Training,
 - ❖ Employee Benefits like EPF, Gratuity, ESI, Paid Leaves, Maternity / Parental Leaves, Insurance,
 - ❖ Various Types of Allowances like Dress Allowances,
 - ❖ Exposure to worker's Compensation and Liability etc..... etc.....
- Plus
- ❖ Administrative Expenses – Office Space, Facilities, Utilities, House Keeping etc
 - ❖ Travel Expenses, Canteen & Food Subsidies and other Employee Related Expenses
 - ❖ Increase Speed of Hiring and mobilization due to Simpler Recruitment and Faster Budget Approvals.

Gig Economy - The Outlook - India

India's gig economy, which has gained momentum in the past few years with the growth of startups and internet companies such as Zomato, Swiggy, Ola, Uber, Urban Company, Flipkart, Amazon, Dunzo, others, is likely to serve up to 90 million jobs in India's non-farm sector in the “long term”.

In India, there are about 8 million gig workers — temporary workers including independent contractors, online platform workers, contract firm workers and on-call workers. The number is certainly small if one were to compare it with India's 500 million workers. However, the good part is that an estimated 56% of new employment is generated by the gig world.

Delivery boys, cleaners, consultants, bloggers, etc are part of the gig economy. Uber, Ola, Zomato, etc, are all part of this labour platform. As the work is job-specific, workers have the flexibility to work for more than one contractor and choose the hours of work. This has encouraged women in labour force participation.

India's gig economy is set to triple over the next 3-4 years to 24 million jobs in the non-farm sector from the existing 8 million, said a new report by consulting firm Boston Consulting Group (BCG) and Michael & Susan Dell Foundation.

The number of flexi or gig jobs could soar to 90 million in 8-10 years, with total transactions valued at more than \$250 billion, contributing an incremental 1.25% to India's gross domestic product (GDP), it said.

In the near-medium term, India's gig economy may deliver as much as 24 million jobs via technology-based gig platforms, the report titled Unlocking the Potential of the Gig Economy in India by BCG and MSDf noted. The country's employment has historically been inclined towards agriculture as over 40 percent of the overall labor force or more than 210 million of over 500 million workers are engaged in agriculture and allied sectors. The remaining 290 million are part of the non-farm sectors.

The long-term potential of India's gig economy is expected to be comprised of around 35 million skilled and semi-skilled jobs within industry sectors, around 5 million jobs in shared services such as facility management, transportation, and accounting, around 12 million household demand for different services, and around 37 million unskilled jobs across different sectors in the economy. However, construction, manufacturing, retail, and transportation, and logistics could be the four largest sectors accounting for more than 70 million of the expected gig jobs in India.

- ❖ India is home to the **Second Largest Market of Freelance Professionals** (about 15 million) who constitute **about 40% of total freelance jobs offered worldwide**. (ICRIER Future of Work in the Digital Era: Potential and Challenges for Online Freelancing and Microwork in India).
- ❖ An analysis of online occupations in India measured by the online labour index projects reveals that software development and technology have the highest share, followed by the creative and media sector. (EY)
- ❖ A 2017 EY study on the "Future of Jobs in India" found that 24% of the world's gig workers come from India. (QZ)

Gig Economy - The Outlook - USA

While there is no universal definition of a gig worker, making them a difficult cohort to categorize, some estimates predict that gig workers represent **around 35 percent of the U.S. workforce in 2020, up from between 14 and 20 percent in 2014**.

That means **roughly 57 million Americans currently engage in some type of gig work that contributes more than \$1 trillion to the U.S. economy annually**.

Those figures are only expected to grow, with some predicting that freelance workers will make up more than half of the U.S. workforce by 2023.

Source: <https://www.forbes.com/sites/rebeccahenderson/2020/12/10/how-covid-19-has-transformed-the-gig-economy/?sh=7cee813f6c99>

Worldwide Gig Economy in 2020

- ❖ According to **Statista's gig economy data** published on 26th November 2020, **52% of worldwide gig economy workers have lost their job due to the coronavirus pandemic**. Furthermore, another 26% have reported a decrease in working hours.
- ❖ According to **research from Garter**, **32% of organizations have been replacing their full-time employees with contingent workers since the coronavirus outbreak**. This contributes to **increased flexibility and is a cost-saving measure**.
- ❖ As per **Finances Online**, **the current number of freelancers in the US is 64.6 million**. The US saw 57 million freelancers last year, meaning that freelancing is becoming more popular. Furthermore, it's predicted that there will be 90.1 million freelancers in the US by 2028.
- ❖ **Advisor Perspectives Report of 2020**, multiple job holder statistics revealed that **59% of multiple jobholders work their primary job full time and the second job part time. Multiple jobholders account for 4.5% of civilian employment**.
- ❖ **97% of people in India and Mexico are open to gig work**. The demand for gig workers has vastly increased in developing countries, as there has been a 30% increase in using gig platforms. This shows that other countries, apart from the US, are shifting towards independent work. (Startups Anonymous)
- ❖ According to Website Planet, **Gig economy job statistics** show that freelancers lost many job opportunities as the coronavirus pandemic went global. **31.63% of freelancers stated that the demand for their services decreased significantly**. However, 16.73% of them stated that the demand for their services increased. Moreover, 34% think that the demand for freelancing services will slightly increase when the pandemic ends.

Source : <https://whattobecome.com/blog/gig-economy-statistics/>

Exponential Growth of Gig Economy

Few reasons for this Exponential Growth are:

- ❖ **A Slowdown in both Regional and Global Economies**
- ❖ **Organizational Downsizing and Cost-Cutting.**
- ❖ **Technology has Played an Important Role in Consolidating Remote & a Highly Connected, Internet & Mobile Workforce,** enabling Rapid Growth of the Gig Economy.
- ❖ **Technology has Lowered Barriers to Entry** so much that “gigs” have become easily accessible to an unprecedented number of people – **Enabling Resource Availability on Global Level**
- ❖ Emergence of the millennial generation that **Values a Flexible Work Schedule (as against 9-5 Job Routines)** so strongly that it would be willing to give up higher pay and promotions for it, is driving the change in rules of the employment game.
- ❖ Heightened **Migration and Readily available Specialized & Self-Trained Workforce.**
- ❖ **Seasonal Spikes in Customer Service** across most businesses.
- ❖ The gig system **Results in Savings on Cost** of Resources in Terms of Benefits like Provident Fund, ESI, Gratuity, Paid Leaves and Office Space, Lower Training Overheads and Savings in Administrative Office Costs.

COVID-19 Transformed the Gig Economy

Participation in the gig economy has grown rapidly over the past few years, and expanded exponentially since the onset of the coronavirus pandemic, due in part to the increased reliance on gig workers to home-deliver necessities to consumers.

An estimated 12.2 crore people in India have lost their jobs due to the Covid-19 pandemic. Almost 75% of the 12.2 crore people were small traders and wage-labourers. Mostly out of Compulsion and Survival many of them are seeking Gig Jobs. The gig economy presents an opportunity for India to drive job creation and economic growth.

Furthermore, the crisis has upended the traditional 9-5 working world and caused many blue- and white-collar employees to pursue gig work for additional – or even primary – income during these unprecedented times.

As the world starts to more fully embrace this new way of working, which will undoubtedly continue to grow post-pandemic, talent leaders must plan for this inevitable shift and find new ways to support workers to ensure the gig economy's long-term viability.

Disruptive Technologies - Gig Economy

Disruptive technologies, especially artificial intelligence (AI), robotics and automation, are shaping the future

of the global workforce, giving rise to the so-called gig economy.

New technologies are changing how we organize our societies and our lives. Often called the Fourth Industrial Revolution, and broadly understood as the emergence and adoption of new and often disruptive technologies that combine elements of the digital, material and biological, this shift both poses challenges and creates opportunities for social protection.

Learn – Unlearn – Relearn :Upskilling and Reskilling

Lack of skills, as well as those acquired years ago, will not be of use to the gig workers. They need to arm and update themselves with the latest innovations and best practices in their respective domains. Having an aptitude for constant skill enhancement will certainly create the path for a ‘good work and good life’ as a gig worker.

A major chunk of Indian gig workers comprises of software development and IT professionals. Hence, the need for constant skill acquisition becomes even more critical. The entire IT landscape is rapidly being dominated by ‘Cloud’ and ‘Analytics.’

As per World Economic Forum's report titled ‘The Future of Jobs Report 2018’, by 2022, no less than 54% of all employees will require significant reskilling and upskilling. Of these, about 35% are expected to require additional training of up to six months, 9% will require reskilling lasting 6-12 months, while 10% will require additional skills training of more than a year. Skills are the product that a gig worker offers to prospective clients/employers. Hence, the newer the product, the more likely it is to sell. This makes it important to constantly acquire new skills to ensure that one is always on top of the game.

Decision to Engage in Gig

Organizations may Evaluate and Assess based on Various Factors : The Pros & Cons; The Benefits & Risks before deciding to go with Gig.

Organizations may Evaluate and Assess based on Various Factors : The Pros & Cons; The Benefits & Risks before deciding to go with Gig. There may be Some Driving Factors in Support of the Gig, like:

- ❖ **Benefits : Cost – Quality – Delivery**
- ❖ **Expert & Specialized Services**
- ❖ **Flexibility**
- ❖ **Less Regulations / Obligations**
- ❖ **Less Risk**

We should also Consider **Constraining Factors** like :

- **Loss of Core Knowledge**
- **Increased Cost**
- **Low Morale**
- **Sustainability**
- **Risks & Compliances**

Below Presented a Model to Decide for Gig



Supply Chain Activities

Supply Chain Management has broadly comprise 5 Components :

Plan – Source – Make – Deliver & Return

These Components spread across various functions like

Sourcing & Procurement;

Purchase & Contracting;

Logistics Activities;

Warehousing & Storage

Under Each of these Functions, there are various activities to be performed.

Some of them are Depicted in the Diagram below:

Based on the Organizational Requirement considering various Decision making Factors as Discussed above, Supply Chain Professional may take a call whether to go with Gig or Not.



Decision-Making based on Importance and Urgency

Strong Decision-Making skills are necessary to weigh the available options and choose the best course of

action, keeping in mind priorities. The ability to make important business decisions is perhaps the most valuable contributor for the organization. Project Decision Making is the process whereby the Project Manager and Project Team decide upon project strategy, tactics, and acceptable actions keeping in view Importance and Urgency.

Eisenhower Matrix

The Eisenhower Matrix (sometimes called the Eisenhower Box or Eisenhower Decision Matrix) is an easy, yet an extremely effective way to prioritize and manage Projects & Tasks Effectively.

In this Matrix the Tasks or Activities are separated into Four Priority Levels :

- ❖ Urgent and Important
- ❖ Not Urgent but Important
- ❖ Urgent but Not Important
- ❖ Not Urgent and Not Important

SAAS Model® of Gig Workers Engagement

This Model is an Extension of **Eisenhower Matrix** for Application in Supply Chain to Decide which Activities can be assigned to Gig and which are Not based on **Urgency and Importance**.

In this Model Supply Chain Professionals may a Strategy based on **4 Aspects** :

- ❖ Search
- ❖ Availability
- ❖ Ability
- ❖ Selective

Low Urgency & Low Importance :Search Pool: Gig Workers Largely Available in the Market.

Focus : Low Cost; Easy Switching Over

High Urgency & Low Importance :Availability Pool : Pre-EngagedAgreements

Focus : Timely Availability @ Reasonable Cost

Low Urgency & High Importance :Ability Pool: Knowledge Workers

Focus : Matching Skill Sets; Responsibility, Ability Screening

High Urgency & High Importance :Selective Pool: Consultants, Subject Matter Experts (SMEs)

Focus : Well Qualified, Committed Gig Workers – Higher Collaboration - Reliability



Scalability and Flexibility in Supply Chain

Gig Economy forces Supply Chain Operations to Adopt Agility.

An **Agile Supply Chain** is a system of product distribution concerned with doing things **Quickly, Saving Costs, Being Responsive to Market / Customer Demands, Maintaining Flexibility, and Keeping Productivity High and Delivery of Goods as per Customer Requirement.**

Companies may adopt the Ability to respond quickly, adapt to their environment, and maintain momentum while doing so. In fact, the concept is so important it has coined its own phrase: the agile supply chain.

Risk and Compliance Requirements

Incorporating gig workers in to your supply chain hiring strategy can be a risk.

Identify short-term Knowledge / Functional gaps in your supply chain which can be engaged in Gig. **A bigger contingent workforce means increased risk.** How do you manage to control hundreds or even thousands of workers that have access to your systems and technology?

There may be **Legal and Compliance** issues in Supply Chain. It can become an Nightmare to ensure compliance with policies and procedures and, at the same time, handle the Functional Requirements.

Challenges

- ❖ On the disadvantages side, though the gig economy has been growing in India, it is **Largely Unregulated**, which means there are no rules on how much a worker should be paid, how many hours they can work every day, on an average; and the social benefits they are entitled to - workers have **little job security and few benefits**. Currently, these workers are **not covered under health, ESI, PF or any other scheme** as gig economy is not yet defined as a way of Formal Employment.
- ❖ However, few argue that the gig economy in India with respect to **workers not getting any social security, insurance, etc.** is an extension of India's informal labor, which has been prevalent for a long time and has remained unregulated.
- ❖ With the tech companies coming in, there is data available, making it a possibility to enable job security.
- ❖ The Ministry of Labour and Employment has been working on a **"Social Security Code"** to ensure labour benefits for gig-economy workers.

- ❖ **"Regulation will ensure fairness as well as accountability"**.
- ❖ A worker **needs to be skilled enough**. Unless a person is extremely talented, his bargaining power will necessarily be limited.
- ❖ While companies routinely invest in training employees, **gig-economy workers will have to upgrade their skills on his own at his own cost.**
- ❖ There are already many **more potential online independent workers than jobs**, and this demand-supply mismatch will only get worse over time, **depressing wages**.
- ❖ Career management issues – A big drawback for a gig economy system was the **lack of security for workers**

Success Factors for Managing Gig Workers

- ❖ Managing a Not on Roll, Remote and Mobile workforce is Really Challenging. Therefore, put in Place Proper System of Forecasting Requirements, Gig Engagement Policy, Backup Arrangement in case of Failure of Availability of Gig, Robust Administration & Controlling System, Adoption of Technology & Connectivity (wireless links, video conferencing, internet access and suitable work spaces).
- ❖ An organization needs to be agile enough to Mobilize new teams and scale operations up or down to adapt to changing business needs. Inflexible polices, fixed locations and traditional office hours do not suit this solution.
- ❖ The new-found accountability that Supply Chain Professionals can provide gig workers with will pave the way to more possibilities, and a more successful gig economy.
- ❖ Transparency in creating conversation and delegating tasks need to be well-established, then it can uplift morale, build trust, even allowing the gig workers self-management practices with Accountability.

More Details can be seen @ SlideShare @ below Link

<https://www.slideshare.net/SNPanigrahiPMP/saas-model-of-gig-workers-engagement-in-supply-chain-by-sn-panigrahi>

For More Details on SCM, Procurement, GST, EXIM, Project Management & Lean Six Sigma you may Visit & Subscribe YouTube @ below Link

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STEPS TO SUSTAIN SUPPLY CHAIN OPERATIONS IN CRISIS (WITH BACKDROP ON WEAKNESSES EXPOSED IN SUPPLY CHAINS/GLOBAL SUPPLY CHAINS IN COVID19 ERA AND VITAL SUPPLY CHAINS LESSONS FROM PANDEMIC)

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Important factors like globalization, population demographics shifting demand, and regulatory tax optimization have transformed, supply chains across industries in the recent times. As a result, supply chains have become complex, non-linear, and vulnerable drawing the immediate attention of all stake holders to get to know the solutions to operate their supply chains to improve customer satisfaction and businesses.

In addition, the strong focus on reducing supply chain cost due to global competition has paved the way for cost-driven strategic sourcing (consolidation of suppliers), outsourced manufacturing, and just-in-time inventory policies forcing suppliers to keep inventory at their locations. These factors have added a significant amount of risk with limited ability to scale.

In running times now, the COVID-19 pandemic has caught every industry heads by surprise in terms of disruptions due to lockdowns, border closings, travel bans etc.,. Simultaneously, the circumstances not explainable, took business leaders with “no method” in their hands, to follow, in overcoming the disruptions.

Experts, solution providers, business owners with forethoughts, could identify immediate result oriented STEPS to ensure stability as supply chain leader's focus on building resiliency by mitigating the points of failure in their supply chains. The important Three Steps are:

1. Supply Chain Visibility, 2. Optimize Capacity, 3. Demand Prioritization

1. Supply Chain Visibility: Companies need end-to-end transparency of their supply chain, which may include suppliers, contract manufacturers, and suppliers' suppliers. Supply chain leaders will need to know the flow of material and the geography of each location. This may exist as tribal knowledge in companies, but not necessarily be documented. Some of the contracts with suppliers may not extend beyond the supplier.

The next is to estimate the inventory at each of the plants, distribution centers, suppliers, contract manufacturers, and suppliers' suppliers. Most companies do not have this in a single application.

Often, it is a challenge to pull this data from several ERP systems, advanced planning systems, and custom

databases. Some of this information may reside with suppliers and may not even be accessible. The action to be taken is to- Establish a nerve center and assemble, the subject-matter experts (SMEs) from business (supply planners, material requirements planning controllers, raw-material planners, distribution and inventory planners, etc.) and IT that can enable that visibility and anticipate inventory in the supply chain.

The supply chain model can be developed in a spreadsheet if an advanced planning system is not available. Identify vulnerabilities in supply chain nodes that could cause disruption due to product shortages. For instance, integrated business planning applications can enable visibility for customers to overcome disruptions.

2. Optimize capacity: After identifying all the vulnerable nodes in the supply chain, work on options to mitigate the risk and document assumptions. If a supplier's plant is shut down, then identify alternate suppliers – either from existing suppliers or new sources that will need to be provisioned and certified. Monitor suppliers' financial health to ensure they are able to ramp up capacity and have the ability to scale.

The availability of logistics providers is also becoming a challenge with border closings and lockdowns. Continue to monitor the availability of transportation and logistics providers internally, as well as those of suppliers and contract manufacturers. Rely on business networks to identify suppliers, whether for a critical raw material, logistics provider, or even a 3D manufacturer that can make parts on demand.

After identifying alternate mitigation options, the next course of action is to run scenario planning to determine the impact to service levels and cost. If there are multiple options, then to optimize each scenario and compare them to identify pros and cons that will impact cost and service levels in the short and long term to make decisions. Document the assumptions when making changes. Share the decisions with sales and operations planning stakeholders for approval daily, if necessary, until disruptions are addressed. All these capabilities can be performed through an outsourced service, if there are no desired internal competencies.

3. Demand prioritization: The COVID-19 situation has

caused a global pandemic with millions people worldwide infected and the caseload growing. Lockdowns combined with border closings and redeployment of private assets, are causing shifts and variability in demand.

Companies will need to stay ahead and anticipate changes in demand based on the consumer behavior and statutory policy guidelines. The surge in demand for personal protection equipment (PPE) is causing companies to increase capacity and retool their production capabilities to meet this surge in demand for products including masks, ventilators, and sanitizers. Consumer product demand for things like groceries is seeing a higher variability as consumers are panic buying and increasing the bullwhip effect/the whipsaw effect.

Consumer Shortages (Panic buying of vital needs/ commodities such as Food, Water, Hygiene products), Medical Shortages (Desperate need of hand sanitizers, masks, and ventilators), Distribution Disruption (Networks are stretched thin) :For all these factors, Companies have to segment customers, markets, and products so that they can prioritize demand and offer differentiated levels of service based on the consumer's needs and business strategy. Most companies do this offline in spreadsheets; however, building a disciplined approach and competency in managing segmentation models within ERP will enable companies to excel in their ability to manage demand, service levels, increase margins, and grow segments that are strategic to their business. Anticipating and predicting the demand downstream based on the COVID-19 effects as well as resulting consumer behavior to supply chain , are key issues to manage variability and smoothing disruptions.

It is, perhaps apt now to understand the backdrop on the role of COVID 19 that exposed weaknesses in Supply Chain :

It's flooding the news everywhere, more medical equipment is desperately needed as situation leading to scramble to obtain more masks, ventilators, gloves, and sanitizer to support the latest hot spots impacted by the corona virus. In spite of accurate methodical approaches, nobody seems to know where to get these supplies, nor do they understand about vital aspect ie. what the real demand and supply actually are. At the same time, we all see specific consumer goods items in extremely high demand. It is amazing that when it comes to necessities/food items, the need is about 20 to 30 items.

The bad result being experienced – the Supply Chains are broken. All are accustomed to a well-oiled global supply chain that promises “same-day delivery” of many products. Local events/force majeure, such as extreme weather, wildfires, and earthquakes always had an impact on supply chains, but even if they bent, they did not break. This time it's different – ie this time supply chains truly are broken. There is lack of visibility, there is lack of collaboration, and there is lack of coordination. Because almost all supply chains are still based on a transactional, reactive model, when we have

an unexpected spike or drop in demand, it takes time for it to ripple through the multi-tiered supply chain. Therefore, it can take weeks and even months to adjust supply chains – and it will take weeks and months to get inventory out of the supply chain once we all enter the “new normal.”

However, experience says that - We can rebuild them - There are some bright spots of positive news. Even if certain products are not always available on retail shelves, there is no crisis in food supply or consumer products. Also, many companies around the world started to “re-purpose” their production, with many brewing companies and distilleries producing hand sanitizers, fashion companies producing masks, and automotive companies looking to produce ventilators.

These are all realistic examples of how to make these kinds of changes on the fly, as difficult as they may be. We all expect high quality in these products (especially when it comes to medical devices) and many of these products have different statutory laid down regulations, to overcome and finally bring Supply chain in to the correct track. This infers that, despite the fact that supposedly “well-oiled” supply chains are broken, it is possible to react quite fast, re-purpose production, and provide the help that is desperately needed. There are collaboration capabilities that ensure the integrity of the processes and the quality of the product. Technologies coupled with “think tank groups “are available to get all these done to re-build efficiently the Supply Chains in respective businesses.

To make a positive end note, recorded hereunder, the practical and understandable LESSONS that the SCM Domain got from “the Pandemic”, along with few words of conclusion:

LESSONS:

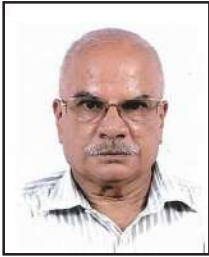
1. Importance of Supply Chain talent.
2. Designing in Supply Chain flexibility.
3. Taking seriously the Total cost of ownership.
4. Keeping on board the Disaster planning.
5. End to End Supply Chain mapping elaborately.
6. Strategic Inventory positioning.
7. To design Supply Chain to have accelerated response.
8. Importance of Reverse Logistics, not to be overlooked.
9. Real time Risk management Governance.
10. Finally, taking decisions to invest in Digital Supply Chain Technologies.

THE WORDS UNDER CONCLUSION ARE-

- i) It is easy to fall back to the old ways. There is New Normal now.
- ii) The Pandemic exposed real fragility in the Supply Chain.
- iii) Above lessons shall make Supply Chain Mangers to improve Supply Chain robustness for the FUTURE.

(Reference: Internet/Research blogs inputs, Net working discussions etc.)

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VARIANT AND CONFIGURABLE SYSTEM IN SUPPLY CHAIN

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In supply chain variant configuration is for manufacturing complex products, and the manufacture have variants of the product. Any variant in configuration helps the customers, sales to combine to put together the specification for the product, to completely ensure that the product can be produced from the specification available in supply chain.

Material of configurable functionality allows data to create a one single material for a basic product, and any variations of that specification code may be for the correspondence of the variations of the product.

In supply chain material variant are materials normally kept in stock, and arise from an individual configuration of a product that is configurable, and the material variant is linked to configurable material, and the uses of characteristics are of the configurable material used in supply chain.

In supply chain variant configuration for manufacturing is complex product. The manufacturing in due course offers new variants of products, are variant products which are created or used by modifying the existing product, design, or according to the preferences of use in supply chain, as the custom determines the best of the products, and its requirement features in supply chain.

In supply chain the frequent changes in supply chain structure and the appropriate decisions taken, are required to support decisions, making such environment, variant and configurable in supply chain conducive. The methodology of governing the modal of re-configurable supply chain has developed a configurable system in accordance with the requirement of supply chain.

The important features of the supply chain methodology are the information, and the hybrid system (mixed) that develops information system, enabling to solve the problem, process in supply chain. Hybrid modal is combined with organization simulation (imitation of situation or process), allowing many factors of supply chain to evaluate to an alternative configuration and variant in manufacturing supply chain, as this method is adopted, and developed in multiple supplier selection by optimization of the simulation modal developed in supply chain.

In supply chain with the increase in product variety, customization, as this implies is to a low volume highly production to the environment in supply chain, referring to the complex alignment between the organizational function. In supply chain considering the

manufacture with the help of orders, customization, the creation of technical products with variant and configuration will not be able to deliver the product into the market.

The production of items, contextual, structural, with procedural aspects to the implementation of an environmental through manufacturing as per the requirement of sales, the variant and configuration be used to implement a information system based on the variant and configuration system, thus enabling demand and production management in supply chain.

In supply chain the need for variant in configuration, to meet the special requirements is becoming exception in business to business, business to consumer, relationship.

In supply chain the manufacturer supports variant configuration to order, items, materials, raw materials, finished goods, and has the opportunities to lead more needs to the customer by stocking semi-finished goods, so as the manufacturer can reduce the capital cost that is tied up with inventory.

In supply chain a move by the manufacturer is to set up a variant configuration to order materials, components, requires careful analysis of the product structure, identification of products. To reduce the number of parts, minimize the number of goods that are in process it is necessary to understand the products behavior, and then design for usable process.

In supply chain identifying items is by variant or by the method of configuration, is to introduce the system, by coding, as these codes are represented by numbers and by a simple variant code. The codes are used by organization, where they specify the descriptions of items, in the inventory. Configuration codes are also of similar concept, normally consisting of several characteristics describing a specification, and configuration of the items, as this that they are concerned with liabilities of very many configuration codes, which may consists of several characteristics describing a specific configuration of the item. This is to have almost an unlimited amount of configuration codes of any one item, using product configuration, in which the user can add on the item number, and provide the necessary function of the item in supply chain.

In supply chain the ERP system can create a set of configuration codes, and will be made according to the choice of the material requirement, and all specific details incorporated in Bill of Materials, and using the necessary configuration of the product produced, are

registered in the inventory with item number of the material and with a special variant code.

In supply chain dimension based materials products, configuration represents a simple way of creating product variant in the product, of Bill of Material. In supply chain dimensions based materials, products, is built on a configuration technology, and the technology are sometimes pre-defined to be variant, and with a constrained based configuration in supply chain, and all the technology contributed becomes a starting point, and allows the use to create a product variant in one product or another in supply chain.

Development of market influence on manufacturing process as the market demand becomes the basic demand, for a product to be accepted by a customer. The market factors of variant and configuration of the product, is influenced by the product variety which can identify demand fluctuation, product customization, scope in market place, maturity of market in supply chain.

Demand fluctuation caused by variant and configuration of characteristics of the product in any industry on the contrary, several external elements may increase demand fluctuation significantly. The economic growth rate, growth of employees, may lead to fluctuations and decline of consumer's purchase of certain product. Organization fluctuations product demand will reduce the variant and configuration diversification strategy of the range of product, that will attract diversification strategy, and the product is liable to attract more customers in supply chain.

In supply chain consumers' trend is that the manufacturers' are required to offer many variants of the same product manufactured to meet the increase needs of the diverse needs and desire of their customers variant configuration supports, collecting, ordering, manufacturing, complex products, that are specially required to customer needs, with the growth of variant configuration product, marketing order, entry can be optimized by selecting different aspects in supply chain. The requirement of the product as needed can be optimized by selecting the necessary requirement in supply chain.

In supply chain to remain competitive in any manufacturing activity is required to remain competitive, with good quality products, which are normally acceptable to the requirement of customers, and deliver the products at a competitive cost, with high delivery optimization in supply chain, in achieving variant and configuration in high quality of products, as this requires competent authority for timeless delivery, efficient process along the supply chain, which cannot be reliant on a single organization, but should be ensured through a good collaboration, coordination with the organization in supply chain.

In supply chain increasing uncertainty has made the customer challenging, as the efficiency along the supply chain is important to maintain the product to acceptable prices, and the flexibility to deal with the demand is more important with the high probability, that the customer may increase, reduce, cancel, or

move away from the order in supply chain. Supply chain has to be aware of the variant and the configuration of the product, and increase to change the capacity levels, transportation, or switch over to different suppliers in supply chain.

In supply chain much interest is paid on flexibility of the product, and it is thus important to remain competitive in the market, as supply chain flexibility is sometimes considered costly, hence it is necessary to decide the right degree of supply chain flexibility, with a variant and configuration of the flexibility, relatively to build up safety stock, and a safety buffers in lead time to re-design the products supply chain network.

In supply chain freight transport is an important part in field of logistic, incurring a significant cost on the operation, and this traditional system, as it is considered in supply chain is adjustable to variable logistic planning, on supply chain. In supply chain today freight transport system has been given an important as a part of supply chain management functions, and decisions have been taken to study in depth, to include transportation in variant and configuration, only to direct full truck load shipping strategies, and is often used in the behavior of consumers with the use Smartphone's, internet, Geographical Position system, devices, bringing in the advantage some position in transportation with respect to inventory management, warehouse management, multi-modal transport system, that have been developed with freight distribution in supply chain.

In supply chain management variants and configuration have benefit of high cost of transparency cost variant, of development if close pictures of components, sub-assembly are process, and product oriented in supply chain, as a part of cost allocation in supply chain.

In supply chain items manufactured in Batch quantity, can be easily managed with an integrated inventory, also may be able to maintain manufacturing date, expiry date, analyze the expiry date of items. By scanning bar-codes by the bar code scanner, gives the fast search, thus by variant and configuration methods of the stock in lots to make faster decisions. This is done based on the item that is in batches, to indicate batch number, as mentioned in every transaction in supply chain. Batch numbers can be maintained manually or with the help of automation in supply chain, which is meant to keep the expiry items together in warehouse.

In supply chain demand variability is considered as the most important, as customers orders are uncertain, difficult to predict. In supply chain it has been suggested that the demand between functional, innovative product, the variant and configuration of the product shows the different demand characteristics. As functional products are more stable, predictable, demanded, better life cycle, lower product variety, lower contribution of margin, less stocks, higher volume of stock keeping units, low obsolescence, while innovative product are unstable, difficult to predict demand, shorter life cycle, higher product variety, higher margin contributory, stock outs, lower stock units, higher obsolescence.

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INVENTORY “TOOLKIT”

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Tool-kit is the general term but meaning of this term once again introduces by social media. As you know, use of this word done by Shaw Ran & Greta Thenburg on social media. Toolkit mostly used for our vehicle and domestic appliances. Toolkit contain screwdriver spanner tester etc. These tools are used in case of failure of vehicle or appliances. To open and repair it. Currently toolkit pondered in respect to social media. In toolkit it is being unveiled, how to use this contain where to post, whom, when, where to send etc. in this contains “Call to action” may include means “Share”, “Like”, “Subscribe” etc.

Like this we are going to deliberate Inventory toolkit in the following article...

1. If you are not in-warding material as per MRP?
2. if any material is being in-warded without ASN?
3. if Your pickup list is not generated thru ERP?
4. If your physical inventory not reckoning with system inventory?
5. If any material lying without GR, post ASN more than 21 days?
6. If any FG produced without MRP planned order?
7. If MRP balance quantity goes in negative?
8. If you are adding any manual schedule in MRP?
9. If your consumption is different than MRP?
10. If any invoices are pending for GR?

If the answers of the above questions are yes, it means that, it is going to collapse your inventory control & procurement system soon.

Inventory management : In many corporate it is being observed buyers are checking material physical and procuring as they require. On other hand there is system calculate stock and procure as per MRP. There is conflict of both manual and systematic way of procurement. inventory is so worst that procureing material as required and inventory going on incresing without sence. And another way lose production for not having material as require. Inventory quality is very worst.



Daily inventory monitoring is good practice for better control of inventory. Inventory management and customer satisfaction are KRA of supply chain. Regular monitoring of inventory is needed to avoid any misconduct. Digitized supply chain performs better in inventory control. Correct way of measuring inventory like as- Find total daily inventory- Find total average daily consumption- Find inventory number of days. Digitization provides easy access to data. Automobile industry works on concept of Just in Time (JIT). They keep inventory just to run assembly lines & keeps few safety stocks. Timely delivery became important. This factor is considered while calculating supplier performance rating. Digitization of supply chain makes timely delivery to customer. It is required to measuring 360-degree performance with many parameters.

It is also require analyzing the data generated by digitization. The excess and obsolete inventory in any organization, blocks its money. Organization need tools to control excess and obsolete inventory. Digitization makes us able to generate information about excess inventory. Obsolete items are result of design change. Every departments have their own interest to achieve their targets in any situation. It conflicts with each other departments. If inventory stock is visible to finance, it can take decision to which component he can hold payment without stoppage of production. Digitization increase visibility of material flow and data related to it, which is necessary to take decision during sudden dip & down (machine breakdown, labor shortage, material shortage, temporary hike in demand). Some user wants T-code standardization, bar coding implementation, generation of departmental matrices and reports. It will help to maintain inventory turnover, highlighting obsolete /excess inventory, help to ensure timely delivery.

When supplier schedule is wrong, either inventory level goes up or line will get stopped. The accuracy of supplier schedule is determined by accuracy of master data.

“Controlled Inventory is the Fruit, but MRP Accuracy is the root”



Inventory management are not given more important in many corporations. But to keep company cash reach it is needed to focus on inventory. It is important to utilize current assets & maintain cash flow better. More than 60% cash blocked in materials. There are many types of materials like direct material, indirect material, Finish goods, Raw material, WIP material, FOC- free of cost, MRO inventory means Maintenance, Repair & Operational Stores-FOS. Direct and indirect materials. Direct materials are the material which listed in BOM. Indirect material – materials are required to complete the operations. Quality of Inventory: - “Number of days inventory” indicates material require to convert raw material into finish goods in number of days. “Quality of inventory is corresponding to quality of procurement”. The important Inventory drivers are Stores, logistic service, Suppliers, MRP & Practice of procurement etc. inventory located at Storage locations as Goods in Transit, Cross Dock, 3PL WH, Plant etc. Segregation of inventory can be done as runner material inventory, Stanger material inventory also. We use MRP for material procurement. Quality of procurement direct impact on quality of inventory.

MRP works on many enablers. Accuracy of Material master, Vendor master, quota, source list, Purchase order, Scheduling agreement etc. is important for procurement accuracy. Safety stock must be accurately calculated to fulfil the production requirements (Demand). Inventory depend upon planning and operating process equally. If planning is good but procurement practices are weak then it is difficult to maintain quality of inventory. In SCM many teams are working to fulfil material required for manufacturing finish goods and finish goods will generate our revenue. Revenue will earn bread for us. For that everybody should sing a same song.

Following are the inventory attributes which help us to improve quality of inventory.

1. Stock should be at perfect storage location.
2. Stock should be accurate physically & in system-No variance.
3. BOM should be updated periodically.
4. Planning cycle should be followed accurately & regularly.
5. Operational issues should be resolved time to time
6. Perpetual inventory and knock-up of variance to be executed periodically.
7. Long Term Planning requirement to be published periodically for supplier resource management.
8. Group part and their usage probability to be maintained periodically.

9. All parameters of material master must be maintained correctly.
10. Regularly review of material in transit to be done.
11. Non-moving & PI storage location must be quarantined from MRP
12. MRP accuracy to be maintained precisely.

Operational Variance



There are many types of Inventory variance: - Variance may be positive or negative also. Positive variance - when the physical quantity is greater than system qty. Negative variance - when the system quantity is greater than physical qty. Consumption variance: - consumption more than BOM specification. Variance in planning: - There must integration between planning and manufacturing. In case of manufacturing done at many plants, it is needed to maintain accuracy in everyday production. eg. If we plan 100 FG at each plant per day, then we need manufacture as per plan. There may not be any ambiguity in production. Produce as per plan & Plan as per production. Best inventory system is in which transaction are done real time (real time consumption & receipt transactions). We should maintain the following parameters in MRP masters- like Lot size, Safety stock etc. We must define Authorization for activity & T code authorization. We must organize Supply chain process mapping for Inventory management. Disciplined operations are the key of success. Knowledge of system to all partners is necessary. We must introduce KRA/KPI for each stack holders like Logistic/ procurement /warehouse / stores etc. Requirement and replenishment: - Requirements are sales order and make to stock production. The accuracy of requirement is proportionate to accuracy of schedules to supplier. We must plan right qty. to right plant for production. Mismatch can create ambiguity in P2P system. Consumption not predictable by BOM – it means some material like additive, lubricants items which are consumed not evenly per piece of FG production. Hence the consumption is unpredicted with BOM.

Responsiveness

In current days many changes are happening rapidly. We manufacture finish goods as per customer requirement. There are many customized products. We are changing Engineering drawing & part number of components as per designed changes. Our development departments are also working on the same strategy. Post any changes relation to that there are many changes are required in procurement system. Like BOM updating, SA creation, source list and quota updating etc. But our supply chain partners are lagging to proceed it rapidly. In that way responsive supply chain is the great enabler for inventory control.



Supplier Competency-Currently many digitization software's installed. End to end SCM contains three partner, manufacturer, customer, and supplier. So, complete digitization is considered when all three partners must get information of material movement in real time. Supplier of fully automated supply chain gets information on material movement through software, instantly as material reach to its destination. All supply chain partners must work towards full digitization. As supplier get information in real time, he can plan his production. In case of absence of information flow, supplier makes his plan based on estimate. This estimate may fail due to incorrect information. In this way total loss of productivity, time and resources occurs. It is being observed many suppliers do not obey our systems, buyers are busy with solving their problem and proceeds NVA. It is required to provide periodical training to suppliers about changes in system. If any new addition or changes immediate training and SOP to be provided to supplier. Periodical supplier competency mapping to be done. There should be process reengineered and further sop to be provided to each team in P2P cycle. Supplier involvement in training & skill upliftment is also important for End to end SCM for process efficiency & tight control of inventory.

Supply Chain Partners

There are too many departments working to complete supply chain. One tiny link can disrupt entire supply chain. There are many corporates having digital supply chain, but all verticals are working in silo. As like, supplier order for quantity, we plan accordingly, we provide open delivery schedules, but they do not delivery on time. Some time they don't delivery material within specified span of time. The schedule adherence is poor, and our entire supply chain disrupts.

Milk run logistic: - We plan vehicle to pick up material from supplier. We designed milk run collection for logistic cost optimization. But in practice many suppliers commit but not provides material on committed time, on another side the trucker skips the vendor for collection, and in some cases, buyer eliminate some supplier in collection list. Here are three adherence fails and first mile logistic disrupts.

Cross docking: - Post collection of material by milk run vehicle it shifted to cross docks where cross docking is done. Vehicles are unloaded in cross dock, then segregated as per destination again loaded. In this phase manual error can disrupt supply chain.

Trucking: - Trucks are not scheduled and material not monitored properly, hence it causes poor quality of inventory.

3PL warehouse: - Material is warehoused in warehouse but not entered in WMS it disrupts quality of inventory

Plant stores: - Too many materials are not kept on location and not found at the time of production that create poor quality of inventory

Manufacturing: - It is being observed in many plants they are producing not related to MRP. And creating stock variance which deplete our quality of inventory

FG RFD: - Ready for dispatch Finish Goods are not declared in system at real time. It disrupts our inventory control & impact poor quality of inventory.

We suggest following responsibility to be allocated to respective teams.

Task	Department
Manufacturing as per planning & Planning as per Mfg.	Production Planning
Minimize Physical variance	Stores
load consolidation or lot size trucking	Logistic
Supplier not performing / Supplier closed change in SOB	Sourcing
Consumption not predictable with BOM	BOM/system updating

KRA & KPI to be introduced:-

KRA	Planning	Procurement	Local Collection Logistic	Cross Dock	Primary Logistic	3PL Warehouse	Stores	Mfg.
	ODS Report	Collection Request	Collection Request Fulfilled	Inward, Outward and Stock	Trip Sheet	Inward Outward and Stock	Inward Outward and Stock	Consumption Entry
	BOM Accuracy		TAT		TAT		Nonmoving	
	Dependent Requirement Accuracy	Accurate Collection Request	Collection Accuracy					RealTime Processing
KPI	Real Time Status & Accuracy %	Real Time Status & Accuracy %	Real Time Status & Accuracy %	Real Time Status & Accuracy %	Real Time Status - Accuracy %	Real Time Status - Accuracy %	System Adherence Report for Variance	Real Time Processing %

MRP (Material Requirement Planning)



The run of MRP is nothing to do with any practical issue. It is cyclic process once learns must repeat every month/ week with dynamics of customer demand as input. If MRP is generating wrong schedule? In some instances, found that user is not run MRP. This situation can be improved by top management focus. The management must find out reasons of not to run MRP. The user should frankly raise his concern for not to run MRP. Management should provide solution to user issues. Mainly there are two reason of such situation. Skill of user need to run MRP. Inaccuracy of master related to part numbers, part lead time, minimum-maximum inventory level, re-order level, BOM etc. The next process is of FG movement. It is found that many are unable to see finish good stock through digitization software. The people who do not able to see FG stock means have not inter- linked of supply chain with production and warehouse. Manufacturing persons must meet productivity target, enter in digitization software is secondary for him. So, posting of data in digitization system should be as easy. It concludes that all aspects are equally important to organization. All responsible buyers should have access to FG stock. It led to reduce chance of non-match book value with physical quantity, accountability of stock and tractability of locations. Management must understand importance of keeping accountability of FG stock through digitization and takes all necessary steps to improve, otherwise it is wastage of resources and capital investment.

MRP shall run for following exceptional causes: -

Alternat plan	reduction from one model for alternate model	require MRP
Additional plan	additional plan	require MRP
planned date shifting	shifting production plan from one plant to another plant	MRP

“Quality of inventory is equal to Quality of procurement”

Panic buying and buyers behavior - For better inventory control buying pattern is very important. We define demand for finish good and as per demand we procure material. We take help of MRP for calculating the micro level component requirement to fulfill demand in stipulated period. Buyers focusing on production to avoided production loss, they procure material with

alternative source/route. But at root, these Dept. require to correct their operations. With these external force procurements get effected. If these things improved, we could improve the quality of inventory. We plan inventory on MRP basis, but material is consumed and procured on production basis. BOM accuracy: - if item “A” used commonly in 20 FG. It requires 2 per FG, But in BOM it maintained in 1 per FG. We will not get procurement planning accuracy. There are many real time changes require to be done in masters as per business requirements, and SOP-standard operating procedure will help up to reduce ambiguity as following.

Activities for MRP Accuracy: -Masters Correction—>We shall follow the following PDCA cycle while correcting the system. Correction →download data→compile data→find incorrect data→correct again. Weekly excess quantity STO & TSA knockout to be done. Tentative expiring PO validity data retrieval and correctness to be done. SOB allocated but PO not created data retrieval and corrected to be done. in some companies it is being observed buyers are not willing to obey the system. They manipulate system to inward materials as they want.

Development of new material: - We are developing alternate source, localizing supplier, multi plant supplier, standardization, cost reengineering etc.

1. In development phase of materials, we allocate share of business to certain supplier, but we don't update BOM for the said part. That create ambiguity because supplier “B” doesn't get schedule and the supplier “A” holds schedule. Hence Purchase request generated by system.
2. Supplier have many plants & they supply as per their convenience. Hence schedule get generated on vendor code “A” and supply from another code “B”. It needs to update correct supplier quota and source list.
3. In many corporates there is strategic sourcing unit for controlling procurement they allocate share of business and commitment from supplier. It is needed to correct quota in system. But same is not done real time. Hence schedule is not available as per our commitments.
4. Schedule generated as per MRP enablers like material master, source list and quota in respect to PO validity and quantity. But supplier is not able to deliver material as per specified time and quantity, hence we require to make changes in schedules.
5. We need to provide authorization to block and unblock procurements in master.
6. All reports to be verified frequently for correctness of data and visibility.

MIS- Management information system reliability: - Material scheduling information process is important step. Buyers provide schedule through e-mail. It means that their suppliers do not have digitization software in their plant. Or the buyer is not confident on output of MRP. First, they check it manually and then sent it to their supplier. Only few buyers provide material schedule in line as MRP output. It is just matter of resolving user

problem as continues improvement project. The user confidence on system seems to be less that's why not sending it directly to supplier. To implement this function completely all supply chain partners, need to have digitization software facilities & competency.

Digitization : In many corporate all functions of supply chain modules are being digitized. The many supply chain digitization's are under category of semi-digitization. Such factors to be identified by management time to time. Management and digitization team should work jointly to make it fully digitization. Digitization adaptation is good, but utilization and exploring benefits need to be enhanced. In SCM all teams are responsible for end to end digitization, starting from demand planning to Finish Goods dispatch. Mainly three verticals like procurement, logistic and warehousing are working to complete end to end SCM performance. **Accuracy at every node of P2P cycle is the key of success in SCM. Digitization is the total responsibility of total employee.**

Some value additions in digitization phase.

1. Vision & Mission to be Communicated to all SCM stakeholders.
2. Required knowledge to be shared & all queries should be resolved by training & education.
3. All digitization related request must be raised on single platform.
4. Masters correction to be done ASAP.
5. Any manipulation to be explore & reported to seniors.
6. It is required to get disciplined input to exact output.
7. We must define structured and disciplined effort for our mission.



During implementation of digitization, organization must prepare SOP-standard operating procedures documents. All format must contain details like part name, purchase order number, quantity, part description. The data which is not captured by system as input cannot be provided as report. Master data must be posted with accuracy. This is based on concept of "Garbage in –Garbage out". It means care to be taken while entering the master data. SOP for supplier scheduling, inventory and storage management, dispatch procedures, function of ASN to be provided. Training is only tools which increase adaptability of any new technology. Providing training is also cost involved matters if trainer hired from outside Training is also essential for understanding of employees to make system user friendly. Human nature does not accept any changes easily.

Sales alone cannot make companies grow without - "Excellence in Supply Chain"



Mr. M Sundaram
Distinguished Member
Former Chairman IIMM Chennai
Chairman – Corporate programs

Dear all

With a heavy heart and profound grief, informing that our great pillar of strength Sri Sundaram sir, has passed away on Friday 9th April 2021 morning (after a brief illness for last 3 days). It is sudden and shocking to all of us. We all know him as a great human being, ready to help everyone, going extra mile. A pillar of strength to IIMM and in particularly Chennai branch with multitudinal talent, he was associated with various groups and today all of us have lost a great soul.

Let us pray for the nargati of the atman.

Pranam

IIMM Chennai team

MR. M. SUNDARAM, a Post Graduate in Management, has specialization in Supply Chain Management and International Business. With 40 years of experience in materials, marketing and operations, he was Executive Director (Corporate Planning) of M/s Super Auto Forge Ltd., Chennai. Super Auto Forge Ltd, is a renowned Auto Component Manufacturer with significant export volume. He started his career with RANE Group and contributed for twenty plus years.

He was former **Chairman of Indian Institute of Materials Management (2001-03)** and a faculty for Three decades. **He was the recipient of BEST FACULTY AWARD in 2005 (National Level)** and a **Trained Trainer from International Trade Centre, Geneva for - International Purchasing & Supply Chain Management.** He was honored as a **DISTINGUISHED MEMBER in 2007.**

He was a Guest Faculty for LIBA and Chairman, Logistics Core Committee – NHQ, Member Board of Studies- IIMM, Elected Council Member of EPCE (Export Promotion Council for EOUs & SEZs) in period 2006-08 and EEPC INDIA in 2008-10, Expert Committee Member – Logistics Committee / Indirect Taxes – Madras Chamber of Commerce, Chennai Educational Council Member – CII – IIMM – Joint Programme and Member – Madras Management Association. And, engaged as a Member – Jury for management competitions regularly.

EXPLAINED: WHAT IS A WAVE IN A PANDEMIC, AND WILL INDIA SEE A THIRD WAVE OF COVID-19?

Health authorities have been warning of a possible third wave of Covid-19 infections. What defines a wave in an epidemic, at national and regional levels? How likely is a third wave, and will it be severe?

AMITABH SINHA

Having failed to adequately prepare for the second wave of coronavirus infections, officials and health authorities are now routinely warning people of the possibility of a third wave. It started earlier this month with the Principal Scientific Advisor K VijayRaghavan calling the third wave **"inevitable"** even though its timing could not be predicted.

Vijay Raghavan added a caveat two days later, saying a third wave could be avoided through "strong measures", but several others have issued similar warnings in the last couple of weeks. Local administrations and some hospitals have already begun ramping up their infrastructure in anticipation of a fresh surge in cases after a few months.

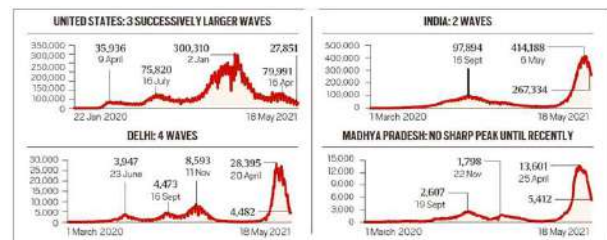
What is a wave in an epidemic?

There is no textbook definition of what constitutes a wave in an epidemic. The term is used generically to describe the rising and declining trends of infections over a prolonged period of time. The growth curve resembles the shape of a wave. Historically, the term wave used to refer to the seasonality of the disease. Several viral infections are seasonal in nature, and they recur after fixed time intervals.

Infections rise and then come down, only to rise again after some time. Covid-19 has continued relentlessly for the last one-and-a-half years, but in every geography, there have been periods of surge that have been followed by a relative lull. In India so far, there have been two very distinct periods of surge, separated by a prolonged lull.

Smaller regions within a country, a state or a city, for example, would have their own waves. Delhi, for example, has so far experienced four waves.

There are three very distinct peaks in its growth curve even before the current wave, while in states like Rajasthan or Madhya Pradesh, the growth curves had a much more diffused look until February, lacking a sharp peak. It would be difficult to identify distinct waves in such a situation.



Waves of the Covid-19 pandemic in India, the US, Delhi and Madhya Pradesh

So, how would one identify a third wave, if it comes?

The third wave currently under discussion refers to a possible surge in cases at the national level. The national curve seems to have entered a declining phase now, after having peaked on May 6. In the last two weeks, the daily case count has dropped to about 2.6 lakh from the peak of 4.14 lakh, while the active cases have come down to 32.25 lakh, after touching a high of 37.45 lakh. If current trends continue, it is expected that by July, India would reach the same level of case counts as in February.

If there is a fresh surge after that, and continues for a few weeks or months, it would get classified as the third wave.

In the meantime, states could continue to experience local surges. Like it is happening in Tamil Nadu and Andhra Pradesh right now. Or, at a more local level, in the districts of Amravati, Sangli and a few others in Maharashtra. But as long as they are not powerful enough to change the direction of the national curve, they would not be described as the third wave. Also, the more localised the surge, the quicker it is likely to get over, although cities like Mumbai and Pune have gone through prolonged surges.

Will the third wave be stronger?

There has been some speculation about the third wave being even stronger than the second. However, this is not something that can be predicted. Usually, it is expected that every fresh wave would be weaker than the previous one. That is because the virus, when it emerges, has a relatively free run, considering that the entire population is susceptible. During its

subsequent runs, there would be far lower number of susceptible people because some of them would have gained immunity.

This logic, however, has been turned on its head in India's case. When the number of cases began declining in India after mid-September last year, only a very small fraction of the population had got infected. There was no reason for the disease spread to have slowed down, considering that such a large proportion of the population was still susceptible. The reasons for the five-month continuous decline in cases in India is still not very well understood. And since the second wave was expected to be weaker than the first, many were fooled into believing that the pandemic was nearing its end. With the lessons learnt in a very painful manner, there are now suggestions that the third wave might be even stronger.

But that might not be the case. A far greater number of people have been infected during the second wave than the first. With the positivity rate almost four times that of the first wave, the unconfirmed infections — those who were never tested — is also expected to be large. In addition, vaccination would also induce immunity in a large proportion of the population. So, there would be a significantly lower number of susceptible people in the population after the second wave.

However, gene mutations in the virus can alter these calculations. The virus can mutate in ways that make it escape the immune responses developed in the already infected people, or those vaccinated.

But is it inevitable?

The third wave is a distinct possibility. It is likely to come, although the scale or timing is not something that can be predicted. But it is not inevitable. As mentioned, VijayRaghavan, the Principal Scientific Advisor, also modified his remarks, clarifying that it could possibly be avoided if people continue to take strong measures. It's also possible that this time, the fresh wave will be indeed much smaller than the previous one, so that it inflicts much less pain and can be managed more efficiently.

A lot would depend on how people heed these warnings. They can become paranoid about an incoming disaster, or get numb to repeated warnings. The second wave has taught us that it is far better to remain paranoid and cautious than be hopeful in a situation like this.

Source : The Indian Express



Indian Institute of Materials Management

MISSION

- To promote professional excellence in Materials Management towards National Prosperity through sustainable development.

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- To secure a wider recognition of and promote the importance of efficient materials management in commercial and industrial undertakings.
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- To constantly impart advanced professional knowledge and thus improve the skill of the person engaged in the materials management function.
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- To consider first the total interest of one's organisation in all transactions without impairing the dignity and responsibility of one's office :
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- To subscribe and work for honesty and truth in buying and selling; to denounce all forms and manifestations of commercial bribery and to eschew anti-social practices.
- To accord a prompt and courteous reception so far as conditions will permit, to all who call up on legitimate business mission.
- To respect one's obligations and those of one's organisation consistent with good business practices.

7 THINGS FOR MODI GOVT TO DO BEFORE THIRD WAVE OF COVID, AND THE TIME TO ACT IS NOW

Vaccination is the only bulwark against the third wave. But there are other measures that Modi govt must immediately tend to, starting with Ayushman Bharat scheme.

ARVIND MAYARAM

The Covid-19 pandemic has come back with a vengeance in India with the second wave and continues to devastate many lives, especially of the poor. As of 9 May 2021, the country has registered 22.6 crore Covid-19 cases and 2.4 lakh deaths, which many experts believe is heavily underreported. The vaccination numbers are not very inspiring either. About 17 crore people, or 12.5 per cent of India's population, have received at least one dose as of 9 May, while about 3.5 crore, or 2.6 per cent, have been fully vaccinated.

Amid all this, India's health system has been exposed for the worse. The health infrastructure is teetering on the brink and the task of containing the virus' spread and saving people's lives has become impossible. And the experts say that the pandemic is only going to get worse in the coming weeks. In its study 'COVID-19 projections', published by the University of Washington's Institute for Health Metrics and Evaluation (IHME), more than 8.5 lakh people may lose their lives between 1 May and 31 August this year — with the baseline figure being the institute's own estimate of the total number of Covid-19 deaths in India, as against the reported figure.

Only an effective vaccination drive can help tide over this crisis of epic proportions. It is also the only bulwark against the third wave of the coronavirus.

7 steps for the Centre

The Narendra Modi government, which seems to have completely receded and is heard only

in the Supreme Court and the high courts, must take charge again and initiate the following actions to stave off a much bigger tragedy staring at the country in the form of the impending third wave.

1. As in the past, when the Government of India took a lead in ensuring universal free vaccination, the Centre should procure the coronavirus vaccine and make it available to the states. A rough calculation shows the total vaccination cost to the central exchequer will be between Rs 28,000 crore to Rs 35,000 crore (depending on the cost negotiations). This amount has already been allocated in this year's Union Budget. The cost of delivering the vaccines will anyway be borne by the states and so, the Centre would create a true partnership in the fight against this scourge. This would also ensure proper pricing of the vaccine.
2. The Centre must work with the state governments towards quickly establishing one oxygen plant in every district hospital in India. These plants would also cater to the private hospitals and other satellite hospitals in the district. Centralised time-bound procurement, importing if necessary, would ensure price competitiveness as well as timely execution.
3. About 50 crore Indians fall within the age bracket of 18-44 years, for whom a total of 100 crore vials of vaccine would be required. To ensure the pandemic is contained quickly and to prevent the third wave, it is necessary that the entire vaccination programme is completed

within the next six months. For this, a two-pronged strategy must be followed. First, we allow import of all those vaccines that have been approved by highly regulated jurisdictions such as the US, the UK and the European Union countries without any condition of localisation, as was suggested by former prime minister Dr Manmohan Singh in a letter to PM Modi last month. Second, the Centre may resort to the emergency provision of compulsory licensing under the Patents Act and allow every facility with the capacity and capability to produce vaccines in large volumes to scale up production. The US has already shown its support to India and South Africa's proposal to the World Trade Organization (WTO) to waive the intellectual property rights (IPR) on Covid-19 vaccines. Once India expresses its intention to use compulsory licensing, the WTO may move quickly on its own to lift IPR protection. This will ensure adequate and timely availability of vaccine vials and will also bring down prices due to competition.

4. The Modi government should work out vaccination protocols with the states on the lines of chicken pox, polio and other similar national vaccination programmes in the past. As former Union health secretary Sujatha Rao has pointed out, CoWIN, the government's vaccine registration portal and app, "doesn't work and is not the solution". Not everyone in India, especially the poor, has access to a computer, smartphone or even reliable internet connection, nor do they have the capacity to register and wait for their turn. CoWIN is a fanciful idea bound to fail. The vaccination has to be taken to the people on a mission mode. ASHA workers and other on-ground medical staff, revenue staff, and teachers must be roped in to get people to the vaccination centres. That is the only way to saturate vaccination in six months to kick in herd immunity.

5. Considering the second wave will result in much greater destruction of livelihoods than what we have seen so far, with work and wages drying up, and manufacturing and services sector already devastated, it is necessary to put in place a direct cash transfer programme for the poor and the unemployed. Most advanced economies have a social security programme designed to provide a safety net for the unemployed. In India, the need has never been greater. If a sum of Rs 5,000-6,000 is transferred every month to all the Jan Dhan accounts, it will provide the poor immediate relief and reduce hardship. This would also give much-needed fillip to sagging demand and consumption, which will create a virtuous cycle to spur economic growth immediately after the pandemic.
6. The Centre should immediately order a full-scale audit of Ayushman Bharat scheme, and ascertain whether the poor are really benefiting from it. All major empanelled private hospitals in the country must be subjected to official as well as social audit, a system very well established in India, to discover whether they have really delivered and whether the much promised largest health insurance scheme for the poor in the world has stood up to the test of Covid pandemic.
7. It must also ask Insurance Regulatory and Development Authority to conduct a public enquiry on whether Rs 2 lakh insurance cover provided under the Jan Dhan Yojana is being paid out to the beneficiaries by the insurance companies.

The time to act is now.

Arvind Mayaram is a former union finance secretary and currently economic advisor to the chief minister of Rajasthan. Views are personal.

(Edited by Prashant Dixit)

Source : ThePrint



THE THIRD WAVE OF THE PANDEMIC IS HERE

DAVID WALLACE-WELLS

When Donald Trump checked into Walter Reed medical center more than a week ago, it appears likely to have marked the beginning of the end stage of his presidency. But it was also a milestone for the pandemic, and not just because COVID-19 had infected its most prolific and prominent skeptic and dissembler. In recent weeks, a third wave of the coronavirus has come to the U.S. at almost precisely the time of year scientists warned us about in the spring. But the country has hardly noticed, so paralyzed and preoccupied by the spectacle of the presidential campaign it could barely acknowledge any new cases but Trump's. There were nearly 50,000 new U.S. infections reported on the day the president was hospitalized, along with 835 new deaths. That's two 747 crashes' worth.

When the country passed 100,000 deaths, a spectacularly bleak edition of the New York Times marked the occasion with a six-column headline for a flood of obituaries that ran the full length of the front page (and onto several additional pages). When the toll passed 200,000, it did not even mark the tragic landmark on A1. They are running out of hospital beds in Wisconsin — which used to qualify as a battleground state, incidentally — and in North Dakota, which hasn't imposed a mask mandate, they are down to 39 open ICU spots. But while the pandemic does indeed appear to be getting worse almost everywhere in the country, it also seems unlikely to return to the center stage of America's attention until after Election Day — at which point perhaps 25,000 more Americans might have died.

But things won't really change immediately after November 3, either. The apparent collapse of last-minute stimulus negotiations means that our sclerotic Congress won't likely extrude any meaningful pandemic relief until January 20. There also won't be a national testing program erected, or a federal contact-tracing system belatedly instituted, or, probably, a vaccine or novel therapeutics in wide distribution before the next presidential inauguration, either. At which point there might be 100,000 more American deaths than there are today, each a tragedy unfolding amid a considerably uglier humanitarian catastrophe — poverty and hunger, evictions and loss of health insurance, mass joblessness without commensurate federal support — than the pandemic has produced to this point. In other words,

the third wave will likely be worse, nationally, than the first; much less buffered by political action and support, at least on the federal level; and, as long as the election eclipses the full attention of the news media, many times less salient. We've already tuned it out, and nothing is likely to help anytime soon.

Not very long ago, the pandemic response in Europe appeared to shame the United States. "Cafe society returns to Paris," the Guardian declared as America's Sun Belt second wave drove a summer spike from 20,000 new daily cases to 60,000. The day that article was published, the seven-day rolling average of U.S. deaths was 731; in France it was 32. Two months later, in mid-August, America's seven-day average was at a then-distressing 1,008 cases, while the French figure had fallen to an enviably low 12. France is, yes, a much smaller country. Adjusted for population, the American outbreak, right then, was more than 50 times worse.

But as fortunes turned here — by mid-September, new American cases were down almost half from their peak — they shifted in the other direction over there. In France, where the seven-day rolling average of new cases had been as low as 530 in mid-July, it has grown to 12,000. In Spain, the average went from 250 to 11,000 new cases. In the U.K., where the average grew from 575 to 11,000 new cases, the growth overwhelmed the country's rickety database, housed on an Excel spreadsheet that literally ran out of rows. And now, with America's daily caseloads spiking, Europe's recent experience looks not like an alternate path or even a cautionary tale but a grim forecast for what could transpire here. Already, according to Covid Exit Strategy, 26 American states are currently experiencing "uncontrolled spread." Another 17 are "trending poorly." That's 43 of 50 states. Five of the remaining seven qualify as "caution warranted," and only two states — Maine and Vermont — qualify as "trending better." Two states out of 50. However you look at it, a third wave of the pandemic is here.

But "wave" isn't really the most precise term, and not just because the disease proceeds erratically across the country, with some communities in the West and Mountain West in the grip of a terrifying first encounter with COVID-19 while others are breathing easier and feeling as though they are many months past a peak. It's because neither of the first two waves ever really

crashed, only crested. This makes the third phase even more concerning — recent growth in caseloads, and deaths, comes on top of a distressingly high baseline of spreading sickness — roughly 40,000 new cases and 800 new deaths per day. Three weeks ago, Dr. Anthony Fauci told James Hamblin of *The Atlantic* that “we must, over the next few weeks, get that baseline of infections down to 10,000 per day, or even much less if we want to maintain control of this outbreak.” Three weeks later, it reached 50,000 — five times the upper end of Fauci’s “safe” range. Lamenting, this week, the maddening lack of a national testing strategy nine months after the coronavirus first arrived in America, immunologist Rick Bright of the NIH wrote, “the country is flying blind into what could be the darkest winter in modern history.”

When the coronavirus first arrived, in the spring, there was much hand-wringing and anxiety about a second wave to come in the fall or winter, as had happened with the 1918 flu — which killed five times more Americans in the winter than it had in the summer. And while experts warned in the spring not to count on a seasonal suppression of the disease in the summertime, their own data often suggested that the disease was in fact probably suppressed somewhat in those months, thanks in part to temperature and humidity effects that are now running in the opposite direction. That many of them are now warning we are underestimating coronavirus seasonality is not among the most conspicuous public-health reversals of the pandemic — reversals on mask wearing, asymptomatic spread, fomite and aerosol transmission, and the safety of the outdoors were all probably more consequential. But having it both ways on seasonality — emphasizing its trivial impact during the summer and its significant impact in the fall and winter in order to produce heightened vigilance in both instances — may well have muddled the public’s understanding of the disease. And possibly, in so doing, made the winter pandemic potentially worse.

“Absolutely, we did hear that a lot,” said Harvard epidemiologist Michael Mina, when I asked him about the summertime admonition to not count on a seasonal decline. “I think that people have become very confused about it all.”

Mina is an assistant professor at Harvard’s Center for Communicable Disease Dynamics and has made a significant name for himself during the pandemic as one of the most clear-sighted advocates of true mass testing, arguing back in the early spring that by far the easiest way to get disease spread under control was to test many millions of Americans very regularly. The fall and winter, he said, may already have gotten away from us. “We still have about 40,000 or 50,000 cases a day right now, and we haven’t really gone too far below that this summer,” he said. “But the fact that

transmission can continue and persisted during the summer should not be misconstrued to mean that this is not a seasonal virus. It just means that maybe pretty soon we’re going to have 150,000 cases a day.” In this, Mina is echoing the warnings of other experts. The University of Minnesota’s Michael Osterholm told *Meet the Press*, “There’s a really hard road ahead of us,” and told *STAT News*, “I think November, December, January, February are going to be tough months in this country without a vaccine.” Harvard’s Caroline Buckee has compared the approach of winter to dark clouds on the horizon.

“A lot of that comes from just looking at how seasonal viruses like coronavirus generally transmit,” Mina said. “And frankly, they usually go to near zero during the summer months. And I would say that the fact that transmission has continued during those months, despite the fact that this is a seasonal virus; and the fact that normally, you’d expect the virus would go to near zero in the summer to really large numbers, even exponential growth in November, December — that doesn’t bode very well for us.”

By the time the virus was really circulating throughout the country, he said, we had already left the winter for the spring and summer, which means very few places, if any, experienced the pandemic at anything like its natural seasonal peak. In parts of the country where the virus has receded, he said, we’ve had a tendency to attribute that to our behavior — mask-wearing, social distancing, testing — “but I’m not convinced that it really is only from our behaviors. I think that we have probably benefited a tremendous amount just from the natural course of this virus.”

So what’s possible going forward? Mina said it was “very likely” we will exceed the spring peak, when, at one point, 2,500 people were dying from COVID-19 each day. But he also acknowledged there wasn’t yet clear evidence for that outcome and added that in a few places — the Northeast in particular — there remains a concerted focus on mask-wearing and social distancing that could mitigate such a surge, along with some amount of limited herd immunity or community protection from earlier exposure. “But I think many of the parts of the country that aren’t necessarily taking it quite so seriously run a real risk, a very high likelihood, of having substantially more cases.” How substantial? I asked. “Maybe ten times more than they’ve seen so far,” he said. “We’re not sure how bad it’s going to get this winter, but I think there’s a very good likelihood that it will be much worse.”

Warnings like these are, of course, speculative, given that the coronavirus is such a young disease it hasn’t even lived through a single fall yet — which means we can’t really know how it interacts with that weather when it does. (And given that the data on temperature

effects of the disease gathered from around the world this year are somewhat muddled, with some studies showing little effect and others showing much more significant ones.) When I recently asked Micaela Martinez, an infectious-disease ecologist among the world's leading experts on seasonality, whether we were seeing the beginning of such an effect, she cautioned that seasonality may only be playing a small role in the recent bad-news turn. True recurrent seasonality, which returns year after year, only comes when the disease is endemic, she said — that is, not in its initial spread through the population but in subsequent years or eras, once it has fully penetrated a population and can only infect new susceptibles (young kids, new arrivals, those whose immunity has waned). In the meantime, she explained, while there may well be some effect of seasonality on transmission and possibly disease severity, that effect would likely be dwarfed by others: how many susceptible people remained in a given community and our current interventions (masking, social distancing, and closures).

The matter of the remaining number of susceptibles is a tricky one. Early in the pandemic, the conventional rule of thumb was that at least 60 percent of a community would have to be exposed to the disease, and possibly 80 percent, before the community as a whole acquired a kind of collective immune protection against the disease — a phenomenon sometimes called “herd immunity” and sometimes “community protection.” But in the summer, as transmission rates seemed to decline in many places almost independent of policy interventions, a growing number of scientists and modelers began to wonder whether those thresholds were high or perhaps way too high. Many conjectured that caseloads and deaths were improving in part because of better testing and in part because of social behaviors like mask-wearing and social distancing, but also because enough people had gotten the disease, in certain places at least, that the virus was having a harder time finding susceptible victims, naturally slowing its spread. Stronger versions of this argument, often less credited by epidemiologists and virologists, suggested that the pandemic was entirely over in many of these places.

The herd-immunity argument has been renewed, in recent weeks, by the Great Barrington Declaration — a petition of epidemiologists and public-health officials, led by Harvard's Martin Kuldorff, Oxford's Sunetra Gupta, and Stanford's Jay Bhattacharya, expressing their concern that pandemic shutdowns were unwise and their belief that a less restrictive, more focused approach to managing the disease spread might be preferable. (A similar critique was made in August in *The Wall Street Journal* by Greg Ip, and even Brown's Ashish Jha, among the more responsible guardians of coronavirus conventional wisdom, has lately worried that shutdowns were problematic.)

Unfortunately, as the summer has turned to fall, the herd-immunity hypothesis has gotten much less persuasive because in many of those places the disease trajectory has gotten much worse. That is true at the country level, though countries are a crude measure. Many of the European nations hit hardest in the spring have seen dramatic growth in cases in the late summer and fall. One pre-publication paper posted last month, surveying a number of non-European countries whose disease trajectories suggested they had reached herd immunity, calculated likely exposure rates in each ranging from 67 percent in Ethiopia to 80 percent in Madagascar. If the threshold of herd immunity was much lower than those crude 60-to-80 percent estimates offered at the outset of the pandemic, the disease wouldn't have been able to spread that much before disappearing.

Particular cities offer better case studies, since they are more genuinely single communities, and there, too, the data is discouraging. In Spain, for instance, the places that had been hit hardest in the spring had relatively worse experiences with a second wave than those that had been spared. At the even more local level, some especially hard-hit parts of New York City are among the most concerning of the new fall clusters. And while there are still some signs of enduring community protection — Sweden, long vilified for an implicit herd-immunity approach, is now among the safest places in Europe, with total per capita deaths lower than the U.S. — a bet on community protection now looks much less safe than it might have a few months ago. Through the spring and summer, Belgium was, in terms of per capita deaths, the worst-hit country in Europe; it just registered about 8,000 new cases, the equivalent of 260,000 in the U.S.

Those looking for good news at the outset of the third wave do have something to point to: the lethality of the disease. Thanks to some combination of the age distribution of cases, improved treatments and better understanding of the disease, more vigilance in protecting the country's most vulnerable, and more widespread mask-wearing, which can reduce the viral load of any exposure and thereby perhaps the risk of infection, the COVID-19 fatality rate appears much lower than it was in the spring. While the real fatality rate is a matter of some dispute and contestation, in August, Youyang Gu, then the pandemic's most accurate modeler, calculated that it had fallen to 30 percent of its first-wave peak.

When I spoke to Gu in September, shortly before he discontinued his forecast, citing exhaustion and the improved quality of other projections, he was relatively downbeat looking forward into the fall. While the disease's estimated infection fatality rate remains dramatically lower than it was in the spring, he said he believed that was largely due to the age distribution of

cases and, less significantly, breakthroughs in treatment. It was likely just a matter of time, he said, before the rate creeps back up again.

Harvard's Mina agrees, calling the possibility that the fall and winter could make the coronavirus not just more infectious but more lethal "likely" and citing a variety of possible explanations: that our epithelium is dryer in the winter; that we produce less mucus; that the air both indoors and outdoors is dryer, then, too; and that there may be a seasonal effect on the viral load as well, meaning the body would produce more virus in the winter than in the summer, making it both more easily transmitted and more dangerous. The science of these dynamics in other diseases is not all that well established, he cautioned, but he suggested that it may very well be the case that many diseases we think of as "seasonal" are in fact year-round diseases that only get severe enough that we notice them in wintertime.

For his part, Gu doesn't believe the American fatality rate will return to its spring peak, when treatment was confused and the disease much less well understood. But he thinks it's quite likely that, due to seasonal effects, the rate will grow higher this winter than it was this past summer. And it wouldn't have to get much higher at all to be catastrophically destructive, given the volume of cases we have today (probably about 4 million, nationally and growing). While Gu describes a recent estimate from the University of Washington's IHME, which used a large seasonal effect to project 400,000 deaths in the U.S. by the end of this year, as "just not possible," he believes total Americans deaths could reach 300,000 by January, with a few additional months of winter still yet to come.

Along with NYU economist Paul Romer, with whom he has collaborated, Mina is perhaps the most prominent advocate of mass testing as a path to disease suppression. But, given where we are on testing and what the country cases are in the fall, even he is losing faith. "I wish I could say I felt like we were at a point with rapid testing that it would have much of an effect at all," he said. "But I don't think it will, unfortunately. I started talking about this back in June, and we haven't really seen much movement."

Even the seemingly good recent news about the FDA authorizing the use of rapid testing, he says, has limited significance. "I would like to see the government not just wait for [diagnostics companies like] Abbott or Roche or whoever to come out with a new rapid test but for the government actually to put \$50 billion — which is frankly a drop in the bucket when it comes to the economic losses that we've seen — into the development and deployment of massive numbers of these rapid tests. But we've seen this government largely just stand and sit idly by and wait until a

company like Abbott says, 'Okay, we have, we can make 30 million a month per year.'" He laughed. "That's 1 million a day for a country of 330 million. That's not a lot. But the average person doesn't get that." Early in the summer, Romer argued that the country needed to be testing 30 million people a day to allow life to return to normal; even more conservative mass-testing estimates put the figure at 30 million a week — four times as many as Abbott can today produce.

"When the president gets up in front of his microphone and says, 'We're going to get you 150 million tests,' most people think, 'Oh, he's really doing something,'" Mina said. "But that's not tomorrow. That's not every day. That's 150 million tests between now and probably January or February. When they say things like, 'This is going to help us open up the schools, and every teacher is going to get a test' — it can't just be one test. That's not the plan. The plan has to be for every teacher to get a test twice a week. One test once does nothing," he said.

"I just keep thinking about this epidemic — on our soil, in our country. And, like, what would the government do if we had 200,000 people die from bombs being dropped on us? You know, we would not be sitting idly by saying, 'Oh, I wonder when Lockheed Martin is going to come out with a new bomb, and we'll buy it whenever they come out with it, it might be next year.' No, they would be doing everything in their power to push forth new technology to actually build it themselves."

"We're seven months into this," Mina continued, "Why do we still not have a game plan? I mean, it's just astounding. It's just remarkable. We are barely in a better position from a testing perspective than we were in May. And we have no surveillance set up for most of the country. What are we doing?"

When I mentioned that I'd written a column in early April called "There Is No Plan for the End of the Coronavirus Crisis" and another, a month later, called "There Is Still No Plan," Mina responded, "You should just keep writing that. Just take your exact article from April and literally just publish it tomorrow, with the same headline, and not change any words." He paused. "I just can't understand what the hell we're doing."

One answer: We're simply waiting until January, and for tens of thousands more Americans to die, before even beginning the project of national pandemic response we should have launched fully a year before.

Source : nymag.com - intelligencer

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ARE PROVIDERS READY FOR A THIRD WAVE OF COVID-19?

Much of the U.S. continues to report an upward COVID-19 case trend with more than 60,000 new cases nationwide as of October 15. This rising trajectory has healthcare providers, patients and much of America wondering – has the third wave of COVID-19 arrived? And importantly, are healthcare providers adequately prepared this time around?

In the spring, providers encountered a groundswell of critical challenges driven by the pandemic, and COVID-19 exposed a number of significant supply chain flaws. Here we examine both the progress we've made in COVID-19 preparedness efforts as well as the hurdles that remain for healthcare providers.

The Good News

Without question, our nation is better prepared for a third pandemic wave than it was for the spring and summer waves. Across the globe, we've now coexisted with COVID-19 for long enough to more meaningfully understand the measures to tackle it, the speed with which they can be implemented and the disruptions that they cause.

Let's take a closer look at the bright spots:

- **Less Panic Factor:** In a global pandemic, even a hint of a shortage triggers panic buying that can't be accommodated via a just-in-time supply chain. As businesses, cities and even entire countries shut down this spring, the initial shock triggered a buying frenzy for a quickly dwindling supply, causing PPE demand to spike between 300 and 1,700 percent—even in communities that had no confirmed cases. This time around, healthcare providers are more prepared and won't be so surprised by an outbreak or a resurgence of the disease, and are thus less likely to overbuy out of panic.
- **More Manufacturing Investments:** Even

though the global COVID-19 census is on the rise, trade has largely resumed, and manufacturing capacity has been added to address surge demand. For instance, Minnesota-based 3M ramped up N95 mask production to 35 million a year in January, and with added investments, the company is again increasing its output to 96 million masks by this month (October). There's also added supply from other, domestic competitors such as Prestige Ameritech, which is now producing an added 3.5 million N95 masks per month—thanks to a long-term investment in the company made by Premier and 15 of our members.

- **Hospitals Are Better at Treating COVID-19:** Healthcare providers learned a great deal from the first wave—gaining a better understanding of how to predict an outbreak, provide care and reduce length of stay. As expertise improved, clinicians also gained a better understanding of the resources required.
- **Hospitals Are Better Equipped With Data and Technology:** Today, U.S. health systems are enabled with more sophisticated product burn data, have greater visibility into manufacturer inventory status and prospects, and are leveraging new technology to predict supply needs and spot shortages. This technology uses automated, real-time surveillance capabilities—forecasting case surges and helping providers plan coordinated responses and resources where they're needed most.
- **Providers Have More Access to Stockpiles:** Nearly 90 percent of healthcare providers are actively contributing to their stockpiles, either at the direction of the health system, or in some cases, in compliance with

new state laws. This means that there are many more options for providers to access stockpile supplies than there were in the spring, when stockpiles at the state and local level largely didn't exist. **Learn more about providers' state-level preparedness efforts via Premier's latest survey.**

Upcoming Challenges : Although we're seeing bright spots of progress and innovation amid this pandemic, a heavy increase in COVID-19 cases could once again throw the healthcare system into crisis.

Here are some potential areas of concern that must be continually managed in order to avoid shortages:

- **Super-Spreader Events on the Horizon:** 2020 year-end brings with it several significant milestones and holidays, including Election Day, Thanksgiving and Christmas. These upcoming celebrations have super-spread potential—and could spur COVID-19 case spikes alongside holiday travel, large gatherings and lax social distancing practices. Compounding case spikes could enable a collective surge 2.0, potentially overwhelming hospitals and health systems.
- **A Still-Fragile Supply Chain:** Although COVID-19 care delivery has improved and product shortages appear to be less severe than they were this spring, the supply chain remains strained, in part due to the additional responsibility of managing, storing and distributing resources from stockpiles. This also strains the labor pool for many organizations now shifting away from a just-in-time supply systems. While healthcare providers are largely prepared at this moment, significant demand spikes could lead to the widespread shortages we saw in the spring. The American Society of Health-Systems Pharmacists (ASHP) reported earlier this year that five drugs associated with ventilator use were officially in short supply—and spot shortages for these and other pharmaceuticals persist today. As cases rise and/or new research is developed to identify COVID-19 care and treatment drugs, almost any drug could quickly slip into shortage.

- **The Convergence of COVID-19 and Flu Season:** The Centers for Disease Control and Prevention (CDC) estimates that the 2019-2020 season saw 400,000 flu hospitalizations. If that number is replicated and coupled with COVID-19 hospitalizations, the resulting "twindemic" will put a major burden on PPE supply levels. However, with social distancing practices and increased demand for flu vaccinations this year, health officials are hoping for a slowdown in flu cases. Lead indicators show that providers and supply chain stakeholders are taking the right initial preparation measures—yet, many unknowns still linger.

- **The Unknowns Behind the COVID-19 Vaccine Strategy:** With several viable candidates and clinical trials in progress, it's possible the U.S. could see a COVID-19 vaccine this year. Once approved, the nation faces another set of challenges in producing, distributing and administering the vaccine; the scale, multi-dose administration and ultra-cold storage requirements make it a particular challenge. While the administration released its COVID-19 vaccine distribution plan in September, vital information and specific detail are sorely lacking, including how allocations will be decided for each jurisdiction; what, where and how administration sites will be selected; and requirements for the vaccine track and trace system being constructed. Healthcare providers need clear, specific and consistent guidance to optimize COVID-19 vaccine distribution.

To date, Premier's members have cared for **more than half a million** COVID-19 patients across hospitals, health systems and other provider organizations nationwide. And while countless unknowns around the pandemic and the subsequent waves persist, one thing is for certain:

Premier's unwavering commitment to enabling access to supplies, intelligence and technology so that providers can focus on what they do best—delivering outstanding patient care.

Source : Premier



A THIRD WAVE IS INEVITABLE IN INDIA': ALL YOU NEED TO KNOW

While India is still reeling under the second wave of Covid-19 that is spreading wider and becoming deadlier than before, the health experts have warned that a third wave is 'inevitable' in the country.

The government's principal scientific advisor, K Vijay Raghavan, cautioned that as the virus mutates further, it is necessary to be prepared for the new waves.

Even the Supreme Court asked the Centre to start preparing for the third wave of Covid-19 and revamp its formula for the distribution of oxygen across the country.

Most importantly, as healthcare and infrastructure are on the verge of collapse, it is incumbent on each and every one of us to be responsible and try to follow safety protocols and guidelines.

Here are the top 10 points about the virus and various waves of the pandemic-

- 1) The country's top scientific adviser warned of a possible third wave of infections.
- 2) Phase 3 is inevitable, given the high levels of circulating virus. "Hopefully, incrementally but we should prepare for new waves," the adviser said.

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Phase 1 was a generalist approach of the virus and phase 2 has fitter viruses arising due to post-immunity due to previous infection.



TOI

- 3) It is not clear on what time scale this phase 3 will occur.
- 4) The pathogen has adopted 'hit and run' tactics to breach the immunity many people developed during the first wave as also due to vaccination.

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Combination of less caution, less immunity in a population infected in the first wave and a consequent opening up of access to the virus drives a large second wave.



TOI

- 5) Infections and vaccinations are likely to cause 'adaptive pressure' on the SARS CoV-2 virus, triggering new kind of changes.
- 6) Variants of concern represent better adaptation and are triggered by the human population. So everything we can do to prevent the spread of the virus is very critical.

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As infections rose, so did immunity among those infected. A combination of the standing level of immunity in the population and cautionary steps halted the spread of first wave.



TOI

- 7) The possibility of the third could not be wished away as long as human hosts are available for infection and the only way to reduce this vulnerability is through safe practices and vaccination.

- 8) The best time to change our behavior is now, the experts said, emphasising the need to adapt Covid-appropriate behavior.

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Many people get infected until they reach a new immunity threshold. Such a second wave is typically smaller than the first. Such a second wave was expected. However, multiple parameters can change and add up to the second wave, much larger than the first.



TOI

- 9) “The virus can only go from human to human,” VijayRaghavan said, stressing on following Covid-19 appropriate behaviour. Masks and distancing are critical and most effective.
- 10) Personal behaviour (masks, distancing and hygiene), vaccination and tracking, and containment are three pillars that stop the chain of virus transmission.

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In early 2021, a very large number of people all over the world had been infected. As the immunity increases, the virus does not have the opportunity to grow. But it sees that there are pockets it can go through and therefore it evolves for better transmission.



TOI

Meanwhile, coronavirus cases and deaths in India hit a record daily high with 4,12,262 new infections and 3,980 fatalities being reported, taking the total tally of Covid-19 cases to 2,10,77,410 and the death toll to 2,30,168.

India's total active caseload has reached 35,66,398 and now comprises 16.92% of the country's total infections. A net incline of 79,169 cases recorded from the total active caseload in a span of 24 hours.

Source: TIMESOFINDIA.COM

(With inputs from agencies)

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OBITUARY



G AJAY KUMAR (19-06-1963 – 08-05-2021)

Members and Staff of IIMM, Delhi Branch express profound grief at the **sad demise of Mr. G Ajay Kumar**, on 8th May 2021 due to Covid-19 at GTB Hospital at Delhi. He was immediate Past Chairman of IIMM Delhi Branch, 2017-2019, Vice Chairman (2015-2017), and was involved in various other activities of Delhi Branch. He was full of life and possessed a very simple, modest and helpful nature, was seen always with a smiling face.

Mr. G Ajay Kumar was presently working as a Procurement Officer in Guru Teg Bahadur Hospital, Department of Health & Family Welfare, Delhi Government.

The IIMM family condoles his death and express profound sympathy to the bereaved family and also resolves that heartfelt condolences be conveyed to the bereaved family of Late Shri G Ajay Kumar.

**Chairman &
Executive Committee Members
IIMM, Delhi Branch**

NEW PRODUCT CATEGORY OF GREEN ROOM AIR CONDITIONERS LAUNCHED ON GOVERNMENT E- MARKETPLACE (GEM) TO MARK THE WORLD ENVIRONMENT DAY

On the occasion of World Environment Day, a new product category of Green Room Air Conditioners was launched on the Government e-Marketplace (GeM). The Secretary, Department of Commerce, Shri Anup Wadhavan launched it. The launch event was organized in association with United Nations Environment Programme (UNEP).

Shri Anup Wadhavan said on the occasion that Public procurement spend in India is nearly 15-20% of its GDP. Introducing SPP to this huge quantum of government procurement will further complement the country's climate policy objectives. The addition of Green Room Air Conditioners on GeM is another example of GeM being a futuristic and technology driven platform, focusing on environmental, social and economic pillars of sustainable public procurement

Shri P K Singh, CEO, GeM, said, "We have Gross Merchandise Value of about 15 billion dollars, with a little under 2 million sellers, and 52,000 government agencies, as buyers, and that is why it not only becomes critical but also urgent for GeM to facilitate the use of sustainable and eco-friendly procurement practices."

He further added, "We recognize the potential GeM has in nudging our government buyers to choose green and sustainable products and services, and the many positive externalities this can cause by driving innovations and reforming supply chains. This innovation can provide financial savings for government buyers and will meet evolving environmental challenges by moving towards a circular economy. We have also recommended to the UNEP to examine the top three services which have been procured by government agencies and how they can be made more sustainable."

The GeM portal will enable and encourage all central and state government agencies to buy efficient and environment friendly green ACs, thereby paving a way for Sustainable Public Procurement in India. The purchase of Green RACs shall be a voluntary approach.

Last year, the GeM portal saw sales of over 44,000 air conditioners worth Rs 1.7 billion, and it continues to grow. Additionally, public procurement spend in India is estimated to be 15-20% of its GDP. Leveraging the procurement power and promoting sustainable public procurement that align with India's climate policies and priorities would play a key role in achieving India's Nationally Determined Contributions and its commitment towards relevant SDGs particularly SDG 12.7. Green Room Air Conditioner integration within the public procurement system is a catalyst for market transformation towards sustainable cooling. The Government of India is taking proactive steps towards a circular and green economy. In March 2018, the

Ministry of Finance constituted a Task Force on Sustainable Public Procurement. Additionally, the draft National Resource Efficiency Policy (2019) includes the agenda of

Sustainable Public Procurement, that suggests establishing green procurement guidelines providing information on resource efficiency criteria to be used in the procurement processes for the prioritized products/service categories.

United Nations Environment Programme (UNEP) in collaboration with other partners is supporting the Sustainable Public Procurement (SPP) initiative of the Government of India with initial focus on three prioritized product categories including paper, disinfectant and Green Room Air Conditioners.

Jigmet Takpa, Joint Secretary MoEFCC, stated, the launch of Green Room Air conditioners on the Government e-Marketplace is an appropriate celebration of World Environment Day as an urgent, substantive and transformative system to reverse the damage done to our ecosystem. SPP is a key element in attaining a wide range of goals in strategic spending and implementation as a policy instrument to support programmes in priority areas and formulating national sustainable development strategies.

Saurabh Kumar, Executive Vice Chairperson, EESL Group, said public procurement most of the times moves the market towards better efficiency. There is an enormous demand for air conditioners in government offices and departments and led by such demands, with awareness outreach campaigns, we as public policy proponents have a massive opportunity to transform the market. This is what has inspired EESL to start with a super-efficient AC programme, and we would be happy to partner with GeM to move this movement towards super efficiency.

Aaron Bishop, USAID Acting Deputy Mission Director, said, USAID is honored to support the Government of India's priorities and objectives in greening the supply chain. It is inspiring to see that GeM has taken a lead by integrating green room air conditioner criteria onto its platform. This pioneering effort will propel the market towards adopting and expanding these green and sustainable products and services.

Aul Bagai, UNEP Country Head, highlighted that UNEP aims to support the government in establishing business models and policies for accelerating sustainable consumption and production, including through resource-efficient and circular approaches and sustainable public procurement will be a key enabling tool in this direction.

Source : PIB



COVID-19 AND INDIA'S PREPAREDNESS

The rapid spread of **Covid-19** across the world shows that a networked world has to face networked risks. As of March 2, 2020, according to the World Health Organisation, there are around 89,000 confirmed cases from 65 countries of Covid19, with 27 countries have reported local transmission.

India's inadequate health infrastructure accompanied by factors like population density, poverty and illiteracy makes India highly vulnerable to Covid-19. India now has reported 6 cases of possible COVID-19 infection. The Health Ministry through its **Integrated Disease Surveillance Programme (IDSP) network** sought to trace people who have come in contact with the six people whose samples have been sent for confirmation.

However, since Covid-19 is a respiratory pathogen, it can spread and turn into an epidemic in no time. In this context, India needs to be adequately prepared to deal with this global emergency.

Note: The coronavirus (Covid-19) outbreak came to light when on December 31, 2019, China informed the World Health Organisation of a cluster of cases of pneumonia of an unknown cause in Wuhan City in Hubei province.

Subsequently, the disease spread to more provinces of China and to the rest of the world, with the WHO declaring it a global health emergency. The virus has been named SARS-CoV-2 and the disease is now called COVID-19.

Test for Covid-19: The first test that samples of all suspected patients are sent for is the polymerase chain reaction (PCR) test.

If that is positive, the sample is sent to the National Institute of Virology in Pune, which is the only government laboratory currently doing genome sequencing, for final confirmation.

India's Vulnerability vis-à-vis Covid-19

With large numbers of people coming to India from across the world, **airports are always a hotspot**, the virus's footprint has to over 70 countries. Also, a major section of India's population uses public transport which can further accelerate the spread of Covid-19.

Infected people **do not show symptoms during the incubation period** (14 days or even greater than that) and hence thermal screening at airports and seaports will be unable to detect such cases. Further, the molecular testing does not have very high sensitivity and hence may turn up false negatives.

Healthcare infrastructure in India suffers from inadequacies at the physical and human resource level. Rumours can spread fear and misinformation which can be damaging, stigmatising to the public interest.

What steps India should take?

Until now, there is no definitive cure or a vaccine against Covid-19. Therefore, the response plan undoubtedly relies on basic measures such as risk communication, health education, social distancing, and home isolation to reduce the speed at which the outbreak might spread.

Immediate steps that should be taken

The **National Crisis Management Committee (NCMC)** which was designed to be set up in situations of large natural calamities, should be leveraged. Also, NCMC should coordinate across ministries and departments.

A **dedicated web portal** should be set up, which includes a dashboard with key indicators, current case definitions, guidelines, risk communication materials and micro plans.

Strict norms to be followed for people who are **quarantined**.

The **response plan** should be able to maintain ongoing regular health programmes while at the same time devoting adequate resources to the response.

It is essential that at least two negative tests are obtained before a person is certified as being uninfected.

India must also **rapidly increase its operational labs for rapid diagnosis**, equip hospitals, and train medical staff for isolation and treatment of those infected.

While India should focus on containment, it must be ready for mitigation.

Long term remedies

Preparedness is neither the sole domain nor the prerogative of government; all institutions, entities, firms both private and public and even individuals and households should make contingency and advance preparedness plans. Preparedness allows a health system to take proactive steps to mitigate or lessen the adverse impacts of an outbreak.

Outbreak preparedness should be seen as an investment which will pay dividends in the medium to long term. There is a need to continue to develop and maintain infrastructure to respond to new novel infectious agents capable of rapid spread.

Large-scale behaviour change will be the cornerstone of a successful response. It requires proper risk communication and adoption of an integrated approach towards **WASH (water, sanitation and hygiene), Cough hygiene (proposed by WHO) and community health programs**.

Drishti mains Question Combating coronavirus requires getting basics right, creating awareness, investing in public health infrastructure.

Source : drishtias.com



PANDEMIC PREPAREDNESS, THE WAY FORWARD IT IS REQUIRED TO LEARN AND IMPLEMENT LESSONS FROM PREVIOUS PANDEMICS AND OTHER NATURAL DISASTERS.

AMAR PATNAIK

BJD RAJYASABHA MP FROM ODISHA AND A FORMER CAG BUREAUCRAT

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As India reels under a massive second wave of the coronavirus pandemic, the positive cases and deaths are rising alarmingly, forcing many states to impose limited lockdowns once again in order to curb the spread of the virus. It is required to learn and implement lessons from previous pandemics and other natural disasters.

Lessons from 1918: The Spanish Flu pandemic data shows that the second wave was the deadliest as it affected and killed more people in a short period than other waves during the entire pandemic. As data has shown so far, many countries have already experienced a major second wave and some a third one; hence, there was no reason for us to believe that the situation would be different in India. The Covid-19 cases in India are now at their highest level since the beginning of October 2020 and complicating matters further, some new variants of the virus are thought to be responsible for the sudden spike. Even though we were victorious in handling the first wave, we should have prepared for possible second and third waves knowing fully well from history that subsequent waves are almost a certainty and have invariably been much deadlier.

Public health planning and communication should have been strengthened after the lull in cases between November-February instead of sending out mixed messages and dismantling emergency medical

infrastructure deployed during the first wave and removing physical distancing restrictions too quickly. While this is certainly not the time to look in hindsight and blame governments for not doing enough or people themselves for not adhering to Covid-appropriate behaviour, we need to quickly learn and make amends—all of us!

Disaster preparedness and building redundancies: While we are dealing with the pandemic largely under the ambit of the Disaster Management Act, 2005, which established the National Disaster Management Authority (NDMA) besides the Epidemic Diseases Act, 1897 (as amended last year), all our effort after the first wave has been confined only to post-disaster response and restoration. We should have considered the other essential elements of a natural disaster management system like pre-disaster preparedness and mitigation. This was all the more important because while we confronted the first wave without any preparedness due to the once-in-a-century pandemic's novelty, we could have used that experience to ramp up preparedness and mitigation measures for a possible second or third wave by building the requisite redundancies.

We should prepare a full-fledged preparedness and mitigation plan alongside a post-disaster response and recovery strategy nationally, broken down to region-wise micro-strategies framed in consultation

with the states just as we currently do for a natural disaster like cyclones or floods. As a part of disaster preparedness against cyclones and floods, Odisha constructed close to a 1,000 multi-purpose cyclone shelters after the super cyclone of 1999 which, though they remain unused for most part of the year, are like hot sites ready to start functioning as and when a cyclone or flood strikes. We have seen the results of such preparedness by Odisha in the form of near zero loss of lives and property in calamities after calamities, which has been repeatedly applauded by the UN and other international agencies.

Since the 1990s with the SARS, MERS and Ebola viruses creating havoc in localised regions, the possibility of such events (pandemics) occurring had increased manifold all over the world and hence, our systems and structures like the NDMA should not look at these redundancies as a wastage of resources. If the NDMA had prepared such a plan, it would have most possibly built these redundancies to fight the sharp increase in the demand for oxygen, hospital beds and ICU facilities being faced now.

For this reason, temporary pandemic care centres at panchayat, block and district levels have to be identified and kept ready for operation at short notice; adequate supply of oxygen, oxygen beds, and equipment like ventilators and ambulances with oxygen facilities have to be ensured and deployment plans for doctors, nurses and paramedics kept ready just as Odisha had done during the first wave of the pandemic. Even though it was confronting a pandemic for the first time, the Odisha government used its previous experience in handling natural disasters to involve community and build community resilience to manage Covid, particularly in rural areas—starting from involving women SHGs for spreading awareness and distribution of

ration to delegating power to district magistrates and sarpanchs. There were also separate Covid and non-Covid hospitals, and data and modelling were used to decide micro-containment strategies and plans.

Conclusion: As things stand, we should hope for the best with respect to the current second wave, and at the same time prepare for the worst, for what could be coming, possibly a third wave or a variant that beats the acquired or vaccine-induced antibody regime that has been discussed by experts as a distinct possibility. Governments across states should look to build medical infrastructure and redundancies in our health systems so that in future, we are not overwhelmed during such a crisis. States should be empowered to not only dip into the State Disaster Response Fund (SDRF) without awaiting approval from the Union government but also use the funding available to scale up and build acceptable levels of redundancies in medical infrastructure in the longer term.

We should continue to reinvigorate smart testing and tracing, with firm messaging on social distancing and masking. Genomic surveillance should be scaled up to track variants as early as possible to assess the efficacies of the various vaccines a priori. Supply chains for production and manufacturing medical APIs, PPE kits and medical oxygen facilities have to be augmented manifold all over the country, in every state and district.

Make no mistake, there will be subsequent waves, and India must heed the lessons from the current wave and the 1918 pandemic or else, all our efforts will be futile including vaccination.

Source: The New Indian Express- 30th April 2021

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WTO UPDATE

REMAKING GLOBAL SUPPLY CHAINS – INDIA’S OPPORTUNITY

AMOL JADHAV

The COVID-19 pandemic has led to global supply chains unravelling as many countries imposed lockdowns, causing companies to look elsewhere for manufacturing and sourcing and creating opportunities for low-wage emerging countries including India.

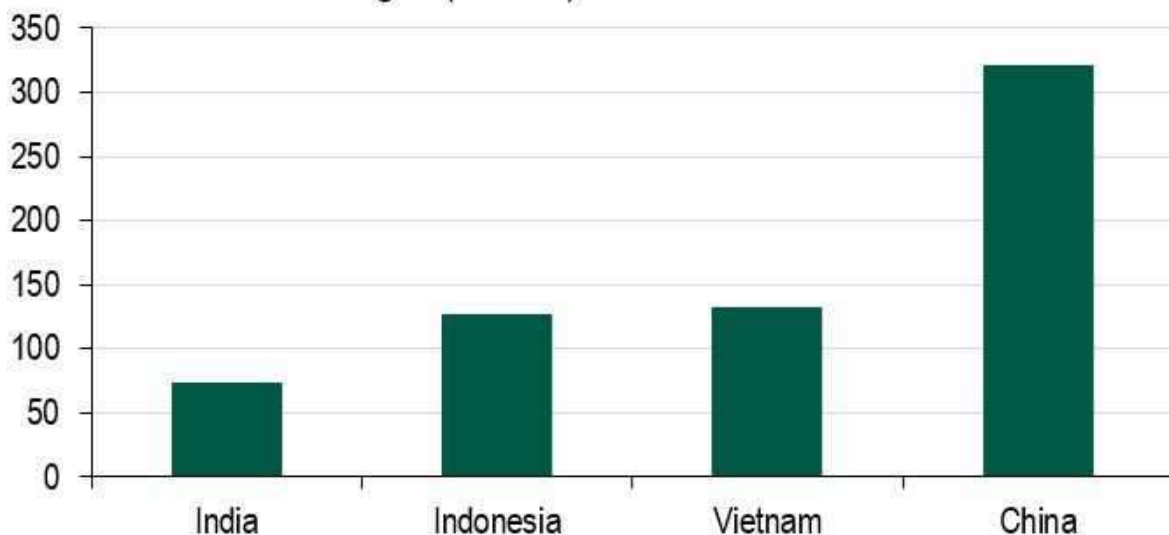
The health crisis exposed the dependence of businesses on a few markets for manufacturing and caused cracks in the lean or the ‘just-in-time’ inventory strategies that had allowed many manufacturers to maintain minimum raw material stocks. As a result, the search for attractive alternatives has included Thailand, Vietnam, Malaysia, Indonesia, the Philippines – and India.

INDIA’S STRENGTHS AS A HUB FOR BUSINESS

As a stable economy with a host of enabling factors for attracting investments, we believe India is a natural choice in filling the supply chain vacuum the exodus from China has left. Recognising this opportunity, India’s prime minister has laid out his vision of a ‘Self-reliant India’.

The strength of India’s case lies in its diverse business landscape, skilled workforce, and sizeable domestic market with growing disposable incomes. Labour costs are relatively low – monthly minimum wages in India are USD 73 compared with USD 320 in China [1], USD 132 in Vietnam and USD 127 in Indonesia (see Exhibit 1).

Exhibit 1: Lower labour cost - graph shows monthly minimum wages (in USD)



Source: PhillipCapital India Research

India has the fifth largest gross domestic product, as estimated by the World Bank. It was ninth on the list of recipients of global foreign direct investment in 2019. [2] Its population is young and has a wide base of English speakers. Macroeconomic indicators have been robust. High consumption levels are another factor in India's favour.

PRODUCTION-LINKED INCENTIVES – A NEW APPROACH IN INDIA'S INDUSTRIAL POLICY

Beyond 'Infant industry protection,' in a somewhat rare instance of the Indian government working closely with industry, it has announced production-linked incentive (PLI) schemes for 13 sectors to encourage growth and boost exports. The schemes involve companies being awarded meaningful pre-set incentives upon meeting production targets.

The PLI scheme is a significant turn in India's industrial policy: linking incentives to output should encourage scale and specialisation. Also, the scheme is largely compliant with the World Trade Organisation (WTO) norms, unlike earlier export-oriented incentives.

However, one drawback of the scheme is that the benefits will accrue only to a handful of large players that will make incremental investments in greenfield projects, precluding incumbents and small businesses.

The PLI schemes aim to create a conducive environment for manufacturing in India and to offer incentives comparable with those offered in other countries to attract large investments.

For instance, the large-scale electronics manufacturing sector suffers from the absence of a level playing field. This includes a lack of adequate infrastructure, domestic supply chains and logistics; the high cost of finance; the inadequate availability of quality power; the industry's limited design capabilities and focus on research and development; and inadequacies in skill development.

The PLI scheme seeks to compensate for some of these deficiencies.

POTENTIAL TO ADD 1.7% TO GDP, CHANGE THE TRADE BALANCE MEANINGFULLY

Details are available for only three sectors: large scale electronics manufacturing, bulk drug production and medical devices. For the remaining 10 sectors, the list of companies that qualify should be published this month.

According to industry estimates, the schemes could generate USD 150 billion in new sales, and USD 70 billion of domestic value-add, or 1.7% of 2027 GDP. They could add a substantial 0.3% to annual GDP growth between 2023 and 2027.

The direct impact of these schemes is likely to be larger on labour (an estimated 2.8 million new jobs) than on capital spending (estimated at USD 28 billion). There is likely to be significant upstream activity as a result, driving further gains in jobs and spending.

Sectors and firms that are not benefiting directly from the PLI schemes could see a surge in domestic production volumes, likely bringing in fresh investment. Even though the incentives are for additional production, the choice of sectors implies a large part of the goods would be exported (given the existing domestic self-sufficiency). This could cause a roughly USD 55 billion shift in India's annual trade balance.

CHALLENGES LEFT TO OVERCOME

While India offers global investors a large and attractive market, a sizeable demographic advantage and a vibrant private sector, there are a few obstacles to be addressed if the country is to realise its immense potential as a global manufacturing hub.

Two of the most frequently cited impediments are poor infrastructure and stifling bureaucracy. Further challenges could be:

- Uncertainty on the final design of the remaining 10 PLI schemes
- No details on penalties for not meeting milestones
- Slow payouts of the incentives by the government
- The need for a definition and specifics of value-addition.

Source: investors-corner.bnpparibas-am.com

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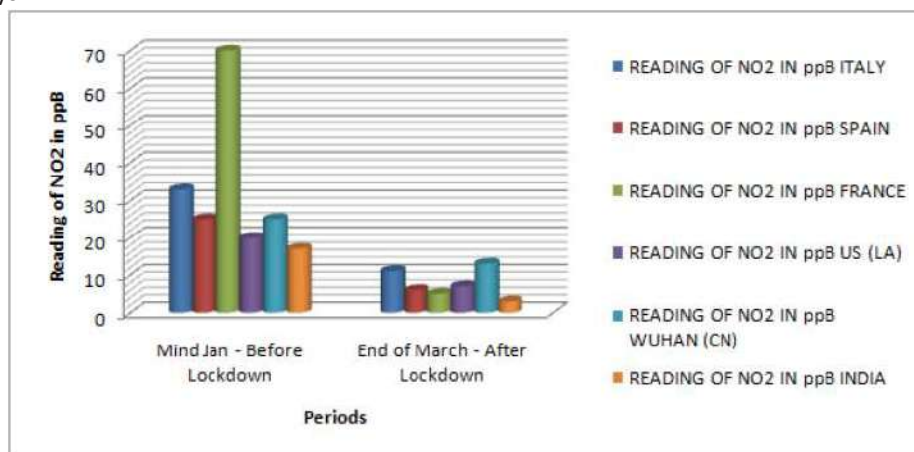
COVID -19: IT'S A POSITIVE IMPACT ON MOTHER EARTH

JAYANTA CHAKRABORTY

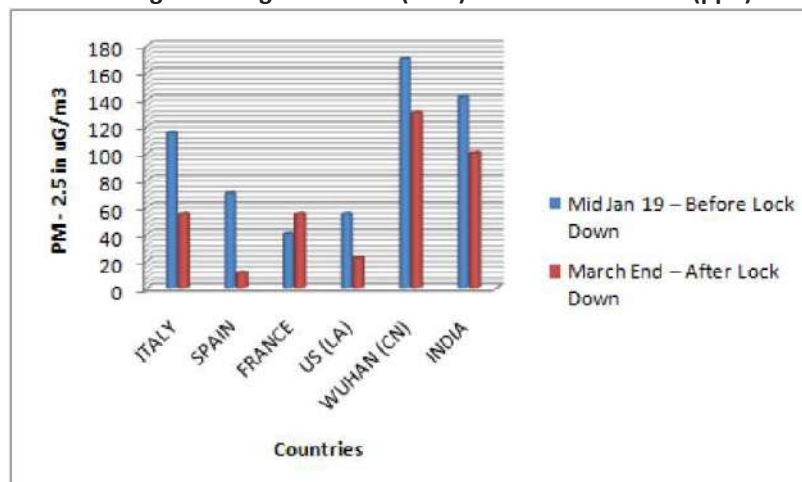
At the time of writing this article, the **Corona Virus Disease of 2019 (COVID-19)** is at its peak and almost affected more than 200 countries in the world. It's very contagious in nature and widely spread across countries. As of today, there is not a single sure shot medicine or vaccine available for this disease, and scientists across the globe are working hard on this. Day by day people are dying due to the same and with a combination of drugs, many people are getting recovered also. Most of the countries around the globe are in complete or partial lockdown based on the intensity of the infection and the spread of the virus. This is a really tough time for the human race. But, every cloud has a silver line and every negative aspect has some positive impact.

Let's talk about Mother Earth and its feelings amidst COVID-19. For the last 2 months' time, there is no vehicular pollution, factory pollutant, or any sort of manmade pollution. Further, it gives a positive boost to increase the flora and fauna of Mother Earth. All other species got a chance to explore the resources of nature without any disturbance from mankind. We are hearing positive environmental news like replenishment of the Ozone layer, reduction of air and water pollution, balancing in aquatic life due to no fishing in many of the places. People are more diverting from non-vegetarian food to vegetarian food across the globe.

The question of an hour is whether Mother Earth has pressed the reset button to rejuvenate herself in the form of COVID-19? We should not go by just feelings and news but we should go by facts. To find the answer, let's see a couple of parameters in terms of atmospheric pollutants and compare their levels before the lockdown period and recent days.

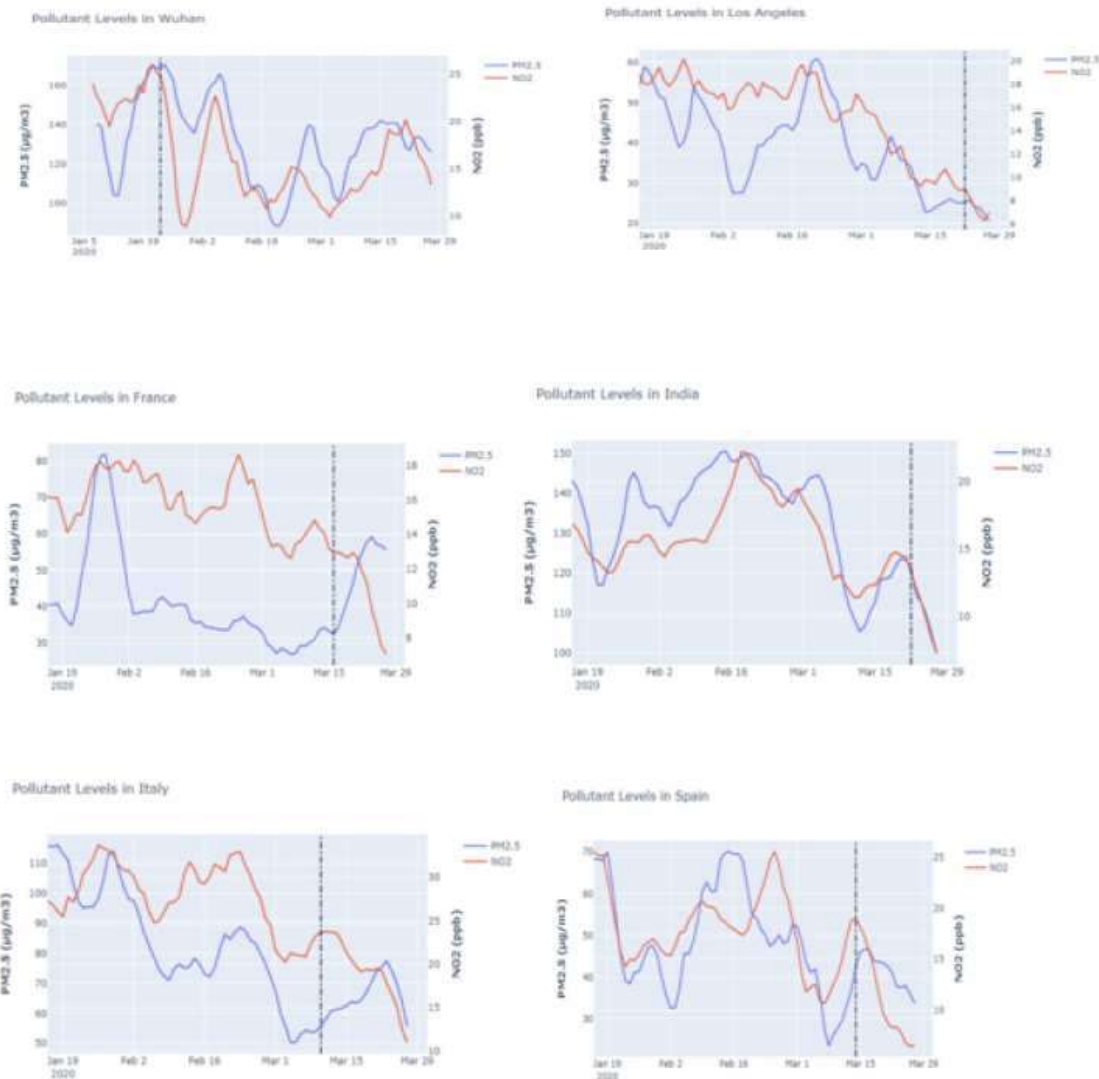


Reading of Nitrogen Dioxide (NO2) in Parts Per Billion (ppB)



Reading of PM – 2.5 in uG/m3

From the above data, it is apparent that there is a substantial natural correction towards the quality of the atmosphere. Another area will also prove that the lockdown has improved nature. The temperature of Ahmedabad, India is on 31st March 2019 was 42 / 24 p C as compare to the temperature on 31st March 2020 is 38 / 21 p C. It's a significant decrease in the temperature of the atmosphere looking to decrease in air pollutants.



POLLUTION LEVELS ON GLOBAL SCENARIO

It is evident that due to this lockdown, fishing is virtually closed across the globe. Hence there will be a fair amount of chance of marine life growth due to non-fishing!!!

All the above facts are proof and re-established that environmental quality is degraded by humans and we have to take strict measures to monitor, control and reduce such activities to rejuvenate mother earth. An example was given and explained burning presentation that how governing rules and certifications like Green Building, Smart City concepts can be emphasized while making a new building.

We, the sourcing and supply chain professionals are in various industries and can take a lead role in the prevention and sustenance of low pollution.

I hope we all will relook into the existing systems and modify them in a way, so we can do minimum disturbance to mother nature.

Source: sourcingandsupplychain.com

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PM ADDRESSES THE WORLD ENVIRONMENT DAY EVENT. TARGET OF ACHIEVING 20 PERCENT ETHANOL BLENDING IN PETROL HAS BEEN PREPONED TO 2025

Government has identified 11 sectors which can make good use of resources by recycling : PM

Launches E-100 pilot project in Pune for the production and distribution of ethanol across the country

Prime Minister Shri Narendra Modi addressed the World Environment Day event, jointly organized by the Ministry of Petroleum & Natural Gas and the Ministry of Environment, Forest and Climate Change today through a video conference. During the event the PM interacted with a farmer from Pune who shared his experience of organic farming and use of biofuel in agriculture.

The Prime Minister released the “Report of the Expert Committee on Road Map for ethanol blending in India 2020-2025”. He also launched the ambitious E-100 pilot project in Pune for the production and distribution of ethanol across the country. The theme for this year’s event is ‘promotion of biofuels for a better environment’. Union Cabinet Ministers Shri Nitin Gadkari, Shri Narendra Singh Tomar, Shri Prakash Javadekar, Shri Piyush Goyal and Shri Dharmendra Pradhan were also present on the occasion.

Speaking on the occasion, the Prime Minister said that India has taken another leap by releasing a detailed roadmap for the development of the ethanol sector on the occasion of World Environment Day. He said that ethanol has become one of the major priorities of 21st century India. He added that the focus on ethanol is having a better impact on the environment as well as on the lives of farmers. He said that the Government has resolved to meet the target of 20 percent ethanol blending in petrol by 2025. Earlier the resolve was to achieve the target by 2030 which is now

preponed by 5 years. He added that till 2014, on an average, only 1.5 percent of ethanol could be blended in India which has now reached about 8.5 percent. In 2013-14, about 38 crore liters of ethanol were purchased in the country which has now grown to more than 320 crore liters. He said that a large part of this eightfold increase in ethanol procurement has benefitted the sugarcane farmers of the country.

The Prime Minister remarked that the 21st century India can get energy only from the modern thinking and modern policies of the 21st century. With this thinking, the government is continuously taking policy decisions in every field. He said today, a lot of emphasis is being laid on building the necessary infrastructure for the production and purchase of ethanol in the country. Most of the ethanol manufacturing units are mostly concentrated in 4-5 states where sugar production is high but now Food Grain Based Distilleries are being established to expand this to the whole country. Modern technology based plants are also being set up in the country to make ethanol from agricultural waste.

The Prime Minister said that India is a strong proponent of climate justice and is moving ahead with a lofty global vision like the founding of International Solar Alliance for realizing the vision of One Sun, One World, One Grid and the Coalition for Disaster Resilient Infrastructure initiative. He noted India has been included in the top 10 countries of the world in the Climate Change Performance Index. He added that India is also aware of the challenges that are being faced due to climate change and is also working actively.

The Prime Minister spoke about the hard and soft approaches taken to fight climate change. On the

hard approach, he noted that our capacity for renewable energy has increased by more than 250 percent in the last 6-7 years. India is today among the top 5 countries of the world in terms of installed renewable energy capacity. Especially the capacity of solar energy has increased by about 15 times in the last 6 years.

The Prime Minister said that the country has also taken historic steps with a soft approach, today the common man of the country has joined and leading the Pro-Environment Campaign like avoiding single use plastic, beach cleaning or Swachh Bharat. He added that the impact of giving more than 37 crore LED bulbs and more than 23 lakh Energy Efficient Fans are not discussed often. He said similarly, by providing free gas connections under the Ujjwala scheme, by providing electricity connections under the Saubhagya scheme, to crores of poor, their dependence on wood has greatly reduced. Apart from reducing pollution, it has also helped a lot in improving the health and strengthening environmental protection. He said India is setting an example to the world that it is not necessary to stop development for protecting the environment. He stressed that Economy and Ecology both can go together and move forward. And this is the path India has chosen. He said along with strengthening the economy, our forests have also increased by 15 thousand square kilometers in the last few years. The number of Tigers in our country has doubled and the number of leopards has also increased by about 60 percent in the last few years.

The Prime Minister said Clean and Efficient Energy Systems, Resilient Urban Infrastructure and Planned Eco-Restoration are a very important part of the AatmaNirbhar Bharat Campaign. He said due to all the efforts taken related to the environment, new investment opportunities are being created in the country, lakhs of youth are also getting employment. He said India is working with a holistic approach through the National Clean Air Plan to curb air pollution. He said the work on waterways and multimodal connectivity will not only strengthen the mission of green transport, but also improve the logistics efficiency of the country. Today, the service of metro rail in the country has

increased from 5 cities to 18 cities which has helped in reducing the use of personal vehicles.

The Prime Minister said that today, a large part of the country's railway network has been electrified. Airports of the country are also made to use electricity from solar energy at a rapid pace. He elaborated that before 2014, only 7 airports had a solar power facility, whereas today this number has increased to more than 50. More than 80 airports have been installed with LED lights which would improve energy efficiency.

The Prime Minister spoke about a project which is underway to develop Kevadiya as an electric vehicle city. He said necessary infrastructure is being made available so that only battery based buses, two-wheeler, four-wheeler will run in Kevadiya in future. He said the water cycle is also directly related to climate change and imbalance in the water cycle will directly affect water security. He told that work is being done with a holistic approach from creation and conservation to use of water resources in the country through Jal Jeevan Mission. On one hand, every household is being connected with pipes, while on the other hand, the focus is on raising the ground water level through campaigns like Atal Bhujal Yojana and Catch the Rain.

The Prime Minister announced that the government has identified 11 sectors which can make good use of resources by recycling them through modern technology. He said a lot of work has been done in the last few years on the Kachra to Kanchan campaign and now it is being taken forward very fast in mission mode. The action plan related to this, which will have all the regulatory and development related aspects, will be implemented in the coming months. He stressed that to protect the climate, it is very important to organize our efforts to protect the environment. He urged that we will be able to give a safe environment to our coming generations only when every citizen of the country makes a united effort to maintain the balance of water, air and land.

Source : PIB



IS THE DEVELOPMENT OF GREEN INTELLECTUAL PROPERTY PAVING THE WAY TO ENVIRONMENTAL SUSTAINABILITY IN INDIA? ABOUT 13% OF INDIA'S HIGH-VALUE PATENTS ARE RELATED TO GREEN TECH

JASMINE, RAHUL KUMAR JHA, AKASH KUMAR MEHER, SHRIYA BAJAJ

India has slowly begun to realise pollution is not only an inconvenient by-product causing environmental degradation but it is also a fundamental threat to growth and development. If not taken seriously and contained, it will have a deep impact on the economy. This led to a significant change in the mindset of people and political will. Major developments in clean energy technology have paved the way for business opportunities from the 'green economy transition'.

There is an inevitable demand for clean technologies. Countries that upskill appropriately and create industries to manufacture it has much to gain. They can accumulate value from the export of clean technologies and gain access to international markets.

China has already positioned itself as the world's leading exporter of affordable photovoltaic cells, Europe is innovating in wind and Japan and the USA are giving out patents in electrical vehicles. Countries that will focus their attention on fossil fuels will find themselves losing on market share in the international market.

This turns out to be a "green marathon" because of the time taken to develop new skills and industries, and gain expertise in it. Countries mastering this early have a comparative advantage over others in the green market of goods / services.

India's stand : Countries that have already set up a base for green sectors have a headstart. They have the capital and expertise needed to scale the industry. Those able to innovate will adapt the technology better than others who will be merely importing it. In terms of scale, India is in an advantageous position. It has an established industry in low-carbon environmental goods and services (LCEGS). It has the third-highest LCEGS sales in Asia (second-highest in terms of proportion of gross domestic product).

The country has a large scope of having a green boom in the coming years as it already has a market for green goods / services. It has several advantages ranging from knowledge spillovers to economies of scale, which makes it favorable for India to develop into a large green market with ease. Some of the reforms are needed for the full-scale development of the sector as a whole.

On February 22, 2011, the United Nations Environment Programme announced that India was one of the fastest-growing economies among the other middle-income countries.

Win-win transition

India is currently planning on one of the largest green energy projects that will generate 20,000 megawatts (MW) of solar power and 3,000 MW from wind farms on 50,000 acres of land in Karnataka.

Green technology is not cheaper but is labour-intensive. This is a boon for India as it will create employment opportunities for our abundant labour force. The more we use green technology, the more it will expand our base for employment leading to economic development in the long run.

By the adoption of green technologies, global warming caused due to emission of greenhouse gases and our sheer dependence on non-renewable sources of energy has been reduced gradually. Instead, we have found new and alternative sources of energy like wind, solar and biomass, through diving into this innovation of green technology. Hence, this will be a win-win situation for India in terms of both environmental sustainability and economic development.

There arises a dire need to establish a robust innovation system, and facilitate access and reform the effective intellectual property systems. This will

help keep the development, evolution and innovation in technology, products and services required in strong-arming the dynamic shift to the green economy.

Green tech patents

To protect such innovations, technological advancements and creativity in the country and across the globe, the intellectual property system plays a crucial role.

All green tech innovations are protected through the development of 'green intellectual property', which refers to the legal protection of innovations and advancements in the field of green technology.

About 13 per cent of India's high-value patents are related to green tech, which is in line with the world average. Overall, India is not a leading inventor of green-tech systems, although it performs significantly better than other low- to middle-income nations.

In 2013, India successfully filed 1,140 high-value green patents, while Brazil filed 300 and South Africa 150. China filed 16,000. The vast majority of green patents are concentrated across a few nations.

In recent times, India has seen a surge in churning out green patents. In 2017, it gave out 2,505 green patents.

The country, however, seems to fall behind in comparison to the United States, Japan and South Korea, who are long-standing innovators and account for nearly 60 per cent of the world's green tech patents.

If India goes steady with these reforms and innovations in the green intellectual property segment and supportive policies, it will surely outstand others in terms of investments and foreign direct investments we get for the enhancement of our green market by 2025. As a result of these measures taken by the central government for the reforms in the green IP laws, country could implement the National Solar Mission to achieve 20 gigawatts solar energy by 2022.

Views expressed are the authors' own and don't necessarily reflect those of Down To Earth.

Source: Down to Earth



COMMODITY INDEX

Commodities	Days's Index	Prev. Index	Week Ago	Month Ago
Index	3343.8	3344.8	3339.4	3309.8
Bullion	7600.8	7600.8	7600.8	7600.8
Cement	2463.7	2463.7	2463.7	2463.7
Chemicals	1608.0	1608.0	1608.0	1548.8
Edible Oil	3037.5	3025.8	3110.6	3221.1
Foodgrains	2436.7	2440.1	2446.6	2472.2
Fuel	3451.5	3440.0	3410.8	3284.7
Indl Metals	1919.9	1919.9	1919.9	1919.9
Other Agricom	2284.9	2305.1	2305.1	2265.8
Plastics	2668.4	2668.4	2668.4	2668.4

Source: ETIG Database dated 4th June 2021

SUPPLY CHAIN MANAGEMENT TAKES CENTRE STAGE: COVID-19 IMPLICATIONS

SUNIL BHARDWAJ

Overview : The ongoing pandemic and its implications for supply chains have been far-reaching, to say the least. The integrated nature of supply chains and their globally and regionally dispersed structures have exposed the fault lines and vulnerabilities even further.

The economic and humanitarian crisis brought about by Covid-19 will take time to abate. Micro, small and medium enterprises have struggled to survive. What began as a supply shock eventually resulted in a demand shock too.

Moreover, the challenges caused by lockdowns, un-lockdowns, covid hot-spots, and red zones have constrained supplies, production, warehousing, and logistics operations. The concept of Lean Operations/ Manufacturing and JIT (Just In Time) is being questioned. Experts are now talking about JIC (Just In Case) to ensure supply chain resiliency and continuity.

One could view the trends, developments, and constraints from multiple dimensions – People, Process, Systems, Functional, Upstream, and Downstream.

Over the past few months, the events have reiterated and reinforced the need for supply chain agility, flexibility, responsiveness, sustainability, risk management, and working capital controls. As they say – **Cash is King after all!**

Data management issues have also become very critical – particularly those related to cybersecurity and master data controls. Customer focus and market intelligence have proved to be critical drivers for success.

The need for investments in supply chain automation and digitalization has been accelerated owing to visibility and transparency constraints across the supply chain.

People, Processes, and Systems



Emerging Paradigms – People, Processes & Systems

Let's take a look at some emerging paradigms

concerning people, processes, and systems.

People : Lifelong learning will become the norm moving forward. Re-skilling and up-skilling at periodic intervals would become necessary to survive and thrive. Soft skills such as emotional intelligence would play a key role to facilitate holistic decision-making. Gender diversity and inclusion at the workplace or in the virtual world shall bring in much-needed balance to organizational structures.

Job roles and designations would be refined to include both 'Specialists' and 'Deep Generalists'.

Supply chain career paths would continue to be driven by "T" skills – the horizontal line of the alphabet indicating the breadth, gamut, and scope of functions/ sub-processes/disciplines within our domain; the vertical line indicating proficiency or expertise in one or more areas – for example – Demand Planning, Strategic Sourcing, Transportation, Warehousing, etc.

If we delve deeper into the people's aspects: the primary driver, engine, and nerve center for lasting success – certain core skills come to the fore.

The following skills would need to be cultivated and strengthened given the uncertainties and challenges that we face:

- Business Analytics and Data Management
- Problem Solving
- Critical Thinking
- Supply Chain Strategy
- Situational Leadership
- Technology Landscape and Applications
- Cross-Functional Management (Multi-Disciplinary Approach)
- Customer Orientation

Process : Processes across the chain would need to be reviewed, audited, and updated to reflect the market and customer needs. Well-designed, optimized and flexible processes shall go a long way in ensuring stability and would prove to be invaluable in terms of system or technology configuration inputs.

It is suggested to use the time-tested and battle-hardened SIPOC methodology to ascertain and ensure the correct inter-linkages between suppliers, inputs, outputs, and customers.

Supply chain finance processes would gain traction in my opinion. Trade financing and working capital management processes would need to be defined and implemented clearly.

Systems : The emerging trends indicate a future moving in the direction of ‘Everything-As-A-Service’ encompassing software, assets, physical infrastructure, plant and machinery, production equipment, transportation, warehousing, etc. The ‘On-Demand’ and ‘Pay per Use’ model would prove to be beneficial for the service provider and receiver alike.

Simulation-based, real-time, and interconnected systems would augment people’s practices and processes. Human-Material interface systems would garner attention in addition to touchless and contactless workforce management systems.

Supply chain analytics systems would continue to move up the learning curve from descriptive to diagnostic to predictive to prescriptive maturity.

Triple Bottom Line

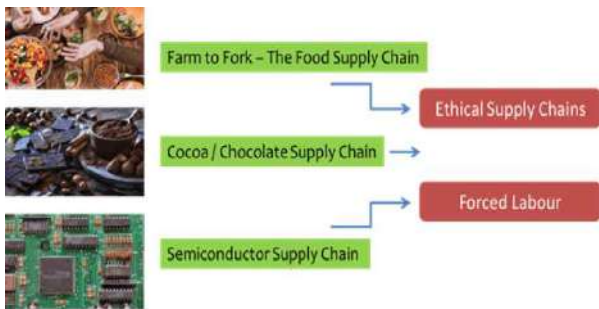


Image Source: google images

Ethical Practices : We are all aware of the role and importance of the Triple Bottom Line. Whether we look at it from a People | Profit | Planet perspective or Social | Economic | Environmental prism, it is essential to note that financial success cannot be sustained in the absence of sound social and environmental practices and frameworks. In my opinion, economic success is an outcome or a fallout of the other two aspects.

In this context, it is pertinent to mention the growing sensitivity towards ethical practices in the supply chain. The graphic indicates three supply chain examples and highlights the need to track and eliminate forced labour and unethical practices that violate prevailing laws, regulations, and statutes.

Further Areas of Focus



Image Source: google images

Flexible Connected and Data-driven Platforms

As can be seen in the graphic above, flexible, scalable, connected, and data-driven platforms should be given precedence over stand-alone functional systems. Moreover, Environment, Health, and Safety systems should be integrated with other modules and compliance must be tracked at periodic intervals through dashboards and other visual analytics tools.



Image Source: google images

Risk | Sustainability | Demand Shift

As stated in the overview earlier, supply chain risk management is being viewed as an integral part of future supply chain design. Upstream and downstream risk mapping and system alerts could assist different nodes of the chain to initiate timely actions.

The last 6-7 months have witnessed a notable shift in demand for certain categories of essential items through the online space. It appears this trend might continue given the benefits that consumers enjoy through this channel (refer to the graphic above). Needless to say, this would have implications for reverse logistics and supply chain.

Finally, sustainability initiatives, practices, and reporting centered on resource usage, process design, product design, energy consumption, carbon footprint, CHG emissions impact, and scope for re-use, return, refurbish and re-purpose will become the norm rather than the exception since they are deeply intertwined with other priority areas.

Way Forward

Supply chains that are visible, transparent, agile, responsive, collaborative, and well connected would enable and facilitate sustained business growth. A daunting supply chain challenge awaits us – the production, storage, and distribution of billions of vaccines globally. However, given the collective talents of the fraternity, this too shall be overcome with innovative ideas and solutions.

All said and done, these are wonderful times to be a part of this domain, function, profession – something that was taken for granted has gained prominence – thanks to the pandemic.

Source: sourcingandsupplychain.com

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BRANCH NEWS

KOLKATA BRANCH

Condolence meeting observed at IIMM Kolkata Branch for Late Mr Biplab Banerjee

On April 5th, Kolkata Branch observed an emotional condolence meeting for Late Mr Biplab Banerjee, the past Branch Chairman of the institute. IIMM family was in fact very shocked and saddened to hear about the sudden demise of respected Mr. Biplab Banerjee, an acclaimed professional in Supply Chain Management and admired faculty member of the institute. He passed away on March 27th 2021 at around 2.30 am. Mr Banerjee was such a wonderful person and had always been a great asset not only to IIMM but also to the entire Supply Chain Fraternity.

The present Branch Chairman of the institute, Mr Animesh Chattopadhyay, Vice Chairman Mr Koushik Roy, Admin head Mr K Gupta remembered Mr Banerjee's contribution to IIMM Kolkata Branch in their emotional speech. In fact, Mr Banerjee served IIMM Kolkata Branch as its Chairman from 2001-2003. Subsequently, he served the position of the National Vice President (East) for 2003-2005 and enriched IIMM with his academic, professional and organizational acumen and led the Institute to a new height.

To carry forward the legacy, it was announced by the Vice Chairman that the annual Quiz Competition organised by the branch would hereafter be dedicated to Late Mr Biplab Banerjee.

The ceremony closed after observing a few minutes silence as a mark of respect to the departed soul.

IIMM

KOLKATA BRANCH

06.04.2021

PUNE BRANCH

Material Management week at Pune Branch : As part of Materials Management Week, Pune branch commemorated this day with a webinar on 23rd April 2021. A panel discussion was organized with a few

of the past Chairmen to share their experience as Chairmen during their tenure. We were fortunate to get on Board former Chairmen- Mr. Vijay Kiyawat (1980-1982), Mr. Pradip Nadkarni (1984-1986) and Mr. D. D. Wanjale (2001-2003).

The session was moderated by current Chairman Mr. Terrence Fernandes and past Chairman Mr. Mohan Nair.

It was a great learning for the younger generation to hear from the Past Chairman how they struggled to manage the activities of the branch with very less mode of transport, communication medium and no formal Office & funds. They used to meet at common places and at residence of committee members. All the Chairmen were proud to share that Pune Branch has a good reputation of always being first in submitting the Branch Balance Sheet. The accounts were always clear & transparent, & never defaulted. They were keen to know if the same culture still remains even now. Chairman Terrence Fernandes mentioned that even now this discipline is maintained & Pune branch is always amongst the first three branches to do so. They also shared many other success stories, challenges they faced during their tenure. Most importantly, they said it was like a family bonded together that worked transparently with passion to take the branch higher each year. Every committee member pitched in with his capabilities & the bond of togetherness was very strong. They worked tirelessly, sacrificing their weekly off days, meeting up at branch office or a common place to take stock of office routine, plan branch activities, connect with other branches, Industries, etc.



The discussion ended with nostalgic moments & words of gratitude by the three Chairmen for having invited them on the auspicious MM day with memories to remain.

We had a virtual attendance of 61 participants for this program.

Another session was organized on the 25th April 2021, to understand about the Challenges faced by the Hospital Industry during this Covid 19 Pandemic crisis. We had three Panel Doctors from Joshi Hospital and Ratna Memorial Hospital. The session was moderated by Mr. Amit Borkar (Immediate past Chairman).

Dr. Anand Joshi, Director of both the hospitals & the two senior doctors shared their challenges and stressed on the importance of time factor and anticipating the unexpected. Readiness to overcome any eventuality in the days to come is the need of the hour.

The same factors also apply to our Supply Chain Management. Dr. Anand Joshi mentioned that the hospital industry can surely collaborate with IIMM to put SCM practices & processes in place. He also requested IIMM that they should visit hospitals in Pune to conduct a survey of the practices followed by the hospitals & provide assistance, guidance through SCM processes.

The doctors appealed to ensure safety & hygiene, strictly follow protocols during the crises of the pandemic & not to miss out on taking the vaccine.

We had a virtual attendance of 50 participants for this program.

Both the programs were summarized & concluded by the branch Hon. Secretary Mr. Prasad Rao.



CONDOLENCE MESSAGE



MR. BIPLAB BANERJEE

IIMM family is very shocked and saddened to hear about the death of respected Mr. Biplab Banerjee, an acclaimed professional in Supply Chain Management and admired faculty member. IIMM family still cannot believe that our beloved Biplab Da died so unexpectedly. He was such a wonderful person and had always been a great asset not only to IIMM but also to the entire Supply Chain Fraternity. His presence will always be missed. His contribution to the cause of IIMM and supply chain profession is invaluable.

He was an alumnus of IIMM and passed out with flying colours. He turned no stone unturned to scale up to the pinnacle of his Alma Mater, i.e., IIMM Kolkata Branch as its Chairman for 2001-2003. Subsequently, he served the position of the National Vice President (East) for 2003-2005 and enriched IIMM with his academic, professional and organizational acumen and led the Institute to a new height. He will remain in IIMM's thoughts and prayers.

In these moments of loss, words are useless. A beautiful soul, full of love and faith, ascended to heaven, away from us, but closer to God, leaving loneliness and sadness. May His soul rest in peace !

May The Almighty give enough strength to bear this irreparable loss to the bereaved family!

EXECUTIVE HEALTH

THE GOLDEN KEY TO HEALTHY LIVING

Life is beautiful and no one wants to get hassled with unnecessary health issues. For that, taking care of our body and mind is crucial.

In the new normal of social distancing and remote working, taking on healthy living is very important. Enhancing your physical, mental and emotional well-being by consciously making small changes in your lifestyle, developing healthy habits and continuing with them is necessary. To solve your problems in life, you need to change your thinking. So, it's time to sit back and think what steps you need to take in the current situation in order to ensure that you enjoy a healthy living.

Pros and Cons of the new normal

The new normal has come with its own pros and cons. Looking at the positive side, it has allowed us to spend more time with family which was hardly being done before in this fast-paced, competitive world. Getting more time for ourselves, avoiding the stress of daily travel to work, getting time to connect with old friend the digital way, learning new hobbies, getting more well-versed with technology and many more. At the same time, the new normal has also made us compromise on our work out schedules, eating habits, etc. and the sedentary lifestyle of working from home even adds to that. If one does not have to go anywhere, it's easy to put on weight. Also, social distancing has resulted in a decline in social activities which were rather common in earlier times. So, maintaining our mental health in these times needs to be emphasised.

Staying healthy a way of life

Life is beautiful and no one wants to get hassled with unnecessary health issues. For that, taking care of our body and mind is crucial. A good health is not just about healthy eating and exercise — it's also about having a positive attitude, a positive self-image, and a healthy lifestyle.

Consider a few of these points for a healthy living.

- **Consume plenty of water:** Water is essential for most of our body functions. Drinking adequate amount of water in a day not only helps to flush out toxins from your body, it also helps in maintaining the gut flora.
- **Get a good night's sleep:** Sleep makes both your

mind and body rest after a day of tiring work. Lack of sleep causes a lot of problems in your body. So, ensure that you get adequate amount of sleep. At least 7 to 8 hours of uninterrupted sleep is important.

- **Exercise:** Research has shown that daily exercise leads to a healthy body. And a healthy body means a healthy living. Practice a good exercise routine that suits your body. Be consistent with it.
- **Reduce consumption of processed food items:** When food is processed, its nutritional value decreases. Also, added preservatives can cause harm at times. Processed food can contain more amount of salt which leads to increase in blood pressure.
- **Keep the company of positive people:** Always try and mix with people who are optimistic and have a positive mindset towards life. Positive mental health is crucial for a healthy living.
- **Stay away from substance abuse:** Cut out on alcohol and tobacco. These cause significant harm to your body.
- **Get your regular health check-ups done:** Many a times, diseases don't show up symptoms until it's too late. Ensure that you get your regular health check-ups done to stay healthy.
- **Take care of your emotional well-being:** Practice mindfulness, stay contented, enjoy your hobbies, stay connected with friends and family, and take life as it comes. Don't run away from the obstacles faced by you in life. Learn to handle them effectively. Enjoy life.

Disclaimer: The views and opinions expressed by the doctors are their independent professional judgment and we do not take any responsibility for the accuracy of their views. This should not be considered as a substitute for physician's advice. Please consult your treating physician for more details.

Note: This article was created with valuable inputs from Dr. Dipak Shah (Consultant Gastroenterologist), MBBS, MD, MRCP (UK).

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