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GLOBAL PROCUREMENT

7th Annual Supply Chain Management Awards-
Organized by Pune Branch

From the Desk of The National President

Dear Members,

Greetings from National President!!

Historically the month of August has always brought good news for India. The Quit India movement which is popularly known as August Kranti began on 8th August 1942, India gained Independence on 15th August 1947. This year August month again turned out to be lucky for our Country. India won the first ever gold medal in individual event in Tokyo Olympic when Mr. Neeraj Chopra came first in Javelin Throw event. This was also India's best ever performance in Olympic winning maximum 7 medals and were first time within first 50 countries in Medal's tally. However there is a bad news on the geopolitical front. One of our close ally Afghanistan has fallen prey in the hands of Taliban. Now India has to deal with one more hostile neighbour. The development in Afghanistan has proven that individual growth and prosperity has got no meaning if the country is not safe. We should be thankful to our decisive leadership who have taken several steps to secure our country against the enemy nations and have given them a fitting reply for their any act of misadventure.

India is cautiously trending the path of controlling the Pandemic situation. With the possibility of third wave looming large and the slow pace of vaccination, Government is closely monitoring the situation on a day today basis. Except few states, the daily positive cases have significantly reduced in other states. As on date over 60 crore vaccination has already taken place and roughly half of the adult population has been vaccinated.

We are in the midst of the accounting period for the year 2020-21. 33 of the total 52 branches have submitted their audited balance sheet so far. For remaining branches, the audit exercise is in progress. Periodic follow up is being done from NHQ, and NEC members with remaining branches to submit their financials on time. Many of the branches have already completed their AGM and have formed new branch committees for the year 2021-23. Online examination for our various ongoing courses is scheduled from 15th September 2021. Even this time the mode of examination will be online. Various preparations such as freezing the agency for conduct the examination, setting up of question papers etc. is already underway to ensure smooth conduct of examination.

I take this opportunity to wish all IIMMites and their family members a good health and a safe stay.

With Warm Personal Regards

MALAY MAZUMDAR
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From the Desk of Chief Editor

Dear Members,

The value of public procurement in India accounts for approx. 15-20% of GDP. Further, government's push towards upgrading existing infrastructure coupled with scale and magnitude of govt. projects has also resulted in an increased number of procurement opportunities as is evident from "Digital India and Make in India" initiatives, which aims for greater participation in Public Procurement activities from domestic industries with improved connectivity, local design and manufacturing.

Public Procurement not only fulfills the government's obligation towards society for providing better infrastructure & better standard of living but it also helps in boosting the domestic industries by creating a bridge of trust and opportunities among the suppliers and the industry that everybody is free to participate in equitable and transparent manner.

However, in-spite of the fact that Public Procurement is a critical enabler in enhancing the Indian GDP value, no concrete or comprehensive law/act is available to regulate Public Procurement Activities. Instead, the public procurement regime comprises a framework of overlapping administrative rules and guidelines (GFR being the core) sector-specific manuals and state-specific legislation and this is where we need Public Procurement reforms.

Though Govt. have already brought in various initiatives like Government e-Marketplace (GeM), Electronic Reverse Auction, Value for Money Concept, Life Cycle Concept, Price Preference and Purchase Preference Policies, Make in India – Public Procurement Order 2017(last amended on 16th September 2020), prohibition of Global Tender Enquiry up to the value of Rs 200 Crore Rupees, registration of bidders with competent authorityies in India for bidders from border sharing countries before participating in public procurement activities etc. but there is much more scope of bringing reforms which caters the societal, environmental and participation parameters (participation of stakeholders beyond public Procurement Officials).

Govt. is also working on a proposal to include Works Contract under GeM for which cabinet approval is likely soon. This initiative, if rolled out will streamline and standardize the processes thereby reducing the time frame and seamless execution of works contract. Besides this, Govt. is also working on another proposal to make it mandatory for various government departments, ministries, and public sector undertakings to procure products certified by the national standards body — the Bureau of Indian Standards (BIS). In case, an Indian standard for a particular product does not exist, BIS will have to draw up such a standard within a 'fixed time frame'. These changes have been proposed in the draft amendments to the public procurement norms moved by the Department for Promotion of Industry and Internal trade.

Another Important thing is that now there is a dedicated portal for MSMEs and other companies participating in government procurement to file grievances for alleged violation of Public Procurement (Preference to Make in India) Order, 2017, launched by DPIIT with effect from July 1, 2021.

Public Procurement reforms alone won't serve the purpose of efficient, effective, equitable and transparent public procurement system but with these initiatives or reforms, there is urgent need for trained professionals in Public Procurement and for refresher training programs in Public Procurement to give the best value to the country for every rupee spent in Public Procurement.

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THE LOGISTICS OF COVID-19 VACCINATION-CHALLENGES & OPPERTUNITIES

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1. Introduction : Vaccination is a simple, safe, and effective way of protecting people against harmful diseases, before they come into contact with them. It uses your body's natural defenses to build resistance to specific infections and makes your immune system stronger.

Vaccines train your immune system to create antibodies, just as it does when it's exposed to a disease. However, because vaccines contain only killed or weakened forms of germs like viruses or bacteria, they do not cause the disease or put you at risk of its complications. Most vaccines are given by an injection, but some are given orally by mouth or sprayed into the nose.

The most commonly used vaccines have been around for decades, with millions of people receiving them safely every year. As with all medicines, every vaccine must go through extensive and rigorous testing to ensure it is safe before it can be introduced in a country. An experimental vaccine is first tested in animals to evaluate its safety and potential to prevent disease. It is then tested in human clinical trials, in three phases:

- Phase-I : The vaccine is given to a small number of volunteers to assess its safety, confirm it generates an immune response, and determine the right dosage
- Phase-II: The vaccine is usually given to hundreds of volunteers, who are closely monitored for any side effects, to further assess its ability to generate an immune response. The data are also collected whenever possible on disease outcomes, but usually not in large enough numbers to have a clear picture of the effect of the vaccine on disease. Participants in this phase have the same characteristics (such as age and sex) as the people for whom the vaccine is intended. In this phase, some volunteers receive the vaccine and others do not, which allows comparisons to be made and conclusions drawn about the vaccine.
- Phase III: The vaccine is given to thousands of volunteers, some of whom receive the investigational vaccine, and some of whom do not, just like in Phase-II trials. Data from both groups is carefully compared to see if the vaccine is safe and effective against the disease it is designed to protect against.

Once the results of clinical trials are available, a series of steps are required, including reviews of efficacy, safety, and manufacturing for regulatory and public health policy approvals, before a vaccine may be introduced into a national immunization programme. Following the introduction of a vaccine, close monitoring continues to detect any unexpected adverse side effects and further assess effectiveness in the routine use setting among even larger numbers of people to continue assessing how best to use the vaccine for the greatest protective impact.

It was a source of tangible hope and relief when it was announced in November that three viable COVID-19 vaccine options will soon be available to the public. The developments from Pfizer, Moderna, and Oxford/ AstraZeneca have come at phenomenal speed and the deployment and distribution of these vaccines bring to light an entirely new set of challenges for logistics companies already experiencing a year unlike any other.

With a huge surge in ecommerce since the start of the pandemic, logistics companies have been experiencing peak-like volumes for months and the 2020 holiday season promised to stretch capacity even further. The deployment of COVID-19 vaccines thrown huge challenges due to the volumes required, but also involving the intricacies of transportation and storage; testing the robustness of Global supply chains.

2. A 'Perfect Storm' for Supply Chain Capacity

After millions of shoppers moved online in the wake of COVID-19 lockdowns, volumes increased and capacity was stretched to the max; sending postal and air freight rates soaring. Given the time of year and holiday shopping about to take full flight, the collision of ecommerce and COVID-19 vaccine shipments is something of a 'perfect storm' in logistical terms.

A lot of companies re-stocked inventory because of the surge in ecommerce, and at the same time, there were releases of the iPhone, the new Galaxy phone, the new PlayStation, and the new Xbox – that put a lot of

pressure on the capacity of the global supply chain. That went on a magnitude the likes of which we've not seen in a very long time, if ever, and it's going to be a sustained effort.It's not just a lack of air freight capacity, there haven't been enough drivers, there were not enough cars, vans, delivery vehicles, because everything happend all at once.

3. The Complexities of Vaccine Distribution

Capacity for ecommerce shipping is one thing, and it's something logistics providers have been managing, but the distributions of vaccines on the scale that will be required have been an entirely different ball game. In short, it's the biggest logistical challenge the world has ever seen.

Logistics companies to gear up for abnormal and significantly higher volume for distribution as production of vaccines taken place in full swing. An increased scale of distribution also increased the opportunity for disruption and **some of the key elements of this have been:**

A. Cold Chain Capacity
B. Storage Requirements
C. Last-Mile Delivery

A) Cold chain capacity: It is one of the most important factors in distributing any vaccine, but in the case of some of the vaccine, which needs to be stored at below certain temperature (say -70°c), it is simply something the supply chain may not currently prepared for. Typically, cold supply chain carriers used to transport medical supplies operate roughly between 2°c and 8°c. This is okay for most vaccines, which are stored at around 4°c, and not too far off the requirements for Moderna's vaccine, which is stable for 30 days between 2°c and 8°c, but it is way off the requirements for the Pfizer vaccine.

B) Storage requirements: The cold supply chain issue is complicated further when it comes to distribution, particularly in parts of South America, Asia, and Africa. This is especially in regard to **storage requirements**. Not only is the climate hotter in these areas, but there may not be the infrastructure to support such storage. For example, if a power outage causes refrigeration to fail, the vaccines would likely be rendered useless. Storage capabilities will be hampered further by the volumes required, given that these areas are home to over six billion people combined.

C) Last-mile delivery: It will be one of the biggest challenges as trucking companies not at all keen, not because they're closing down, but because they can't take any more freight. With a shortage of drivers across the board, currently, there was shortage of staff to carry out the last-mile delivery from port to end destination. Once the vaccines arrive, there will be a heavy reliance on local pharmacies for distribution and specialized training will be required. And as for those remote areas, further the major challenge of the last mile to rural healthcare centers, given the conditions required by the vaccine. Once the vaccine arrives, there is the added complexity of different interval periods for a second dose and the process of prioritizing and tracking those who will be offered the vaccine first.

4. Strategy for Preparation

Despite these challenges, the fact that we have three potential vaccines available in the foreseeable future is an incredible feat and the logistical pieces of the puzzle are mobilizing on a massive scale. As much of a huge problem COVID-19 is to the entire world, it's the first time that all the smartest people in the world are working to solve the same problem. That's why the rapid deployment of a vaccine and the rapid deployment of global logistics infrastructure are taking place in order to make sure that everyone is able to get the vaccine safely and effectively.

5. logistics of delivering the vaccine

A few of the ways that organizations are already beginning to address **the logistics of delivering the vaccine:**

a) Investment in freezer farms
b) Retro-fitting equipment
c) Operation Warp Speed

a) **Investment in freezer farms:** The distribution of the vaccine is not going to be a two or three-week operation, it will be a lengthy process over many months. After the initial phase of deployment, as production increases, vaccines will need to be stored for a certain period, whilst supply chains catch up, just like the supply chain of PPE earlier this year. This is why most of the leading logistics companies like FedEx, UPS, and DHL are making massive investments in freezer farm capacity now so that a few months down the line, the vaccines can be stored appropriately before the distribution of second doses.

b) **Retrofitting their equipment:** It is seen that many companies, begin **retrofitting their equipment** to accommodate the storage requirements of the Pfizer and Moderna vaccines.

c) **Operation Warp Speed:** In the US, a few leading logistics companies have the implementation of Operation Warp Speed by leveraging the infrastructure of the US Armed Forces to distribute the vaccine across the country in a coordinated federal response, independent of Pfizer's own supply chain. Clearly, the process of vaccination on this scale is going to be an enormous task.

6. Current Status and Key Challenges in COVID-19 Vaccine Logistics in India

Logistics services are crucial for the healthcare industry to deliver time-critical medical equipment and pharmaceuticals that require cold storage facilities. Some of the primary factors for vaccine logistics include cargo monitoring with supply chain visibility and traceability, vaccine temperature monitoring, and stability testing.

6.1 National Vaccination Program

To contain the spread of COVID-19, National Vaccine Programs are being implemented by many countries globally. Currently, the world average of daily administered vaccine is estimated at 1092 per million as of March 2021, with Israel, Chile, and United States leading vaccination administration. India's vaccination program, which started on 16 January, is attempting to vaccinate 1.36 billion people.

In phase one of the Corona virus vaccination drive in India, healthcare workers were given priority, while in the second phase, frontline workers associated with the containment of the virus were vaccinated. This will be followed by vaccinating people who are 60 years and above and also the population residing at hotspots where the prevalence of COVID-19 is high. People with comorbidities will be given preference in this phase. As India moves to the next phase of vaccine administration, the number of daily vaccines administered is expected to improve significantly.

7. Key Challenges and Growth Drivers

An adequate supply chain and logistics infrastructure, real-time visibility along the supply chain, micro-level planning to organize the administration of vaccines, effective planning and coordination among the agencies involved in vaccine administration, etc. are some of the factors expected to assist in overcoming vulnerabilities in the vaccine supply chain.

Vaccine production in India is expected to benefit from the financial support announced by the Quad nations to increase COVID-19 vaccine manufacturing by 1 billion doses. The stock of items such as syringes and gloves for the frontline healthcare workers is to be aligned with the expected increase in vaccine production in India in the next two years.

Currently, cold chain infrastructure is highly concentrated in urban areas. The inter-state disparity in the distribution of cold-chain points is another area that needs to be focused on to overcome challenges associated with vaccine distribution. With an increasing number of COVID-19 cases in several states due to the second wave of the virus, a wider vaccination program is becoming critical for controlling its spread. As a result, the vaccine supply chain network in India is expected to undergo transformational changes and open up opportunities for cold chain logistics service providers to meet the increasing demand for sourcing, procurement, manufacturing, distribution, and last-mile delivery of vaccines.

The sheer speed of developing and gaining regulatory approval for effective vaccines against Covid-19 has been unprecedented. Transporting them rapidly and safely from manufacturing sites to vaccination centres and doctors' surgeries across the world is possibly the biggest challenge the logistics industry has ever faced.

More than a dozen different vaccines have now been authorised for use in various countries with several more in Phase 3 trials, anticipating roll outs in 2021. Pfizer has stated its intention to produce up to 1.3 billion doses of its Covid-19 vaccine in 2021, whilst Moderna projects between 600 million and one billion doses in the same period. A total predicted capacity of 10 billion doses globally in 2021 means the magnitude of the task is clear. Managing global distribution strategies for a time-sensitive and in some cases temperature-critical product on such a huge scale creates considerable operational challenges. Many pharma companies and global carriers have turned to supply chain technologies including sophisticated parcel transportation management software to help ensure vaccines get to where they need to be in good time.

8. Way forward

After over a year of pandemic-related restrictions across the globe, the coronavirus vaccine is top of mind for just about everyone. This is especially true for the people working tirelessly to transport vaccine doses safely from the manufacturers to the end consumers. Vaccine distribution is an inherently complex process, requiring constant temperature monitoring and adherence to strict shipping standards. The process is further complicated by this specific vaccine's short shelf life and regulations varying from state to state.

The Union Budget 2021 promises increased spending on infrastructure, focusing on new and improved economic corridors, and road and railway infrastructure. The Government's push to port, road and rail infrastructure through various investments, initiatives and projects will further add to the development of the logistics industry in India. With faster construction of the Dedicated Freight Corridors and road highways, not only will the logistics sector benefit, but it will be able to add strong support to our domestic manufacturing programs.

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WAREHOUSE- ECONOMY, EFFICIENCY AND EFFECTIVENESS DEPENDS ON THE "TRADE OFF" MECHANISM!

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Warehouses are such an inevitable element in the supply chain and logistics systems of today and of course the one which create the best value for customers in the business. This realization is not very old and that's why I feel the highest level of innovations are happening in the warehouse management systems; ERP to cloud, pallet trucks to autonomous vehicles, robots and drones. People crave the lapses that are hurting the customers and worry about; as always, the working of warehouses and the burden of the expenditures. They are truly but late; realized that this is what make the business loose in its supply chain without an empathy from the markets and customers. They slowly but fast getting wiped out from the business too.

There are lots of questions that comes in front of us as far as the supply chain and logistics are concerned and professionals like us will ask; what is the very purpose and use of a warehouse in JIT? What is the role and relevance of having a warehouse in the logistics and supply chain system? How warehouse manage and control the markets or manufacturing? Can this or will this in the system give higher values to the business and to the customers? How the expenses of warehouses are getting compensated with the investment on it? Is it really adding value or devaluating the business process? Even though all the questions that required to be answered are too many but we will limit our discussion to one of the most important elements according to me; that is how are we getting the values for our warehouses and what tradeoffs need to be put under monitor to evaluate this?

Let's first understand a little about the warehouse; its purpose and needs in the supply chain. Then we will try to understand the significance of tradeoffs in the system. The facts that we should realize that is that nothing is stable in the

globe. As is the customers outlook are not limited with a few rights but rights changing with the market and the innovations that are happening around; means the customer outlook is keep changing and unless the business can't adapt to or adopt to the changes then the end result will be failure in the business to extinct. Hence whatever happens, unless one is not keeping vigilant on; how to provide values to customer, the market will expel him.

I prefer to call a warehouse in the modern scenario as an arena of operations; timely to get a winning hold. Unless the flow is not established, unless the time is not managed, unless the space is not optimized, unless the resources are not optimized then survival is a big question mark. So, keep up the most important "flow's"; flow of goods, flow of communication and flow of funds in the supply chain and try best to manage it in the way the customers or markets demand else a warehouse is futile.

Warehouse management is like a pack of battery; serially connected operations in the supply chain system and in it the operation of any one battery fails to give the values then the entire supply chain will fail. Below diagram will give you a better idea about the value operations in a warehouse and how this to be made effectively by the best supply chain integration. The value creations can be carried out in many ways like adaptation of technologies to drive processes faster, cross docking, consolidation or deconsolidation, assembling, compilation, packaging and labelling etc. The motto should "more value for every rupee spent".

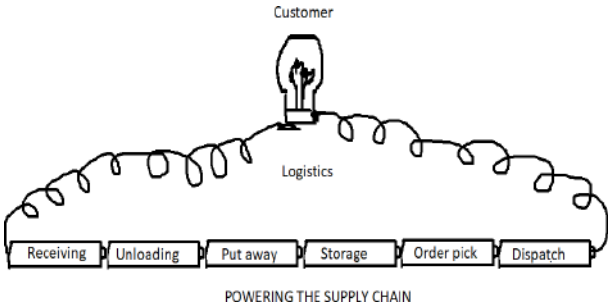

FIGURE 1- WARE HOUSE OPERATIONS

Identify values in the process and make best use of value chain mapping to create higher momentum for every processes.

The below picture will illustrate the operations of a supply chain and the significant role of the warehouses in the system. What is required is nothing but putting wheels on your supply chain operations. The decision to drive this at what speed is what make you compete in the market. Warehouses need to be redefined or re-engineered in this perspective from a temporary place of storage to a place of value activity and creativity. I love to call this principle "The Supply Chain Navigation" principle; and the way you navigate, and the speed you attain in your supply chain journey makes all the difference in your supply chain.

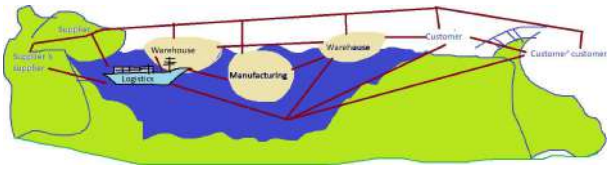

FIGURE 2 SUPPLY CHAIN NAVIGATION PRINCIPLE

So, in the integration of supplier's supplier to customer's customer; the principles one need to follow are:

- Principle of increasing the velocity
- Principles of enhancing the accuracy
- Principles of integration with technologies like AI, Cloud, VR and AR etc.
- Principles of visibility
- Principles of track and traceability
- Principles of values
- Principles of resources optimization
- Principles of agility and flexibility
- Principles of intelligence; market, manufacturing, resources

Understanding the supply chain and the relevance of warehouse as a support system what tradeoffs that we have to look in to, in moulding a functionally efficient optimal warehouse management; a strategy for warehouse management. Here I would like to share with you some of the methods listed in the below tradeoffs pyramid. Our aim is optimization of warehouse resources and a unique customer satisfaction that create repeatability and market expansion.

FIGURE 3-TRADEOFF PYRAMID

To illustrate the matter in details I would like to share with you one of my experiences in the creation of a warehouse for a company in which I worked as HOD – Materials Management; that too in the company premises itself. I will share with you the processes that we had undergone towards making a judicious decision on the warehouse and its operations.

The plant was adequate enough and had a futuristic vision. The question came before us was that, the requirement for storage of raw materials and finished products required and if so, how? The nature of manufacturing was 'making to order' and the question was how important the warehouse itself is. We realized that the future demand we will definitely require one as we have to store more raw materials and finished commodities as per the market both international and national and to meet the seasonality demands.

We formed a team with the production, planning, finance, marketing, materials management to evaluate the pros and cones of this requirement. After provisions of an estimated fund availability; the first question was about the area of requirement and potential scope for space in the future. The decision was positive to have a specific area minimum with expansion ability later after a few years.

The second issue we iterated was on, how good is an own warehouse and what are the positives of not outsourcing this facility. Trading off in the flexibility, technology, adaptation ability and convenience of operation demanded we thought of an own private warehouse.

The next issue we addressed for the warehouse was; how many numbers, where and what size? This was not a big issue as we could easily arrive these figures based on the projections of markets and demands. Our tradeoff in this exercise was the operational cost for a warehouse and the logistics optimization. Apart from the proximity of ports and logistics nodes. Also, we had taken the ease of transportation as a factor for consideration.

After this we tried to find out the costing for equipments and systems. We deliberated on conventional labour oriented versus automated / semi-automated systems and equipments. Here the aim was utilization of cubic space and ease of operations. Our tradeoffs in this decision were; labour optimization, equipment optimization, cubic space optimization, and ease of operation. Accordingly, we decided up on our systems and equipments.

We made a few simulation exercises and workings to conclude our decisions and then took a firm decision for the warehouse construction. At the end we could create a warehouse highly optimized and adaptable with agility for our manufacturing and marketing demands. No warehouse can be made with out a proper research and study. If is an existing one still then a scenario study to find out the ideal economical working need to be carried out and necessary re- engineering made as required to generate values from the warehouses which unless are purely cost centers.

It is imperative that; one should understand the relevance, importance and the tradeoffs in business with regard to the value it can create in the warehouses for sustainable supply chains. So according to me the paradigm shift requirement for a warehouse is from **"storage places"** to **"value places"** from **"cost centers to profit generating centers".** The mantra is "value propositions" of warehouse management towards creating unique customer feeling and satisfaction. Nothing else can charm the customer who remains as king ever.

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INITIAL PROVISIONING OF MRO ITEMS (SPARES, CONSUMABLES & SUPPORT ITEMS)

PART THREE – SPARE PART MANAGEMENT AND EQUIPMENT AVAILABILITY

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1.0. INTRODUCTION

Manufacturing organizations(Companies) purchase Production Equipment (Machine / System / Facility / End Item etc.) with the foremost objective of introducing Newproduction capability. The need for this can arise either from a new Production Requirement or from Replacement of an existingEquipment.So theCompany should ensure the *Equipment'sEffectivenessat its Maximum Extent Possible*for the Production Requirement, at the*Minimum Costof Operation during its useful life*and then only it will be able to generate profit for the company.It is important to mention that *Equipment Availability* is a determining factor of Equipment Effectiveness. In simple Management terms, the *objective* is to achieve Maximum Equipment Availability with Minimum *TotalCost of Ownership (TCO)* of the Equipment, of which *Downtime Penalty Cost forms a verySignificant component.*Downtime includes *Corrective Maintenance Time, Supply Delay Time* and *Administrative Delay Time.*

2.0. OVERALL EQUIPMENT EFFECTIVENESS (OEE)

To generate profit, the Equipment has to perform its intended function with maximum Effectiveness. It emphasizes the fact, that the Equipment has to be:

- ◊ *Available* as per Production Schedule,
- ◊ at the *Rated Production Capability*
- ◊ to produce products with the *Specified Quality Level*.

The need for a metric for Equipment Effectiveness arises at this point and in fact, the above mentioned are the *QuantitativeElements* of *OEE(Overall Equipment Effectiveness)* of an individual Equipment unit. Thus OEE of an Equipment can be measured as a *function of the three Effectiveness Factors namely Equipment Availability [A], Production Rate [P] and Rate of Quality Product [Q].* Asthese three factors mainlysatisfy Customer Requirements, OEE becomes a Customer Centric metric. *S.Nakajima* (#06, 1988) has proposed the following *PeriodSpecific Multiplicative Relationship of the Factors* to measure OEE and it has become the universally accepted principle for the measurement of OEE.

"Based on our experience, the ideal conditions are:

- ♦ Availability …. greater than 90%
- ♦ Performance Efficiency …. greater than 95%
- ♦ Rate of Quality Products …. Greater than 99%

Therefore, the ideal overall equipment effectiveness, should be:

0.90 x 0.95 x 0.99 x 100 = 85+%

The figure is not just a remote goal. All the PM prize-winning companies have an overall equipment effectiveness greater than 85%" (#06 Seiichi Nakajima, 1988, P 28). Thus ***OEE*** *= Availability [A] x Performance Efficiency [P] x Rate of Quality Products [Q].* All expressed in *percentage* or *fraction*. Hence to generate *maximum profit* the *OEE* should be *greater than 85%.* To achieve maximum OEE, the equipment should be Available in the first place. Then and Only then, the factors of Performance Efficiency and Rate of Quality Products come into play to achieve Maximum Effectiveness.

2.1. AVAILABILITY

In general, Equipment *Availability* can be defined as the probability that the equipment will function to its specification standards under stated conditions within a large calendar interval. There are three major Availability types as given in the following:"Inherent Availability (A_i) concerns failures only. Achieved Availability (A_a)includes preventive maintenance and planned downtime. Operational Availability (A_o) considers total downtime, including administrative and logistics times, so:

$A_o = \frac{Uptime}{Total\ Time}$." Equation – 1.(#08 Joseph D. Patton,

Jr. 1984, P1).

[*Total (Active) Time [TAT or TT]*: The calendar interval during which the equipment is installed in its specific Process Location or Production Line in Operable state with the intention of utilization.*Operable:* An equipment's state of being capable of performing its intended function at the specified capability.*Uptime (UT):* The portion of the active time during which the equipment is available to carry out its required function. It is the total of all Uptimes in the Total Active Time.Explanations modified based on data from: MIL-STD-721C-12-JUNE-1981-DEFINITIONS-Reliability &Maintainability.]

Analysis oftime elements of equation – 1 can be done now:

A_o = = = .

A_o = ,Equation – 2. (#03 Douglas K. Orsburn, 1991, P 33).

where Uptime = OT + ST and Downtime = TPMT + TCMT + TSD + TAD.

[*Operating Time (OT):*The element of Uptime during which the Equipment performs its intended function at the rated capability.*Standby Time (ST):*The element of Uptime wherein the Equipment is Operable but not required to perform.*Downtime (DT):*The portion of Active Time during which an Equipment is not in the Operable state.*Preventive Maintenance (PM):* All actions performed to retain an equipment inspecified condition by providing systematic inspection, detection, and prevention of incipient failures.*Total Preventive Maintenance Time (TPMT):* Total preventive (scheduled) maintenance time within the *TAT*. *Corrective Maintenance (CM):* The Corrective actions (inspection, repair, calibration, testing etc.) performed to restore an equipment to a specified condition on account of failure.*Total Corrective Maintenance Time (TCMT):* Total corrective (unscheduled) maintenance time within the *TAT*. *Total Supply Delay (TSD):* Those elements of Downtime, during which needed replacement itemsare being obtained from company storeroomor procured from Suppliers, if not available.It includes time elapsed in the processes of Part Issue from Store, Part arranged on Loan or Supplier Lead Time including Logistics Time.*Total Administrative Delay (AD):* Those elements of Downtime, during which no performance is being accomplished by the equipment because of long or unnecessary procedural or administrative delay.It contains the time spent by User for Maintenance Planning & Control, Part Procurement, Receiving,Inspecting, Accounting and Transportation of Technicians, Equipment and Tools etc. Modified based on data from: MIL-STD-721C-12-JUNE-1981-DEFINITIONS- Reliability &Maintainability and #03 Douglas K. Orsburn, 1991, P 33.]

Operational Availability (A_o) is described again in the succeeding sentence by another author: "Operational availability is an important measure of system effectiveness because it relates system hardware, support, and environment characteristics into one meaningful parameter – a figure of merit depicting the equipment state at the start of a mission" (#03 Douglas K. Orsburn, 1991, P31). Equation -2, provides a realistic measure of availability "when the equipment is deployed and functioning in an operational environment" (#03 Douglas K. Orsburn, 1991, P31). Even though in many operating conditions, it is not feasible to define clearly TPMT, TCMT, TSD and TAD, Operational Availability is the most desirable form of availability to use in the computation of OEE, as it gives a highly realistic measure of Equipment Availability in an *operational environmentwith its Constraints and Surroundings.*

In this article term *Availability* stands for Operational Availability (A_o) unless otherwise mentioned.

The classification of Equipment Time Elements used in the concept of measuring Operational Availability is depicted in Figure 2.1.a.

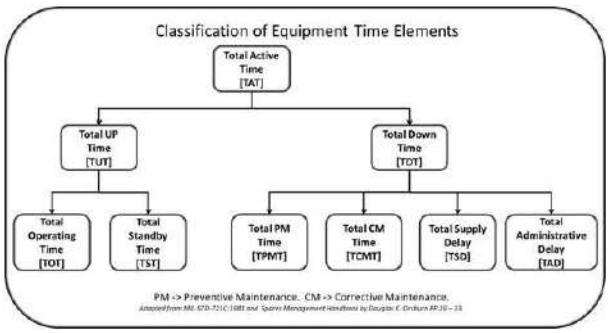


Figure 2.1.a.

3.0. Operational Availability – Analysis and Computation

OEEis period specific and is computed based on the multiplicative relationship of *Availability [A], Performance Efficiency [P] and Rate of Quality Products [Q].* So,to increase the value of OEE and in

turn company's profit, values of factors of OEE have to be increased singularly or collectively. Efficient and Effective Inventory Management System (IMS), can augment the values of OEE factors so as to raise the value of OEE.In this connection the positive impact of Inventory Management on the values of OEE and its factors,needs analysis and review.

3.1. Increasing the Value of OperationalAvailability

Equation – 1,$A_{o =}$ clearly indicates that if *Downtime* is reduced, Availability will be increased. This can be done by minimizing the components of Downtime (*TCMT, TSD* and *TAD*)properly. An important point to note is the fact that TPMT may increase while Availability is raised because the frequency of PM is determined mainly based on *Operating Time*. Hence *TPMT* is excluded from further analyses and computations.

3.2. Factors of Downtime with their Time Elements

The Time Elements of *TCMT, TSD* and *TAD* are shown in Figure 3.2.a. which is self-explanatory.

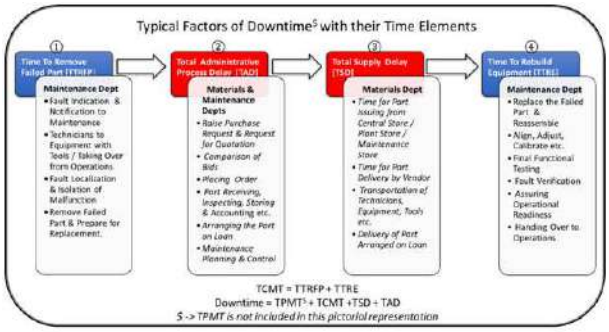
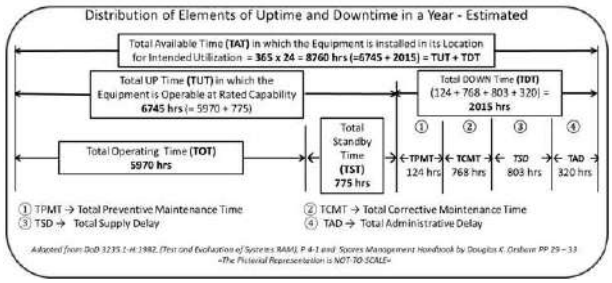


Figure 3.2.a.

Supply and Administrative activities and their inherent delays (TSD and *TAD) can occur several times during a Repair Cycle and that too in any Sequence.* It can be seen that the time expended by these activities except transportation of technicians, equipment and tools, can be reduced to the minimum values with implementation of Scientific(Statistical) Spare Part Management (SSPM) and it will increase the Operational Availability of the Equipment to a very good level. Even *TCMT* can be reduced with strict measures to prevent entry of fake Spare Parts into inventory. And this will further increase Operational Availability. A case study is done to establish the abovementionedfacts in increasing the Operational Availability.

3.3. Case Study: - Coil Shearing Machine

Mild steel coils are cut into sheets of required sizes by the Shearing Machine which is installed after the Uncoiling Machine in the *Uncoiling cum Shearing System*. These data are collected from a Plant of a Trading company. As the log books were not kept properly, estimations had to be resorted, to prepare the data given in Figure 3.3.a. showing the present Distribution of Time Elements which are used to compute Equipment Availability in one year period.



3.3.1. Computation of Availability of Coil Shearing Machine in Figure: 3.3.a.

the Present Situation

Computation of Availability in the present situation is shown in Table 3.3.1.a. below:

Computation of Operational Availability - Present Situation				
Elements of Uptime and Downtime	Present Distribution		Percentage of Time Elements	
	Code	Time Element		
Total Operating Time	TOT_P	5970	68.15%	Uptime
Total Standby Time	TST_P	775	8.85%	77.00%
Total Preventive Maintenance Time	TPMT_P	124	1.42%	Downtime
Total Corrective Maintenance Time	TCMT_P	768	8.77%	
Total Supply Delay Time	TSD_P	803	9.17%	23.00%
Total Administrative Delay Time	TAD_P	320	3.65%	
	Total Hours =	8760	100.00%	100.00%
Operational Availability - Present A_{O-P}				
=ROUND((TOT_P+TST_P)/(TOT_P+TST_P+TPMT_P+TCMT_P+TSD_P+TAD_P),2)		0.77		
ROUND((5970 + 775)/(5970 + 775 + 124 + 768 + 803 + 320),2)				

Table 3.3.1.a.

Availability = = = = 0.77 = 77%.

Total Downtime (TDT) = *TPMT_P + TCMT_P + TSD_P + TAD_P*

= 124 + 768 + 803 + 320 = 2015.

Total Downtime % = = x 100 = 0.23 x 100 = 23%.

According to *Nakajima* the Ideal Availability value should be greater than 90%. Sothe Present value of 77% is not at all acceptable for obtaining a good OEE value. This makes it clear that Total Downtime has to be minimized. The steps to achieve this, are the *Critical Analysis* of components of Total Downtime and then to devise and implement appropriate scientific techniques to minimize it.

4.0. Impact of Components of Total Downtime (TDT) on Equipment Availability

Total Preventive Maintenance Time (TPMT), Total Corrective Maintenance Time (TCMT), Total Supply

Delay (TSD) and Total Administrative Delay (AD) are the components to be analysed and reviewed for Availability (A_O) improvement to increase OEE value.When A_O is increased, TPMT will also increase generally as it is proportional to Total Operating Time. Further its share was only 6% of Downtime. Hence it is omitted in the analysis and review. The past history of Operation and Performance of the equipment were analysed based on the available documents such as log books kept in Production and Maintenance departments and Issue register of Stores. As the documents were incomplete, the Staff members were consulted mainly to arrive at the reasons for major downtime based on their experience and personal records.It was noticed that several Supervisors used to keep their own records of major events for their own follow up. A cross-functional Team did the study of *analysis* and *review* and *recommended solutions to improve Availability and OEE.*

4.1. Total Corrective Maintenance Time - TCMT

This Element accounted for 38% {(768/2015) x 100} of Downtime. On analysis, two main reasons for this high value were identified as given below:

4.1.1. Increase in Frequency of Failures of Spare Parts

As right Spare Parts were not available as required, Substandard ones (Reconditioned /Counterfeit / Fraudulent / Fake etc.) had to be used. This practice increased frequency of failures and reduced MTBF (Mean Time Between Failures).

4.1.2. Increase in Repair Times due to Severity of Failures

Use of Inferior Spare Parts such as Reconditioned and or Counterfeit / Fraudulent / Fake ones caused Secondary or Dependent failures. This type of failures increased the Repair Times with replacement of multiple Spare Parts. AccordinglyMTTR (Mean Time To Repair) was increased.

4.2. Total Supply Delay (TSD)

Total Supply Delay constituted 40%{(803/2015) x 100} of Downtime. Three reasons had contributed to this situation as explained:

4.2.1. Waiting for Spare Parts havingVery Long Manufacturing Lead Time

When right Spare Parts werenot available,they had to be procured. Generally, the manufacturing Lead Time (LT) of Spare Parts is very high and it caused Maintenance department to wait for getting the *Right* Spare Part to complete the Repair and this in turn increased the Downtime.

4.2.2. Delay in Transportation of Part from Manufacturer / Supplier

This is applicable in the Case of Spare Part procurement because of non-availability when needed. In this case also, Maintenance department had to wait for getting the Spare Part, to complete the Repair and this increased the Downtime.

4.2.3. Inordinate Delay in Issue and Transportation of Part from Central Store

All Spare Parts are stored in Central Stores. The plants are far away from the Stores. This causes inordinate delay in Issue and transportation of the Parts and this naturally leads to increase the Repair Times.

4.3. Total Administrative Delay (TAD)

Total Administrative Delay amounted to 16% {(320/2015) x 100} of Downtime. Three reasons are accountable for this circumstance as explained:

4.3.1. Very Long Internal Lead Time in Procurement Process

Going through the Procurement processes, it came to the attention that multiple levels of controls are incorporated to prevent any untoward incidents in the acquisition of valuable and critical Spare Parts. Even though the controls are designed with the best intention, to be in place to make sure to obtain the *Right Quality* Spare Part at the *Right Price*, it causes inadvertent delays in some occasions.In these instances,the controls become Redundant and Superfluous, unfortunately.

4.3.2. Inordinate Delay in Part Receiving, Inspection, Storage, Retrieval and Accounting Processes

The existing Warehouse Management System (WMS) is very slow and does not help the Staff. Many a manual process are also required to complete the Stores processes and this generates *disproportionate* delay in obtaining the Spare Part on time at the place of Repair.

4.3.3. Inordinate Delay in Maintenance Planning, Scheduling and Part Requisitioning

The absence of Maintenance Bill Of Materials (M-BoM) really delays the Part Requisitioning process very much as it has to be done manually. The Maintenance Planning and Control System is not really effective inherently as it is incapable of generating automatic Part Requisitioning. So this also is responsible for the unjustifiable delay in getting the Spare Part at the place of Repair *when required*.

4.4. Impact of Using Inferior Spare Part on OEE

It was observed that the Use of *Inferior* Spare Parts such

as Reconditioned / Counterfeit / Fraudulent / Substandard ones had impacted *Performance Efficiency* and *Rate of Quality Products* in the case of this particular Shearing Machine, as the Spare Part is the *Cutting Blade* which is highly *Critical..*

4.4.1. Impact on Performance Efficiency

The Equipment is used to make sheets of various sizes from MS Coil by cutting. The thickness of coils ranged from 0.25 mm to 1.00 mm. The major problem faced was in the form of *reduction of production (cutting) rate* of sheets as the *Inferior Cutting Blade (the particular Spare Part)* could not match the speed at which the original Part used to cut the MS coils having higher thicknessesfrom 0.80 mm to 1.00 mm. When the Equipment had to be engaged to cut coils of higher thicknesses, the sheets got deformed and or not cut properly. So the distorted sheets had to be removed frequently from the bed after stopping the Equipment.ThusPerformance Efficiency suffered from *Intermittent Equipment Stoppage* and *Lower Production Rate.*

4.4.2. Impact on Rate of Quality Products

Improperly cut sheets drastically reduced the *Rate of Quality Products.* In addition to this, the distorted sheets became *scrap,* as in majority cases, salvaging was not possible at all.

5.0. Recommendations to Improve the Equipment Availability

After the *Critical Study of the Present Situation,* the Team prepared the list of*Observations on the Downtime* and*Contributors of the Downtime.* They reviewed and discussed these with the stakeholders, in detail and presented their *Suggestions* to the Management as listed in the following Table 5.0.a.

Summary of Observations and Recommendations for Improving the Operational Availability of Equipment						
Reasons for High Downtime	Contributors of the Reasons for Downtime	Corrective Actions for Downtime Reduction	Impact of Corrective Actions on :			
			TCMT	TSD	TAD	Availability
1] Waiting for Spare Parts having Very Long Manufacturing Lead Time. 2] Delay in Transportation of Part from Manufacturer / Supplier.	Non-availability of Spare Parts when Required in Needed Quantities.	Design and Implement an Effective Spare Part Management System	N / A	Decrease	N / A	Increase
3] Inordinate Delay in Issue and Transportation of Parts from Central Store to Plant.	Central Store where the Spares are kept is far away from the Plant. This results in a day's delay even, in many cases.	Establish Plant Maintenance Store to keep Spare Parts and Consumables required for the Plant with Minimum Quantities.	N / A	Decrease	N / A	Increase
4] Increase in Frequency of Failures of Spare Parts. 5] Increase in Repair Times due to Severity of Primary and Secondary Failures	Use of Substandard Spare Parts (Reconditioned / Counterfeit / Fraudulent / Fake etc) due to non-availability of genuine Spares.	Establish and Ensure Effective Material Master Data Management from the very beginning of the Project to prevent entry of Substandard Spares and other Materials into Inventory.	Decrease	N / A	N / A	Increase
6] Very Long Internal Lead Time in Procurement Process.	Internal Lead Time is very long due to Duplicate Controls, many of which have become Redundant and Superfluous in practice.	Procurement Process needs Review to remove Duplicate and Non-Value Adding activities. Controls needs to be evaluated and incorporated based on the Criticality and Cost of Items to reduce the Total Procurement Time.	N / A	N / A	Decrease	Increase
7] Inordinate Delay in Part Receiving, Inspection, Storage, Retrieval and Accounting Processes	Incapability of Warehouse Management System (WMS). Manual processes are also required to complete the WMS.	Warehouse Management System (WMS)needs revamping to minimize the manual processes.	N / A	Decrease	Decrease	Increase
8] Inordinate Delay in Maintenance Planning, Scheduling and Part Requisitioning	Maintenance Planning and Control System is incapable of generating automatic Part Requisitioning. The absence of Maintenance Bill Of Materials (M-BoM) really delays the Part Requisitioning process very much as it has to be done manually.	Maintenance Planning and Control System (MPCS) also needs revamping to minimize the manual processes to quicken the Material Requisitioning . Automatic Material Requisitioning has to be included in MPCS based on Maintenance Bill Of Matwerials (M-BoM) which has to be created.	N / A	N / A	Decrease	Increase

Table 5.0.a.

The above recommendations are expected to reduce the Total Down Time to achieve 90% Operational Availability of the equipment. The expected values of Time Elements, after implementing the suggestions, are shown below in Table 5.0.b., for comparison and feedback purposes:

6.0. Conclusion

Comparison of Values of Time Elements before and after the implementation of suggestions is not presented in this article, because of non-disclosure agreement. However, the inseparable relationship between *Spare Part Management* and *Operational Availability of Equipment* is established.

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PAVING A ROAD TO TURN SUPPLY CHAINS SUSTAINABLE

PREETI MEHRA

It takes tools and strategy to foster greener managerial decisions and spur a circular economy

If companies have to seriously achieve their sustainability goals, their supply chains must mirror their activities. If they want to help other players in greening their portfolios, they have to offer sustainability as a professional consulting service.

Energy major Schneider Electric (SE) that manufactures USB drives to data centres has been doing all this and getting accolades including the best global sustainable supply chain organisation that it bagged last month.

SE is committed to reach carbon neutrality by 2025 and net zero emissions by 2030. For its end-to-end supply chain, the targets are 2040 and 2050, respectively.

Reportedly, Schneider has reduced its supply chains' carbon emissions by over 100,000 tonnes globally in the last three years. It has reduced the environmental impact of its suppliers by pushing them to optimise resources, choose the right materials and make greener managerial decisions. "We are working with all our suppliers, providing them access to knowledge, materials and machines," says Anil Chaudhry, India country President and MD.

Globally, the company has launched a Zero Carbon Project in which it partners with its top thousand suppliers to halve their CO2 emissions by 2025. The tools developed by SE include a portfolio of digital products and solutions powered by its EcoStruxure platform that are IoT-enabled, plug-and-play, open, and have interoperable architecture. "Globally, thanks to EcoStruxure we were able to save 134 million tons of CO2 emissions in three years," Chaudhry says.

In India SE has been actively trying to increase its sustainability quotient. It has been able to avoid over 25,000 tonnes of CO2 emissions in the last nine years by shifting 60 per cent of its energy consumption to renewable energy, and recycling 85 per cent of wastewater and 93 per cent of solid waste. "Our 200 plus suppliers in India also follow the same methods and benchmarks," explains the MD.

Schneider develops its products with an 'Eco-design' approach — a combination of material, design, technology, usage, and energy mix. For the customer it means the product can be repaired easily, upgraded, and dismantled when it reaches its end-of-life. The company intends to bring 80 per cent of its product revenue under its Green Premium Program by 2025.

Source:www.thehindubusinessline.com

REMISSION OF DUTIES AND TAXES ON EXPORTED PRODUCTS (RODTEP) RATESANNOUNCED : EXPORTERS EXPRESSING DISPLEASURE

SN PANIGRAHI, PMP, PROJECTS, LEAN SIX SIGMA, GST & FOREIGN TRADE CONSULTANT & TRAINER

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After a long wait Government has announced Remission of Duties and Taxes on Exported Products (RoDTEP) Rates for 8,555 Products and set aside Rs 12,454 crore for refunds under the scheme for the current fiscal, that came as a huge relief for exporters by easing the liquidity issues and remove uncertainty from the minds of the trade and industry to have clarity on Export Benefits so that they can fetch now new Export Contracts with proper Cost & Price Financials. It will also helps competitiveness of exports over a long-time horizon.Under the RoDTEP, various Central and State duties, taxes, and levies imposed on input products, among others, would be refunded to exporters. The scheme is intended for the Exporters to make Indian products cost-competitive and create a level playing field for them in the Global Market by **Refund, un-refunded Taxes or Duties / Levies, not Exempted or Rebated at Present by any other Mechanism,** including **Prior Stage Cumulative Indirect Taxes on goods and services used in the productionofthe exported product and such indirect Duties /taxes/levies in respect of distribution of exported product.**

There bate under the Scheme shall not be available in respect of du ties and taxes already exempted or remitted or credited.

Under the WTO rules, certain Taxes & Duties like state taxes on power, oil, water, transportation, and other cesses and local levies are allowed to be refunded.

The scheme was notified on January 1, after discontinuation of the controversial Merchandise Exports from India Scheme (MEIS) after a World Trade Organisation (WTO) ruling stated that it violated the provisions of the global trade body by giving export subsidies for a wide range of goods. The RoDTEPScheme will Not only Replace the Merchandise Exports from India Scheme (MEIS), but goes beyond it to **Refund of un-refunded Taxes or Duties / Levies** as discussed above. **The new RoDTEP is a well-Conceived & Intended Scheme - fully compliant with WTO Norms and need of the hour in this critical juncture in view of Exit of MEIS.**

The RoDTEP scheme came into effect from January 1 this year and allowed the exporters to claim in the Shipping Bill, even though Rates were not Announced. Once the rates are notified, System would automatically calculate the RoDTEP amounts for all the items where RODTEPY was claimed. **No changes in the claim will be allowed after the filing of the EGM**.

The **RoDTEP**scheme along with Rebate of State and Central Taxes and Levies (**RoSCTL**)scheme which was announced for the export of garments and apparels, together would cover **95% of the Tariff Lines for export of goods**which are **categorizedunder the notified 8 digitHS Code.**RoDTEPrates are subject to Review on an annual basis and notify them well in advance before the beginning of a financial year.

However, three sectors of **Steel, Chemicals and Pharmaceuticals would not get the benefit of RoDTEP as they have "done well without" incentives**.

Also, **certain categories which would not avail the benefits of RoTEPinclude export goods which are subject to minimum export price, restricted and prohibited items, deemed exports,** Export of imported goods, Exports through trans-shipment**,** Products manufactured in EOU, EHTP and BTP, **supplies of goods manufactured by domestic tariff area units to SEZs, and products manufactured or exported by units situated in special economic zones,** Products manufactured partly or wholly in aware house under section 65 of the Customs Act, 1962 and Exports for which electronic documentation in ICEGATEEDI has not been generated/ Exports from non-EDIports**.**

Products manufactured or exported indischarge of export obligation against an Advance Authorization or Duty Free Import Authorization or Special Advance Authorization issued under a duty exemption scheme of relevant Foreign Trade Policy also are not Eligible for the Scheme.

The reimbursement of taxes under RoDTEPsuch as duty on power charges, VAT on fuel in transportation, farm sector, captive power generation, mandi tax, stamp duty and central excise duty on fuel used in transportation, Duty on Electricity, Compensation Cess on Coal for Captive Power used during manufacturing etc would make Indian products competitive in global markets as these Duties, Taxes and Levies are being absorbed as Cost.

The Tax Refund Rates range from 0.5% to 4.3% for various sectorsas per Appendix – 4R of Hand Book of Procedures announced vide **Notification 19 / 2015-2020, dated 17th Aug'2021 by DGFT.**

RoDTEP support will be available to eligible exporters at a notified rate **as a percentage of Freight On Board (FOB) value**. Rebates on certain export products will **also be subject to value cap per unit of the exported product to Prevent Misuse of the Scheme by claiming on Inflated Values**.

Mechanismof Issuanceof Rebate:**The Schemewouldbe implementedthroughend-to-enddigitization of issuance of rebate amount in the form of a transferable duty credit/electronicscrip (e-scrip), which will be maintainedin an electronic ledger by the Central Board of Indirect Taxes & Customs (CBIC).** Necessary rules and procedure regarding grant of RoDTEP claim under the Scheme and implementation issues including manner of application, time period for application and other matters including export realization, export documentation, sampling procedures, record keeping etc. would be notified by the CBIC, Department of Revenue on an IT enabled platform with a view to end to end digitization. **The e-scrips would be used only for payment of duty of Customs leviable under the First Schedule to the Customs Tariff Act, 1975 viz. Basic Customs Duty.**

There bate allowed is subject to the receipt of sale proceeds with in time allowed under the Foreign Exchange Management Act, 1999 failing which such rebate shall be deemed never to have been allowed. There bate would not be depend enton the realization of export proceeds at the time of issue of rebate. **Necessary provisions for recovery of rebate amount where foreign exchange is not realized, suspension/ with holding of RoDTEP in case of frauds and misuse, as well as imposition of penalty will also be built suitably by CBIC.**

The **Appendix 4R containing the eligible RoDTEP export items, rates and per unit value caps**, wherever applicable is available at the DGFT portal www.dgft.gov.in under the link Regulatory Updates> RoDTEP'.

Comments :

Issue – 1: Low Rates of RoDTEP

Some Exporters & Industry Bodies, Export Promotion Councils are expressing displeasure over Low Rates announced under RoTEP. They are feeling that Various Duties, Taxes & other Levies suffered at Different Stages in the Entire Supply Chain are not being adequately covered by the Rates. In some cases the RoDTEP rates are much lower than MEIS Rates previously entitled.

Suggestion : Infact Government vide its Circular of 10th August'2020, requested Export Promotion Councils / Commodity Bodies / Trade & Industry Associations / Chamber of Commerce to provide Data w.r.t inputs used in the Respective Export Products in the Specified Proforma Comprising three parts viz. Proforma R_1, R_2, & R_3. Provided ample time to Collect and submit the data. However, unfortunately the data was not completely provided by the Exporters / Industry. They specially found difficulty in providing Data for VAT & Ex. Duty on Fuel Used in Transportation (Inbound & Outbound Transport) in Form R_2 and Incidence of Taxes/ Duties/Levies Borne by the Exported Product on account of Prior Stage Cumulative Taxes on Raw Materials / Inputs Consumed in the Manufacture of Exported Product in the Form R_3. Government & Export Promotion Councils are also not come forward with certain formula to workout prior stage incidents of taxes. Failing which various Incidence of Embedded Taxes/ Duties / Levies on Prior Stage(beyond the First Tier Supply) are not completely captured, resulting in Lower Rates announced.

Nevertheless, Exporters, Export Promotion Councils and Industry Bodies must come out with proper data in the Form R_2& R_3 in case the RoDTEP Rates are found Lower. There is provision in the scheme to review the RoDTEP rates on anannual basis if the Industry provides substantial information and data supporting evidence of higher incidents of embedded taxes.

Issue – 2 : Not Eligible for Certain Categories

By putting some built-in checks in the System to disallow RoDTEP benefit where the benefit of certain other schemes like Advance Authorization, EOU, SEZ etc. are illogical as the Objective of the scheme is to refund, all the un-refunded taxes or duties / levies, Embedded in the Entire Value Chain, those are not exempted or rebated at present by any other mechanism currently in practice.

Suggestion:

At present under various schemes like Advance Authorization, EOU, Jobbing, SEZ etc. Taxes / Duties on only immediate (First Tier) Inputs are being Exempted and no other incidents of Duties, Taxes & Local Levies Embedded in the Entire Value Chain beyond First Tier. There are certain taxes / duties / levies, at different stages at the central, state and local level, which are incurred in the process of manufacture and distribution of exported pro-ducts but are not being refunded under any mechanism currently in practice. For example, in the Processed Food Industry, at the originating Stage Supplies of Farm Inputs like Seeds, Fertilizers, Pesticides, Diesel etc. the Various Taxes are being Suffered are Not being Rebated / Refunded & Absorbed as Cost. Similarly in the Subsequent Stages of Value chain different taxes are being born as Cost.

So, the Rates proposed under RoDTEP are Mutually Exclusive basis with other Schemes, therefore the Benefits of RoDTEP should be allowed to Exporters availing Advance Authorization, EOU, SEZ etc.

Step – 3 : Payment of Interest for Delay

Even as the refund rates were announced eight months after the scheme was notified, the government said that the benefits will kick in from 1st January, 2021. However, the rates were not announced, therefore the Exporters are not able benefit from the Scheme and suffered working capital constraints and financial loss.

Suggestion: Since Exporters are suffered a huge liquidity crisis during the Period and Financial Loss, on genuine grounds and natural justice, Interest at the market rates for the delayed period shall be paid to the Exporters.

Disclaimer : The views and opinions; thoughts and assumptions; analysis and conclusions expressed in this article are those of the authors and do not necessarily reflect any legal standing.

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COVID-19: FORCE MAJEURE EVENT ?

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Following the rapid spread of the novel coronavirus ("COVID-19") that was first reported in Wuhan, China at the end of 2019, the World Health Organization declared infectious COVID-19 to be a pandemic on March 11, 2020.

The outbreak and the rapid spread of COVID-19 has sent shock waves across global markets. It has disrupted supply chains, leading to the closure of several manufacturing facilities globally; serious disruption of air and sea traffic and closure of vital air routes. This is turn has led to the collapse of stock markets around the world, leading to the loss of billions of dollars, which got wiped out in a matter of days. A combination of all these factors has led to a decline in the overall volume of global economic activity, forcing the world economy towards a possible recession.

The current outbreak of the novel Coronavirus (COVID-19), a virus that has wreaked havoc globallyin more than 180 countries, is the most crucial time witnessed by the world lately, in global history. As the clock struck midnight on 25 March 2020, India was officially ordered to be on a 'complete national lockdown'.

Consequently, businesses have been impacted and so have operations and consequently contracts and obligations under contracts are being revisited to assess these impacts. The term that has assumed relevance in contractual context today for businesses today and heard most often is "force majeure" and how will this term be construed in a contract in the background of COVID-19.

What is "Force Majeure" and why it is important concept ? The law relating to Force Majeure (a French phrase that means a 'superior force') is embodied under Sections 32 of the Indian Contract Act, 1872 (the "Contract Act") envisages that if a contract is contingent on the happening of an event which event becomes impossible, then the contract becomes void. It is a contractual provision agreed upon between parties. The occurrence of a force majeure event protects a party from liability for its failure to perform a contractual obligation. Typically, force majeure events include an Act of God or natural disasters, war or war-like situations, labour unrest or strikes, epidemics, pandemics, etc. The intention of a force majeure clause is to save the performing party from consequences of something over which it has no control. Force Majeure is an exception to what would otherwise amount to a breach of contract. Whether a contractual obligation can be avoided on the grounds of force majeure is a factual determination based on the specific terms of the contract. The courts would examine, whether in each case, impact of COVID-19 pandemic prevented the party from performing its contractual obligation. Indian courts have generally recognised this concept and have enforced it where appropriate.

From a contractual perspective, a force majeure clause provides temporary reprieve to a party from performing its obligations under a contract upon occurrence of a force majeure event.A force majeure clause typically spells out specific circumstances or events, which would qualify as force majeure events, conditions which would have be fulfilled for such force majeure clause to apply to the contract and the consequences of occurrence of such force majeure event.

As such, for a force majeure clause to become applicable (should any force majeure event occur), the occurrence of such events should be beyond control of the parties and the parties will be required to demonstrate that they have made attempts to mitigate the impact of such force majeure event. If an event or circumstance comes within the ambit of a force majeure event and fulfils the conditions for applicability of the clause then the consequence would be that parties would be relieved from performing their respective obligations to be undertaken by them under the contract during the period that such force majeure events continue.

Further consequential liabilities, depending on the language of the clause, the parties maybe required to issue a notice formally intimating the other party of the occurrence of such event and invocation of the force majeure clause. Some contracts also contain a provision that if such force majeure event continues for a prolonged time period, the parties may be permitted

to terminate the contract.

This provision is important for businesses as it relieves the parties from performing their respective obligations and which are to be undertaken under the contract and consequential liabilities, during the period that force majeure events continue provided that the conditions for clause to become applicable are met.

What happens if the contract does not have a force majeure clause ?If a contract does not include a force majeure clause, the parties would have to ascertain in light factors such as the nature of the contract, the nature of event and so forth, as to whether Section 56 of the Contract Act (which deals with agreements between the parties to do an impossible act), can be applied to such contract so as to discharge the parties from their contractual obligations.

What is "frustration of a contract" and why it is important concept ? If performance of an act becomes impossible or unlawful, after a contract has been executed, and such impossibility is due to an event which the party undertaking the performance could not prevent, then such contract itself becomes void or one can say that the contract becomes 'frustrated'.Hence, frustration is the happening of an act outside the contract and such act makes the completion of performance of a contract impossible.

Under the Contract Act, the doctrine of frustration of contract is envisaged in Section 56, which states that an agreement to do an act impossible in itself is void. On a plain reading of Section 56 of the Contract Act, it is evident that the section envisages some impossibility or unlawfulness of the performance of the act, which the parties had not contemplated at the time when they entered into the contract. It leads to a pertinent question as to what is such impossible act that would lead to frustration of contract.

The courts in India have held that the word 'impossibility' used in Section 56 of the Contract Act must be interpreted in a practical form and not in its literal sense. Thus, a contract would come under the purview of Section 56 of the Contract Act even if it is not an absolute impossibility, but the contract has fundamentally changed, which the parties had not contemplated at the time of the agreement.

Difference between "force majeure" & "frustration of contract": Under the doctrine of frustration, impossibility of a party to perform its obligations under a contract is linked to occurrence of an event/ circumstance subsequent to the execution of a contract and which was not contemplated at the time of execution of the contract.However, under in case of a force majeure, parties typically identify, prior to the execution of a contract, an exhaustive list of events, which would attract the applicability of the force majeure clause.

Frustration of a contract to be invoked and applied requires that the entire subject matter or underlying rationale for the contract be destroyed. Doctrine of Frustration renders the contract void and consequently all contractual obligations of the parties cease to exist. Frustration of a Contract is a test dehors of contractual provisions and is the end result of events arising after the contract was executed.

Whereas a force majeure is contractual provision contemplating an event, which can result in deferment of performance of contractual, obligations and therefore rights of parties thereunder until such event continue and typically does not absolutely excuse parties from performing their obligations.Typically, where a force majeure event is not specifically covered under a contract, frustration of a contract may be claimed by the affected party, however, if the case is opposite and a particular event is covered as a force majeure event under a contract, frustration of such contract cannot be automatically claimed.

Does the force majeure event have to be unforeseeable? Most contracts provide that for an event to qualify as force majeure, it must be unforeseeable or not reasonably foreseeable at the time of execution of the contract.

Who has the burden of proof to establish a force majeure event ?Courts place the burden on the party asserting force majeure defense to demonstrate the existence of force majeure. Such clauses are construed strictly by the courts.

Would term "act of God" cover COVID-19 ?One such term that is commonly used but little understood is "act of God". This briefing looks at whether, as a matter of English law, "act of God" is likely to encompass the effects of COVID-19.

Whilst the primary focus will always be on the specific words of the FM clause concerned, and the context in which the term is used. Based on this we consider that it can be argued that COVID-19, in principle, comes within the definition of 'act of God'.

It is therefore important that parties who have "act of God" references in their FM clauses do not waive rights they may otherwise have. Arguments can credibly be advanced on either side of the analysis, and so preservation of the ability to advance such arguments is important. Close attention will therefore need to be

paid to the language used in advancing and responding to FM claims in this area.

It could be argued that COVID-19 does not fit into this conception of a natural event, as illnesses, especially one that is spread person to person, involve the agency of humans. It could also be argued that the disrupting event is significantly the regulatory and legislative response of states (and their restrictive effects upon economies). Thus, the causative element is not the virus but the acts of governments. In so far as different governments have responded differently in terms of "locking down" societies and economies, this argument would have greater weight.

Contradicting to above in addition to being of natural cause, an 'act of God' must be "extraordinary" or "overwhelming". It is likely that COVID-19 would satisfy this limb of the definition as it represents an "unprecedented" pandemic, with its effects being similarly unprecedented and may cover under "act of God".

What legal implications could arise in the wake of COVID-19 ? Given the supply chain disruption caused by the COVID-19 pandemic, it is likely that performances under many contracts will be delayed, interrupted, or even cancelled. Counterparties (especially suppliers) to such contracts may seek to delay and/or avoid performance (or non-performance liability) of their contractual obligations and/or terminate contracts, either because COVID-19 has legitimately prevented them from performing their contractual obligations, or because they are seeking to use it as an excuse to extricate themselves from an unfavorable deal. Further, companies may not be able to perform their obligations under their customer agreements because of their suppliers' non-performance and may in turn seek to delay and/or avoid performance (or liability for non-performance) of their contractual obligations and/or terminate contracts. Parties may also cite COVID-19 as a basis for renegotiation of price or other key contractual provisions (e.g. volume of materials exported from or imported into affected areas due to shifts in supply and demand). In this context, it is important to determine if COVID-19 will be considered as a 'force majeure' event.

COVID-19 has affected cross-border trade and the commercial lease arrangements, EPC (engineering, procurement & construction), joint-venture agreements as well as M&A deals in India.It has also impacted the parties ability to meet their contractual obligations due to restriction in movement, stoppage of production, increase in costs due to scarcity of raw materials components, labor shortages, shortage of funds, disruption in the supply chains.Presently companies in various sectors have already declared or are likely to declare a force majeure based on a recent newspaper articles.

With widespread disruption in business, manufacturing and transport, due to COVID-19 the stage seems set for India to see a flood of 'force majeure' invocations. It is expected that over a period of time more and more Indian companies may invoke 'force majeure' clauses in their contracts resulting perhaps in a spew of litigations should parties not come to a workable understanding.Of course, in such events, the courts and arbitrators will have to evaluate and decide each dispute on individual merits, which would be based on the terms of the contract, the intent of the parties, steps taken to mitigate.

Further, in cases where a contract does not have an explicit clause on force majeure, there could be scenarios where parties may try to seek shelter under Section 56 of the Contract Act and seek frustration of a contract.The courts will then have to ascertain whether the contract has become impossible to perform and whether the doctrine of frustration of contract could be made applicable to such a contract.

How the courts will interpret COVID -19 in relation to force majeure provisions will be interesting to watch out in the course of this year once the impact of COVID-19 settles. Presently, the Ministry of Finance has by way of an office memorandum (O.M. No. 18/4/2020-PPD) issued on February 19, 2020 clarified that the disruption of the supply chains due to spread of coronavirus in China or any other country should be considered as a case of natural calamity and "force majeure clause" may be invoked, wherever considered appropriate, following the due procedure. However, such clarification has been provided only with respect to the disruption of the supply chains and as indicated, invocation of force majeure provisions in light of COVID-19 will have to be assessed on a case-to-case basis depending on the terms of the contract entered into between the parties.

It will also be interesting to see the stand which the insurance companies will take vis-a-vis insurance policies taken by companies to cover loss arising due to certain unforeseen circumstances in their businesses, and whether COVID-19 will be covered under these policies. A recent ET article also indicates that experts have said that most insurers will also fall back on the Force Majeure, or "Act of God" clause.

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BLOCKCHAIN TECHNOLOGY AND SUPPLY CHAIN MANAGEMENT

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Abstract

Blockchain technology is the new –age, disruptive digital technology that is bringing paradigm shift in business models across all sectors world over. In this paper, the author focused on understanding the blockchain technology and its relevance to supply chain management. The author has highlighted the core properties of blockchain technology, enabling areas in supply chain management, disrupting SCM with Blockchain Technology, benefits of block chain technology and few use cases. Secondary data was used in this paper. In this paper, it is concluded with expert opinions and initiatives by the union government and the state governments.

Keywords: Blockchain technology, disruptive technologies, supply chain management, smart contracts

Introduction : The 2008 financial crisis caused a lot of people to lose trust in banks as trusted third parties. Many questioned whether banks were the best guardians of the global financial system. Bad investment decisions by major banks had proved catastrophic, with rippling consequences. Bitcoin — also proposed in 2008 — presented an alternative. Bitcoin made digital transactions possible without a "trusted intermediary." The technology allowed this to happen at scale, globally, with cryptography doing what institutions like commercial banks, financial regulators, and central banks used to do:

Blockchain technology have the great potential drive cost-saving efficiencies and to enhance the consumer experience through traceability, transparency and tradability (3Ts). Improving supply chain management and taking it to another level happens to be one of the best use cases of blockchain technology. A block is a digital record of transactions. Individual records are called as Blocks, theses blocks are linked together in single list, called a chain.A blockchain is a time-stamped series of an immutable record of data that is managed by a cluster of computers not owned by any single entity. Each of these blocks of data (i.e block) are secured and bound to each other using cryptographic principles (chain). Blockchain is a shared, distributed ledger. Three types of ledgers are used in blockchain. i.e centralized ledger, private block chain ledger and public blockchain ledger.Blockchain works based on shared, immutable visibility, smart contracts, trust / consensus. It converts the plain text to hashed text by using hashing algorithm.

There are three core properties that make the blockchain unique(RajarishiMitra, 2019):

i. Decentralization

ii. Immutable

iii. Transparency

Decentralization

Legacy organizations and systems have a centralized architecture. However, blockchain allows one to one exercise the principles of decentralization in its operational architecture. This enables to store the data inside the blockchain, everyone owns it. This helps to break down the concept of silos. Figure 1 describes the decentralized ledger concept adopted in blockchain technology.

Figure 1 Decentralized Ledger Concept adopted in Blockchain Technology

Immutability

Immutability means non-tamper able. This si achieved

via the integration of cryptographic hash functions. It is difficult to pay more or less to the suppliers once they have entered the data inside the block. Recently, a case has been reported that payments made to three suppliers without any bill and supplies to an amount of Rs.8 croes. This case is under investigation by CBI. Blockchain helps to such fraudulent practices / transactions.

Transparency

Blockchain like Bitcoin and Etherum are pseudonymous by nature. The public addresses of the companies are captured at all the transactions they have engaged in. This forces them to be honest, something that they have never had to deal with before.

Key benefits of Blockchain

Blockchain technology gives lots of benefits to the businesses. The key benefits of blockchain are:

Table 1 Benefits of Blockchain

Key benefits	Key benefits
Transparency	Real time tracking
Process Integrity	No single point of failure
Empowered uses	Security
High data quality	Reduce cost
Trustee challenge	Trusted transactions
No third party involvement	Unalterable

Figure 2 shows the importance of blockchain.

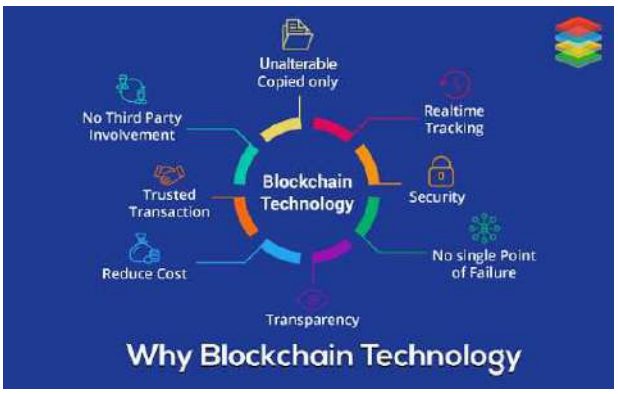


Figure 2 Importance of Blockchain Technology

BlockchainTechnology and SCM

Blockchain technology is used in sourcing & procurement, logistics, tracking & shipment in logistics and maintaining the temperature & humidity in cold chain operations. Blockchain is also used in entering into smart contracts. The pain points in SCM are shown in table 2.

SCM pain points	Traceability	Compliance	Flexibility	Stakeholder management
Capacities	Audit ability	Immutability	Smart contracts	Disinter median

(Source: Krishan K Batra, 2020)

Blockchain has many applications in supply chain management. Table 3 shows the enabling areas in the supply chain management.

Table 3 Enabling areas in SCM

Supplier	Producer	Distributor	3PL	Retailer
RFID	QR Code	Customer delivery data	Origin & destination generation	Merchandising/ leasing

(Source: Krishan K Batra, 2020)

Blockchain technology can be used in public procurement, which amounts to 15% of world's GDP. In India, it amounts to 20% of India's GDP. Therefore, lot of scope is there in this domain to improve transparency and efficiency.

Another, important application of blockchaintechnology is to track food items from farm to fork (F2F). Tracking is possible from farm to package house, then to transport, border crossing, processing to distribution centre (DC) and to store.

Blockchain can be applied in smart contracts. Smart contracts are pre-programmed contracts consisting of chain of events, wherein execution & value transfer and settlement are taking place. Blockchain 2.0 contracts deals with protocols that facilitate verify, enforce the negotiation or performance of a contract, or that make contractual clause unnecessary.

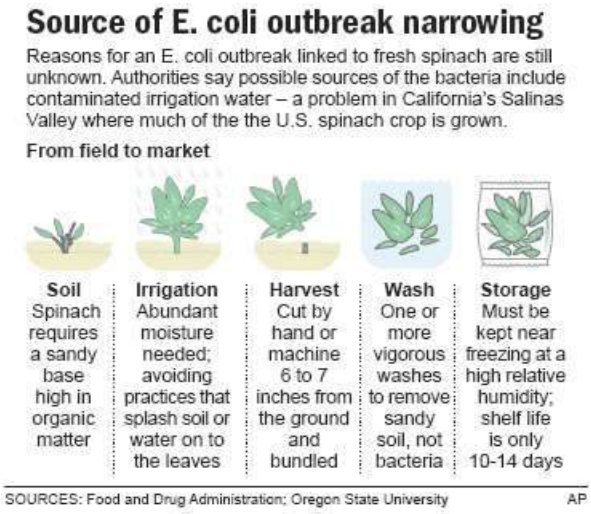
Disrupting SCM with Blockchain Technology

Technology plays a vital role in progress of a country and corporate. Evolution of technology includes, advanced robots & sensors, 3D printing ,IoT, AI & ML, AR &VR, big data, intelligent & distributed production systems and blockchain technology. Every time a product changes hands, the transaction could be documented in the blockchain, creating a permanent history of a product, from manufacture to sale. So it reduces time delays, human error and added costs. In that way blockchain technology is an evolutionary technology. Even subjects expert say that like mobile phones, blockchain technology is going to change the business models.

Use Case 1: The Food Industry

On October 6, 2006, multiple states in the US suffered a major E-Coli outbreak due to spoiled Spinach. This has resulted around 199 people were affected of whom 22 were children under 5 years old. 31 of the 199 developed a type of kidney failure called hemolytic-

uremic syndrome, and, unfortunately, 3 of them passed away.



This is because of one supplier, one farm and one lot. That one farm locked up an entire industry for 2 weeks. For that period, farmers whose entire livelihood depended on spinach were left broke and penniless. All this would have been avoided if there was a better way to trace and track down the defective spinach lot.

To prevent this from ever happening again, big companies like Walmart have teamed up with IBM to incorporate their "Food Trust System" blockchain in their supply management system.

Walmart has already done two test runs with IBM, one with Chinese pork and the other with Mexican mangoes. Walmart and IBM used the "Hyperledger Fabric", a blockchain originally built by IBM and now housed under the Linux Foundation's Hyperledger group for these tests.

Use Case 2: Transportation of Ice Creams

Goods transporting company was engaged by an Ice cream manufacturing for transporting of their ice cream products to their retail outlets located in the city. While delivering the products, they found that the packets are not frozen. This is the allegations made by the transporter, but the manufacturer claims that they have done everything correctly. There is a dispute and mistrust. In these scenarios, blockchain technology provides the solution, i.e gives real time temperature and humidity data of products inside the vehicle..

Use Case 3: Food Poisoning at Restaurant

Family members have visited a star hotel restaurant for their dinner in a major city in India. They had vegetarian food and returned back home. After some time, they have started vomiting, and loose motions. They went to a Doctor nearby and the Doctor told them that due to food poisoning may be reason. Finally, they have reached the restaurant and reported the problems, which, they had faced.

The Food & Beverages Manager told them that within few hours, the causes for the problem will be known. This hotel restaurant has already implemented blockchain technology in their supply chain, so they were able to pin the cause and solved the issues.

Conclusion

Blockchain chain can bring a huge potential in Fintech space in transactions, payments, and KYC type of services that will unlock great value to India. India can create up to $ 1 trillion of economic value from the digital economy in 2025. India is the second-fastest digitizing economy amongst 17 leading economies of the world.

Thirty digital themes can be scaled up nationally to accelerate progress in 9 priority areas by MEITY. According to Blockchain Report 2019 by NASSCOM, the adoption of blockchain technology in India is experiencing rapid growth and investments in blockchain –based projects have touched over $20 billion across various industries.

The report further states that many Indian state governments such as those of Tamilnadu, Telangana, Kerala, Karnataka, Andhra Pradesh, Gujarat, UP and Maharastra are supporting blockchain startups and projects. Mainly, they have done some of the blockchain technology based projects in land registration, e-Governance etc. Gartner research and advisory firm predicts that the blockchain's businesses value will surpass US$ 3 trillion by 2030 (The IEI, 2020). Further, experts are also highlighting the need for implementing in public procurements to improve transparency and efficiency.

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INDUSTRY ASSOCIATIONS TO PLAY A KEY ROLE IN ACHIEVING TARGET OF $400 BILLION MERCHANDISE EXPORTS IN 2021-22: SHRI PIYUSH GOYAL

ALL ISSUES AND CONCERNS WILL BE LOOKED INTO - SHRI GOYAL

SHRI PIYUSH GOYAL ENGAGES WITH INDUSTRY ASSOCIATIONS TO ENSURE ALL AVAIL BENEFIT OF GREAT GROWTH OPPORTUNITIES.

INDIA DEVELOPING A SAFE ECOSYSTEM I.E. SUSTAINABLE, AGILE, FUTURISTIC & EFFICIENT TO MAKE INDIA A GLOBAL HUB OF MANUFACTURING: SHRI GOYAL

SHRI PIYUSH GOYAL INTERACTS WITH THE INDUSTRY ASSOCIATES TO DISCUSS MEASURES TO ENHANCE AND INCREASE EXPORTS

Union Minister of Commerce and Industry, Consumer Affairs, Food & Public Distribution and Textiles, Shri Piyush Goyal today interacts with the Industry Associates to discuss measures to enhance and increase exports.

The Union Minister in his addressed said that interaction will create a roadmap to build a vibrant & robust industry ecosystem. Shri Piyush Goyal appreciated the selfless spirit of all Industry Associations during COVID-19. He said that with collective will, agility & synergies we turned a 'Crisis into an Opportunity, as the Merchandise exports for first 2 weeks of Aug'21 up by 45% over 2020-21 & up 32% over 2019-20 and Merchandise exports for 1 Apr - 14 Aug' 21 up by 71% over 2020-21 and up 23% over 2019-20.

Shri Goyal further added that it is also, time to reflect on how to achieve future targets. He said that India's average applied import tariff dropped to 15% in 2020 from 17.6% in 2019, sharpest annual fall in about a decade and a half and our applied tariffs are way below the bound rate of 50.8% (permissible limit under the WTO), with a positive momentum, India is working in mission mode to achieve target of $400 billion merchandise exports in 2021-22.

Speaking about aim of USD 2 tn contribution of exports by 2030 in economy, Shri Goyal said that economy is on a path of revival and India received the highest ever FDI inflow in 2020-21. It surged by 10% to USD 81.72 bn from USD 74.39 bn (2019-20) and FDI during May' 21 is USD 12.1 bn i.e. 203% higher than May'20 & 123% higher than May'19. The Minister said that from EoDB to Exports and from Startups to Services, India is taking giant leaps in each sector.

Speaking about employment, the Minister said that more than 54,000 start-ups were providing ~ 5.5 lakh jobs, and more than 20 lakh jobs will be created by 50,000 new start-ups in the next 5 years. He said, it is time for our Industry to expand our capacity, capability & commitment to develop resilient global supply chains. He further added that our relentless efforts are a testament to the world of our potential and India's ability to scale and our

Industries have truly inculcated spirit of "SabkaSath, SabkaVikas, SabkaViswas, SabkaPrayas"

Speaking about Prime Minister's clarion call on 6th August, 2021 "Local goes Global: Make in India for the World", he said Quality, Productivity, & Efficiency, will make our export basket Bigger, Better & Broader and Transforming Industries & Transforming Lives through Initiatives.

Shri Goyal talked about Incentivising Manufacturing also, he said Governments focus will be on PLI worth Rs 1.97 Lakh Cr to 13 sectors in next 5 years, Focus on 24 sectors to attract investment, one-stop digital platform to facilitate businesses through Investment Clearance Cell (ICC), One District One Product under which creating a pool of 739 products from 739 districts, India Industrial Land Bank for providing a GIS-enabled database of industrial areas, he said that Centre expects that Indian Industry should suggest areas for intervention through research, handholding of exporters/manufacturers, deeper engagement with States, greater engagement with Missions, etc.

In his concluding remarks, Shri Goyal said that "The key to success is to focus on goals, not obstacles". He said that Indian industry through their conviction & commitment have demonstrated to the world that we can rise to any challenge and conquer it. He further added that Industry Associations will play a key role in developing a SAFE ecosystem i.e. Sustainable, Agile, Futuristic & Efficient to make India a Global Hub of manufacturing and together, we will achieve 'SarvaLokHitam' i.e. growth of industry with 'Quality driven productivity'.

Minister of State for Commerce & Industry Shri SomParkash and Minister of State for Commerce & Industry Smt. Anupriya Patel also addressed the meeting.

DGFT, DPIIT, The SCALE committee (Steering Committee for Advancing Local Value-Add and Exports), CII, FICCI and ASSOCHAM made presentation on subject "Measures to Increase Exports & Achieve Export Targets of 2021-22".

Dr. PawanGoenka Chairman, MD & CEO, Mahindra & Mahindra Limited, Shri DilipChenoy, Member Secretary General, FICCI, Shri Deepak Sood, Member, Secretary General, ASSOCHAM, Shri Deepak Bagla Member, CEO, Invest India, Shri SalilSinghal Member, Chairman and MD, PI Industries, MrGautam Nair, Chairman, CII Footwear and Leather Accessories Committee, Smt. Manmeet K. Nanda Member (Convener) Joint Secretary, DPIIT , Shri ChandrajitBenerjee Member Director General, CII, Shri Seshagiri Rao MVS (through VC) Member JMD & Group CFO, JSW Steel, Shri S. Suresh Kumar Member Joint Secretary, DoC of SCALE committee participated in the meeting.

Mr Vijay Sharma Director Federation of Indian Chamber of Commerce & Industry, Senior Dr Vinod K Verma Vice President, Jindal Stainless Reliance Industries Limited , Vikash Agarwal, President Indian Chamber of Commerce, Sh. Sanjay Aggarwal, President, Economics PHD Chamber of Commerce & Industry , Mr. Arun, President ,The Southern India Chamber of Commerce & Industry , Shri Vinesh Mehta, President, Federation of Associations of Maharashtra, Mr. JuzarKhorakiwala, President, IMC Chamber of Commerce and Industry (formerly Indian Merchants' Chamber), Mr Praveen Khandelwal, Secretary General , Confederation of All India Traders and other Industry Associate, Mr. JagdishFofandi, National President Mr. Elias Sait, Secretary General, The Seafood Exporters Association of India, Rajiv Mehra, President Mr. Ravi Gosain, Vice President, Indian Association of Tour Operators Maj (Retd.) Nikhil Saini, Director Public Policy EICI Mr. VasudevanRajagopalan, Head Customs Compliance DHL , Express Industry Council of India, Mr.KiranRambhia, President Mr.Paresh Thakkar, Hon.SecretaryBrihan Mumbai Custom House Agents Associations, Mr. Shankar Shinde, Chairman – Elect Mr. DushyantMulani, Honorary Secretary, Federation of Freight Forwarders Associations of India, Mr.VivekJalan, Chairperson Mr. JayantaChakrabort, Chairperson, Bengal Chamber Commerce Industry Kolkata also attended the meeting.

Source: Ministry of Commerce & Industry

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TELESCOPING THE SUPPLY CHAIN
- SUPPLIER'S SUPPLIER & CUSTOMER'S CUSTOMER-

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The concept I am elaborating is an old one. This concept has been elaborated and explained in multiple earlier management principles.

The recent corona pandemic has brought forth the concept in our conscience, management style and our day-to-day workings. This concept was already there and was used by many of us – mostly by the big companies and large enterprises. The corona pandemic has pushed this concept more forcefully and at a much broader and pan-industry level.

Supply Chain

Earlier concept was to look at the supply chain only from the immediate ownindustry perspective. Then the supply chain was broadened. The laws of forward and backward integration was applied to supply chain too.

People started realizing that supply chain can be extended backward towards supplier's supplier side and also forward towards customer's customer side. The telescoping or the integration exercise did not stop at 2nd stage, but was further extended to supplier's supplier's supplier and even further, as per the ability of the enterprise. Similarly, the concept was forward integrated towards customer's customer's customer and even further, again as per the ability of the enterprise.

Common Examples

I shall elaborate a few common examples. These are more prominent and visible on the customer end side.

Paint Industry : We all would have seen TV & print promos of paint companies – Asian Paints, Burger Paints, and so many others. This is mostly before Diwali festival season, but now also on year-long basis.

While we are the customers of the paint companies, but we are not direct or 1ststage customer.

· Distributor
o Wholesaler
§ Retailer
· Consumer

For a paint company, consumer is customer's customer's customer's customer.

FMCG : Similarly we would have seen TV and print ADs by Hindustan Lever, Godrej, Patanjali, Colgate and many others.

Here again the situation is almost similar.

· Distributor
o Wholesaler
§ Retailer
· Consumer

For an FMCG company, consumer is customer's customer's customer's customer.

Food & Drinks : And, here we all would have seen the ADs by McDonald, Domino, KFC and others. Here the situation is less layered.

· Local Partner
o Franchise
§ Consumer

For them, consumer is customer's customer's customer.

Automobile : We would have seen the ADs by Tata Motors, Maruti-Suzuki, Hyundai, KIA and others. Here the situation is much less layered.

· Dealer
o Consumer

For them, consumer is customer's customer.

Automobile industry also present good example for backward-extension of supply chain.

Almost all the automobile companies (OE companies) negotiate for steel purchase directly with steel manufacturers like Tata Steel, JSW, Arcellor-Mittal and others on quarterly or half-yearly fixed-price basis. The steel negotiation is also done on behalf of all their vendors. So here the company reaches to their supplier's supplier.

We all know the reason for these companies to do so.

Telescoping Supply-Chain

The corona pandemic has brought this concept from our sub-conscious level to the forefront.

During the pandemic both the supply lines and demand lines were impacted. And this forced us to look towards them as not one-stage process, but as a multi-stage processes. In-effect we learnt to telescope our supply chains.

The companies realized that they do not have any option but to look beyond their immediate supplier and customer sides.

I shall present few incidents from my own working area. I am sure many of our industry professionals shall correlate with these incidents.

Supplier's Customer

We buy phenolic resin, and in good quantity. During one recent interaction with the supplier I was informed that they have shut their factory, since orders were not there. Then I realized that although my own resin requirement is consistent, however my order is not sufficient enough to keep my supplier's operations running.

Here my supply chain was impacted by my supplier's customer.

· Supplier
o Supplier's Customer

Supplier's Supplier : We buy graphite. During one of the interactions, the graphite supplier stated that there may be supply disruptions, since he could not get graphite ores from mines.

My supplier's supplier impacted my supply chain.

· Supplier
o Mine Owner

Supplier's Supplier's Supplier

We all buy packing material like cartons, boxes, etc. I am sure everyone of us would have faced supply disruptions for their packing requirements during Nov'20-Feb'21 period. The reason was that our packing material supplier were not getting adequate feed-stock of paper rolls from the paper mills. And paper mills in-turn stated that there was scarcity of scrap paper or recycled paper, which was creating this scenario.

Here we had to stretch my supply line 2 steps back to understand the impact.

· Packing Supplier
o Paper Mills
§ Recycled & Scrap Paper Supplier

Supplier's Worker's State

I am sure many of us would have faced this scenario. Here our suppliers could not ensure supplies as they were short on their workforce. And the workforce was not available due to covid related travel restrictions among various states.

· Supplier
o Worker
§ State Govt.

Supplier's Supplier's Supplier's Govt.

We use many steel components in our manufacturing process. We source these components through our various vendors.Our vendors procure steel for the same from steel dealers.

In the month of April-May 2021 period, when the 2nd wave of covid was at its peak, there was all-out shortage of oxygen. In order to boost oxygen supplies, Govt. had diverted the oxygen supplies from industries towards covid-hospitals. One of the industry segment badly impacted by the same was steel manufacturers. This had created all-out shortage of steel, since steel mills were not able to produce steel at normal level.

· Steel Component Vendor
o Steel Dealer
§ Steel Mills
· Central Govt.

There are endless examples of such linkages and inter-dependences. All these highlight the truly inter-connected and integrated world.

End-Note

Going by the above, it shall appear that we should extend our monitoring towards many stages in our supply chain to have proper control of our supply chain.

However, the process can be endless and at some point it may become too complex and impractical at all. After all with the current world perfectly inter-connected and inter-mingled, we shall soon realize that it is not practical to go endless and have the desire to monitor and/or control entire supply chain.

The practical solution is to have reasonable visibility of our supply chain. This shall allow us to get prior intimation of any crisis situation getting build-up in our supply chain and prepare ourselves for the same.

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ESG CHALLENGES IN SUPPLY CHAIN:

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ABSTRACT OF THE STUDY/REVIEW: Environmental Social Corporate Governance challenges in supply chain is considered to achieve increase in demand from customer's stakeholders, in supply chain, as supply chain is considered to be complex, dispersed, rather opaque, also sometimes inflexible, during the span of the maturity in an unregulated market conditions. Supply chain working on a condition of suitability, in a contaminated market, is found not to be suitable for the environment conditions in supply chain.

Environmental Social Corporate Governance challenges in a supply chain with digital solution give visibility, so as to enable, identify, mitigate the key risk areas of vulnerability, also to support every steps of change, in the most ethical manner, with sustainable, resilience, built up by collaborating, also optimizing in supply chain.

Supply chain in order to create an agile, multi-modal, digital, enabled value addition with a proper network, thus enhancing the ethical, environmental conditions in supply chain. Supply chain is considered to proactively manage against any future disruption, risk, thus influencing suppliers, customers to improve the ethical sustainability in supply chain.

Environmental Social Corporate Governance in supply chain tries to investigate incidents, which are built with robust, with internal governance, framework to respond to Environmental Social Governance, issues in supply chain.

Environmental criteria consider the impact of the organisation, operations, environment, ranging from carbon foot print, natural resource, social criteria in supply chain. Social trends are made up of customer relationship, social trends, customer relationship, well-being, privacy, issues diversity in supply chain. Corporate Governance is an operation of an organisation, internal process controls, climate issues, understanding governing risks, opportunities that is critical in supply chain.

Key Words: Environmental Social Corporate Governance: Sustainability: Collaborating: Suppliers: Social trends:

INTRODUCTION: Environmental Social Corporate Governance, also takes up the challenges of undertaking of the screening any risk, disruption, monitoring with due diligence to evaluate the record to monitor, any breaches, evaluate the suppliers based on the Environmental Social Corporate Governance, to implement a framework, ethical practices across supply chain.

Supply chain outsourcing globally on Environmental Social Corporate Governance, with good traceability, transparency, suppliers, activity has become a necessity to Environmental Social Governance, related risks in supply chain. Environmental Social Governance main activity is to develop on procurement or sourcing strategy, to handle suppliers in Tier I and Tier II, as globalization have numerous sub-contractors from sourcing materials, that is to maintain good relationship has become a obscurity, this has made supply chain network management to Environmental Social Corporate Governance risk complicated in supply chain

Environmental Social Corporate Governance , framework is considered as an extension to the organisation, with risk management, activity as such in supply chain, with emerging risk in business, monitoring changes, regulations, with proper environment, labour , thus leading to stringent data security in supply chain.

Environmental Social Corporate Governance challenges the regulations as per agreement in supply chain , as it is accountable to human rights, capable of monitoring response to consumers changes, preferences with liability to risk, bringing reputation to the changes in customer or consumer, as key component in achieving long term risk in demand planning sustainable in supply chain.

PURPOSE OF THE STUDY: Environmental Social Corporate Governance, in supply chain measuring the sustainability, have the positive impact on supply chain investment, business operations, to determine the future in supply chain, with an accurate time of assessment, as it has become difficult to access the market conditions, in supply chain. Supply chain pressure in growing with demand from suppliers, sub-contractors, consumers, customers, with the means of Environmental Social Corporate Governance, having better critical metrics ratings,(average purchase value) as a success with regulatory developers, with the ability to reduce risk, product returns, require an appropriate approach to serve forward thinking of capital investment in supply chain.

Supply chain importance is probably collaborating or gaining the visibility in supply chain, with good data processing of suppliers, sub-contractors that may be able to evaluate the environment, liable for the impact of sharing the data, which may not be necessary to be considered at the time in supply chain. Globalization in supply chain is considered to have many suppliers around the continent, that have been introduced from different places, different languages, different culture, but with the basic requirement, as for this communication becomes a basic issue in supply chain, thus leading to complication for collecting basic data from suppliers or providing with accounting data, as this is liable to simplify the purchase data available, in supply chain. Environmental Social Corporate Governance in order to account the purchase, so as to fully become aware of the impact in supply chain, controls the organisation, so as to ensure and empower with climate change in supply chain.

Environmental Social Corporate Governance with widespread sustainability regulation, in many parts of the continent, with regular features of adding laws, regulation, provision for protecting the manpower in force, labour, with different types of delivery systems, environmental conditions, laws, supply chain procurement has become sustainable in all regulations, that have been targeted in supply chain.

LITERATURE REVIEW: Environmental Social Corporate Governance data in supply chain tends to capture financial data, basic data, analysis of management of energy, use of water, waste generation, employment rights, working conditions, community management, primary data gathering right, with better transparency, accountability, as laid down by Environmental Social Corporate Governance, is liable to encapsulate (essential features expressed) on the operation that is suitable for the organisation, society, environment, with proper of operation of the organisation, society environment, responsible for sustainable growth of about 75% in supply chain.

Environmental Social Corporate Governance, disclosure of data covering the organization in operation areas, with Environmental Social Corporate Governance, with corporate culture is that the market includes sustainability in strategy, as the Environmental Social Corporate Governance principles in procurement process, policies is ensuring that business in supply chain is conducted in the manner with 60% of the corporate social responsibility in supply chain.

Environmental Social Corporate Governance in supply chain, have commitments in the stages of delivery of any sustainable business, redefining corporate eco-system, by creating value to employees, civil society, with initiative, sustainability, which include internal, external concepts, with proper alignment to the new conditions which delay delivers of sustainability in Environmental Social Corporate Governance which constitute about 75% in supply chain

Supply chain with huge demand from customers to innovate supply chain, have to find solutions to meet strategic objections, customer needs, as it becomes a challenge, is that when suppliers are encouraged to meet the challenges of production, more than what is to be produced as per requirement, for need of immediate delivery, also to adhere to the business needs, as the organisation, supply chain can find opportunities to balance between production, delivery, sustainable in Environmental Social Corporate Governance, to collaborate planning to about 60% in supply chain.

RESEARCH METHODOLOGY: Supply chain becomes complex creating and transforming the customers Environmental Social Corporate Governance, disclosures demand from consumers as they become a challenge of the different task that the organization has taken up the Environmental Social Corporate Governance measurement system to activate, the process of gathering the Environmental Social Governance, data to collaborate in supply chain.

Environmental Social Corporate Governance, risk factors across various sectors, in every level in supply chain, from merely third party suppliers, the internal risk relating to supply chain, have direct impact on business interruption in the flow of raw materials, components, parts, materials, have impact on delivery timely, which are likely to affect customer satisfaction, also the financial management ability, of the supplier, leading to the inability to supply the goods at proper time, loss of social responsibility, in operating major reputational environmental organisation, limited to pollution control, environmental conditions, human right, bring increasing in cost, in materials, as consumers will be forced to change the suppliers without any notice in supply chain.

Supply chain Environmental Social Corporate Governance, factors in supply chain business, will be increasingly expected to understand the expertise in supply chain risk, with awareness of the public in supply chain, as issues continues to grow globally in renowned organisation, increasingly, being under scrutiny, only to take action against major Environmental Social Corporate Governance issues among suppliers, with advancement in technology, as it making it easier, less costly, to monitor supply chain. Block chain, virtual reality, technology, could make more supplier, make it easier in large organisation to be virtually prepared to visit the sites to trace the upstream supply chain on the side of the contact in supply chain, allowing the organisation to directly operate in supply chain.

RESULTS: Environmental Social Corporate Governance in supply chain mainly focus on internal, external, supply with internal risk in supply chain, which normally comes into force from third party suppliers, as internal risk relates to working conditions in supply chain.

Environmental Social Corporate Governance impact on management, business affect is felt on number of ways,

interruption in the flow of materials, which may include raw materials, components, parts, as this is also likely to affect the delivery, which may likely to affect the customers in the short-term or long- term in supply chain.

Environmental Social Corporate Governance satisfaction on poor financial management, on the suppliers, leading to inability to supply the goods in just-in-time as per requirement, may likely lose the social licence, resulting in operational facilities with major reputational facilities, linked to pollution, environmental, human rights, abuses, corruption, liable to increase in cost of materials, as the organisation are forced to change the suppliers, in the international context in supply chain management.

DISCUSSIONS AND FINDINGS: Environmental Social Corporate Governance has had the difficulty with supply chain in increasing the complex situation prevailing in the supply chain activities, with increasing complex situations in supply chain, being the risks involved, which is likely to separate risks involved in the organisations day to day functions in supply chain, as the organisation is liable to come in contact with a particular product or service in supply chain.

Environmental Social Corporate Governance has taken into consideration on various risks, also involved in production, distribution, wholesaling, retailing of goods, service, which may also include direct, indirect, manufacturers' suppliers, which involves organisation, individuals all over the continent in supply chain.

FUTURE CONCLUSIONS: Environmental Social Corporate Governance does allow resources, energy, transportation, materials, to be systematically compiled into division of various cost structure, as this can bring down the organisation cost of design to their own process, to have an efficient support from suppliers in supply chain.

Environmental Social Corporate Governance in supply chain trying to establish to improve the management process, with more efficient process, and for materials with proper systems of ordering, bringing down manufacturing cost, responsible for occupational health, safety practices, leading to the overall cost reduction, through increased production, fewer accidents in supply chain.

Environmental Social Corporate Governance in supply chain is to have sustainable principles on product development, which is liable to strengthen, the capacity, for innovation on solution for the product process, transportation to be found to be suitable working with supplier , as these issues are well contained in supply chain.

SOURCES OF INFORMATION FROM ELECTRONIC MEDIA:

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2. **MANAGING ESG RISKS ACROSS YOUR SUPPLY CHAIN: Author Richard Wilson:**
3. **ACTIVATE ESG AND SUSTAINABILITY THROUGH THE SUPPLY CHAIN: Author: Mack Bhatia**
4. **THE INCREASING IMPORTANCE OF ESG ON ORGAGANISATION'S SUPPLY CHAIN Authors: Y.Nguyen: Jonathon Karelse NORTH FUND MANAGEMENT:**

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COMMODITY INDEX

Commodities	Days's Index	Prev. Index	Week Ago	Month Ago
Index	3341.6	3335.1	3307.7	3339.0
Bullion	7300.4	7300.4	7240.7	7613.0
Cement	2497.5	2497.5	2497.5	2463.7
Chemicals	1902.5	1902.5	1902.5	1629.1
Edible Oil	3101.2	3113.5	3095.9	3004.9
Foodgrains	2541.8	2526.1	2452.2	2407.8
Fuel	3629.8	3629.8	3644.4	3644.4
Indl Metals	1919.9	1919.9	1919.9	1919.9
Other Agricom	2389.5	2370.9	2321.4	2283.8
Plastics	2416.7	2416.7	2435.4	2352.0

Source: ETIG Database dated 23rd August 2021

PANIC BUYING @ MATERIAL MANAGEMENT

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"15 to 30-minute queues at almost all petrol stations"

This is the phenomena, when state budged declared and fuel price hike is expected from next day. It is an example of Panic buying by consumer.

Oxford Dictionaries meaning-"The act of buying large quantities of everyday items such as food, fuel, etc. because of concerns about them running out of stock or price rising. Anxiety leads to panic buying and empty shelves in stores".

Panicbuying is the situation where people's perception like threat and scarcity of products, fear of the unknown, and this causenegative emotions and uncertainty, coping behavior.Anxiety of a shortage of the goodsis another potential reason for panic buying.In economy,Panic buying is behavior create rapid increase in purchase volume, obviouslyincreasing the price of a goods.

Panicbuyingat stock market reduces supply and creates higher demand, it leads to inflation. Ininvestment markets fear of missing out buying triggered by mass can amplify panic buying.

In calamities like pandemics, war, governmental policy changes,panic buying happen as a behavioral phenomenonand causes sudden increase in procuring, which results discrepancyin demand and supply. In current Covid19. pandemic there was unintentional demand of medical facility causedscarcity of medical products& services andcaused increase in price. It caused exploitation of needy peoples.

The easy access to social media and information at our fingertips, increases panic buying. It has rapidly become a worldwide incidence. There are some factors allied with panic buying. It is required to psychological understanding of this phenomenon. There is connection between negative feelings and unpredictable events, that lead to changes purchasing pattern. Uncertainty, fear and anxiety, a lack of trust, the perception of the crisis are factors responsible for this phenomenon. Social behaviors and traditionalism, gaining controlis powerful determination in buyers' behavior.the person's perception of the stress is an important component.

Procurementand panic buying : As discussed above,in material management our buyers are also the victims of same phycological state of mind.

Causes of Panic buying: - Following are the threats in the mind of procurement personalleads panic buying.

1. Incomplete knowledge of entire SCM process.
2. Components require for finish goods production, but uncertaintyof available quantity.
3. No faith on system- perception as there might be some error in system.
4. System stock/physical stock disparity.
5. Transittime maybe surge.
6. May be missing material at stores.
7. May be incorrect BoM.
8. May Supplier delay the dispatch.
9. Nonmoving stock may be calculated in plant stock.
10. Supplier may not provide material as per lot size

Impact of panic buying: -

1. Excess inventory.
2. Excess nonmoving parts.
3. Uneven inventory of different parts
4. Excess FG stock
5. Delay in production
6. High cost of production
7. Excess expired shelf-life parts
8. Space scarcity at stores
9. Vehicle detention at stores

Approbations: -

1. Always keep faith on system.
2. Perform periodical system/processhealthcheckup.
3. Align Individual KRA & KPI as per our system.
4. Be calm and patient while procuring.
5. Control your emotions.
6. Perform systematic way of problem solving.

"Feelings are much like waves, we can't stop them from coming but, we can choose which one to surf"

-Jonatan Martensson

DIGITAL LOGISTICS 4.0

Digital solutions for logistics 4.o

Ecommerce warehouse & Customer Portal software in digital Logistics : Digital logistics platform – The world has changed a lot in the last few months. Transformation, which usually happens in a decade, accelerated in a span of 3 months for the new normal. Here are a few e-commerce warehouses incorporated business solutions that can be implemented in your logistics company. Advance and Invoice payments Integrating with payment systems like M-Pesa, Razorpay, etc., the e-commerce portal system allows your customers to make advance payments against transportation orders and against pending invoices.

Showcase your logistics rental equipment : Transportation and logistics company owners who also run the rental business can showcase their rental equipment through the portal. Status of machine availability, day/hour-based pricing calculations, equipment utilization measures, and provisions for extending rental periods can be configured and communicated through the portal.

Initiate the sale of scrap or old business assets : There are provisions in the logistics portal to initiate the sale of scrap and old assets like old trucks, tires, fuel, and so on. The solution can also offer an online tendering option at a later stage.

eCommerce warehouse space booking & tracking : Digital logistics – Your customers can track the warehouse slots available for storage, book the storage spaces, and initiate advance payments. Integrated with smart solutions, the portal also helps to monitor the positioning and environmental conditions of products stored. Interconnected operations with third parties.

Logistics customer self-service portal : The logistics portal with eCommerce logistics allows for smooth interconnected operations with all the stakeholders like customers, partners, and third parties. The system allows for seamless integration with logistic ERP systems without any hindrance to current systems.

Digital operations in logistics : In the supply chain logistics sector, one of the main challenges is **the digitization of the supply chain** in order to optimize time, tasks, and investments. In fact, longer distances, shorter lead times, lack of clarity in goods tracking, fluctuating quantities depending on the period, are forcing surface logistics companies to take the shift in **logistics 4.0**.

However, as this sector is complex because of its numerous actors (producers-platforms-carriers, etc.), some being in the semi and informal sectors, it is not always easy for logistics companies to know where to start: IOT? Artificial intelligence? Drop-shipping? Digital Twin, etc.

Digital platform for logistics operations : In this article, we focus on intelligent **connected objects** and the positive impact they can have on the **supply chain logistics** industries globally. Optimizing the flow of high-value goods, asset tracking, anti-theft equipment, discover how Logistics 4.0 platforms and solutions transform logistics supply chain industries through examples of digitalization.

Cargo Tracking and monitoring in Industry 4.0 : For logistics companies, the **tracking of high-value goods** is a real challenge to know where in the chain the goods are, from their departure from the manufacturing, until delivery to the end customer. For many years, logistics companies have been using Bluetooth tag systems or barcodes, but these technologies need a lot of manual operations. The latter can, therefore, be the cause of shipping delays or errors, not allowing 100% optimization of the time and tasks of the workers.

With Logistics 4,0, however, it is now possible to track inventory goods and production pallets thanks to wireless communication technologies such as **Bluetooth Low Energy.**

Our warehouse management solutions can be offered by logistics companies as a value add to your customers in distribution, manufacturing, etc, whereby the single window logistics services approach could become your competitive advantage.

These digital platforms with wireless communication protocols have detection ranges of up to several hundred meters to track warehouse inventory, forklifts,s and workers in hundreds of square meters.

A leading auto manufacturer, for example, has set up a tracking solution for goods (spare parts) based on technological advances including range, battery life, waterproofing, etc. Corridors are equipped with long-range active readers and spare parts are equipped with Bluetooth tags with 10-year battery life.

The pallet trucks are equipped with Bluetooth readers and allow them to know in real-time the position of each pallet truck and the parts taken into account, transported, or deposited. This technology makes it possible to **optimize the logistics corridors** and thus **save the handlers time**.

Indoor positioning & asset tracking : Today, several wireless technologies meet this need for **indoor locations** such as BLE Mesh technology. This can be deployed easily **without wiring** and ensuring a location **accuracy of 5 and 10 meters** which is enough to locate logistics equipment.

This unique wireless communication technology allows connected objects to communicate with each other and to put back raw data of positions and movements indoors using a gateway (Dell Edge 3000 as an example), which are then transformed into indoor GPS data using our cloud-enabled inventory tracking tool.

Thanks to this one, it is possible to know **in real-time** where the different production inventory is positioned, but also to follow their course inside the site. It makes it possible to know their rack position, to ensure reduced time to locate and thus to reduce investments related to the stocking of product inventory.

Source: logisticsiotsoftware.in

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Finance Minister launches the National Monetisation Pipeline

Asset Monetisation programme has taken shape because of the vision of Prime Minister: Finance Minister

NMP estimates aggregate monetisation potential of Rs 6.0 lakh crores through core assets of Central Government

Union Minister for Finance and Corporate Affairs, Smt Nirmala Sitharaman, launched the asset monetisation pipeline of Central ministries and public sector entities: 'National Monetisation Pipeline (NMP Volumes 1 & 2)'. The pipeline has been developed by NITI Aayog, in consultation with infrastructure line ministries, based on the mandate for 'Asset Monetisation' under Union Budget 2021-22. NMP estimates aggregate monetisation potential of Rs 6.0 lakh crores through core assets of the Central Government, over a four-year period, from FY 2022 to FY 2025.

Volumes 1 and 2 of the report on NMP was released today in the presence of Vice Chairman (NITI Aayog), CEO (NITI Aayog), and Secretaries of infrastructure line ministries included under the pipeline—Roads, Transport and Highways, Railways, Power, Pipeline and Natural Gas, Civil Aviation, Shipping Ports and Waterways, Telecommunications, Food and Public Distribution, Mining, Coal and Housing and Urban Affairs—along with Secretary (Department of Economic Affairs) and Secretary (Department of Investment and Public Asset Management).

Union Minister of Finance, while launching the pipeline, said, "The Asset Monetisationprogramme has taken shape because of the vision of our Hon'ble Prime Minister who has always believed in universal access to high-quality and affordable infrastructure to the common citizen of India. Asset monetisation, based on the philosophy of Creation through Monetisation, is aimed at tapping private sector investment for new infrastructure creation. This is necessary for creating employment opportunities, thereby enabling high economic growth and seamlessly integrating the rural and semi-urban areas for overall public welfare." Smt. Sitharaman further enumerated the reforms and initiatives undertaken by the current Government towards accelerated infrastructure development and for incentivizing private sector investments. This included the recent 'Scheme of Financial Assistance to States for Capital Expenditure', which incentivizes State Governments to recycle State Government-owned asset for fast-tracking greenfield infrastructure.

"The strategic objective of the programme is to unlock the value of investments in brownfield public sector assets by tapping institutional and long-term patient capital, which can thereafter be leveraged for further public investments," Vice Chairman, NITI Aayog, said during the launch. He emphasized on the modality of such unlocking, which is envisaged to be by way of structured contractual partnership as against privatization or slump sale of assets.

NMP is envisaged to serve as a medium-term roadmap for identifying potential monetisation- ready projects, across various infrastructure sectors. CEO, NITI Aayog said, "The NMP is aimed at creating a systematic and transparent mechanism for public authorities to monitor the performance of the initiative and for investors to plan their future activities. Asset Monetisation needs to be viewed not just as a funding mechanism, but as an overall paradigm shift in infrastructure operations, augmentation and maintenance considering private sector's resource efficiencies and its ability to dynamically adapt to the evolving global and economic reality. New models like Infrastructure Investment Trusts & Real Estate Investment Trusts will enable not just financial and strategic investors but also common people to participate in this asset class thereby opening new avenues for investment. I hence consider the NMP document to be a criticalstep towards making India's Infrastructure truly world class."

NMP is a culmination of insights, feedback and experiences consolidated through multi-stakeholder consultations undertaken by NITI Aayog, Ministry of Finance and line ministries. Several rounds of discussion have been held by NITI Aayog with the stakeholders. The pipeline has been deliberated at length in inter-ministerial meeting chaired by Cabinet Secretary. This is therefore a whole of a government initiative.

Secretaries of all infrastructure ministries affirmed their resolve towards achieving their respective targets set under NMP, working jointly with NITI Aayog and Ministry of Finance.

As part of a multi-layer institutional mechanism for overall implementation and monitoring of the Asset

Monetization programme, an empowered Core Group of Secretaries on Asset Monetization (CGAM) under the chairmanship of Cabinet Secretary has been constituted. The Government is committed to making the Asset Monetisationprogramme, avalue-accretive proposition both for the public sector and private investors/developers, through improved infrastructure quality and operations and maintenance. This is aimed at achieving the broader and longer-term vision of 'inclusiveness and empowerment of common citizens through best in class infrastructure'.

National Monetisation Pipeline: An Introduction : Union Budget 2021-22 has identified monetisation of operating public infrastructure assets as a key means for sustainable infrastructure financing. Towards this, the Budget provided for preparation of a 'National Monetisation Pipeline (NMP)' of potential brownfield infrastructure assets. NITI Aayog in consultation with infra line ministries has prepared the report on NMP.

NMP aims to provide a medium term roadmap of the programme for public asset owners; along with visibility on potential assets to private sector. Report on NMP has been organised into two volumes. Volume I is structured as a guidance book, detailing the conceptual approaches and potential models for asset monetisation. Volume II is the actual roadmap for monetisation, including the pipeline of core infrastructure assets under Central Govt.

Framework : The pipeline has been prepared based on inputs and consultations from respective line ministries and departments, along with the assessment of total asset base available therein. Monetization through disinvestment and monetization of non-core assets have not been included in the NMP. Further, currently, only assets of central government line ministries and CPSEs in infrastructure sectors have been included. Process of coordination and collation of asset pipeline from states is currently ongoing and the same is envisaged to be included in due course.

The framework for monetisation of core asset monetisation has three key imperatives.

This includes selection of de-risked and brownfield assets with stable revenue generation profile with the overall transaction structured around revenue rights. The primary ownership of the assets under these structures, hence, continues to be with the Government with the framework envisaging hand back of assets to the public authority at the end of transaction life.

Estimated Potential : Considering that infrastructure creation is inextricably linked to monetisation, the period for NMP has been decided so as to be co-terminus with balance period under National Infrastructure Pipeline (NIP).

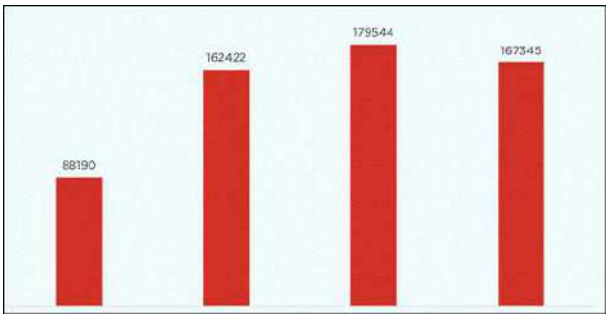
The aggregate asset pipeline under NMP over the four-year period, FY 2022-2025, is indicatively valued at Rs 6.0 lakh crore. The estimated value corresponds to ~14% of the proposed outlay for Centre under NIP (Rs 43 lakh crore). This includes more than 12 line ministries and more than 20 asset classes. The sectors included are roads, ports, airports, railways, warehousing, gas & product pipeline, power generation and transmission, mining, telecom, stadium, hospitality and housing.

Sector wise Monetisation Pipeline over FY 2022-25 (Rs crore)

The top 5 sectors (by estimated value) capture ~83% of the aggregate pipeline value. These top 5 sectors include: Roads (27%) followed by Railways (25%), Power (15%), oil & gas pipelines (8%) and Telecom (6%).

In terms of annual phasing by value, 15% of assets with an indicative value of Rs 0.88 lakh crore are envisaged to be rolled out in the current financial year (FY 2021-22). However, the aggregate as well as year on year value under NMP is only an indicative value with the actual realization for public assets depending on the timing, transaction structuring, investor interest etc.

Indicative value of the monetisation pipeline year-wise (Rs crore)



The assets and transactions identified under the NMP are expected to be rolled out through a range of instruments. These include direct contractual instruments such as public private partnership concessions and capital market instruments such as Infrastructure Investment Trusts (InvIT) among others. The choice of instrument will be determined by the sector, nature of asset, timing of transactions (including market considerations), target investor profile and the level of operational/investment control envisaged to be retained by the asset owner etc.

The monetisation value that is expected to be realised by the public asset owner through the asset monetisation process, may either be in form of upfront accruals or by way of private sector investment. The potential value assessed under NMP is only an indicative high level estimate based on thumb rules. This is based on various approaches such as market or cost or book or enterprise value etc. as applicable and available for respective sectors.

Implementation & Monitoring Mechanism

As an overall strategy, significant share of the asset base will remain with the government.

The programme is envisaged to be supported through necessary policy and regulatory interventions by the Government in order to ensure an efficient and effective process of asset monetisation. These will include streamlining operational modalities, encouraging investor participation and facilitating commercial efficiency, among others. Real time monitoring will be undertaken through the asset monetisation dashboard, as envisaged under Union Budget 2021-22, to be rolled out shortly.

The end objective of this initiative to enable 'Infrastructure Creation through Monetisation' wherein the public and private sector collaborate, each excelling in their core areas of competence, so as to deliver socio-economic growth and quality of life to the country's citizens.

The full report can be accessed here: http://www.niti.gov.in/national-monetisation-pipeline

Source: PIB

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Indian Institute of Materials Management

MISSION

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

OBJECTIVE

- To secure a wider recognition of and promote the importance of efficient materials management in commercial and industrial undertakings.
- To safe guard and elevate the professional status of individuals engaged in materials management faculty.
- To constantly impart advanced professional knowledge and thus improve the skill of the person engaged in the materials management function.
- Propagate and promote among the members strict adherence to IIMM code and ethics.

CODE OF ETHICS

- To consider first the total interest of one's organisation in all transactions without impairing the dignity and responsibility of one's office :
- To buy without prejudice, seeking to obtain the maximum ultimate value for each rupee of expenditure.
- 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.

CIRCULAR ECONOMY AND BUSINESS SCENARIO

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The future of business is circular, and there's no room for waste in it. The new circular economy aims to bring circularity into heart of business leadership and practice.

But what is Circular Economy?

The circular economy is a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible. In this way, the life cycle of products is extended.

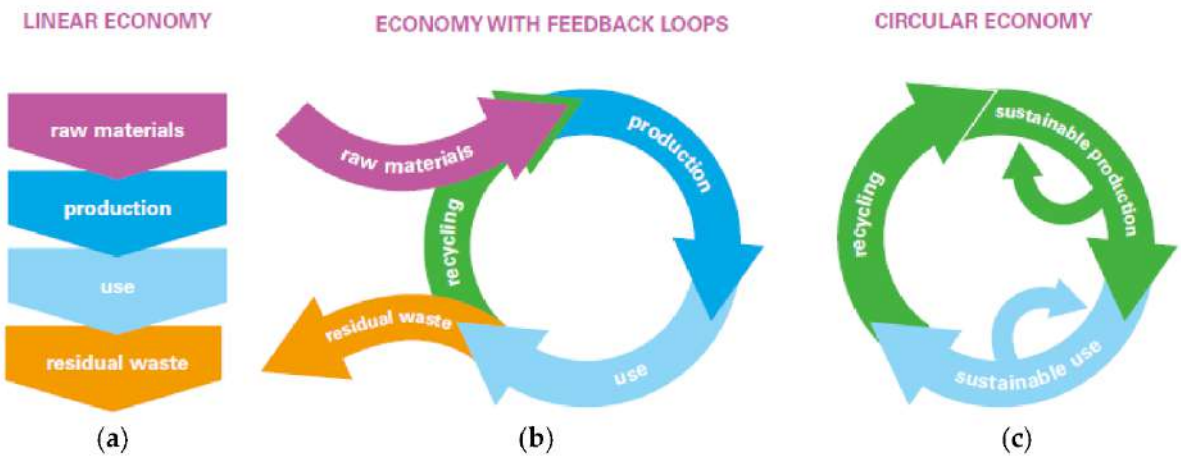
In practice, it implies reducing waste to a minimum. When a product reaches the end of its life, its materials are kept within the economy wherever possible. These can be productively used again and again, thereby creating further value.

Looking beyond the current take-make-waste extractive industrial model, a circular economy aims to redefine growth, focusing on positive society-wide benefits. It entails gradually decoupling economic activity from the consumption of finite resources, and designing waste out of the system. Underpinned by a transition to renewable energy sources, the circular model builds economic, natural, and social capital. It is based on three principles:

- Design out waste and pollution
- Keep products and materials in use
- Regenerate natural systems

Let's see the concept of a circular economy.

- In a circular economy, economic activity builds and rebuilds overall system health. The concept recognises the importance of the economy needing to work effectively at all scales – for large and small businesses, for organisations and individuals, globally and locally.
- Transitioning to a circular economy does not only amount to adjustments aimed at reducing the negative impacts of the linear economy. Rather, it represents a systemic shift that builds long-term resilience, generates business and economic opportunities, and provides environmental and societal benefits.



Technical and biological cycles

- The model distinguishes between technical and biological cycles.

- Consumption happens only in biological cycles, where food and biologically-based materials (such as cotton or wood) are designed to feed back into the system through processes like composting and anaerobic digestion. These cycles regenerate living systems, such as soil, which provide renewable resources for the economy.

- Technical cycles recover and restore products, components, and materials through strategies like reuse, repair, remanufacture or (in the last resort) recycling.

Origins of the circular economy concept

The notion of circularity has deep historical and philosophical origins. The idea of feedback, of cycles in real-world systems, is ancient and has echoes in various schools of philosophy. It enjoyed a revival in industrialised countries after World War II when the advent of computer-based studies of non-linear systems unambiguously revealed the complex, interrelated, and therefore unpredictable nature of the world we live in – more akin to a metabolism than a machine.

Such an economy is based on a few simple principles.

1. At its core, a circular economy aims to design out waste. Waste does not exist: products are designed and optimized for a cycle of disassembly and reuse. These tight component and product cycles define the circular economy and set it apart from disposal and even recycling, where large amounts of embedded energy and labour are lost.

2. Circularity introduces a strict differentiation between consumable and durable components of a product.

i. Unlike today, consumables in the circular economy are largely made of biological ingredients or 'nutrients' that are at least non-toxic and possibly even beneficial, and can safely be returned to the biosphere, either directly or in a cascade of consecutive uses.

ii. Durables such as engines or computers, on the other hand, are made of technical nutrients unsuitable for the biosphere, such as metals and most plastics. These are designed from the start for reuse, and products subject to rapid technological advance are designed for upgrade.

3. The energy required to fuel this cycle should be renewable by nature, again to decrease resource dependence and increase systems resilience (to oil shocks, for example).

Let's see, why do we need to switch to a circular economy?

The world's population is growing and with it the demand for raw materials. However, the supply of crucial raw materials is limited. We need to transform systems across the global economy to ensure that in 2050 more than nine billion people can live well within the limits of our planet. We must see raised ambition across businesses and governments to scale up climate action towards a carbon neutral economy.

The urgency is clear: business, government and civil society must go further, faster to avoid detrimental impacts to people and planet.

How to switch?

What was previously viewed as waste now has value. However, those ecosystems are complex and include many interdependencies and feedback loops. Digital technology has the potential to provide visibility and enable improved decision making when it comes to raw materials and services. Already, 35% of companies believe that digital technology will be a key enabler for their circular economy strategies, but very few are leveraging the technology for this purpose yet."

2020 is the "super year" for climate and many more sustainability-related ambitions including food, nature and the SDGs in general. It will be a defining year if we want to save our planet.

Let's see the benefits out of Circular Economy.

Moving towards a more circular economy could deliver benefits such as reducing pressure on the environment, improving the security of the supply of raw materials, increasing competitiveness, stimulating innovation, boosting economic growth, creating jobs.

Businesses will be capable to capture more value from their materials and resources and also build loyalty with their customer base. Consumers will also be provided with more durable and innovative products that will increase the quality of life and save them money in the long term.

Circular business advantage offers a pathway for both large and small organisations to identify, capture and retain additional revenues or reduce costs while meeting customer demands in new ways. This can lead to relative decoupling of resource use and through lowered costs of access and ownership which benefits economic growth.

Using the tools of a circular economy offers all organisations a lasting advantage by combining more productive ways of doing things, while engaging in more system wide activity: 'feeding the forest' and not just 'doing less harm'.

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LEADERSHIP - THE VUCA PERSPECTIVE

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"In VUCA world, Leadership is not just leading a team in conventional manner but it means leading a team with a Vision, Understanding, Courage and Adaptability"

INTRODUCTION

"A leader is one who knows the way, goes the way and shows the way"

"Management is doing things right, Leadership is doing right things"

"If your actions inspire others to dream more, learn more, do more and become more, you are a leader"

All of us come across such statements on leadership in terms of motivation quotes, LinkedIn, Whatsapp and Facebook status, newspapers, internet and many more sources. Every statement is famous, age-old and proven. Each one of them shows the primary definition or characteristics of a leader. But, is this the only requirement for leadership in current Volatile, Uncertain. Complex and Ambiguous (VUCA) world?

Perhaps, No!!!

But, before understanding the same, kindly go through my previous article on VUCA – THE BASICS OF DYNAMIC GLOBAL MINDSET for understanding what is VUCA? In brief, VUCA is an acronym to describe or to reflect on the accelerating rate of change (volatility), the lack of predictability (uncertainty), the interconnectedness, of cause-and-effect forces (complexity) and the strong potential for misreads (ambiguity) of general conditions and situations. The idea of VUCA has since been embraced by leaders in all sectors of society to describe the nature of the world in which they operate. VUCA is a practical code for awareness and readiness.

Let's see the timeline of Leadership first which is followed in corporates or organizations.

History of Leadership:

Management by Objective (MBO) - If you recollect most of the organizations used to conduct the induction programme of new joinees and upon completion of the same, an employee shall be given a detailed form which shall be filled with consultation to immediate boss. This form includes the "Roles and Responsibilities" which is in fact a procedure of dividing Organization goals into smaller goals for each and every individual. Performance of a particular employee shall be measured against the defined roles and responsibilities. It is called management by objectives (MBO), a tool developed by Peter Drucker - The founder of modern management.

The jack Welch legacy : Everybody in the corporate world is very well aware of the name of "Manager of Century '' - Jack Welch who led General Electric Co. (GE) for more than 2 decades and made it the world's most valuable company.

Welch has redefined the concept of MBO with his most famous tool namely "vitality curve" under which every year, an employee's performance was boiled down to a number on which they were ranked against peers. The bottom 10% were fired, irrespective of their absolute score. It is indeed non-fair practice and not people friendly, even though most of the organizations have adopted the same. This strategy was adopted for lean manufacturing and Six Sigma quality management to produce high quality products at cheaper rate to compete with Japanese products at that point of time.

It was not a long term strategy and most of the corporates understood that strategy shall be 'People Friendly' and they have buried the same including General Electric also.

In the current scenario, businesses could now disaggregate the supply chain and spread it across the world and produce what they wanted where they wanted, depending on cost efficiencies. Simultaneously, Information Technology, Telecom, Offshoring and Outsourcing processes revolutionized services businesses.

Drucker and Welch had mainly focused on cost optimization through continuous improvement with tools like Total Quality Management (TQM), Total Productivity Management (TPM), Business Process Reengineering etc. However, present most of the renowned companies are already cost efficient and focus is shifted from cost to revenue, from continuous improvement to innovation and breakthrough improvements. This is where OKR comes into the picture!

Objectives and Key Results (OKR) : OKR stands for objectives and key results. OKR was developed at Intel Corp in the 1970s by its legendary CEO Andy Grove. Thereafter it was adopted by Google, Microsoft etc and since then, OKR has spread like wildfire. Unlike MBO which is carried out annually, OKR is carried out either monthly or quarterly. In OKR, end results do not matter but the efforts to achieve results and learning during the same matters.

Key differences between MBO and OKR:

Management By Objectives(MBO)	Objectives & Key Results (OKR)
It was introduced by Peter F Drucker in 1954 – Founder of Modern Management	OKR was developed by Intel Corp's CEO Andy Grove in 1970.
It was used by almost all Fortune 500 firms in the 20th century and its success was demonstrated by CEO of the century – Mr. Jack Welch who has led General Electric Co.	It was spread from Intel Corp to Google, Microsoft etc.
MBOs are annual	OKRs are monthly or quarterly
MBOs are top-down approach	OKRs are bottom-up and sideways.
MBOs are pragmatic and risk-averse. In this concept, only the "what" means the goal matters and how to achieve not matters?	In OKR, employees are encouraged to set audacious, aspirational and aggressive goals. It means it is ok to fail, provided the"How" of achieving the goals is transparent, collectively committed and verifiable.
MBO decides compensation	OKR is only loosely tied to raises and bonuses.

The VUCA world : In 2020s, there are no hard and fast rules for managing businesses any more—as the world has gone "VUCA"—volatile, uncertain, complex and ambiguous. In VUCA world the hierarchical organization model is finished and new models are emerging but there is no one dominant model that works for everyone. New times call for new rules but there is no thumb rule for every industry and every situation. Out of the five most valuable companies in the world in 2009, only Microsoft still retains a place in the list. In the VUCA world, competency comes with an expiry date, and it is as true for organizations as it is for people.

How VUCA impacts on Leadership?

The technologies that are amplifying change are also the tools to manage it more effectively.

In Deloitte's "2019 Global Human Capital Trends" survey, 80 percent of respondents agreed that the 21st century has imposed new requirements on business leaders. It is due to various elements of our connected and digital lives. Together, they point to a "VUCA" world that directly challenges the way leaders develop stability and direction for their businesses.

VUCA is dynamic and situational—sometimes things can be fairly clear but then suddenly shift due to outliers, adjacencies, and disruptions. Arguably, leaders today face an extended period of rising VUCA.

The elements of VUCA are not new and they exist since long, but the modern world has amplified them. Amid globalization, instantaneous communications, and innovative ecosystems, leaders are more challenged by continuous change. Watertight Command-and-control management styles appear rigid, unresponsive, and fragile.

Remote management responds to globalized skills, markets, and ecosystems. An effective business finds talent and opportunity anywhere it can, often where it costs the least. Leaders should be comfortable directing across such networks and securing trust without physical proximity. Distributed businesses respond to softer hierarchies and empowerment of teams to act effectively on their own.

This extends to non-humans. A complementary workforce of humans and machines can automate, innovate, and predict at greater scale and complexity. While automation can free leaders from overseeing routine tasks, machine intelligence can help them reckon with complexity.

When change is the only constant, leaders should develop the ability to quickly understand and adapt. Businesses can expand their sensing capabilities—from data analytics and machine learning, to leveraging sales teams and technical support at the edges of the business.

Twenty-first-century leadership may demand greater risk tolerance. A VUCA world almost demands failures, but these can be narrow, measured, and, most important, used to get better information and reduce uncertainty and ambiguity. Leaders may be well-served by anticipating change around every corner, modeling scenarios, and developing agile and adaptive responsiveness, both in their thinking and across their business.

Let's understand each element and its impact on leadership.

Volatility -V component of VUCA: Itrefers to the speed of the change in an industry, market or the world. It is associated with fluctuations in demand and turbulence

in the market. The more volatile the world is, the more and faster things change. The question is how to lead in such volatility?

Here are three ways to lead more effectively in such volatile environment:

Train team to provide meaningful information rather than general data: In a volatile environment, quick decisions are the most important tool to give immediate response to any change. In this digital and AI enabled world, all companies are working online and considerable amounts of big data are available for any events and outcomes. However, such data is of no use until it is processed into meaningful and usable information. Such information will help leaders to make quick decisions with probable outcomes.

Clear Communication: We all are aware that communication within the team and with outsiders is very important.The great orator Winston Churchill always focuses on the small words as those are clear. It's a complex and volatile world and indirect communication generates various meanings as per understanding of listeners. It affects decisions. Hence, clear and focused communication is a great help in between teams. Keep your communication small, clear and to-the point, not be jumbled with jargons and corporate makeover.

Ensure your intent is properly communicated and understood: In any communication, sending a message is one part but it is not complete if the audience is not well received and understands the intent for the communication.Every action, objective or being of person, team or organization is on its own "Purpose" of "Intent". The challenges inherent to a volatile environment require agile leadership and flexible organizations. If your subordinate leaders fully understand your intent, they'll be better equipped to appropriately handle violent and unpredicted shifts in the environment

Uncertainty - U component of VUCA : Uncertainty is a grey area where the predictability of information in events is unknown. Uncertainty often occurs in volatile environments that are complex in structure involving unanticipated interactions that are significant in uncertainty. It happens when people don't have clear information and their predictions are based on assumptions and opinions. Such uncertainty hinders our ability to conceptualize the threats and challenges facing the organizations we lead. A typical mistake during uncertainty is we thought we had a lot more time than we actually have and the mitigation plan fails due to the same.

Here are three ways to lead more effectively in an uncertain environment:

1. **Get a fresh and innovative perspective:**Leader has to always try new innovative ways to solve any challenge and check the possibility of all negative outcomes and its solutions before trying these new ways. To always get a fresh perspective, one has to challenge the appropriateness of conventional ways of doing the particular work or solving any problem. In this process, the concept of Red-teaming is very helpful within the team. Red-teaming is the use of a devil's advocate (one who is always challenging the solutions where the entire team consensus is there) within the leadership team in order to counter the influence of group-think. Red-teamers don't simply argue in the plan; they think and act as the competition requiring leaders to move beyond "that won't happen" to "what if this occurs." The red-team members have no personal investment in the plan, so they don't have problems exposing weaknesses or single points of failure. Red-team membership should be rotated and leaders must be careful to value and protect red-team members from any perceived resistance from other organizational members.

2. **Flexible Planning:** To achieve any objective or goal, a well-thought plan is required. However, sometimes organizations suffer the loss as when there might be change in plan required, leaders believe that they have made a well-thought plan which needs to be followed. Such a plan has no capability to address dynamic situations and it leads to failure. In any organization, plan or system is important but it shall be flexible enough that at the time of requirement, it shall be flexible. A plan should incorporate flexibility and options at its inception.

3. **Glance back, look ahead.** It is prudent to assess the outcomes of our plans and decisions; it's how we get better individually and collectively. However, every review must be conducted at the right level of detail, with the purpose of making the organization better as it moves forward. They should focus on what could realistically be done better in the future, rather than what could have been done in the past. Hence, a leader shall keep an eye on the past to learn things and on the future to implement those learnings.

COMPLEXITY - C Component of VUCA

It refers to the number of factors that needs to take into account, their variety and the relationships

between them. The more factors, the greater their variety and the more they are interconnected, the more complex an environment is. Under high complexity, it is impossible to fully analyse the environment and come to rational conclusions. The more complex the world is, the harder it is to analyse. In complex environments, actions and results are interlinked and affect each other that requires detailed action plan and work allocation. It is like rubik's cube, where if you focus on a single colour and single side to match all yellow colours squares on one side, you cannot solve the same forever. A one has to see all aspects and dimensions at the same time to solve the same.

Following measures can help you to leading in complex environment:

Collaborative Leadership: Leadership doesn't mean that leading peers but it is encouraging peers to achieve defined goals, improve their capabilities, learning from each other and make them leaders for next generations. It is called collaborative and inclusive leadership. In such a collaborative team, each team member understands his/her importance and performs his/her role in the team. This approach can multiply the skills and efforts of the entire team which makes complex goals achievable.

Avoid searching permanent solutions: In a complex environment, a team or organization has to work on many fronts at a time and all problems or situations are interrelated. Further, organization has limited resources to deal with the situation. Hence, it is not necessary to seek permanent solutions for every problem and focus on each problem in too many details. There are chances of ignoring other important issues while dealing with one to eradicate completely. Further, the permanent solution is also not permanent forever as the situation and environment is changing fast in the VUCA world. Hence, focusing on important issues and resolving them to a significant extent can help in a complex environment.

Train peers to fit in your Shoe: In a journey of rewarding career, each team member is running his or her own race in his or her own track. In a complex and highly demanding environment, you cannot do everything on your own as a leader. Nowadays, a leader's most important role is to train future leaders. As a professional, every experienced fellow has his or her own success story to tell others. A leader's job is to impart training, build up confidence and challenge the team members to conquer the challenge and define their own success story to tell others. Put the right resources into their development now, and don't be surprised when they amaze you. That's potential worth investing in. Who knows your peer can dance better than you with your shoe!!

AMBIGUITY - A component of VUCA

A lack of clarity to interpret something is called Ambiguity. An incomplete information which sounds contradictory or inaccurate to draw clear conclusions leads to ambiguous situations. It is also called vagueness in ideas. The more ambiguous the world is, the harder it is to interpret. It is different than Uncertainty. Uncertainty is when relevant information is unavailable and unknown, and ambiguity where relevant information is available but the overall meaning is still not clear.

Leading in Ambiguous environment:

Active Listening: To counter ambiguity, active listening by a leader is most important to understand and analyse the situation. Every subordinate wants to be part of a meaningful work effort and contribute to the team in achieving goals. To maintain and improve this spirit amongst employees, leaders shall draw strength from diversity and listen to every team member. Subordinate leaders will listen to others only as well as we listen to them. Don't create your own friction by hearing just what you want to hear from diverse voices representing valuable perspectives.

Think divergently and remain open for new ideas: Openness to new ideas is a leadership characteristic highly correlated with effectiveness. Diversity of race and gender are most certainly important in order to provide role models for emerging leaders. But we must look for diversity in other ways as well. The days of one best solution are gone for good; see the second- and third-order opportunities inherent in equally attractive solutions.

Set up incremental dividends: Celebrating success is important, especially in an ambiguous environment. When the way ahead is not clear, it is always good to be reassured to have tangible proof that we are moving ahead in the right direction. Our stakeholders need to know that we can achieve small gains over the long term; setting and achieving incremental dividends is a great way to build and maintain momentum, confidence and trust, in both the leader and the organization.

ALL 4 ELEMENTS DETAILS:

We have understood all 4 terms individually along with what measures are required for effective leadership in individual condition. However, it is just for sake of

understanding the same, in the real world all four terms exist at the same time and interrelated. The more complex and volatile an industry is, the harder to predict and therefore more uncertain it will be that creates more ambiguity. Yet, all four represent distinct elements that make our environment - the world, a market, an industry – which is difficult to understand and to deal with.

Thus, we live in the VUCA world where in Business has a very challenging landscape wherein Technology is changing at a pace which was there never before, Redefining Business models, Change in the perspective to measure the value of the product, Cutting Edge innovation.

To address and respond to the VUCA effects, a leader has to build an organization which moves quickly, analyses the situation in the VUCA world and responds with the best possible solution every time. A leader or an organization has to be on its toe and respond to the continuously evolving challenges.

Following measures will help to build such an organization.

1) Build a Responsive Culture

Organizational culture is the face of its value system and it is the identity of any organization. In the VUCA world, organizational culture should be a responsive one and demands agility to respond to the challenges. This activity requires integrity, empowerment, leadership development and continuous learning as the most essential parameters.

To build responsive culture is a leader's prime objective and every leader has to showcase organizational values by practical example and not by words. Leaders must have to be open, available and accessible all the time to all executives to nourish the culture and help them as a lighthouse of the organization's values. It requires strategy like "Performance Connect" rather than age old "Performance Evaluation"

2) Create a Learning Organization

Learning is always a continuous process for individuals and the same is true for organizations also. As like Deming's Plan, Do, Check and Act (PDCA) cycle for quality improvement, **I propose Observe, Analyse, Learn, Act, Evaluate (OALAE) cycle for creating learning organization**.

Leaders are encouraging experimentation with new products, services and procedures. World leading organizations follow some of the following methods to develop a learning organization and same any small organization can also follow.

a) Investing in small scale projects on cross-functional project teams, to find out ways of doing business within their markets. In these projects, different types of conditions are being created where the organization can learn from experience, making work as a curriculum improvement and innovation.

b) At Deloitte, after-action reviews deployed on a routine basis, where work groups take stock of their collective performance following major events or tasks, looking at what worked, what went wrong and what needs to be improved. Several innovations resulted from this process.

c) Many organizations have a culture that after every meeting they find out and record 'what went well, what we could have done better and what have we learned from this?'. It will be used as a learning for the next task or meeting.

d) In a learning organization, leadership or management has the main responsibility of keeping trust on the employees. For any good performing organization, it is necessary that any bad news / information of failure shall travel fast from bottom to top and anything which is alarming and needs immediate action shall travel exponentially fast. Leadership shall encourage all employees to give such feedback without fear of any bad reaction from management.

3) Effective People Management and Training:

As parents are investing in the child's education, skill development, knowledge enhancement and more importantly shape them in a family or social culture. Same care and nourishment is required for employees as well. In the VUCA world, agility in the organization is most important which requires employees who have the knowledge, skills and personal attributes to operate within the corporate culture they are trying to establish. Employee training programs are planned and delivered to create a workforce that embodies the culture. Leader development efforts leverage stretch assignments and work experiences, which are supplemented with supportive coaching and mentoring to grow and expand the leadership batch of potential executives.

Every company has to develop their inhouse training programmes as per organization needs or collaborate with any training institute for developing customized training programmes as per need of the organization.

Such training prepares professionals for the complexity and ambiguity inherent to the business environment

and to help clients solve their challenges.

4) Listen, Be Patient and Be Persistent towards goal:

It is last but not the least to listen carefully to all feedback received through employee surveys and customers feedback programmes. It provides indications for how internal and external stakeholders perceive change efforts. They also believe it's important to be visible and available to employees—listening to employees at all levels share their stories and experiences with change.

They employ "leadership by walking around." The executives expect the changes to result in better performance of the business. Although they are anxious to see early results, they also understand that many of their efforts will need time to fully blossom. While they understand the importance of patience, they are eager to celebrate early successes and anticipate making great progress.

Perhaps this is the most important takeaway: Excellence in a VUCA environment takes time, requires strong leadership and agile, resilient team members dedicated to being learning leaders who persevere in the face of resistance and setbacks.

In the VUCA world, everything is not unpredictable and following are some of the facts which can be predictable and helpful to leaders to decide strategy. Following are meta-phenomena with trends that exist in the VUCA world.

a) Urban concentrations: The majority of the globe's population now lives in cities and this will continue to increase in the decades ahead. By mid-century, most of the top 10 megacities in the world will be in the developing world. With urbanization generally come longer life expectancies, lower birth rates, and greater economic prospects.

b) Climate changes: For the sake of counterfeiting impacts of climate change, all political leaders across globe just meet in the conferences with no results and only debating over the exact timing and consequences, the consensus that we are indeed in the Anthropocene era, in which human activity is altering the climate is only strengthening. Sea levels will rise, extreme weather events will multiply, and water sources and agricultural production will be less reliable.

c) Demographic shifts: Globally, the North and West are getting older, and the greatest concentrations of youth will be in the South and East. Tensions are likely to rise as the bulk of economic wealth and opportunity remain beyond the reach of many people.

d) Technology advances: We will be ever-more connected by devices that are smaller, faster, and less expensive. Each of these phenomena can be used as a lens on your business and industry to make it easier to discern what may be coming.

e) Get curious, and get out of your comfort zone. VUCA is a condition that calls for many penetrating, challenging, open-ended, analytical questions. One has to constantly think, innovate and implement new measures to counter the effects of VUCA. One has to come out of comfort zone due to uncertainty. The complexity in VUCA is centered on dynamic relationships in which similar inputs may yield vastly different outputs. It is critical to know which forces are positive, which are negative, and which could go either way. Continually asking questions will help you see patterns and make more accurate predictions. As a leader, you must encourage open, direct feedback as well as ideas that challenge the status quo.

Conclusion:

The meaning and coverage of the term 'Leadership' has changed significantly from conventional to Management by Objectives (MBO) to Objectives and Key Results (OKR). But, in VUCA world demands unique and dynamic leadership skills. VUCA allows failures, but these can be narrow, measured, and shall be used to get better learning for the next course of action which in turn reduce uncertainty and ambiguity.

We humans crave certainty and that's why constant change in the environment sends us on edge. People worry about their jobs, status, and influence. This can hurt engagement, productivity and the willingness to act independently. A leader's job is to reassure the team through stability and transparency of process. A leader has to be clear about decision-making criteria and signal acceptable tolerance for learning-based mistakes that are inevitable in a fast-changing environment. Leader has to consider failures as a resource and identify the learning out of them. Such leadership creates faith amongst the people and they can perform in a better manner.

VUCA calls for a leadership response - Vision, Understanding, Courage and Adaptability.

All the best to be VUCA ready and VUCA enabled Leadership.

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POST-COVID ECONOMIC GROWTH WILL COME THROUGH INDIA'S PORTS

PARAS PAREKH, YOUNG PROFESSIONAL
NITI AAYOG

While Covid-19 has put the world in a major humanitarian crisis, it also has ravaged the foundations of our globalised economy. Possibly every country, big or small, has been impacted by this virus. This pandemic has led to deep supply and demand shocks, thereby disrupting international trade, and imposing severe economic pain. Economists at World Trade Organization project world merchandise trade volumes to fall by 13% to 32% (the fall was 12% at the peak of 2008 crisis) depending on how the crisis evolves. Given this macroeconomic landscape, hard decisions taken by India's Central and state governments and market regulators have helped to some extent mitigate the pandemic's economic fallout.

To chart the way forward, the 2008–09 Global Financial Crisis can be used as a good precedent here. The lesson learnt was that when laying the foundation for a strong recovery, 'trade' becomes an important ingredient in addition to fiscal and monetary policy measures. Given that the resulting economic crisis is even deeper than the 2008 depression, all three forces—fiscal, monetary and trade—must pull together.

Our ports and shipping sector is a key driver of trade for India. Moving more than 90% of our international cargo volume, the importance of maritime transport for India's economic development cannot be over emphasized. India is blessed with over 7500 km of coastline along the Indian Ocean region; it is host to one of the world's most important trade crossing—connecting Far East with Europe. Nearly 50% of the world maritime trade, 50% of container traffic and 70% of trade in energy sails through the Indian Ocean region. This region is the epicentre of economic activity, and India is strategically placed at the very centre of this network.

Yet, despite our vast coastline and strategic location, the progress of our ports and shipping sector has been much below potential as compared to our neighbours in Asia and Middle East. Contributing just 1% of to India's GDP, the growth of the sector has been constrained due to many developmental, procedural and policy-related challenges such as limited port infrastructure, sub-optimal transport modal mix for cargo movement, limited hinterland linkages, low penetration of coastal and inland shipping, limited digitisation and mechanization and procedural bottlenecks at various ports in India.

With a vision to reduce the logistics cost for EXIM and domestic trade and boost India's export competitiveness, the Government of India had instituted the SagarmalaProgramme in 2015. As part the programme, more than 574 infrastructure projects (approx. cost of Rs 6 lakh crores) have been identified for implementation across the areas of port modernization, new port development and port-linked industrialization. A key point to note is that this development of logistic infrastructure needs to be complemented with enabling policy and regulatory ecosystem. Ports are no longer just modal interfaces between surface and sea transport. They are now an integral part of an extremely dynamic and time sensitive supply chain network. This aspect is most visible now due to ongoing disruptions because of Covid-19.

Ports and shipping is a capital-intensive sector that is tightly integrated with and exposed to the vagaries of the global macroeconomic factors. The agility and competitiveness of the sector is sine qua non. Today, it is vital that our governance structure, regulation regime and operations be reminiscent of an India of the twenty-first century. Good news is that most key policy legislations such Major Port Authority Bill, Merchant Shipping Bill, the Indian Ports Bill, and other acts and guidelines are already at different stages of scrutiny and revision. Additionally, the government has granted 'infrastructure status' to logistics and ports sub-sectors. Still, more needs to be done to realize the vision of making India a global manufacturing and trade hub.

Digitization needs to be implemented at every level of the EXIM value chain along with elimination of unnecessary intermediaries. All brownfield projects for digitization of port and terminal operation, upstream and downstream supply chain integration, digital custom clearance (why still use paper-based systems), e-berthing and e-bunkering at ports, etc., be taken up on priority. Improving the operational and financial efficiency of our existing infrastructure is a low-hanging fruit that can create approximately 10%–15% more port capacity and provide a great boost to the sector.

Liberalization of the sector is also extremely crucial to build flexibility and agility—procedural, operational and financial. To constantly compete with the rest of the world, it is crucial that ports, terminal and equipment operators, ship owners, exporters and importers all work cohesively to meet the evolving demands of the sector. Often, we see public private partnership (PPP) contracts for a period of 30 years or more with no room for adaptions. This will have to be relooked at. While longer duration concession agreements are essential to incentivize private players, the contract should also provide for more commercial flexibility over that long duration. Additionally, all major and most minor ports today are under the administrative control of the Central and state governments, respectively. With adequate supervision through legislations and contracts, governments may consider a staggered approach towards the privatization of all ports and terminal operations in India. Only by further shaping strong public-private partnerships, can we leverage private sector investments and expertise towards development of our ports and shipping sector. These digitised and liberalized measures will effectively form the bedrock of India's maritime policy and international trade for the coming decades.

Views expressed are personal.

Source: NITI Aayog

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WHY TECHNOLOGY HOLDS THE KEY TO REVOLUTIONISE THE LOGISTICS SECTOR

NILESH GHULE

The Indian logistics sector offers promising growth opportunities and technology can help building scale and speed both together assuring positive economic returns.

The Indian logistics sector, approximately $200 billion in size, is set to grow at over 10 percent CAGR in the next five years to reach $320-330 billion. A robust logistics sector can go a long way in the quest to become "Atmanirbhar Bharat," and in our aim to become a $5 trillion economy. As we continue to focus on manufacturing capabilities, the performance of the logistic sector is both compelling and compulsive.

Characterised as an unorganised sector, the logistic industry is grappling with many inefficiencies. Road transport is particularly deeply fragmented—truck owners with fewer than five trucks constitute more than half of all goods vehicles on the road.

Trucks account for ~69 percent of the country-wide freight traffic in India, according to the Economic Survey 2018-19, and the cost of Indian logistics is 13 to 14 percent of the GDP vs only 8 to 10 percent of the GDP for the developed nations. So, the question is – how do we organise this sector, and how do we use technology more efficiently to bring economic benefits for the country as a whole?

Here are the three areas that look promising to me:

Use data analytics extensively: Agriculture, with its allied sectors, is still the largest source of livelihood in India. Even the logistics move into the regions where farming is dominated. From January to March, which is the peak harvesting season, most of the truck drivers move northwards for business. This movement happens for both organised as well as unorganised players.

Lack of data and information availability makes it difficult to know the real demand in those regions, and the capacity which is required to be diverted towards the agricultural output. This unsystematic migration adds to the challenges of the sector and further aggravates the issues of unorganised logistics.

Data analytics can significantly contribute here. Various heat maps can be generated to study the location-wise movement of goods, required capacity at various points in time, and thus, the actual logistics requirements. This is one of the best tools to reduce information asymmetry. It helps in deploying the capacities more systematically and with better accuracy.

Whenever the rush is towards essential items like food items, these data analytics can come in handy for those dealing in non-essential or consumer durable goods. They can create backup plans and schedule the deliveries in more refined ways to have minimum disruption to their logistics.

Technology helps in tracing and tracking both. The demand and supply convergence is thus scientifically possible using technology. The outcome is – efficient, accurate, and organisedmobilisation of resources.

Bring accountability with transparency : One step forward, we have to look at technology as an enabler to bring more accountability. Transparency and visibility help in systematic mobilisation. However, to create a difference in experience, we need to increase dependability and build trust.

For that, we have to inculcate responsible behaviour with complete ownership of the task. Starting from truck loading to the last-mile of delivery, everything should be allocated and executed using the system/tech platforms.

From the moment the truck is allocated, every change of hands should be logged through the process flow in the system. This will ensure a structured and common process is followed by all, accelerate the process of spotting the area of concern and, in turn, timely fix issues, and lastly, it will facilitate more data analytics which can be used for further developments and improvements.

Add economic value to the whole of the supply chain : The third important element is to bring economic value and making the business financially viable for all the stakeholders and business partners. Today, it is possible to digitise every single transaction. The bidding process, managing multiple vendor contracts, documentation like e-invoicing, transfer management system connecting all three delivery miles, all these should be digitised.

Apart from the physical movement of goods, everything should move online including payments to the trucking partners. This will ultimately bring cost efficiency and financial credibility.

Eliminating redundancies and avoiding duplications can bring cost efficiencies benefiting both logistic partners as well as customers.

With all the payments happening online, truck drivers can easily produce their financial records while approaching financial institutions for taking any personal or vehicle loans. Element of financial credibility enhances as the truck drivers not just benefit from clean records but also through quick payments.

The Indian logistics sector must introduce innovative models, digital transformation, and an adequate implementation approach to the execution. The sector offers promising growth opportunities and technology can help building scale and speed both together assuring positive economic returns.

Edited by Kanishk Singh

(Disclaimer: The views and opinions expressed in this article are those of the author and do not necessarily reflect the views of YourStory.)

Source: YourStory

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WTO UPDATE

GOODS BAROMETER HITS RECORD HIGH, CONFIRMING STRENGTH OF TRADE RECOVERY

Global merchandise trade is continuing its robust recovery from the shock of the COVID-19 pandemic according to the WTO's Goods Trade Barometer, which hit a record high in its latest reading issued on 18 August.

The Goods Trade Barometer is a composite leading indicator providing real-time information on the trajectory of merchandise trade relative to recent trends ahead of conventional trade volume statistics. The latest barometer reading of 110.4 is the highest on record since the indicator was first released in July 2016, and up more than 20 points year-on-year.

The rise in the barometer reflects both the strength of current trade expansion and the depth of the pandemic-induced shock in 2020. It is notable that, while still well above trend, the index has started to rise at a decreasing rate, which could presage a peaking of upward momentum in trade.

All of the barometer's component indices were above trend in the latest month, illustrating the broad-based nature of the recovery. Indices for air freight (114.0), container shipping (110.8) and raw materials (104.7) in particular continued to rise, signalling faster than average trade growth.

The automotive products index (106.6) also rose despite the fact that car production and sales fell in July in some countries due to a shortage of semiconductors (the rise can be explained by smoothing of the underlying data). This shortage is also reflected in a small decline in the electronic components index (112.4).

The forward-looking new export orders index (109.3) has slowed more definitively, providing a further indication that the pace of recovery is likely to decelerate in the near term.

The rise in the air freight index reflects a rebound in air transport due to the easing pandemic-related travel restrictions in some (mainly developed) countries. The index could turn down again suddenly if the spread of COVID-19 variants forces the re-imposition of restrictions.

The latest barometer reading is broadly consistent with the WTO's most recent trade forecast of 31 March, which foresaw an 8% increase in the volume of world merchandise trade in 2021 following a 5.3% drop in 2020.

Global goods trade has grown steadily since it registered a sharp decline in the second quarter of 2020 during the early days of the pandemic. The volume of merchandise trade was up 5.7% year-on-year in the first quarter of 2021, the largest jump since the 5.8% rise in third quarter of 2011. The latest barometer reading suggests that goods trade will see an even larger year-on-year increase in the second quarter once trade volume data for that period are available.

The outlook for world trade continues to be overshadowed by downside risks, including regional disparities, continued weakness in services trade, and lagging vaccination timetables, particularly in poor countries. COVID-19 continues to pose the greatest threat to the outlook for trade, as new waves of infection could easily undermine the recovery.

WTO launches first online regional trade policy course for Latin American countries

Twenty-three government officials from ten WTO members are attending the WTO's first online Regional Trade Policy Course for Latin American countries taking place from 9 August to 12 November. Co-organized with El Colegio de México, the course seeks to extend participants' knowledge and understanding of the multilateral trading system and the work of the WTO and build their trade-related capacity.

The participants come from the Plurinational State of Bolivia, Colombia, Costa Rica, Ecuador, Honduras, Mexico, Paraguay, Peru, Dominican Republic and Uruguay.

The course was opened by the Training Section Head of the WTO's Institute for Training and Technical Cooperation, Jorge Castro, and the General Secretary of El Colegio de México, Dr Gustavo Vega.

"Despite its challenges, the online nature of the online regional trade policy course has facilitated access to, and closer collaboration with, a broad coalition of experts, international institutions, and partners engaged in capacity-building in the areas of regional and multilateral trade," said Mr Castro.

"The course aims to show that the role of the multilateral trade system — embodied in the General Agreement on Tariffs and Trade and the WTO — is of crucial importance in promoting the growth and development of nations and, in particular, in resolving the economic crises that we have experienced since the second half of the last century," Dr Vega said. "It is our great pleasure to participate once again as partners of the WTO in the delivery of the Regional Trade Policy Course."

New interactive sessions will be organized during the course with various partners, including the International Trade Centre, the Standards and Trade Development Facility and the Advisory Centre on WTO Law. During these "lobby sessions", participants will learn about the work carried out by other multilateral and regional trade-related organizations and the impact on Latin American countries. The course will conclude with a roundtable discussion, open to the public, on a trade-related theme relevant to Latin America. A registration link will be made available in due course.

The course seeks to ensure that participants can still benefit from trade-related technical assistance activities despite the COVID-19 pandemic. It mirrors most of the training components offered by face-to-face courses, including the WTO Agreements, the Organization's rules and procedures and regional trade policy issues.

The course provides intermediate level training (known as "level 2" in the WTO Progressive Learning Strategy) and is designed for government officials from various government agencies with experience on trade-related issues who have undertaken basic WTO training. It will provide a mix of self-learning, interactive case studies and exercises, and live face-to-face webinars by WTO experts and Latin American trade-policy academics and practitioners.

Source: WTO Website

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TECHNOLOGY SHOWS THE WAY IN CHALLENGING TIMES FOR SUPPLY CHAINS

The last year was one of great challenges to our supply chains, with a continuing global pandemic impacting our traditional processes for assessing and managing the disruption to them, writes Harvey Smith, Consultant at Adapt Ready.

The last year was one of great challenges to our supply chains, with a continuing global pandemic impacting our traditional processes for assessing and managing the disruption to them as well as experiencing the most active Atlantic storm season storm season on record.

Whilst these challenges proved to be very difficult and in some cases preventative to normal methods of data, they became a real opportunity for the new technological advances within the fields of data gathering, analytics and insight that managed to rise to these challenges and show the capabilities now available to support modern risk management practises.

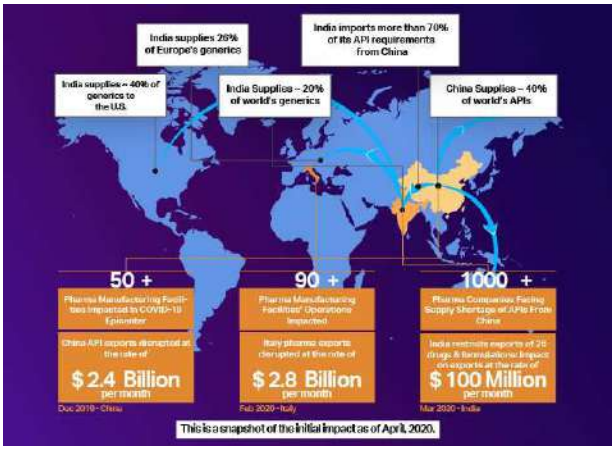
In fact, 2020 highlighted the need we have for crucial and timely insights. The data intelligence captured by our platform is shown in the infographic we produced at the beginning of the year into the effects the Covid-19 outbreak was having initially throughout India and China upon supply chains within the pharmaceutical industry.

With business interruption spreading due to lockdowns across the major manufacturing plants and API (Active Pharmaceutical Ingredients) producers, the impact further down the chain could be tracked and forecasted in real time using advanced machine learning techniques and the collection and analysis of millions of pieces of external data.

Thus, keeping clients aware of their potential exposure and allowing them to make informed decisions about their risk portfolios. The importance of using the insights garnered by modern software platforms has become key in adding relevancy and immediacy to the traditional over reliance on internal

data sources.

In essence. The practical and useful view of supply chain impacts is now possible. To use the example above of the Pharmaceutical market responding to the progressing pandemic with the ability to use a platform such as ours means the client experience is vastly different.



When Wuhan shut down and as the pandemic restrictions spread, we could immediately see the initial shutdown of 50+ Pharma manufacturing facilities in China, not only disrupting their exports at a rate of $2.4bn a month but also in real time, we are able to inform of alternative supply chains through India, France, Hungary and Bangladesh as well as potential business interruption issues that may be faced according to a client's specific risk portfolio.

Then, as the closures spread to Italy and led to 90+ Pharma Manufacturing facilities being impacted, therefore disrupting exports at a rate of $2.8bn per month, clients could update their assessments with a new set of alternatives, allowing for better informed decision making at this stage.

As the supply shortage from China hit manufacturing in India, they imposed export restrictions on 26 critical APIs/Drugs as a way of stockpiling so again we could then show in real time the business interruption potential and the opportunities still present for alternative sources using Ireland, Switzerland and Germany for example.

The aforementioned 2020 Atlantic storm season presented a new series of challenges which hit the Energy sector particularly hard. However, by using these new technologies we were able to not only track real time impacts to the platforms and facilities (infographics for specific storms can be found **here**), but also to look further into the data and develop crucial insights that could be immediately shared to the market. This technology brought to light how the closures of facilities spread through supply chains and affected more than just the initial energy sector.

These insights found through our supply chain analysis of the two most impacted companies of the season, those being Indorama Ventures and Ineos Olefins & Polymers show how the season hit more than just the Energy sector.

Firstly, Ineos Olefins and Polymers, one of the major producers of Propylene Homopolymer, used in a very wide set of industries including some big consumer focused ones such as Textile, Healthcare, Automotive, Chemical, Electrical and Construction will all be facing serious production issues that it is now possible to not only trace but also provide alternative solutions for.

Secondly, the packaging industry will be highly affected due to its reliance on the use of Polyethylene Terephthalate, with 80% of its total production being used by the industry. The closures and disruption to their facilities and the production of this material being in short supply, we can predict the impacts to many further industries who rely on these shipping and packaging materials that are heavily produced by these companies and show clear paths to alternative supply chains.

The need for key information provided in a timely fashion at the moment of these major events is now driving the development of new technology platforms. Bringing this crucial information to where it is needed most is no longer a possibility but a reality, and one that has proven itself in the most challenging of times. The truly exciting thing is that not only is it possible to show an overarching view of how our supply chains are interconnected, but also the ripple effects that go across industries, geographies, and product lines and how these can be supported with alternative options through the use of new data intelligence techniques available today.

Source: https://www.airmic.com/news/guest-stories/technology-shows-way-challenging-times-supply-chains

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4 WAYS ARTIFICIAL INTELLIGENCE IS RESHAPING DEMAND FORECASTING IN RETAIL

ALOK BANSAL, MD AND COUNTRY HEAD, VISIONET INDIA

Artificial intelligence (AI) is the technology of today, the story of 2010 and the excitement of tomorrow. The past decade will be reminisced as an era where machines began their journey on the path of intelligence – proficient in learning, executing, and 'thinking' like humans do.

The digitalization of the Retail Industry has been changing in recent years with augmented efficiency, rapidity and accuracy across every branch of business domain. Through prognostic analytics and innovative data exploration, we are now able to make all data-focused business resolutions. AI in the domain of retail has enabled industries to access high levels of data information which has improved retail operations and given business better opportunities.

Demand forecasting, a process by which sales data is used to forecast the expected demands of customers is optimized to increase customer satisfaction and improved efficiency of businesses through AI.

Here are some predictions that we will be likely to emerge in the future:

1.Inventory Management to Improve Efficiency of Demand Forecasting: AI has helped the retail industry gather deeper data and insights from the marketplace, from clients and opponents. Business intelligence tools created for AI are able to predict minutest changes in the marketplace, shifts in industry demand and supply chain management. Inventory management through AI tools also make hands-on immediate changes to the company's marketing and business strategies through continuously exploring complex data gathered from consumers. The pricing of goods and services as well as the promotional planning of retail industry's supply chain are positively impacted. Digital portals that provide e-retail services to the consumers based on AI inventory management can be analyzed deeply based on the shopping behavior, purchase history and current browsing. The evolved user's digital experiences creates a platform for businesses to better the customer-inventory interaction and improve sales.

2.Data Analysis to Improve Accuracy of Demand Forecasting: Using advanced AI analytical tools, raw data gathered from all marketplace sources are converted into actionable visions. AI uses behavioral analytics along with customer acumen to develop different marketplace demographics of customer service sector domain. The types of data that are analyzed can be internal, external or contextual. The raw data that is used in demand forecasting are mostly historical sales of the business that influence demand factors and project a multi-dimensional scenario.

- **Internal Data:** In demand forecasting, AI is used to predict the most valuable data source: the company's internal data. The sales history, marketing strategies and promotion predictability are analyzed by the demand forecasting platforms. For example, should the business increase or decrease the prices of a particular good to increase revenue.
- **External Data:** The analysis of external data is a very crucial part of demand forecasting in retail businesses as the choice of raw data can either help the businesses exponentially grow or vice versa. Certain consumer data types are virtually always beneficial for businesses like sales data from distributors. With a fully functional automated AI platform, it is easy to predict the demand from distributors and whether or not this demand can influence demand from the market.
- **Contextual Data:** In the demand forecasting of retail businesses, context is essential. The consumer demographic data analyzed by AI tools helps the retail businesses define different contexts in which sales take place. For example, the wealth analysis of local consumers can increase sales forecasting in certain goods/ services categories by predicting which products can be in demand in the wealthier areas of society. Meanwhile, geographic forecasting can predict the number of similar stores in the vicinity or customer attraction to competitor's merchandise. Such contextual data analysis can forecast various types of demands and AI algorithmic tools can help form patterns needed by the industry.

3.Product Analysis to Improve Capability of Demand Forecasting: In the e-commerce industry, retailers need information about all the characteristics of newer products introduced in the market to find impact on sales. Demand forecasting uses historical sales data to predict future sales, however, as the newer products are introduced frequently, AI algorithms are used to predict behavior patterns based on the sales of comparable products to develop a forecasting pattern. The analysis of products to increase revenues can be effectively achieved by the use of AI platforms.

4.Precision Analysis to Improve Results of Demand Forecasting: Along with inventory management, precision in retail industry is of paramount importance as products cannot be either overstocked or understocked. The profitability of retail industry is heavily dependent on the wastage percentages of the business. Hence precision in the operational management can be achieved through AI with minimal error.

According to McKinsey, AI in demand forecasting for retail businesses reduce the chances of error by 20 percent. The higher gains achieved by industries depends upon the forecasting model that is in place. The clear impacts of AI in demand forecasting has openly challenged businesses to invest further in digitalization of their forecast systems

Source: indiaretailing.com

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HOW LEADERS ARE SOLVING 3 KEY SOURCING AND PROCUREMENT PRIORITIES IN 2021

KAYLA MACKAY, SOLUTIONS MARKETING MANAGER, QUICKBASE

Across all industries, 2020 led business leaders to reevaluate their priorities and adjust based on the new challenges the pandemic has uncovered. This is especially true for Chief Procurement Officers (CPOs) and other sourcing and procurement leaders. The strain of supply chain disruptions and accompanying market shortages seemingly made national headlines daily.

As CPOs are determining their upcoming priorities, identifying the biggest focuses for their teams and initiatives will be critical in creating sourcing and procurement success. Here are those key focuses, and how leaders are ensuring they are optimizing them.

Building Operational Efficiency With Citizen Development : While efficiency and cost reduction are intrinsically linked, organizations are trying to streamline entire processes instead of focusing solely on the bottom line. Deloitte's Global 2021 Chief Procurement Officer Survey found, for the first time in 10 years, that operational efficiency topped cost reduction as the top priority among CPOs.

To drive operational efficiency, high-performing sourcing and procurement leaders are focusing on flexibility and agility. For sourcing professionals, this means investing in platforms that revamp workflows and eliminate manual processes. Increasing operational efficiency also means increasing end-to-end visibility throughout processes. A focus on making information more visible from beginning to end makes operations more efficient and reduces cost.

And this focus on efficiency is making an impact on the ground for organizations. Metso, a leading process performance provider in the oil and gas, mining and aggregates industry, has utilized no-code capabilities to streamline processes and provide insights across systems. With these capabilities in place, Metso can rapidly implement and update processes on the fly.

"The speed that we're able to implement these new changes and new workflows is very, very important to us," said Meg Lennon, Internal Sales & Global Process Systems Manager & Global Quickbase Admin at Metso.

Unlocking the Data in Your ERP With Increased Agility : Facilitating digital transformation has become an increasingly important priority for CPOs across the world. Quickbase's Supply Chain Resilience Survey found that only 10% of supply chain professionals feel extremely prepared for disruption in the future. And without the right digital capabilities, that preparation becomes nearly impossible. This is not achieved merely by licensing new software, but by taking a holistic look at your existing operations and processes.

Enabling digital transformation begins with analyzing your ERP systems for inefficiencies and points of inflexibility and leads to advanced insights into your systems. A highly customized ERP system was once viewed as a major asset for organizations. However, due to the rapidly changing external conditions, difficult to change systems became a liability in 2020. Beyond this, these systems often lack real-time insight, present barriers to data access, and are expensive to maintain.

By adding agility to your ERP system, you can continue this digital transformation without requiring major IT resources. Building a single source of truth, along with making data accessible overall, will greatly enhance the progress of digital transformation efforts.

Enhancing Risk Management through Visibility : Finally, for leading CPOs, streamlining operations and enhanced collaboration is part of a broader focus on risk management. CPOs also believe that focusing on supplier collaboration – communication and visibility into suppliers' systems – is the best way to reduce risk in sourcing.

As Quickbase's Supply Chain Resilience Survey found, 59% of supply chain executives think the root cause of their slow reaction time to changes is a direct result of disconnected processes or systems. Coupled with this, there has been a 20% increase in supply chain professionals that identified increasing visibility as a priority, as a result of the COVID-19 pandemic.

Having the right technology in place plays a major role in creating a culture of collaboration and visibility between you and your suppliers. These platforms build a link between disparate systems and increase visibility for all stakeholders. Atlanta Recycling Company, for example, was able to digitize manual processes with no-code to create customized dashboards and reporting, driving higher profitability through better visibility. "We wanted more visibility to make better business decisions," said Nader Baaklini, owner of Atlanta Recycling Company. "We love our streamlined processes and workflows and that deep insight—all of which has enabled us to significantly improve our productivity and our bottom line."

Source: www.supplychaindive.com

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MANAGING THE TIME
- THE EFFECTIVE WAY OF ACHIEVING SUCCESS

TEK CHAND "MEHTAB"
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Before knowing about managing the time or Time Management. We must know what is time (Samay/ Waqt)?

"Mein kaisemaanlunkitumneSamaykaaavishkarkiyahai?

TumneSamaykasankshiptitihaslikhahai. Samayka koi itihasnahihota,

Samayswayamitihaskisamikshahai.

Samayitikiparinitihai. Samaygatihai, niyatihai, pragatihai. AnibhutikaVishay hai.

Samayreetika, neetika, preetika Vishay hai.

Samaysandharbhhai, sankalphai, samvednahai. Samayekvidambanahai.

Samaynirpekshhai, nirapadhai. Samaysaralhai, viral hai, Samay hi garalhai.

Samay hi kritihai, vkratihai, aakritihai. prakritihai.

Samaysidh,siddhantaur siddhi hai.

Samaynyay, vidhiaurvidhanhai.

Samay hi sansadhai, Samaysamvidhanhai.

Samay hi saktahai. Saktakisamajhhai.

Samayprathamnagrikhai. Samay hi samajhai.

Samaybarsatkipehliboondhai, auskapehlakan.

Samaysuryakasandhyameinsamarpanhai.

Samaypehlaakshar, pehlashabd, pehlipankti, pehlikavita, pehlakavihai, pehlasampadak.

Samaypehla guru hai, pehlagranth.

Samaykosamjho, phirmujhesamajhnakiSamaykyahai?

Samayekanvaratsidhihai, jowahan se prarmbhhotihai, jahan se aadmichadhkaraakash

chhunachahtahai.

"Ye to aadmi- aadmi per nirbharkartahaikiwohWaqtkibarbadikiyebaigar

usebadi hi soojhboojh se kareistemaal, ye hi to gurhai, kamyabikiseedhidarseedhicha dhnaaurzindagimeina pnimanziltak pahunchaneka"

Time Management for Effective Productivity

Time is the essence of one's life. How to utilize time effectively for meaningful performance is the pertinent question to be asked from each and every individual. Every individual has a day to his credit but he has to make use of the day in an effective manner. The people who have been utilizing the time effectively in performance of a profession reach to the ladder of their success. Though some professionals take much time to attain the goal of their life to be perfect and have name and fame.

Generally, it is seen that professionals like artistswho have all the time creative activity to be performed, make use of their time judiciously and altogether change their life style andlivelonger life without letting themselves to be idle even for a blink of a moment. On the contrary, we find busyexecutives always running short of time since they have to perform lot of jobs in minimum possible time and that is the point of time where they have to manage their time inan effective manner. So many things are to be done in a day's time and that is where exactly **time management** comes into picture.

In an ongoing organization, daily targets are fixed which are to be met within limited working hours available to an every individual. Organization has to set up certain targets to be met and thus productivity has to be increased. Productivity is equally related to efficiency and efficiency again is related to time. Efficiency backed by proper management of time to some extent leads to increase in the productivity.

But the job done in an effective manner certainly leads to meaningful productivity to a great extent. Thus the phenomenon of time management is of utmost necessity. Every job must be done in an effective manner as lot of time is lost in producing poor quality things rather than doing the things in correct manner for the first and the last time so that time is best utilized for the things to be done in the right way,

In the industrial context , time & motion study and method study is carried out on a continuous basisto have the scope of reducing time of performance of a particular activity. In the process new ways and means of doing the things are evolved which can take lesser time to have better productivity. Always the traditional orconventional means are adopted to do the job but

innovative and creative methodology could bring drastic results wherein the job is done in lesser time and the quality of job so achieved is also better. Thus award and reward schemes are introduced in an organization for finding out the new ways and means of carrying out the job in minimum possible time frame in the organizational hierarchy as every individual has man hour cost.

Managing Own Time

Every individual has to plan for their own job to be performed in a day. Planning in advance certainly addsto the effective utilization of time and ultimately leads to productivity. In today's world, the life style has changed substantially where everything has to be performed in easy way consuming less time to keep pace with the race in this very existing competitive environment, To achieve this pace, one has to manage his own time depending upon the availability and requirement and environment wherein he has been delivering the goods.If the time is not managed judiciously, lot of things would be left undone and theproductivity will be affected leading to incompetence in one's career.

Time is the life line in every individual. A study has revealed that in a life span to say of seventy years, by and large anindividual does work effectively only for twelve years where as the remaining life span is spent like :

- Twenty five years in sleeping
- Eight years in studying and acquiring education
- Seven years in recreation and holidaying
- Six years in taking rests and having illness
- Five years in travelling to place and commuting from home to work place and back
- Four years in eating and drinking
- Three years in preparing and getting ready for the work

Since we have been left with only limited time for effective work, the same must be utilized in both efficient and effective manner to achieve goal in one's life.

Effective Management of Time

Principles of effective time management includes:

- Being aware of value of time
- Elimination ofwasteful activities
- Alternatives
- Combining similar activities
- Division of labour

In order to become effective, one needs job effectivenessas well as personal effectiveness. Since one has to depend on limited resources available at a point of time and at the same timeresources cannot be created to suit one's need and requirement, one of the important areas of personal effectiveness is to identify the resources and make an optimum utilization in the resource crunch situation existing now-a-days.

It is rarely realized that time is a hidden important resource to be utilized in resourceful manner so that maximum could be achieved in minimum possible time duration. Even though twenty four hours are available to everyone . It is the manner in which the time is utilized by people, which explains the wonder why one is a millionaire and other is struggling hard in life time andachieves the bare minimum. At the same time, one is high and another low in hierarchy of an organization.

The importance of time has been recognized by saints, poets, thinkers, intellectuals for centuries together. It has rightly been said by way of the following quotes:

- Time and tide wait for none. Don't postpone, do it today itself.
- Art is long and time is fleeting. Keep busy in finishing the job.
- A stitch in time saves nine. Always perform in effective manner.
- Time is money. Conserve it.
- I killed time .now time is killing me. Avoid the situation like idling.

The inferenceis that one has to make best or rather optimal usage of his time.

Chracteristics of Time as a Resource

Time is unique phenomenon which is entirely different from other resources which could be managed by deployment and hiring of personnel. Time can be explained in following manner:

- It is the scarcest resource which can neither be extended nor supplemented.
- It is highly perishable as the time lost can never be regained.
- It can neither be bought at any price nor could be sold as time is same for all.
- It is irretrievable as the time is not utilized in effective manneramounts to waste of irrevocable energy.
- It can neither be replaced nor be substituted like other resourceswhich can be changed depending

upon the requirement.

- It is irreversible as the time spent once cannot be retrieved back.
- It is realistic since time has the fixed duration.

The peculiarity of time resource is that everyone has got equal time to his credit.

Self Management Means Time Management

Time management is misnomer as in real sense time cannot be managed. Time management infact means self management. Stress must be given on self development of personnel of the organization to make best utilization of the available manpower resources. Self management requires analysisof the followings:

- Where does my time go?
- What are time interrupters and wasters?
- How canthere be a better utilization of time available?

The following factors have also been generally identified which contributes to major time-wasters and interrupters:

- Being unorganized
- Lack of planning
- Confused responsibility and lack of role clarity
- Unrealistic time estimates
- Unscheduled/ unwelcome visitors
- Crisis management
- Cluttered desk
- Involvement in routine and trivial
- Inability to say no
- Procrastination, postponement
- Lack of self discipline

Effective Self Management for Better Time Management

This can be achieved by adopting the following measures:

- Keep a diary. Don't trust memory
- Doit now
- Distinguish between "important" and" urgent"
- "Urgent", has to be done now
- Do right things than doing things right
- Delegate, think what will happen if I don't do this activity
- Develop subordinates
- Act for today
- Arrange activity according to priorities
- Plan time rather than work
- Group similar activities
- Don't spend more time than the result deserves
- Avoid indecision
- Break long and unmanageable jobs in manageable pieces
- Have an agreed arrangement with bossand subordinates for utilization of every body'sjobs
- Learn to deputise, organize and supervise
- Enjoy leisure

Managing Time To Achieve Success

The ladder of success in one's lifeis steady and strong once the management of time skill is acquired by oneself. In a calendar day, we have twenty four hours at our disposal. But these hours either can be utilized in doing the things in effective way or it can be wasted by way of doing useless activity and idling. One has to see to it that these hours can be brought in use by depending upon one's profession.

It has also been viewed that professionals are always short of time since they have lot more things to do at their disposal and have in their mind to perform so many activities which they fore see. It is also seen that professionals, who have mastered their trade never feel boredom in their life time and attain longevity as they are always busy in doing their tasks which give them inherent happiness and pleasure leading to a sort of disciplined life style.

We can observe that renowned artists or musicians or actors lead longer life as they derive lot of pleasure and self satisfaction on both counts while performing their art and simultaneously getting public fame out of their genius art they demonstrate to the public. Whereas on the other hand the normal human being do not reach up to the level of proficiency in their life cycle as compared to the artists and artisans.

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BRANCH NEWS

MUMBAI BRANCH

In-house Three Day Blended Training Program for RCF on 4th August 2021 : IIMM Mumbai Branch recently completed an In House Three day Blended Training Program for Rashtriya Chemicals & Fertilisers ltd (RCF) Purchase and Materials Team.

HRD Department of RCF contacted IIMM Mumbai in early November 2020 with their requirements for a Four day blended In house Training Program. These Four days would consist of Day 1 & Day 4 to be full day Physical Training and Day 2 & Day 3 would be half days Virtual session. The Training would be required for two Batches of 25- 30 Participants.

HRD department of RCF informed IIMM Mumbai the names of 14 nos Topics to be covered during the In House Training Program as under :

1) Estimation
2) GST and Post GST Compliances
3) Project Procurement /Capital Goods Procurement
4) Contract Management—Contract Drafting, Legal Implications & Remedies
5) Logistics Management
6) Marketing Intelligence for International Procurement.
7) Latest Developments in GeM Portal
8) Deemed Exports
9) Imports & Customs Clearance
10) Latest Public Procurement compliances, MSE, Make In India, GeM TReDsFormalities, Start up Provisions & Compliances, Change in Govt Policies, E-Procurement.
11) Legal Aspects, Sale of Goods Act, Company Act & Provisions from Buyers Perspective
12) New Trends in Materials Management
13) Group Discussion on Preventive Vigilance Measures
    Indicative Topics: 1) General Financial Rules (GFR) 2) CVC Guidelines
14) Latest Trends in Stores & Inventory Management

HRD informed IIMM Mumbai branch that

the Final Training Schedule would consist of Three Days , with Day 1 & Day 3 to be Physical training program and Day 2 to be Half Day Virtual Training session to take care of participants from RCF Trombay Unit & RCF Thal (Raigad) Units.

Topics no 1 to Topic no 7 was covered on Day 1 which was a full day Physical Training Program held on 17th March 2021.

Topic no 8 and Topic no 9 was covered on Day 2 in a Half Day Virtual training program on 19th March 2021

Topic no 10 to Topic no 14 was covered on Day 3 in a Full Day Physical Training program on 24th July 2021

The Training Session was inaugurated on Day 1 by Mr HemantKulkarni Executive Director (Commercial) RCF and Mr NuhuKurne, Executive Director (HRD) RCF

Due to Covid Situation, there was a long gap between Day 2 training sessionon 19th March 2021 and Day 3Training session on 24th July 2021.

The Program was very interactive and Questions raised by Participants were answered with full details.

The Faculty from IIMM Mumbai Branch consisted of :

1) Mr V.Badrinathretd G.M Finance BPCL (External Faculty)
2) Mr Arun Mehta, Principal Chief Materials Manager (PCMM), Konkan Railway
3) Mr S.M Chaturvedi, IIMM Consultant Import/export (External Faculty)
4) Mr Alok Ranjan Sarkar, Advisor, IIMM Mumbai Branch & former G.M – Materials & G.M (Engineering & Projects) BPCL
5) Mr Nikhil Patil, Business Facilitator (Maharashtra) GeM

Feedback from the 25 nos -30 Participants was very positive and heartening

PPTs containing detailed write up were given **in Pen Drives** to all Participants along with IIMM Certificate of Participation.

The entire Program was co-ordinated by Mr Alok Ranjan Sarkar, Advisor, IIMM Mumbai Branch with support from Mr R.B Menon, Deputy Director, IIMM Mumbai Branch Office

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PUNE BRANCH

Pune branch organized its **"7th Annual Supply Chain Management Awards"** virtually for the first time ever on August 8, 2021. The event kickstarted with IIMM Film followed by a brief on the awards by the Hon. Secretary, Mr. Prasad Rao and opening speech by the Chairman, Mr. Terrence Fernandes. The event was virtually viewed by over 200 participants from India & overseas.

The awards were in the category of:

1. Manufacturing sector (Small and Large Enterprise)
2. Logistics sector (Small and Medium Enterprise)
3. Services provided during the Pandemic
4. Outstanding Hospital
5. Unsung Heroes
6. Lifetime achievement

We received a lot of nominations for all the categories. The nominations were shortlisted by the Executive Committee and final nominations were evaluated by a three member Jury panel.

In the **Manufacturing Sector- Large Enterprise**, the scores was very close to one another and it was very difficult to decide upon the awards. To do justice in this sector, we had to give three awards, one for an Automotive Industry, second to a Chemical Industry and third to an Electronics Industry. The winners are:

- **A Raymond Fasteners India Pvt. Ltd**, a leading automotive & industrial fastening solutions company.
- **Aquapharm Chemicals Pvt. Ltd**, one of the world's leading manufacturers of phosphonates, chelating agents, low molecular weight polymers & biocides.
- **Cotmac Electronics Pvt. Ltd**, manufacturer of UL/CE certified electrical panels

In the **Manufacturing Sector- Small Enterprise**, the winner is **Radhesham Wellpack Industries Pvt Ltd**, a packaging company with a wide product range from very small size multi-color printed cartoons to large size high strength

corrugated boxes.

In this category, we also awarded one special award to **Keetronics [India] Pvt Ltd,** an organization that is managed by 70% women workforce and all HOD's being women, with core manufacturing of membrane panels & catering to medical sector.

In the **Logistics Sector- Small Enterprise**, the winner is **Unostar Value Chain Pvt. Ltd**, having domain expertise in multi-channel logistics.

In the **Logistics Sector- Medium Enterprise**, the winner is Alliance Commercial Transport (ACT Group), pioneer in Over Dimensional Cargo & Bulk Steel transportation since past 4 decades.

RAE BARELI BRANCH

One day Seminar was organised by IIMM Raebareli Branch on the topic "Supply Chain Management in Covid 19 Pandemic Era" on 25th July 2021 at tourist bungalow Auditorium, Raebareli. Seminar was in physical mode and was attended by more than 50 delegates. Sh. Krishnendu Gupta, director, Indira Gandhi RashtriyaUdan Academy (IGRUA), Fursatganj, Amethi was the Chief Guest of the occasion and Sh. Jyoti Prakash Pandey, Special DG, RDSO, Lucknow was Guest Of Honour.

Program started with lighting of lamp and SaraswatiVandana and with the welcome address of Branch Chairman, Sh. U C Tripathi. The inaugural session was also addressed by Sh. H K Sharma, Sr. VP, IIMM, Sh. Suresh Kumar Sharma, former President, IIMM and Sh. Harendra Kumar, VP (N), IIMM. The Chief Guest of the program, Sh. Krishnendu Gupta, highlighted the importance of materials management in Covid 19 era and also various initiatives taken by IGRUA. Sh. J P Pandey, highlighted the role of railways in combating the Covid 19.

Technical Sessions were addressed by Sh. H K Sharma, who highlighted the aspects of lessons learnt in Covid 19 for Supply chain Management Professionals and new normal in SCM post Covid 19 2nd wave. Sh. Ageet Kumar, Chairman, Greater Noida Branch, highlighted the importance of domestic manufacturing and pit falls of over reliance on china in supply chain and need for alternative supply chain.

Sh. Suresh Kumar Sharma, former president, highlighted the importance of new technologies in supply chain. Dr. Khalid Rizwan, CMO, Raebareli addreseed the audience and highlighted various efforts in combating the Covid 19 and answered various queries related to Covid 19 and its vaccination.

Lastly, an overview of seminar was given by Sh. K K Srivastava and vote of thanks by Sh. P K Pandey.

The seminar was a great success.

EXECUTIVE HEALTH

IMMUNITY BOOSTING IN PANDEMIC SITUATIONS

DR. SANKARAN MANIPUZHA, PRESIDENT & CHIEF CONSULTANT, NATURAL HYGIENIST, nha_monc1@yahoo.co.in

Living beings (all creatures, including plants & trees, microbes,insects, lower rank creatures, birds, animals and human beings) are 'biological units' which are created, maintained and destroyed by using 'bio-energy' (explained by the science branch of Biology), while "non-living objects" are produced, maintained and destroyed by using 'gravitational force' (explained by Physics) or 'Chemical Affinity (explained by Chemistry).

Immunity is defined as "the ability of an organism to resist a particular infection or toxin by the action of specific antibodies or sensitized white blood cells".'Immunity' is not something which can be increased or decreased at our will (as per our requirement) by ingesting 'immunity boosters' to wage war with the so-called pathogens, or whatever other purpose. It also does not mean that when some micro-organism or foreign body (FB - unwanted objects like dust, etc.) enters our body through mouth, nose or any other such openings our immunity power should wage a battle with such microbes & FBs.

Food/diet is required by organism for nutrition - it should not be stimulants or poisons. The entire body is nourished by the same food and it is not correct to believe that certain special food would nourish certain specific parts of the body only. Thus, 'immunity' is common for all the organs (including vital organs like respiratory system).Dietetics as per formal college syllabus teaches about 'positive nutrition' only and defines 'balanced food' as a "food article which contains all (maximum) nutritious elements'. They do not teach about 'negative nutrition'.

Food does not get converted into energy (vital energy for living beings). Nutritious values from the 'food' are to be taken out (extracted) by the living body. For that 'food' should undergo proper Ingestion, Digestion, Absorption, Assimilation and Excretion and also anabolism & catabolism at tissue/ cell level. These are 'life processes' performed by living body, for which Vital Energy is expended. Going by this concept, we need to redefine 'balanced food' as: a "food article **from which the body can extract** all (maximum) nutritious elements ……. ". Here one may appreciate the 'Theory of Minimum" of Dr. Herbert M. Shelton, instead of the 'Theory of Maximum' being relied upon by Dietetics.

Maintaining highest possible level of vital energy is primary requirement for healthy living, with optimum 'immunity'. When we talk about 'increasing/ improving immunity' it should be understood that 'vital energy' is to be (i) saved and (ii) its level is to be kept as high as possible.

As regards epidemics/ pandemics / communicable disease, isolating patients, wearing masks & other protective cloths, etc. are practices employed since pre-historic age. These would help much in managing vital energy levels, thus improving immunity. However, let it be clear at this juncture that as Swami Vivekananda said: "till the body permits the germs to enter the body; till the vitality is destroyed to the extent suitable for germs to enter, grow & multiply, not a single germ can cause disease in the body".

Nature Cure believes that impaired nutrition occasions vital energy reduction(the cause), resulting in toxemia (the disease) and the solution as enervation (regaining vital energy levels). In case of epidemics or other communicable or non-communicable disease conditions, one should take extra efforts to save vital energy and maintain its level, such that immunity is adequate. Especially when pre-disease symptoms or disease symptom is present, one should always go for 'negative nutrition' (fasting on water) till the symptoms come under tolerance (or symptoms are mitigated). Thereafter, fasting is to be ended by starting cleansing juices for few days, then fruits & salad diet for next few days, thus reaching 'normal diet' stage. Simultaneously, keeping the body internally & externally clean should also be done by 'natural methods', avoiding laxatives, enema, etc.

Perhaps, major portion of the 'vital energy'' available in the human body is spent routinely for processing food. **Comparatively, it is easier to digest vegetarian foods, than non-vegetarian foods.** 'Easy to digest' means spending lesser vital energy for 'life process' on the food in the digestive tract and other support systems like lungs, heart/ circulation, liver, glands, tissues, etc.

At the same time, for preventive and curative purpose also, one should go in for methods which are helpful to save and maintain vital energy level at optimum level. Restricted spending of vital energy is a good option to maintain the optimum level of '(vital) energy'. If extra spending of vital energy occurs on short-duration basis(as in sexual activities, extra work performance, etc.), let the organism take extra rest/ sleep to compensate for the stimulation occurred.

Therefore, to improve our natural immunity (which is badly required to resist pandemic dis-eases also), let us (i) take optimum/ adequate rest/sleep; (ii) follow health-oriented lifestyle & food habits, keeping in mind the 'virudhaaahar (contradictory food habits)' concepts, etc. of Ayurveda and also (iii) perform physical body movement (or structured exercises giving more importance to nervous system, than muscular system).

In the changed world order, as far as health of people is concerned, people would get educated on 'health science' (not medical science); people shall voluntarily adhere to 'Universal Natural Laws'; shall adopt a lifestyle promoting co-operation; tranquility; composure; peace and nonviolence, etc. (instead of competition, commotion, confusion, war and violence, etc. respectively); shall support and promote 'conservation & preservation' (instead of 'exploration & exploitation'); shall have a satisfied & contented life & mind-set, especially with locally available resources instead of 'globalization' marketed on mesmerizing sales promotion methods. If our choices & preferences have the potential of depleting the natural resources (objects – bundles of energy), especially to satisfy our greed, we are, certainly committing violence. A lifestyle embedded in 'violence' would make health a mirage and we shall continue to be in the grip of 'health crisis' and 'climate change health hazards'.

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